450 Cowie Hill Road
P.O. Box 8388 RPO CSC
Halifax, Nova Scotia
Canada B3K 5M1

HALIFAX WATER BOARD AGENDA

Thursday, June 25, 2026, 9:00 a.m.
Virtually via Microsoft Teams

Please visit www.halifaxwater.ca to register to attend the public portion of the meeting.
PLEASE NOTE: All Board meetings will be audio and/or video recorded for the purpose of creating a record of the proceedings.

1. IN CAMERA (IN PRIVATE)

1.1C Approval of minutes of the in-camera meeting held on Thursday, March 26, 2026.

Motion:
That the Halifax Water Board approve the in-camera minutes of March 26, 2026, as circulated.

1.2C Business arising from minutes

1.3C	**Confidential Audit Matter**	(5 mins)	(KM)
1.4C	**Security Matter**	(10 mins)	(SL)
1.5C	**Contract Negotiation Matter**	(15 mins)	(JDY)
1.6C	**Contract Negotiation Matter**	(15 mins)	(JDY)
1.7C	**Contract Negotiation Matter**	(15 mins)	(JDY)

2. REGULAR MEETING

2.1. Ratification of in-camera motions.

Motion:
That the Halifax Water Board ratify the in-camera motions.

2.2. Approval of the order of business and approval of additions and deletions

Motion:
That the Halifax Water Board approve the order of business and that the agenda be approved as presented.

2.3. Approval of minutes of the regular Halifax Water Board meeting held on Thursday, March 26, 2026.

Motion:
That the Halifax Water Board approve the minutes of the March 26, 2026, regular meeting, as circulated.

2.4. Business arising from minutes:

2.5. Consecutive Standing Committees Members & Chair Ratification

3. FINANCIAL REPORTS

3.1. Audited Financial Statements for the year ended March 31, 2026 (10 mins) (LdM)

Motion:
That the Halifax Water Board approve the financial statements of the Halifax Regional Water Commission for the year ended March 31, 2026.

4. CAPITAL REPORTS

4.1. E-Vote Motions Ratification

a. Item #1 - Sullivan's Pond Capital Project
b. Item #2 - Integrated Projects 2026-27
c. Item #3 - Cross-Culvert Renewal program

Motion:
That the Halifax Water Board ratify the e-vote motions.

4.2. Raymond Street and Walker Street Infrastructure Project – Additional Funding (10 mins) (RG)

Motion:
The Halifax Water Board approve additional funding in the amount of $4,014,000 for the Raymond Street and Walker Street Infrastructure Project, for a revised total project cost estimate of $11,070,000. This includes the previous Halifax Water Board-approved project funding of $7,053,000.

4.3. Majestic Pump Station Upgrades – Capital Project Approval (10 mins) (RG)

Motion:
That the Halifax Water Board approve the Majestic Avenue Pump Station Upgrades and Forcemain Twinning project for a total project cost estimate of $8,160,000 (including net HST).

5. PENSION

5.1. Audited Pension Statements for the year ended December 31, 2025 (10 mins) (LdM)

Motion:
That the Halifax Water Board approve the financial statements of the Halifax Regional Water Commission Employees' Pension for the year ended December 31, 2025.

6. OTHER BUSINESS

6.1 Corporate Balanced Scorecard – 2025/26 Results (15 mins) (KM)

Motion:
That the Halifax Water Board approve the results of the Corporate Balanced Scorecard (CBS) results for 2025/26 fiscal year.

6.2 Annual Board Compensation Policy review (Verbal) (10 mins) (LR)

6.3 ADJOURNMENT

INFORMATION REPORTS

1-I Operational Performance Information Report
2-I HW Employee's Pension Plan Financial Report as at March 31, 2026
3-I HRM Master Trust Investment Performance Q4 2025
4-I Halifax Water Supplemental Pension Plan Report Dec 31 2025
5-I Halifax Water Compliance Statement – Quarterly Certification
6-I Cost Containment Report
7-I Capital Expenditure Report for the year ended March 31, 2026
8-I NSRAB: Operations and maintenance audit 2025
9-I Boil Water Advisory (BWA) – Corrective action update
10-I Research Grant with Dalhousie

Thursday, March 26, 2026
Hybrid/ Cowie Hill Road and Microsoft® Teams

Present: Commissioner John MacPherson, Chair
Commissioner Cathy Deagle Gammon, Vice Chair
Commissioner Janet Steele
Commissioner Trish Purdy
Commissioner Patty Cuttell
Commissioner Lucas Pitts

Staff: Kenda MacKenzie, General Manager and CEO
Liana Rintoul, General Counsel and Board Secretary
Louis de Montbrun, Director, Corporate Services and CFO
Josh DeYoung, Director of Engineering & Capital Infrastructure
Ashley Kendell, Director - People & Culture
John Eisnor, Director, Operations
Wendy Krkosek, Director Environment, Health & Safety
Jeff Myrick, Senior Manager, Communications and Corporate Strategy
Stephanie Leblanc, Senior Manager Information & Technology Services
Jarvis Singer, Acting Senior Manager, Water & Wastewater Treatment
Warren Brake, Manager Accounting
Heather Britten, Quality Assurance Officer
Kelsey Green, Senior Manager, Asset Management & Capital Planning
Nicole Jollymore, Administrative Coordinator

These minutes are considered draft and will require approval by this committee at a future meeting.

The following does not represent a verbatim record of the proceedings of this meeting.
The agenda, reports, supporting documents, information items circulated and recording, are considered privileged and are for internal reference only.

CALL TO ORDER

Commissioner MacPherson called the public meeting to order at 11:38 AM.

REGULAR MEETING

1. Ratification of the in-camera motions.

Not applicable.

2. Approval of the order of business and approval of additions and deletions.

MOVED by Commissioner Steele, seconded by Commissioner Cuttell.

THAT the Halifax Water Board approve the order of business and that the agenda be approved as presented.

MOTION PUT AND PASSED.

3. Approval of minutes of the regular meeting held on Friday, February 27, 2026

MOVED by Commissioner Deagle Gammon, seconded by Commissioner Steele.

THAT the Halifax Water Board approve the minutes of the February 27, 2026, regular meeting, as circulated.

MOTION PUT AND PASSED.

4. Business arising from minutes

a) **None.**

FINANCIAL REPORTS

5.1 Operating results as of January 31, 2026

Mr. de Montbrun presented the operating results for the ten months ending January 31, 2026. The Board engaged in discussion on the operating results.

5.2 Capital expenditures as of January 31, 2026

Mr. de Montbrun presented the Capital Expenditures for the ten months ending January 31, 2026. The Board engaged in discussion on the capital expenditures report. The Board requested the capital expenditure report be updated to reflect the correct allocation of total budget available for District Energy.

CAPITAL REPORTS

6.1 Quigley's Corner Pump Station Upgrade – Request for additional funding

Rob Gillis presented the project for approval. The Board engaged in discussion about the tendering process.

MOVED by Commissioner Deagle Gammon, seconded by Commissioner Steele.

THAT the Halifax Water Board approve additional funding in the amount of $5,562,000 for the Quigley's Corner Pump Station Upgrade project for a total project cost of $11,362,000. This sum would include the previous Board-approved project funding of $5,800,000.

MOTION PUT AND PASSED.

OTHER BUSINESS

7. Spring 2026 Debenture

Mr. de Montbrun presented Halifax Water's request for approval to issue $45,000,000 in debentures to fund assets that have been completed and in service. The Board engaged in discussion with Mr. de Montbrun on the maximum all-inclusive rate and the 30-year amortization term.

MOVED by Commissioner Deagle Gammon, seconded by Commissioner Steele.

THAT the Halifax Water Board approve the financing of $45,000,000 with a thirty year amortization term and finance over ten years. The maximum all-inclusive rate is not to exceed 7.0%.

MOTION PUT AND PASSED.

8. Corporate Balance Scorecard – 2026/27 Program

Ms. MacKenzie presented on the corporate balanced scorecard program that sets targets for the utility to achieve each year. Ms. MacKenzie presented on the proposed targets for the 2026/27 fiscal year. Ms. MacKenzie presented on the proposed adjustment to the financial and regulatory accountability organizational indicator of operating expense / revenue ratio. Ms. MacKenzie also presented the proposal to adjust the People organizational indicator of employee satisfaction survey results to a letter grade employee engagement index score. Ms. MacKenzie presented on a proposed additional fiscal health indicator in light of the accumulated budgeted deficit. The Board engaged in discussion about the metrics for the corporate balanced scorecard and the annual operating deficit and accumulated deficit.

MOVED by Commissioner Deagle Gammon, seconded by Commissioner Steele. All in favor.

THAT the Halifax Water Board:

1. **Approve the Corporate Balanced Scorecard (CBS) targets for the 2026/27 fiscal year.**
2. **Direct staff to further review the financial criteria for the evaluation of the eligibility of the payment of the award, and report back to the Board at the next regular meeting.**

MOTION PUT AND PASSED.

9. **NSRAB: Operations and maintenance audit 2025**
   John Eisnor presented an update on the status of the audit.

10. **Boil Water Advisory (BWA) – Corrective action update**
    Jarvis Singer presented an update on the completed corrective actions.

11. Chair MacPherson deferred Agenda Item 11 to the June Board meeting, noting that a few Commissioners needed to depart.

12. **ADJOURNMENT**
    The public meeting adjourned at 12:28 PM.

Next Meeting Date: Thursday, June 25, 2026

ITEM # 1

Halifax Water Board
May 27, 2026

TO: John MacPherson, KC, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: DocuSigned by: 0BC10767707F488...
Josh DeYoung, P.Eng., Director, Engineering & Capital Infrastructure

APPROVED: Signed by: Kenda MacKenzie 0C084AC815794F8...
Kenda MacKenzie, P.Eng., CEO & General Manager

DATE: **May 29, 2026**

SUBJECT: **Sullivan's Pond Phase 2 Part 2 – Additional Funding**

ORIGIN

2017/2018, 2020/2021 and 2026/27 Capital Budgets

RECOMMENDATION

The Halifax Water Board approve additional funding in the amount of $11,227,000 for the Sullivan's Pond Phase 2, Part 2 project for a total project cost of $34,615,000.

BACKGROUND

Halifax Water identified the need to replace its existing stormwater infrastructure that runs from Sullivan's Pond to Dartmouth Cove in 2014. This stormwater system serves an urban watershed of approximately 1500 ha in size. The stormwater pipe is approximately 600 meters in length and was installed in the early 1970s. The pipe is made of corrugated steel and is at the end of its service life and needs to be replaced.

In 2016, Halifax Water retained CBCL to complete preliminary and detailed design phase services for the entire project. To streamline design and construction activities and provide the public with proper detour routes and traffic control measures, the stormwater infrastructure upgrade was separated into 3 projects: Phase 1 (Upper Section), Phase 2 Part 1 (Lower Section) and Phase 2 Part 2 (Middle Section).

Phase 1 (Upper Section) of the stormwater system from Sullivan's Pond to a point within Starr Park, just north of Irishtown Road, was replaced in 2018. This consisted of the installation of a combination of box culvert and open channel sections to convey the stormwater flows. In addition to conveyance, the project

also included various environmental considerations including Department of Fisheries & Oceans (DFO) regulatory requirements for fish passage.

In 2023, CBCL was retained to carry out detailed design, tendering and construction contract administration services for Phase 2, inclusive of Part 1 and Part 2.

Phase 2 Part 1 (Lower Section), includes construction of the lower section of the stormwater system prior to discharge to Halifax Harbour using a combination of an open channel system and box culverts, where vehicle passage is required. This phase of the overall project is in the final stages of project completion by Dexter Construction which began in August 2024. Construction is anticipated to be complete in Summer of 2026. Phase 2 Part 1 was integrated with HRM, and the scope of work included extending Dundas Street via a box culvert over the existing canal to connect to Canal Street. HRM required that the street be upgraded and raised in preparation for HRM's future development plans for Dartmouth Cove. A section of the stormwater channel was also replaced in Martin's Park as part of this phase.

Phase 2 Part 2 was first approved by the Halifax Water Board at the 90% design stage (Attachment 1 – Item 5.2 - HRWC Board Report – November 28, 2024) for a total project cost estimate of $19,398,000. On June 19, 2025, the HW Board approved an additional $3,990,000 (Attachment 2 - Item 5.3 - HRWC Board Report - June 19, 2025) to support scope changes and unit price adjustments based on Phase 2 Part 1 tender pricing, resulting in a revised total project cost estimate of $23,388,000 (including net HST). Subsequently, on July 14, 2025, the Nova Scotia Regulatory and Appeals Board (NSRAB) approved a total project cost estimate of $22,009,000 (including net HST).

DISCUSSION

Phase 2 Part 2 will extend Phase 1 by continuing similar open channel and box culvert designs, connecting within Starr Park. This project will then connect into Phase 2 Part 1 at the Dundas St intersection and complete the full replacement of the 1970's vintage corrugated steel pipe stormwater system. Environmental regulations and anticipated increases in peak stormwater flows resulting from climate change were incorporated throughout each design phase. Halifax Water and CBCL continued to work collaboratively with DFO to ensure the fish passage standards were integrated into the new stormwater infrastructure planned for this phase. The work also includes replacing a water control pressure reducing valve (PRV) chamber and associated watermain piping. The project is fully integrated with Halifax Regional Municipality (HRM) corridor improvements, including street works, traffic signals, active transportation facilities, and landscaping in the new Starr Pond area. It also includes a Halifax Water scope to separate wastewater and stormwater sewers from Starr Lane to Canal Street, as identified in the 2019 Integrated Resource Plan.

Phase 2 Part 2 of the project was tendered via a competitive public Invitation to Tender (ITT) process in January 2026 and closed on March 19, 2026. Three bids were received with the lowest construction bid of $35,273,140 plus HST. Halifax Water's portion of this amount is estimated to be $30,509,773 plus HST

with HRM contributing the additional $4,763,368 plus HST. A revised Halifax Water total project cost estimate of $34,615,000 can be found in *Attachment 3 - Class 1 Cost Estimate Sullivan's Pond Phase 2, Part 2 - April 16, 2026*.

Tender prices received reflect actual market conditions at the time of the tender period. Volatility in public bid solicitations is becoming increasingly difficult to predict and can be impacted by such factors as:

- Actual market conditions at the time of tendering;
- Supply chain disruptions and material cost inflation;
- Regulatory approval processes following tender closing that result in longer required bid validity periods;
- Length/timing of the construction season in the local market;
- Market capacity to deliver.

Halifax Water is planning to award the tender immediately following HRWC Board and NSRAB spending approvals. Construction of Phase 2 Part 2, is expected to begin in June/July of 2026. The estimated timeline for construction is from June/July 2026 to December 2027, with work being paused during the winter months. This schedule is dependent on beginning work this construction season (2026/2027).

According to Halifax Water's Capital Project Funding Approval Policy, individual capital projects with increases that exceed the greater of $250,000 or 5% shall be approved by the Halifax Water Board and subsequently the NSRAB.

BUDGET IMPLICATIONS

A new total project cost estimate for Phase 2 Part 2, was developed using the low bid tender result and provided as *Attachment 3 - Class 1 Cost Estimate Sullivan's Pond Phase 2, Part 2 - April 16, 2026*.

Funding in the amount of $400,000 and $4,390,000 for the Sullivan's Pond Phase 2, Part 2 project is available respectively in the 2025/26 and 2026/27 Capital Budgets.

Funding for the remaining amount of $29,825,000 for the Sullivan's Pond Phase 2, Part 2 will be requested in future Capital Budgets.

The project's funding sources are listed below in Table 1.

Halifax Water Project Funding Sources			
Funding Source	**Contributor**	**Infrastructure**	**Value**
Debt/Depreciation	Halifax Water	Water	$2,496,000
12.5% Debt/Depreciation	Halifax Water	Wastewater	$119,500
12.5% LoWSCA (HRM)	HRM	Wastewater	$119,500
75% Growth (Regional Development Charge)	Halifax Water	Wastewater	$717,200
Province of Nova Scotia's Municipal Capital Growth Fund (MCGF)	Province of Nova Scotia	Stormwater	$11,017,900
Debt/Depreciation	Halifax Water	Stormwater	$20,144,900
Total:			**$34,615,000**

Table 1: Project Funding Sources

Halifax Water and HRM have signed an agreement with the Provincial Government as part of the Municipal Capital Growth Program. Through this agreement, the overall project will receive a total of $14,088,759.77. Halifax Water's portion of the program funding received is $11,017,900.

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 infrastructure system integrity and safety", and "Directly supports the implementation of the Asset Management program". The project meets these criteria based on the following: The current equipment is failing due to age and end of life (Asset Management) and causing treatment performance/operational issues (Infrastructure System Integrity).

Asset Transfer Agreement with HRM

In 2008 Halifax Water and HRM signed the *Memorandum of Understanding – Bridges and Large Culverts in HRM* to determine how assets would be transferred, and the costs to maintain and replace these assets. The Agreement calls for culverts greater than 3m to be designated as a bridge and transferred to HRM. In this project, Halifax Water is required to pay to replace the Halifax Water culvert and to then transfer the upgraded bridge portion of the asset to HRM. It is estimated that the cost to build the bridge would be in the range of $6.3m. When the bridge is transferred to HRM, Halifax Water will no longer be able to record these costs as an asset and the cost would be recorded as an expenditure. The increase in expenditures would result in an increase in revenue requirements and rates.

Halifax Water is proposing to utilize the Provincial funding to offset these estimated $6.3m expenditures to eliminate the impact on the revenue requirements and rates.

RISK

There is a risk of imminent failure of critical stormwater infrastructure located beneath the public right-of-way between the end of Phase 1 work and the Phase 2 Part 1 work. If the infrastructure is not proactively replaced, emergency repairs may be required, resulting in significantly higher costs, service disruptions, and potential impacts on public safety.

ALTERNATIVES

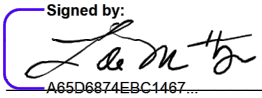
An alternative option is not to proceed with the project. The risks associated with this alternative include the potential failure of critical stormwater infrastructure, increased public safety concerns, and reputational impacts resulting from incomplete works, previous public engagement, and the expectations established during the planning and design phases.

Another alternative is to reduce the project's scope and complete only the portions of work within the public right-of-way, where infrastructure failure would pose a higher risk to public safety. While this approach may reduce the overall funding requirement, additional funding would likely still be necessary. This option is not recommended, as it would leave deteriorating infrastructure in place beneath the public park and would not satisfy HRM's objectives of their portion of the project. Furthermore, reliance on emergency repairs and/or the need for a future project would increase the total lifecycle cost of infrastructure renewal.

The project could also be deferred to future years, resulting in the need for re-tendering and increased project costs due to market escalations. Deferring the project to future years will eliminate the value in upsizing the stormwater infrastructure in the previous phases until the full scope of the project is executed. The previous approval granted from DFO is based on completing all phases of the project which will allow fish passage from Sullivan's Pond to Dartmouth Cove. If the final phase of the project is not fully completed, the conditions of approval from DFO will not be satisfied.

ATTACHMENT

1. Attachment 1 – Item 5.2 - HRWC Board Report – November 28, 2024
2. Attachment 2 – Item 5.3 - HRWC Board Report – June 19, 2025
3. Attachment 3 – Class 1 Cost Estimate Sullivan's Pond Phase 2, Part 2 – April 16, 2026

Report Prepared By:	Andrew Snow, P.Eng. Manager, Infrastructure Engineering
Financial Approved By:	Signed by:  A65D6874EBC1467... Louis de Montbrun, CPA, CA Director, Corporate Services/CFO

ITEM #5.2

Halifax Water Board

November 28, 2024

TO: Colleen Rollings, P.Eng., PMP., Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: DocuSigned by:

Josh DeYoung, P.Eng., Director, Engineering & Capital Infrastructure

APPROVED: Signed by: Kenda MacKenzie

Kenda MacKenzie, P.Eng., Acting CEO & General Manager

DATE: November 6, 2024

SUBJECT: **Sullivan's Pond Storm Sewer Replacement – Phase 2, Part II**

ORIGIN

2020/2021 Capital Budget

RECOMMENDATION

The Halifax Water Board approve funding in the amount of $19,398,000 (including net HST) for the Sullivan's Pond Storm Sewer Replacement Phase 2 – Part II (Sawmill Creek) project.

BACKGROUND

Halifax Water has identified the need to replace its existing stormwater sewer system that runs from Sullivan's Pond to Dartmouth Cove. This stormwater system serves an urban watershed of approximately 1500 ha in size. The stormwater sewer is approximately 600 meters in length and was installed in the early 1970s. The stormwater sewer is made of corrugated steel pipe and is at the end of its service life and needs to be replaced.

The upper section of the stormwater sewer system from Sullivan's Pond to a point within Starr Park just north of Irishtown Road was replaced in 2018 as Phase 1 of the overall project to replace the complete stormwater sewer system. The Phase 1 project consisted of a combination of box culvert and open channel sections being installed to convey the stormwater flows. In addition to conveyance, the project also included various environmental considerations including the regulatory requirement for fish passage.

Phase 2, Part 1, is currently under construction. The project was awarded to Dexter construction in the spring of 2024. Construction began in August and will be completed in the summer of 2025. This current

project is integrated with HRM and involves upgrades to Martins Park, local streets and intersections. The new storm water system will be constructed using a combination of an open channel system and box culverts, where vehicle passage is required. The completion of Phase 2, Part 1, will provide new storm water infrastructure from Dartmouth Cove to the north side of Dundas Street. A new road will connect Alderney Drive to Canal Street, near the Dundas Street intersection. This new road will be used for traffic diversion during Part II of the project.

Phase 2, Part II, will consist of much of the same design elements of open channel and box culvert sections and will connect to Phase 1 within Starr Park. In addition, a water control pressure reducing valve (PRV) chamber and related watermain piping will be replaced as part of the Part II work. The Phase 2, Part II project will also satisfy the same environmental and regulatory requirements as Phase 1. This includes consideration of climate change impacts and adaptation as well as working with DFO to ensure the project complies with their regulations.

The Phase 2, Part II project is fully integrated and coordinated with the municipal work being completed by the Halifax Regional Municipality within the corridor. This includes street work, traffic signals, active transportation trails and landscaping within the new Starr Pond area.

As part of the Sullivan's Pond Phase 2, Part II project, Halifax Water will be including a scope of work that separates the sanitary and storm sewers, from Starr Lane to Canal Street. This project was identified in the IRP and will take advantage of the proximity of the Sullivan's Pond Phase 2, Part II project. The new sanitary sewer is being installed in portions of the street that will already be under construction.

CBCL was retained to carry out the engineering services for the project.

Given the project scale and potential impacts, proactive interested parties engagement is important to the project's overall success. HRM staff have been actively involved in the concept and preliminary design aspects of the project. Regular updates have also been provided to the local HRM area Councilor and the Shubenacadie Canal Commission. A public information session was held on January 17, 2024 in which Halifax Water and HRM staff were present to answer questions and take relevant input for various aspects of the work. A project website has been created and is available through the Halifax Water home page to provide regular updates and progress on the project.

BUDGET IMPLICATIONS

The design work for the Part II Stormwater system is 90% complete. Halifax Water intends to tender the work in early 2025 so that construction can begin in the summer of 2025. The project has received approval from the Nova Scotia Department of Environment and Climate Change (NSECC). Coordination with Fisheries and Oceans Canada (DFO) is on-going. CBCL has completed a cost estimate for Phase 2, Part

II. Based on the cost estimates, the estimated project cost for Halifax Water's portion of the work is as follows:

Funding in the amount of $16,112,000 will be included within the 2025/2026 and 2026/2027 Capital Budget – Stormwater under 1.0000145 "Sullivan's Pond Storm Sewer System Replacement Phase 2 Irishtown Rd to Harbour"

Funding in the amount of $1,504,000 will be included within the 2025/2026 and 2026/2027 Capital Budget – Water under 3.0000587 "Prince Albert Road Transmission Main/PRV Replacement"

Funding in the amount of $1,782,000 will be included within the 2025/2026 and 2026/2027 Capital Budget – Wastewater under 2.0000835 "LoWSCA: Canal Street Separation"

Halifax Water is planning to award the tender immediately after all approvals are received, including funding approval by the NSUARB. Construction of Phase 2, Part II, is expected to begin after the completion of Phase 2 Part 1. The estimated timeline for construction is 50 weeks, from August 2025 to December 2026, with work being paused during the winter months.

HRM has signed an agreement with the Provincial Government as part of the Municipal Capital Growth Program. Through this agreement, the overall project will receive a total of $14,088,759.77 that can be used towards Design, Project Management, Construction, etc. Halifax Water is working with HRM to determine eligible project costs to disburse the funding across the project between HRM and Halifax Water assets.

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 infrastructure system integrity and safety". The project meets these criteria based on the following: The current infrastructure is failing due to age and end of life (Asset Management).

RISK

The existing utility and municipal infrastructure is at the end of its service life. There is a significant risk of failure which will increase if the project is delayed. Deferral is not recommended.

MILESTONES

The key milestones for this project are as follows:

Tender issue Date: January 2025
Tender Award Date: March 2025
Start of construction: August 2025
Project completion: December 2026

ATTACHMENT

1. **Sullivan's Pond Storm Sewer Replacement Phase 2, Part II – Cost Estimate**
2. **Sullivan's Pond Storm Sewer Replacement Phase 2, Part II – Area Sketch**

Report Prepared by:

Andrew Snow, P.Eng
Manager, Infrastructure Engineering

Financial Reviewed by:

Signed by:
A05D0874EBC1407...

Louis de Montbrun, CPA, CA
Director, Corporate Services/CFO

Sullivan's Pond Phase II - Part 2 - Nov 5, 2024

PRE TENDER COST ESTIMATE

Total Estimated Stormwater System Cost - Part II	$16,112,000
Total Estimated Water System Cost - Part II	$1,504,000
Total Estiamte Wastewater System Cost - Part II	$1,782,000
Part 1 Total Project Cost	**$19,398,000**

PART II - 2025-2027 CONSTRUCTION - STORMWATER	
Description	**Amount**
Estimated Construction Cost - CBCL (Class A 90% Design) dated October 2, 2024)	$13,257,332
Sub-Total	**$13,257,332**
Add 10% Contingency - (Class 1 estimate)	$1,325,733
Sub-Total	**$14,583,066**
Internal Halifax Water Costs (Project Management & Site Inspection - estimated)	$30,000
QA/QC Testing - estimated	$10,000
Halifax Water Consultant Cost for Detailed design services	$277,451
Halifax Water Consultant Cost for Tender Phase Services	$6,380
Halifax Water Consultant Cost for Construction Admin and Closeout (CBCL)	$395,864
Total	**$15,302,761**
Net HST (4.286%)	**$655,876**
Overhead/Interest (1%)	**$153,028**
Total Estimated Stormwater System Cost - Part 2	**$16,111,665**

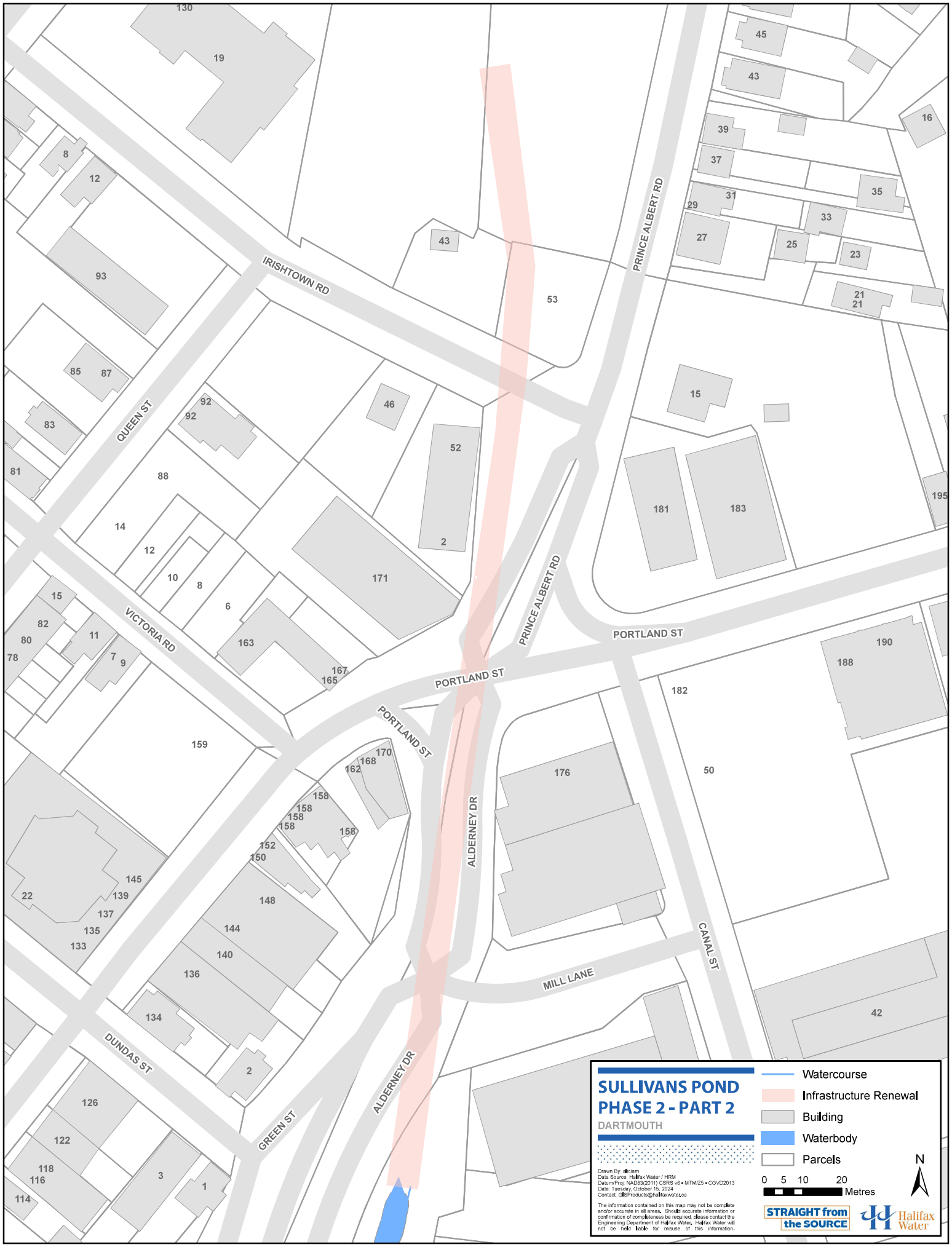
Total Estimated Stormwater System Cost - Part 1 (Rounded) **$16,112,000**

PART 2 - 2025-2027 CONSTRUCTION - WATER	
Description	**Amount**
Water System - Part 2	$1,029,989
Sub-Total	**$1,029,989**
30% contingency - (Class 4 estimate)	$308,997
Sub-Total	**$1,338,985**
Internal Halifax Water Costs (Project Management & Site Inspection - estimated)	$10,000
QA/QC Testing - estimated	$5,000
Halifax Water Consultant Cost for Detailed design services	$28,807
Halifax Water Consultant Cost for Tender Phase Services	$731
Halifax Water Consultant Cost for Construction Admin and Closeout (CBCL)	$45,364
Total	**$1,428,888**
Net HST (4.286%)	**$61,242**
Overhead/Interest (1%)	**$14,289**
Total Estimated Water System Cost - Part 2	**$1,504,419**

Total Estimated Water System Cost - Part 2 (Rounded) **$1,504,000**

PART 2 - 2025-2027 CONSTRUCTION - WASTEWATER	
Description	**Amount**
Wastewater System - Part 2	
Sub-Total	**$1,199,681**
30% contingency - (Class 4 estimate)	$359,904
Sub-Total	**$1,559,585**
Internal Halifax Water Costs (Project Management & Site Inspection - estimated)	$10,000
QA/QC Testing - estimated	$5,000
Halifax Water Consultant Cost for Detailed design services	$64,533
Halifax Water Consultant Cost for Tender Phase Services	$852
Halifax Water Consultant Cost for Construction Admin and Closeout (CBCL)	$52,838
Total	**$1,692,808**
Net HST (4.286%)	**$72,554**
Overhead/Interest (1%)	**$16,928**
Total Estimated Wastewater System Cost - Part 2	**$1,782,290**

Total Estimated Waste Water System Cost - Part 2 (Rounded) **$1,782,000**


IRISHTOWN RD
QUEEN ST
VICTORIA RD
PRINCE ALBERT RD
PORTLAND ST
ALDERNEY DR
MILL LANE
CANAL ST
DUNDAS ST
GREEN ST
SULLIVANS POND
PHASE 2 - PART 2
DARTMOUTH
Watercourse
Infrastructure Renewal
Building
Waterbody
Parcels
N
0 5 10 20
Metres
STRAIGHT from the SOURCE
Halifax Water

ITEM # 5.3

Halifax Water Board

June 19, 2025

TO: John MacPherson, K.C., Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: DocuSigned by: 0BC13787707F488...
Josh DeYoung, P.Eng, Director, Engineering and Capital Infrastructure

APPROVED: Signed by: Kenda MacKenzie 0C084AC8415794F6...
Kenda MacKenzie, P.Eng., General Manager & CEO

DATE: June 9, 2025

SUBJECT: **Sullivan's Pond Phase 2, Part 2 – Additional Funding**

ORIGIN

2025/26 & 2026/27 Capital Budget

RECOMMENDATION

The Halifax Water Board approve additional funding in the amount of $3,990,000 to support the scope changes required to meet project objectives, for a revised total project cost of $23,388,000.

BACKGROUND

Halifax Water has identified the need to replace its existing stormwater sewer system that runs from Sullivan's Pond to Dartmouth Cove. This stormwater system serves an urban watershed of approximately 1500 ha in size. The stormwater sewer is approximately 600 meters in length and was installed in the early 1970s. The stormwater sewer is made of corrugated steel pipe and is at the end of its service life and needs to be replaced. The project was approved by the Halifax Regional Water Commission Board in November of 2024 with a total price of $19,398,000 (including net HST).

DISCUSSION

The budget approved in November was based on a class C cost estimate. The accuracy of a Class C estimate is generally expected to be within +/- 15% to 20% of the actual cost. The project progressed, the scope of work expanded, and the design and cost estimate became much more detailed. An increased work scope was incorporated into the project to take advantage of the right-of-way that would be under construction. The 100% design drawings included additional watermain replacement and an increased sewer separation

scope on Prince Albert Road, from Starr Lane to Portland Street. The project team believes this is an opportunity to complete this work in a high traffic area that is normally difficult to shut down and requires a very extensive traffic control plan. Halifax Water is integrated with HRM on this project. A well-developed plan was created during the design of Phase 2, part 1 which will allow total closure of the Prince Albert Road/Portland Street/Alderney Drive intersection. If Halifax Water does not complete this increased scope of work now, it will be much more difficult to access and construct in the future.

Construction costs from Phase 2, Part 1 were used to update estimated pricing for Phase 2, which also resulted in increased costs for the new stormwater infrastructure.

Proposed Project Schedule:

Tender: August 2025
Construction Start: Fall 2026
Project Completion: Fall 2026:

The project application is currently with NSRAB for approval. The new cost estimate that is included as attachment 1 in this report was also submitted to the NSRAB.

BUDGET IMPLICATIONS

Additional funding in the amount of $3,990,000 for the Sullivan's Pond Phase 2, Part 2 will be allocated in the 2026/27 Capital Budget.

Funding in the amount of $3,858,000 for the Sullivan's Pond Phase 2, Part 2 Storm Sewer Replacement Project will be allocated in 2026/27 Stormwater Capital Budget (Sullivan's Pond Phase 2, Part 2 Storm Sewer Replacement)

Funding in the amount of $132,000 for the Sullivan's Pond Phase 2, Part 2 Storm Sewer Replacement Project will be allocated in 2026/27 Water Capital Budget (Sullivan's Pond Phase 2, Part 2 Storm Sewer Replacement)

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 "Firm regulatory requirement", "Required to ensure infrastructure system integrity and safety", and/or "Directly supports the implementation of the Asset Management program". The project meets these criteria based on the following: The current equipment is failing due to age and end of life (Asset Management) and causing treatment performance/operational issues (Infrastructure System Integrity).

RISK

The original application to the HRWC Board in November identified a risk with proceeding for approvals before the project is tendered, which may result in the need for further approvals if tender pricing is higher than expected. However, Halifax Water staff believe this will provide the most streamlined approach to complete the project as the project team believes the cost estimate provided in Attachment 1 is thorough and accurate.

ALTERNATIVES

The expanded scope of work could be removed. Additional funding would still be needed, but the amount would be reduced.

ATTACHMENT

1. Attachment 1 – Sullivan's Pond Storm Sewer Replacement Phase 2, Part 2 – Total Project Cost estimate – June 2, 2025

Report Prepared by:

Andrew Snow, P.Eng.,
Manager Infrastructure Engineering

Financial Reviewed by:

Signed by:
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Louis de Montbrun, CPA, CA
Director, Corporate Services/CFO

Sullivan's Pond Phase 2 - Part 2

100% DESIGN - TOTAL PROJECT COST ESTIMATE

Total Estimated Stormwater System Cost - Part II	$21,237,000
Total Estimated Water System Cost - Part II	$1,636,000
Total Estiamte Wastewater System Cost - Part II	$515,000
Part 2 Total Project Cost	**$23,388,000**

PART 2 - 2025 CONSTRUCTION - STORMWATER	
Description	**Amount**
Estimated Construction Cost - CBCL (100% Design)	$17,637,187
Sub-Total	**$17,637,187**
Add 10% Contingency - (Class 1 estimate)	$1,763,719
Sub-Total	**$19,400,906**
Internal Halifax Water Costs (Project Management & Site Inspection - estimated)	$30,000
QA/QC Testing - estimated	$10,000
Halifax Water Consultant Cost for Detailed design services	$277,451
Halifax Water Consultant Cost for Tender Phase Services	$6,380
Halifax Water Consultant Cost for Construction Admin and Closeout (CBCL)	$446,402
Total	**$20,171,139**
Net HST (4.286%)	**$864,535**
Overhead/Interest (1%)	**$201,711**
Total Estimated Stormwater System Cost - Part 2	**$21,237,385**

Total Estimated Stormwater System Cost - Part 2 (Rounded) **$21,237,000**

PART 2 - 2025 CONSTRUCTION - WATER	
Description	**Amount**
Water System - Part 2	$1,338,489
Sub-Total	**$1,338,489**
Add 10% Contingency - (Class 1 estimate)	$133,849
Sub-Total	**$1,472,338**
Internal Halifax Water Costs (Project Management & Site Inspection - estimated)	$10,000

QA/QC Testing - estimated	$5,000
Halifax Water Consultant Cost for Detailed design services	$28,139
Halifax Water Consultant Cost for Tender Phase Services	$604
Halifax Water Consultant Cost for Construction Admin and Closeout (CBCL)	$37,495
Total	**$1,553,576**
Net HST (4.286%)	**$66,586**
Overhead/Interest (1%)	**$15,536**
Total Estimated Water System Cost - Part 2	**$1,635,698**

Total Estimated Water System Cost - Part 2 (Rounded) **$1,636,000**

PART 2 - CONSTRUCTION - WASTEWATER	
Description	**Amount**
Wastewater System - Part 2	
Sub-Total	**$363,039**
Add 10% Contingency - (Class 1 estimate)	$36,304
Sub-Total	**$399,343**
Internal Halifax Water Costs (Project Management & Site Inspection - estimated)	$10,000
QA/QC Testing - estimated	$5,000
Halifax Water Consultant Cost for Detailed design services	$64,533
Halifax Water Consultant Cost for Tender Phase Services	$164
Halifax Water Consultant Cost for Construction Admin and Closeout (CBCL)	$10,170
Total	**$489,210**
Net HST (4.286%)	**$20,968**
Overhead/Interest (1%)	**$4,892**
Total Estimated Wastewater System Cost - Part 2	**$515,069**

Total Estimated Wastewater System Cost - Part 2 (Rounded) **$515,000**

Sullivan's Pond Phase 2, Part 2
Total Project Cost Estimate

April 16, 2026

CONTRACTOR COSTS	
Contractor Original Contract Items	
Construction Cost Estimate (Post-Tender)	$30,509,773
Construction (Original Contract + Change Orders) Sub-Total	**$30,509,773**
CONSULTANT COSTS	
Consultant Original Contract Items	
Design Phase Services (completed)	$370,123
Tender Phase Services (completed)	$7,148
Construction Phase Services Estimate	$494,067
Consultant (Original Contract + Change Orders) Sub-Total	**$871,338**
CONTINGENCY (Class 1: Post Tender 5%)	
Construction Cost Estimate Contingency	$1,525,489
Construction Phase Services Estimate Contingency	$24,703
Contingency Sub-Total	**$1,550,192**
OTHER COSTS	
QA/QC Testing	$20,000
Other Costs (Taxable) Sub-Total	**$20,000**
CONTRACTOR + CONSULTANT + CONTINGENCY + OTHER COSTS SUBSTOTAL	
Contractor + Consultant + Contingency + Other Costs Sub-Total	**$32,951,302**
NET HST (Applies to all EXCEPT Halifax Water Costs)	
Net HST (3.857%)	$1,270,932
HALIFAX WATER COSTS	
Internal Halifax Water Costs Estimate (Project Management & Site Audit Inspection)	$50,000
Halifax Water Sub-Total	**$50,000**
SUB-TOTAL + OVERHEAD	
Sub-Total	$34,272,234
Overhead (1%)	$342,722
Total Project Cost Estimate	**$34,614,957**
TOTAL PROJECT COST ESTIMATE *	**$34,615,000**

** Rounded up*

ITEM # 2

Halifax Water Board
May 29, 2026

TO: John MacPherson, KC, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: DocuSigned by:
0BC19787787F488...
Josh DeYoung, P.Eng., Director, Engineering & Capital Infrastructure

APPROVED: Signed by:
Kenda MacKenzie
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Kenda MacKenzie, P.Eng., CEO & General Manager

DATE: **May 29, 2026**

SUBJECT: Integrated Projects 2026/27

ORIGIN

2026/27 Capital Budget.

RECOMMENDATION

The Halifax Water Board approve funding in the amount of $15,100,000 for the Integrated Projects 2026/27.

BACKGROUND

Integrated projects are priority initiatives jointly identified by the Halifax Regional Municipality (HRM) and Halifax Water (HW), aligned based on shared priorities, scheduling, and scope. Halifax Water's role in these projects includes the renewal and replacement of water, wastewater, and/or stormwater infrastructure assets.

To optimize outcomes, HW and HRM coordinate and integrate their respective work into a single construction package. This collaborative approach reduces overall costs while ensuring that both organizations meet their infrastructure objectives. A cost-sharing agreement is established between both parties for each specific project. Depending on project drivers and scope, either HW or HRM assumes the role of project lead. The lead organization is responsible for preparing tender documents, conducting procurement, awarding the contract, and administering construction activities.

Halifax Water delivers these projects annually as part of its routine capital program to address aging infrastructure. Through ongoing collaboration, HW and HRM have developed a strong working

relationship and effective communication processes that support consistent, year-over-year delivery. Individual integrated projects typically range in value from $20,000 to $5,000,000, although larger integrated projects may occur and are often identified separately within the annual capital budget, outside of the routine program.

DISCUSSION

In previous years, Halifax Water identified integrated projects as three separate, service-specific programs within the routine capital program:

- Integrated Water Projects – Program Year;
- Integrated Wastewater Projects – Program Year;
- Integrated Stormwater Projects – Program Year.

In total, these separate programs represented a combined funding request of $10,600,000 in 2025/26.

Beginning this year and moving forward, these service-based programs will be consolidated into a single routine annual program titled *Integrated Projects 2026/27*. This change reflects the reality that most asset renewal projects involve the replacement of two or more services and are delivered through a single construction contract.

Consolidating these programs enhances Halifax Water's ability to efficiently deliver capital projects by reducing administrative complexity and increasing flexibility to respond to evolving priorities. While the program will be managed as a single entity, expenditures will continue to be tracked and allocated to each respective service area. Detailed financial close-out reporting will be completed at the conclusion of each fiscal year.

The works identified within the Integrated Projects program for 2026/27 are indicated in Table 1. However, priorities for both HRM and HW do change occasionally throughout the year and cost estimates for each may not align with tendered results. Therefore, the delivered projects list is subject to change based on changing priorities, cost considerations and contractor availability. HW and HRM staff work together to maximize value with this annual investment.

Table 1 – Integrated Projects 2026/27 – Identified Projects By Service with Budget Estimates

Street Name	Service Assets			2026/27 Estimates
	Water	Wastewater	Stormwater	
Swanton Drive	X		X	$ 1,870,000
Slayter Street	X	X	X	$ 1,850,000
Prince Arthur	X	X	X	$ 100,000
Borden/Flint/Skeena	X	X	X	$ 1,600,000
Purcell's Cove Road	X	X		$ 1,150,000

Quinpool Road	X	X	X	$ 1,450,000
Simcoe Place	X	X		$ 1,000,000
HWY #2 (Collins Park) Watermain	X			$ 600,000
Raymond Drive	X	X	X	$ 1,500,000
Thomas Street			X	$ 50,000
Astral Drive			X	$ 160,000
Oakmount Drive		X	X	$ 170,000
Levis Street	X	X		$700,000
Adelaide Avenue	X	X		$1,000,000
Acadia Street	X	X	X	$1,900,000
TOTALS				**$ 15,100,000**

We are seeking the Halifax Water Board's approval for this routine annual program: *Integrated Projects 2026/27* at this time to allow the HW/HRM project delivery teams to expediate tender award and renew the assets within this construction season for the best project value.

BUDGET IMPLICATIONS

Project costs will continue to be shared between Halifax Water and HRM in accordance with established cost-sharing agreements, with allocations based on the scope of work attributable to each party. Halifax Water's portion of expenditures will be funded through the approved capital budget.

Funding in the amount of $15,100,000 for the Integrated Projects 2026/27 routine program is available in *Project 4.0000420 Integrated Projects All Services – Program 2026/27* in the 2026/27 Capital Budget.

The estimated project cost and funding sources for this fiscal year are listed below in Table 2.

TABLE 2 - Planned Project Funding Sources			
Funding Source	**Infrastructure**	**Percentage**	**Value**
Debt/Depreciation	Water	80%	$12,079,000
Debt/Depreciation	Wastewater	11%	$1,701,000
Debt/Depreciation	Stormwater	9%	$1,320,000
Total:			**$15,100,000**

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 infrastructure system integrity and safety", and "Directly supports the implementation of the Asset Management program". The project meets these criteria based on the following: The current equipment is failing due to age and end of life (Asset Management) and causing treatment performance/operational issues (Infrastructure System Integrity).

ALTERNATIVES

An alternative option is not to proceed with the projects. The risks associated with this alternative include delayed asset renewal and potential failures as well as increased costs associated with completing the work in the future without integration with HRM.

ATTACHMENT

N/A

Report Prepared By:	Greg Rice, P.Eng. Manager Municipal Engineering
Financial Approved By:	Signed by: A65D6874EBC1467... Louis de Montbrun, CPA, CA Director, Corporate Services/CFO

ITEM # 3
Halifax Water Board
May 29, 2026

TO: John MacPherson, KC, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: DocuSigned by: 0BC19767707F488...
Josh DeYoung, P.Eng., Director, Engineering & Capital Infrastructure

APPROVED: Signed by: Kenda MacKenzie 0G084AG815794F8...
Kenda MacKenzie, P.Eng., CEO & General Manager

DATE: **May 29, 2026**

SUBJECT: Cross Culvert Renewal Program 2026/27

ORIGIN

2026/27 Capital Budget.

RECOMMENDATION

The Halifax Water Board approve funding in the amount of $5,482,000 for the Cross Culvert Renewal Program 2026/27.

BACKGROUND

Halifax Water owns and maintains an extensive inventory of cross-culverts that serve a critical function in roadway drainage, flood mitigation, and protection of adjacent infrastructure. Many of these assets are aging and subject to deterioration driven by hydraulic loading, environmental conditions, and lifecycle wear. Proactive renewal is necessary to reduce the risk of failure, service disruption, and costly emergency repairs.

Historically, cross-culvert replacements have been advanced through discrete, project-specific capital approvals. While effective for individual assets, this approach limits operational flexibility and can constrain the organization's ability to respond to changing field conditions, emerging risks, and updated inspection data within a given fiscal year.

To better align with asset management best practices, Halifax Water has developed a prioritized inventory of over 300 cross-culvert candidates based on condition assessments, hydraulic performance, risk of failure, and service criticality. However, the ability to efficiently deliver this program is impacted by

variability in construction readiness, environmental permitting timelines, coordination with HRM, and unforeseen site conditions. For example, cross-culverts identified as part of a watercourse or that provide fish passage, are only permitted for replacement within a short construction window from June 1st to September 30th and can have an environmental permitting process that puts the installation timing at risk. The decision as to whether the planned culvert is subject to regulatory permitting is made by the regulatory body and typically not identified until the culvert replacement design is complete.

Establishing an annual routine capital program will enable Halifax Water to proactively advance culvert renewals within an approved funding envelope, while maintaining alignment with the highest-risk and highest-priority assets.

DISCUSSION

In previous years, Halifax Water identified cross-culvert renewal projects as separate projects within the annual capital budget. In total, these separate projects represented a combined funding request of $5,925,000 in 2025/26.

Beginning this year and moving forward, cross-culvert renewal projects will be consolidated into a single annual routine program titled *Cross Culvert Renewal Program 2026/27*. Approval of an annual capital routine program for cross-culverts will provide Halifax Water staff with the flexibility to adjust the specific list of culverts delivered within a given year, while remaining within the approved budget. This approach enables the organization to manage program delivery based on the most current information, including updated inspection data, constructability considerations, regulatory permitting requirements, coordination opportunities, and emergent risks.

The program is prioritized to ensure funding continues to be directed toward assets with the greatest potential impact on service delivery, public safety, and infrastructure resilience. Halifax Water will advance replacements from the prioritized list as they become construction-ready, allowing for flexibility where required to address delays related to permitting, property acquisition or easements, interested party coordination, or unforeseen site conditions.

This model improves overall efficiency by:

- Reducing delays associated with seeking individual project approvals;
- Enabling better coordination with municipal roadwork, development activity, and other utility projects;
- Minimizing the likelihood of emergency failures through timely intervention; and
- Optimizing use of the approved budget within the fiscal year.

By adopting this programmatic approach, Halifax Water will enhance its ability to deliver a consistent and predictable level of infrastructure renewal, improve risk management outcomes, and support long-term sustainability of the stormwater system. The prioritized list of cross-culverts is provided below in Table 1.

The variations in cost and scope of work for the projects listed below may include some or all of the following:

- Investigation;
- Design work/permitting;
- Installation/renewal.

TABLE 1 - Cross Culvert Renewal Program 2026/27 – Identified Replacements and Budget Estimates		
Civic Number	**Name / Street**	**2026/27 Estimates**
212	Buckingham Drive	$ 290,000
1165	Purcell's Cove Road	$ 515,000
231	Buckingham Drive	$ 25,000
	Yankeetown Road at Sasa Lane repair	$ 75,000
179	Thomas Street	$ 835,000
235	Thomas Street	$ 695,000
2120	Hammonds Plains Road (Mason's Hill)	$ 690,000
1	Imperial Court	$ 160,000
7	Moore Road	$ 680,000
10	Old German Road	$ 40,000
109	Fergusons Cove Road	$ 195,000
39	Flat Lake Drive	$ 45,000
3375	Hammonds Plains Road (Stillwater Lake)	$ 540,000
34	Kent Drive	$ 255,000
2405	Lawrencetown Rd (Phase A, Robinson to Doherty)	$ 375,000
130	Five Island Road	$ 25,000
137	Lakeview Avenue	$ 60,000
	TOTAL CAPITAL SPEND 2026/27 ESTIMATE	**$ 5,500,000**

We are seeking the HW Board's approval for this routine annual program*: Cross Culvert Renewal Program 2026/27* at this time to allow the HW/HRM project delivery teams to expediate project delivery prior to the start of the June 1st construction window for projects requiring a permit and to increase the probability of renewing the assets within this construction season for the best project value.

BUDGET IMPLICATIONS

Funding in the amount of $18,000 for the Cross Culvert Renewal Program 2026/27 is available from previously approved funding and funding in the amount of $5,482,000 for the Cross Culvert Renewal Program 2026/27 routine project is available in Project 1.0000109 Cross Culvert Renewal Program 2026/27 in the 2026/27 Capital Budget.

The funding source for *Project 1.0000109 Cross Culvert Renewal Program 2026/27* is listed below in Table 2.

TABLE 2 - Planned Project Funding Sources			
Funding Source	**Infrastructure**	**Percentage**	**Value**
Debt/Depreciation	Stormwater	100%	$5,482,000
Total:			**$5,482,000**

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 infrastructure system integrity and safety", and "Directly supports the implementation of the Asset Management program". The project meets these criteria based on the following: The current equipment is failing due to age and end of life (Asset Management) and causing treatment performance/operational issues (Infrastructure System Integrity).

ALTERNATIVES

An alternative option is not to proceed with the project. The risks associated with this alternative include delayed asset renewal and potential infrastructure failures.

ATTACHMENT

N/A

Report Prepared By: Greg Rice, P.Eng.
Manager, Municipal Engineering

Financial Approved By: Signed by: A65D6874EBC1467...
Louis de Montbrun, CPA, CA
Director, Corporate Services/CFO

ITEM # 4.2

Halifax Water Board

June 25, 2026

TO: John MacPherson, K.C., Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: DocuSigned by:

Josh DeYoung, P.Eng, Director, Engineering & Capital Infrastructure

APPROVED: Signed by: Kenda MacKenzie

Kenda MacKenzie, P.Eng., General Manager & CEO

DATE: June 16, 2026

SUBJECT: **Raymond Street and Walker Street Infrastructure Project – Additional Funding**

ORIGIN

2025/26 and 2026/2027 Capital Budgets

RECOMMENDATION

The Halifax Water Board approve additional funding in the amount of $4,014,000 for the Raymond Street and Walker Street Infrastructure Project for a revised total project cost estimate of $11,070,000.

BACKGROUND

The Raymond Street stormwater system has been an area of concern for many years, due to severely deteriorating corrugated steel pipe (CSP). The existing CSP was installed in 1968, with a small section added in 1993. Regular maintenance and inspections by the Halifax Water Operations group have further validated the deteriorating condition of the infrastructure.

Englobe was awarded the consulting services contract using a competitive public RFP process to support the annual stormwater renewal program in 2020. This program included investigations, preliminary design, detailed design, and tender phase services. Construction phase services were also added to the consultant's scope through a change order.

The project design includes the replacement of 740 m of stormwater main, 550 m of water main, 205 m of wastewater main. There are also 17 sanitary laterals to be replaced during construction, 11 of which are "no-corrode" material. To streamline the design and construction activities, the infrastructure

upgrades were separated into 2 project phases. The associated areas of each of the phases are included as *Attachment 1 –Project Area – Phase 1* and *Attachment 2 –Project Area – Phase 2* of this application.

The Halifax Water Board previously approved funding in the amount of $7,053,000, including net HST, on June 20, 2024, for both Phase 1 and Phase 2 of the project (*Attachment 3 – Item 5.2 - HRWC Board Report – June 20, 2024*). The NSUARB approved the funding of the revised project cost estimate of $6,635,000[1] (including net HST) on May 8, 2025, for both phases of the project based on a 90% design completion.

DISCUSSION

Phase 1 was publicly tendered and awarded to Dexter Construction for a contract value of $5,389,000 (excluding HST) and is currently under construction. Based on the signed cost-share agreement for Phase 1 of the project, it is estimated that HRM will be contributing $488,850 (excluding HST) towards this phase. The estimated completion date for Phase 1 is Summer 2026.

Tender results for Phase 1 exceeded initial estimates. Tender prices received reflect actual market conditions at the time of the tender period. Volatility in public bid solicitations is becoming increasingly difficult to predict and can be impacted by such factors as:

- Actual market conditions at the time of tendering;
- Supply chain disruptions and material cost inflation;
- Regulatory approval processes following tender closing that result in longer required bid validity periods;
- Length/timing of the construction season in the local market;
- Project complexity;
- Market capacity to deliver;

Additional construction scope has been included since construction began, most notably a road profile adjustment on First Street to accommodate Halifax Water's box culvert. These additional costs are not part of the cost-shared scope of work with HRM and will be funded by Halifax Water. The total associated cost for the scope changes in Phase 1 is estimated to be $546,023 (excluding HST).

Phase 2 was publicly tendered in April 2026. A total of three bids were received, with the lowest bid of $3,982,000 submitted by Dexter Construction Ltd. Halifax Water is planning to award the tender immediately following HRWC Board and NSRAB spending approvals. Construction of Phase 2 will start following the completion of Phase 1 in the summer of 2026. HRM does not have any infrastructure being integrated with Halifax Water in Phase 2 of the project.

[1] Matter - M12122

According to Halifax Water's Capital Project Funding Approval Policy, individual capital projects with increases that exceed the greater of $250,000 or 5% shall be approved by the Halifax Water Board and subsequently the NSRAB.

Based on the above, Halifax Water is seeking an additional $4,014,000 to complete entire scope of work.

BUDGET IMPLICATIONS

A new total project cost estimate for Phase 1 and Phase 2, was developed using the low bid tender result and provided as *Attachment 4 – Revised Total Project Cost Estimate – June 17, 2026*.

Funding in amount of $100,000 for the Raymond Street, Phase 2 – Storm Sewer Rehabilitation project was previously approved in the 2020/2021 Capital Budget.

Funding in the amount of $4,435,108 for the Raymond Street / Lakecrest Drive – Storm Sewer Replacement project (1.0000034) is approved and available in the 2025/2026 and 2026/2027 Capital Budgets.

Funding in the amount of $1,098,836 for the Raymond Street / Lakecrest Drive – Sanitary Sewer Replacement project (2.0001071) is approved and available in the 2025/26 and 2026/2027 Capital Budgets.

Funding in the amount of $1,419,056 for the Raymond St / Lakecrest Drive Storm Sewer Replacement – Watermain project (3.0000699) is approved and available in the 2025/2026 and 2026/2027 Capital Budgets.

Additional Funding in the amount of $204,108 was included in 2026/27 Capital Budget under the Raymond Street and Walker Street Infrastructure Project (1.0000034, 2.0001071, 3.0000699)

Funding for the remaining amount of $3,809,892 for the Raymond Street and Walker Street Infrastructure Project, will be requested from surpluses in previously closed capital projects that have been deferred or cancelled.

Tables 1 and 2 summarize the additional required funding for each service and the funding sources by project phase.

Table 1: Summary of additional required funding by infrastructure asset type.

Additional Asset Funding	Previously Approved Funding - HRWC Board	Additional funding included in 2026/27 Capital Budget	Required Funding from surplus	Revised Total Funding
Stormwater	$4,535,108	$0	$2,096,892	**$6,632,000**
Wastewater	$1,098,836	$181,164	$647,000	**$1,927,000**
Water	$1,419,056	$22,944	$1,066,000	**$2,508,000**
TOTAL	**$7,053,000**	**$204,108**	**$3,809,892**	**$11,070,000***

**Rounded*

Table 2: Summary of funding sources.

Summary of Funding Sources for Phases 1 and 2					
Asset Type	**Asset Funding**	**Contributor**	**% of Total Project Cost**		
			Phase 1	*Phase 2*	*Overall Project*
Stormwater	100%- Debt/Depreciation	Halifax Water	63%	63%	63%
Wastewater	100%- Debt/Depreciation	Halifax Water	18%	13%	16%
Water	100%- Debt/Depreciation	Halifax Water	19%	24%	21%

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 infrastructure system integrity and safety", and/or "Directly supports the implementation of the Asset Management program". The project meets these criteria based on the following: The current equipment is failing due to age and end of life (Asset Management) and causing performance/operational issues (Infrastructure System Integrity).

RISK

There is a significant risk that the current system will reach critical failure and require emergency repair if the project is deferred to future years or canceled. If the infrastructure is not proactively replaced, emergency repairs may be required, resulting in significantly higher costs, service disruptions, and potential impacts on public safety.

ALTERNATIVES

An alternative option is not to proceed with the project. The risks associated with this alternative include the potential failure of critical stormwater infrastructure, increased public safety concerns, and reputational impacts resulting from incomplete works, previous public engagement, and the expectations established during the planning and design phases.

The project could also be deferred to future years, resulting in the need for re-tendering and increased project costs due to market escalations. If the existing CSP pipe fails prior to implementation, the work will require expensive repairs and replacement at an expected higher cost and will impact system operations

These options are not recommended for the reasons identified above.

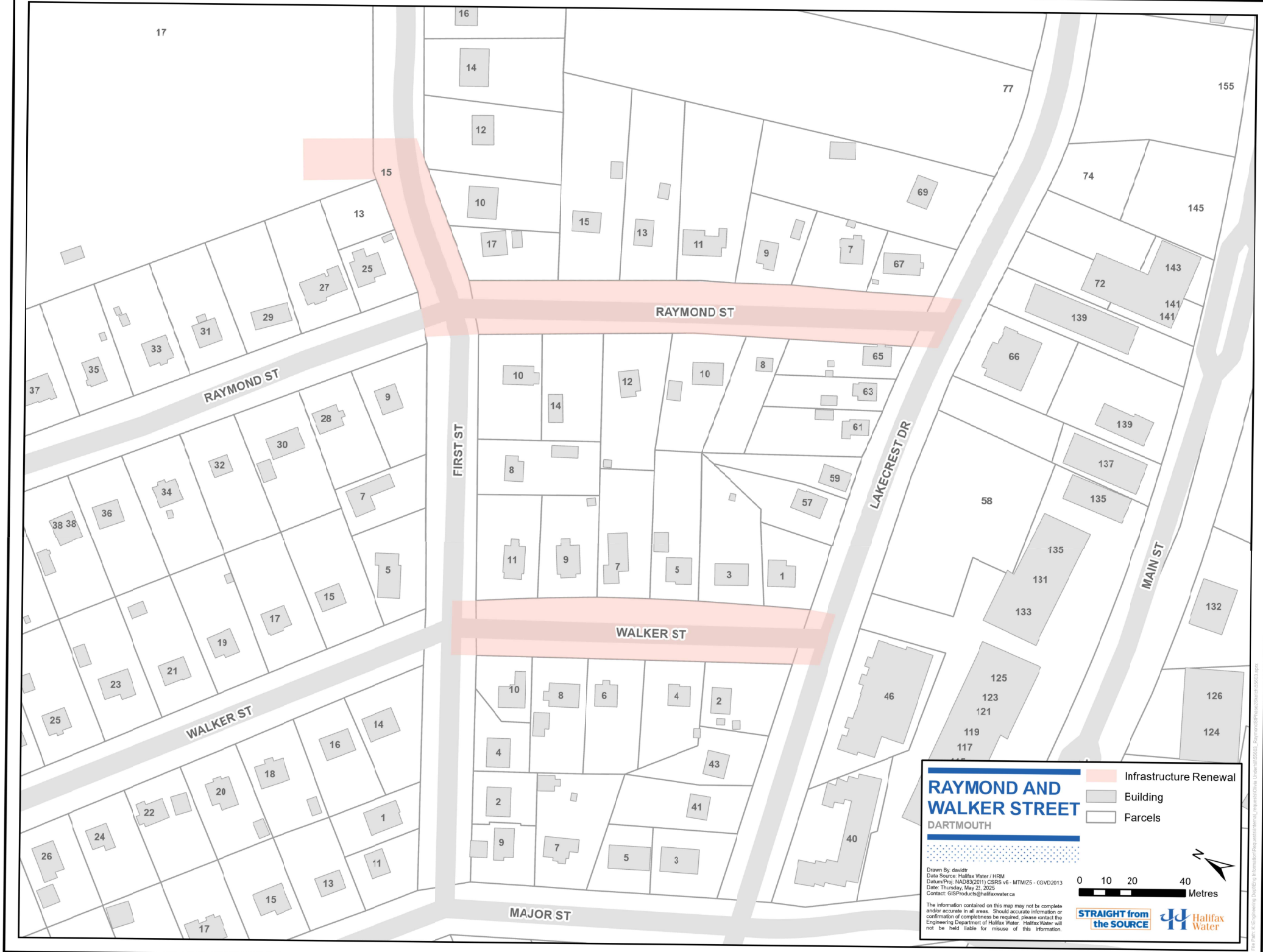
ATTACHMENT

1. Attachment 1 – Project Area – Phase 1
2. Attachment 2 – Project Area – Phase 2
3. Attachment 3 – Item 5.2 - HRWC Board Report – June 20, 2024
4. Attachment 4 - Revised Total Project Cost Estimate - June 17, 2026

Report Prepared by: Robert Gillis, P.Eng.
Senior Manager, Capital Project Delivery

Financial Reviewed by: Signed by: A65D6874EBC1467...
Louis de Montbrun, CPA, CA
Director, Corporate Services/CFO

Attachment 1 – Project Area – Phase 1


RAYMOND ST
RAYMOND ST
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MAIN ST
WALKER ST
WALKER ST
MAJOR ST
RAYMOND AND WALKER STREET
DARTMOUTH
Infrastructure Renewal
Building
Parcels
Drawn By: davidtr
Data Source: Halifax Water / HRM
Datum/Proj: NAD83(2011) CSRS v6 - MTM/Z5 - CGVD2013
Date: Thursday, May 22, 2025
Contact: GISProducts@halifaxwater.ca
The information contained on this map may not be complete and/or accurate in all areas. Should accurate information or confirmation of completeness be required, please contact the Engineering Department of Halifax Water. Halifax Water will not be held liable for misuse of this information.
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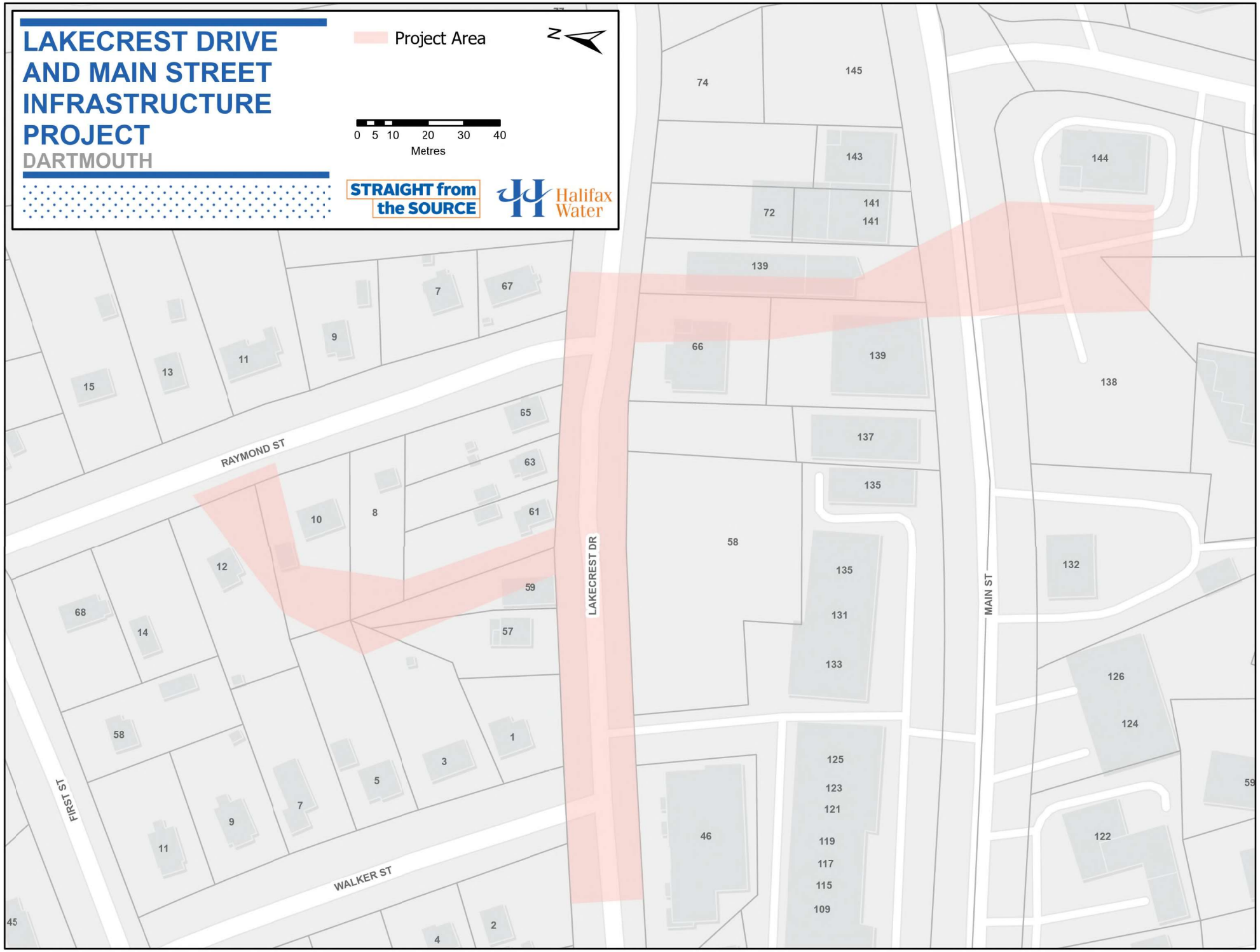
Metres
STRAIGHT from the SOURCE
Halifax Water

Attachment 2 – Project Area – Phase 2


LAKECREST DRIVE AND MAIN STREET INFRASTRUCTURE PROJECT
DARTMOUTH
Project Area
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Attachment 3 – Item 5.2 - HRWC Board Report – June 20, 2024

ITEM # 5.2

Halifax Water Board

June 20, 2024

TO: Colleen Rollings, P.Eng., PMP., Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: DocuSigned by: Josh DeYoung 0BC19767707F488...
Josh DeYoung, P.Eng., Director, Engineering & Capital Infrastructure

APPROVED: DocuSigned by: Kenda MacKenzie 0C084AC815794F6...
Kenda MacKenzie, P.Eng., Acting CEO & General Manager

DATE: June 10, 2024

SUBJECT: **Raymond Street and Walker Street Infrastructure Project**

ORIGIN

2020/21 Capital Budget

RECOMMENDATION

The Halifax Water Board approve the stormwater, water and wastewater infrastructure upgrades in the Raymond Street, Dartmouth area at a total project cost of $7,053,000 (including net HST).

BACKGROUND

Halifax Water implements an annual stormwater sewer replacement program as part of the utility's overall asset management plan for its stormwater infrastructure. With an inventory of approximately 900 km of stormwater gravity sewers, a subset of sewers needing replacement are identified and prioritized based on their condition.

The Raymond Street stormwater system has been an area of concern for many years and a study completed in 2009 by SNC-Lavalin highlighted the severely deteriorated CSP pipe. This report, along with information supplied by the Halifax Water operations group regarding failing infrastructure, brought this project to the forefront. The review of this available information made it a candidate for the Stormwater Sewer Renewal Program.

Englobe was awarded the consulting services contract using a public RFP process to support the annual Stormwater renewal program in 2020. This program included the investigations, preliminary design, detailed design, and tender phase services for:

- Raymond Street Storm Sewer replacement
- Penhorn Lake outlet stormwater Sewer
- Thistle Street Stormwater Sewer upgrade
- Oathill Lake Stormwater Sewer upgrade

DISCUSSION

The Raymond Street portion of the storm water replacement program examined and investigated the condition of 1230 m of storm water culvert. It was determined that 418 m of the current culvert system is in need of immediate replacement. The existing corrugated steel (CSP) pipe was installed in 1968, with a small section added in 1993. Englobe completed additional CCTV investigations and confirmed the condition assessment performed by SNV-Lavalin in 2009 is still valid.

Englobe began work on the Preliminary design in 2021. When the project reached the 30% design phase, it was determined that the water main in the Lakecrest Drive and Raymond Street area was also in need of replacement. The new water main replacement was included in the project scope through a change order. A portion of the water main is being upgraded this year (2024) and will join the water main being upgraded as part of the project outlined in this report.

As the project moved closer to the detailed design stage, it was determined that the position of the wastewater main was interfering with the proper placement of the new storm water culvert. There were two wastewater mains installed on Raymond Street. One in 1960 and one in 1973. Englobe was instructed through a change order to include the replacement of the wastewater infrastructure into the larger project. The new design consolidates the two wastewater mains into one pipe allowing for a standard, systematic placement, of all three assets in the right-of-way.

The new project design includes the replacement of 390 m of water main, 203 m of wastewater main and 11 no-corrode lateral replacements.

With respect to integration, HRM has agreed to integrate with Halifax Water on the streetscaping portion of the project. Following normal practice, HRM and Halifax Water will cost share (50% for both parties) the base gravels, asphalt, curb, and sidewalk for all reinstatement within the trench limits. HRM will be responsible to pay for 100% of the remaining work to replace the existing road structure, sidewalk, curb, and gutter.

Englobe has completed a 90% design package and carried out all investigations, survey work and a geotechnical investigation as part of the consulting services. Englobe has provided a pre-tender estimated cost to replace the existing infrastructure. The project cost estimate is attached as Raymond Street and Walker Street Infrastructure Project – Total Project Cost Estimate and is considered a Class 2 estimate and includes a 15% contingency allowance.

Halifax Water plans to tender this project in November 2024. Construction is expected to begin in the spring of 2025. The size of the project requires the work to be divided and constructed over two years. The estimated completion timeline of the project is the fall of 2026.

It is recognized that current market conditions are volatile. Proceeding to approvals prior to obtaining a tender price incurs a risk that the tender price will fall outside of approved contingencies and require further approvals. Therefore, an additional 15% contingency was applied to account for this volatility. After tender closing, should the project costs exceed the funding allocated in the approval being sought, Halifax Water will evaluate the new project cost and amend the funding approval request.

Halifax Water will be providing construction phase contract administration and resident inspection services. Halifax Water will be collecting the record information.

BUDGET IMPLICATIONS

Funding in the amount of $100,000 was previously included in the 2020/2021 Capital Budget under "Raymond Street, Phase 2 – Storm Sewer Rehabilitation".

Funding in the amount of $4,435,108 will be included in future 2025/2026 & 2026/2027 Capital Budgets – Stormwater under "Raymond Street / Lakecrest Drive – Storm Sewer Replacement".

Funding in the amount of $1,098,836 will be included in future 2025/2026 & 2026/2027 Capital Budgets – Wastewater under "Raymond Street / Lakecrest Drive – Sanitary Sewer Replacement".

Funding in the amount of $1,419,056 will be included in future 2025/2026 & 2026/2027 Capital Budgets – Water under "Raymond Street / Lakecrest Drive Storm sewer Replacement - Watermain".

The project is funded 100% by asset renewal.

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 infrastructure system integrity and safety" The project meets these criteria based on the following: The current equipment is failing due to age and end of life (Asset Management) and causing operational issues (Infrastructure System Integrity).

RISK

Deferring the project to future years or canceling the project – There is a significant risk that the current system will reach critical failure and require emergency repair. It is challenging to maintain the existing corrugated steel pipe and allowing the pipe to reach the point of failure will require expensive repairs or replacement.

MILESTONES

The key milestones for this project are as follows:

NSUARB Application Date: Summer 2024
Tender Issue Date: November 2024
Tender Award Date: December 2024
Start of construction: May 2025
Project completion: October 2026

ALTERNATIVES

There are no suggested alternatives to the renewal project. The project is being executed to replace failing infrastructure and renew or rehabilitate system components that by current measures are clearly approaching a condition that could impair normal system operations.

ATTACHMENT

1. **Raymond Street and Walker Street Infrastructure Project - Project Location**
2. **Raymond Street and Walker Street Infrastructure Project – Total Project Cost Estimate**

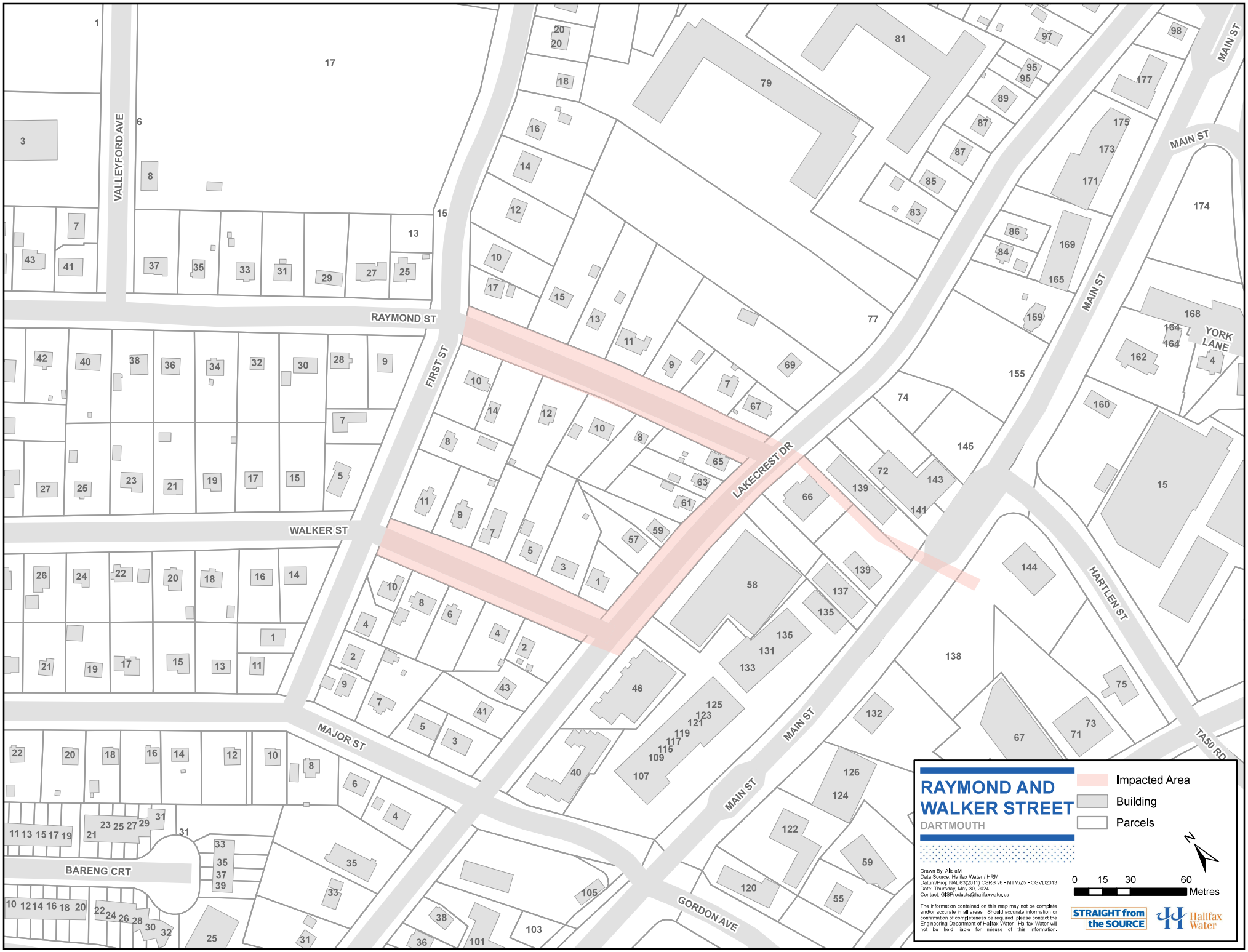
Report Prepared by:

Andrew Snow, P.Eng

Financial Reviewed by:

DocuSigned by:
A65D6874EBC1467...

Louis de Montbrun, CPA, CA
Director, Corporate Services/CFO


VALLEYFORD AVE
RAYMOND ST
FIRST ST
WALKER ST
LAKECREST DR
MAJOR ST
BARENG CRT
MAIN ST
GORDON AVE
HARTLEN ST
YORK LANE
TA50 RD
RAYMOND AND WALKER STREET
DARTMOUTH
Impacted Area
Building
Parcels
Drawn By: AliciaM
Data Source: Halifax Water / HRM
Datum/Proj: NAD83(2011) CSRS v6 - MTMZ5 - CGVD2013
Date: Thursday, May 30, 2024
Contact: GISProducts@halifaxwater.ca
The information contained on this map may not be complete and/or accurate in all areas. Should accurate information or confirmation of completeness be required, please contact the Engineering Department of Halifax Water. Halifax Water will not be held liable for misuse of this information.
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Metres
STRAIGHT from the SOURCE
Halifax Water

TOTAL PROJECT COST ESTIMATE

June 3, 2024

Raymond Street and Walker Street Infrastructure Project

CONSTRUCTION COSTS	
Estimated Construction Cost (Pre-Tender)	$4,885,319
Consultant Costs (Tender and Construction Phase)	$17,465
Class 2: Preliminary Design (15%)	$735,418
Market Volatility Contingency (15%)	$735,418
Construction Costs Sub-Total	**$6,373,619**
OTHER COSTS (TAXABLE)	
Consultant Costs (Design)	$120,241
Flow Monitoring	$29,233
QA/QC Testing	$10,000
Other Costs (Taxable) Sub-Total	**$159,474**
Net HST (4.286%)	$280,008
OTHER COSTS (NON-TAXABLE)	
Internal Halifax Water Costs (Project Management & Site Inspection)	$160,000
Street and Services Permit	$10,000
Other Costs (Non-Taxable) Sub-Total	**$170,000**
SUB-TOTAL	**$6,983,102**
Overhead & Interest (1%)	$69,831
TOTAL PROJECT COST ESTIMATE	**$7,052,933**
TOTAL PROJECT COST ESTIMATE (Rounded)	**$7,053,000**

Attachment 4 - Revised Total Project Cost Estimate - June 17, 2026

Raymond Street and Walker Street Infrastructure Project

Revised Total Project Cost Estimate

June 17, 2026

CONTRACTOR COSTS	
Construction Total Cost Estimate Phase 1 (Post-Tender - excl. HRM Cost Share)	$4,900,153
Construction Total Cost Estimate Phase 2 (Post-Tender- Low Bid)	$3,982,000
Construction Sub-Total	**$8,882,153**
CONTRACTOR CHANGE ORDERS*	
Change Order #1 - First Street Profile Design Change	$487,169
Change Order #2 - Tree Removal at 17 Raymond St	$8,078
Change Order #3 - SAMH-4 Upsize	$50,776
Contractor Change Orders to date for Phase 1 Sub-Total	**$546,023**
Contractor Costs and Change Orders Sub-Total to Date	**$9,428,176**
CONSULTANT COSTS	
Design Phase Services - Completed	$40,094
Tender Phase Services - Completed	$4,430
Record Package Services Estimate	$6,576
Consultant Sub-Total	**$51,100**
CONSULTANT CHANGE ORDERS*	
Additional Storm Design Scope	$25,888
Additional Sanitary Sewer Scope and CCTV of Storm	$21,391
Geotechnical Investigation	$16,520
Drawing Package Separation for Phase 1 and 2	$10,400
Construction Phase Services for Phase 1 and 2	$93,315
Consultant Change Orders Sub-Total	**$167,514**
Consultant Sub-total to Date Including Change Orders	**$218,614**
CONTINGENCY (Class 1: Detailed Design Post-Tender 5%)*	
Contractor Cost Contingency Estimate Phase 1 (remaining work only - $3,725,986)	$186,299
Construction Cost Contingency Estimate Phase 2	$199,100
Consultant Construction Phase Services Contingency Estimate - Phase 1 and 2	$4,666
Record Package Services Estimate Contingency	$329
Contingency Sub-Total	**$390,394**
OTHER COSTS	
External QA Material Testing	$20,000
Flow Monitoring - Completed	$29,233
Estimated Streets and Services Permit Fee	$25,000
Budget for Anticipated Traffic Control Measures (Main St)	$25,000
Other Costs (Taxable) Sub-Total	**$99,233**
CONTRACTOR + CONSULTANT + CONTINGENCY + OTHER COSTS SUB-TOTAL	
Contractor + Consultant + Contingency + Other Costs Sub-Total	**$10,136,416**
NET HST	
Net HST (3.857%)	$390,962
HALIFAX WATER COSTS	
Internal Halifax Water Cost Estimate (Project Management and Site Inspections)	$320,000
Internal Halifax Water Costs Spent to Date	$108,310
Halifax Water Sub-Total	**$428,310**
SUB-TOTAL + OVERHEAD	
Sub-Total	$10,955,688
Overhead (1%)	$109,557
Total Project Cost Estimate	**$11,065,245**
TOTAL PROJECT COST ESTIMATE **	**$11,070,000**

** Contingency not applied to items that are complete*

*** Rounded up*

ITEM # 4.3

Halifax Water Board

June 25, 2026

TO: John MacPherson, K.C., Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: DocuSigned by: 0BG4167767767F488...

Josh DeYoung, P.Eng., Director, Engineering & Capital Infrastructure

APPROVED: Signed by: Kenda MacKenzie 0C984AC845794F6...

Kenda MacKenzie, P.Eng., General Manager & CEO

DATE: June 17, 2026

SUBJECT: **Majestic Avenue PS Upgrades and FM Twinning**

ORIGIN

2022/2023 Capital Budget

RECOMMENDATION

The Halifax Water Board approve the Majestic Avenue Pump Station Upgrades and Forcemain Twinning project for a total project cost estimate of $8,160,000 (including net HST).

BACKGROUND

The Majestic Avenue Pump Station (Majestic Avenue PS) is located at 49 Majestic Avenue in Beaver Bank, Nova Scotia. This facility serves as a local receiving pump station within the Beaver Bank sewershed and marks the final pressurized point in the system before transitioning to a gravity sewer. The station receives flows from several upstream pump stations prior to discharge into the downstream gravity system. The Majestic Avenue PS and forcemain were originally constructed in 1995 and now require significant upgrades to mechanical equipment, accommodate current and projected future flows, as well as achieve compliance with Halifax Water Design Specifications. The pump station location is included in *Attachment 1 – Project Location Map*.

DISCUSSION

In January of 2025, CBCL completed an Engineering Analysis of four pump stations within the Beaver Bank sewershed. The Majestic Avenue PS was highlighted as a priority as the mechanical equipment was approaching the end of its service life and requires a series of more complex upgrades. The *Beaver Bank Pump Stations Engineering Analysis Report* emphasized that the capacity of the station's existing single forcemain is inadequate for future flows and also poses a substantial operational risk.

The main recommendation of the report was to upgrade the configuration of the pump station to be consistent with the Halifax Water Design Specifications, which outline the requirements for dual forcemains for operational and redundancy purposes.

In July 2025, a public RFP was issued for Engineering, Design and Construction Administration Services. The scope of work was awarded to DesignPoint Ltd. The 90% design package was completed and is currently under review by Halifax Water.

The recommended peak design flow for the Majestic Avenue Pump Station is 187 L/s. This recommendation is based on a comprehensive review of previously completed analyses addressing capacity considerations, as well as consultation with Halifax Water Engineering and Operations staff to confirm the required operational criteria for the pump station.

The scope of work for this project includes the removal and replacement of existing electrical equipment, control panels, pumps, piping and valves, installation of a new wet well and valve chamber, and the installation of approximately 700 meters of dual forcemains. The construction stage is planned to start in early spring of 2027. Halifax Water expects to pre-order long lead time items to minimize the risk of delays related to equipment manufacturing timelines.

The design team continues to work towards finalizing the tender drawings and specifications for the tender stage. Based on the most recent pre-tender cost estimate provided by DesignPoint, it is estimated that construction costs will total $6,532,865. This cost estimate is provided as *Attachment 2 – Construction Cost Estimate (DesignPoint)*. The resulting total project cost estimate is $8,160,000, which is provided in *Attachment 3 – Total Project Cost Estimate (Pre-Tender)*.

BUDGET IMPLICATIONS

Funding in the amount of $200,000 for the Majestic Avenue Forcemain Replacement & Twinning Project (2.0000887) was approved in the 2022/2023 Capital Budget.

Funding in the amount of $200,000 for the Majestic Avenue PS Upgrades (2.0000978) was approved in the 2024/2025 Capital Budget.

Funding in the amount of $7,760,000, for the Majestic Avenue PS and Forcemain Twinning Project, will be requested in future Capital Budgets.

A summary of the required funding is included in the following table:

Table 1: Summary of required funding by infrastructure asset type.

Asset Funding	**Contributor**	**Percent**	**Total**
Stormwater – Debt/Depreciation	Halifax Water	3%	$244,800
Wastewater – Debt/Depreciation	Halifax Water	97%	$7,515,200
Wastewater – Debt/Depreciation Previously Approved Budgets	Halifax Water		$400,000
TOTAL			**$8,160,000**

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 "Firm regulatory requirement", "Required to ensure infrastructure system integrity and safety", and "Directly supports the implementation of the Asset Management program". The project meets these criteria based on the following: The existing pump station does not meet Halifax Water Design Specifications. These design deficiencies, compounded with future flow increases, have introduced operational challenges and risks that will be addressed with the proposed project.

RISK

The upgrades are required to address aging electrical infrastructure, pump station design deficiencies (one forcemain) causing operational challenges and local sewer capacity issues. An undersized, aging wastewater pump station with design deficiencies faces growing risks: it becomes increasingly prone to mechanical failures, sanitary sewer overflows, and backups that threaten public health and the environment. As equipment deteriorates, operating and emergency repair costs rise and regulatory non-compliance becomes more likely.

ALTERNATIVES

An alternative would be to not proceed with the project however this is not recommended. The risk with continued operation includes equipment becoming obsolete and unrepairable, safety and resource concerns related to repairs within the station and environmental impacts related to emergency overflows.

O&M costs will likely increase as equipment continues to age, and the need for maintenance intervention will become more frequent.

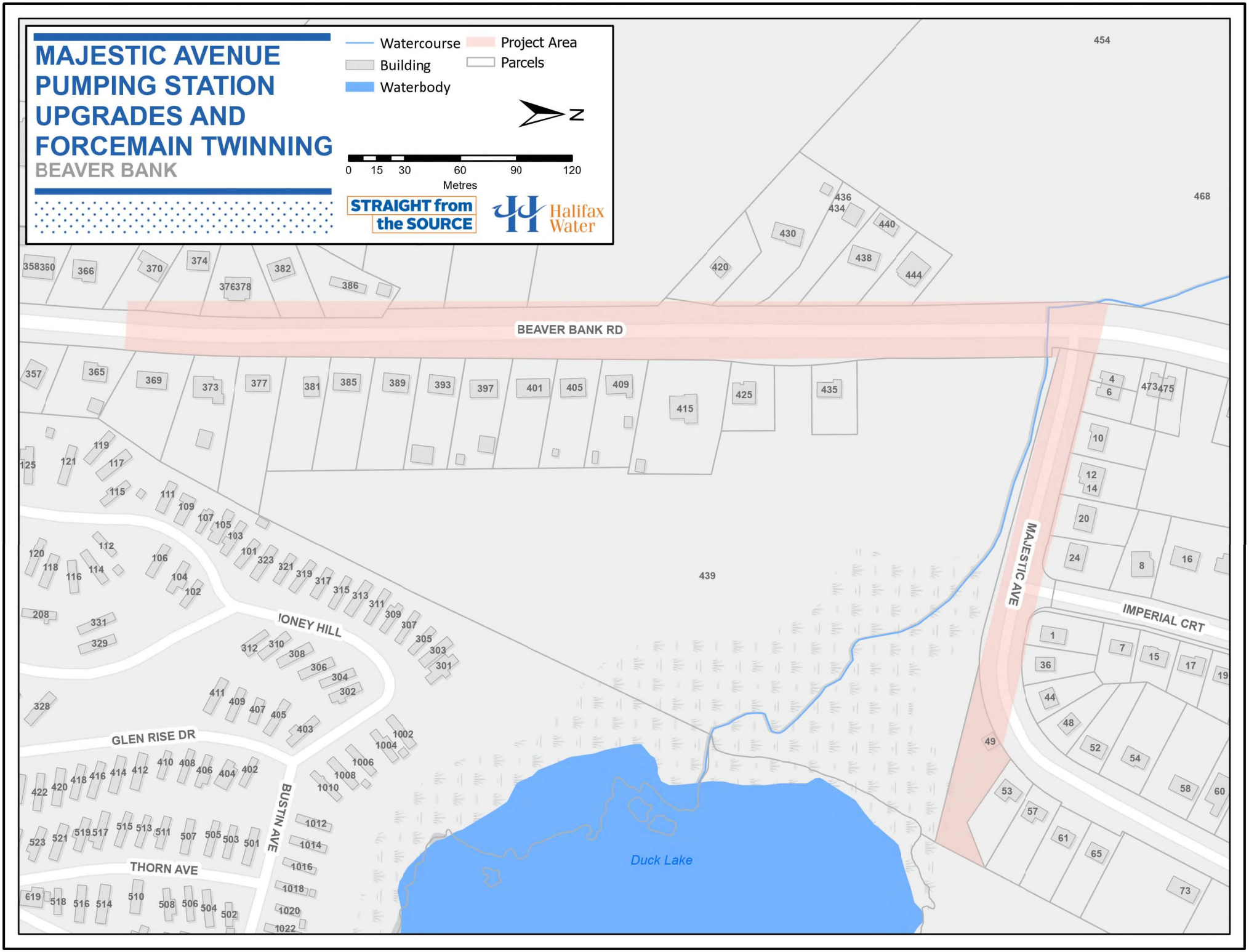
ATTACHMENT

1. Attachment 1 - Project Location Map
2. Attachment 2 – Construction Cost Estimate (DesignPoint) – June 10, 2026
3. Attachment 3 – Total Project Cost Estimate (Pre – Tender) – June 17, 2026

Report Prepared by: Robert Gillis, P.Eng.
Senior Manager, Capital Project Delivery

Financial Reviewed by: Signed by: A65D6874EBC1467...
Louis de Montbrun, CPA, CA
Director, Corporate Services/CFO

Attachment 1 - Project Location Map


MAJESTIC AVENUE
PUMPING STATION
UPGRADES AND
FORCEMAIN TWINNING
BEAVER BANK
Watercourse
Building
Waterbody
Project Area
Parcels
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Metres
STRAIGHT from the SOURCE
Halifax Water
BEAVER BANK RD
IONEY HILL
GLEN RISE DR
THORN AVE
BUSTIN AVE
MAJESTIC AVE
IMPERIAL CRT
Duck Lake
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Attachment 2 – Construction Cost Estimate (DesignPoint) – June 10, 2026

ESTIMATE OF PROBABLE COST

Majestic Pump Station Upgrade

Beaverbank, Nova Scotia

Project Number: 25-430

Date: June 10, 2026

Drawings: Sheets 1 to 12, Rev #3, Jun. 10, 2026

Note: This estimate of probable cost is prepared for preliminary planning purposes only. The estimate is based on unit rates obtained from previous tenders of similar work and represents a budget only. The actual construction cost will be subject to various factors that are not known at the time of estimate preparation, including market conditions, industry workload, and changes to the design through the approval process. The actual cost cannot be known until the project is tendered and a contract is awarded. This estimate should be used with caution if using for business budgeting purposes.

Item No.	Item Description	Estimated Cost	
1.0	Site Works	$	500,200.00
2.0	Sanitary System	$	5,133,415.00
3.0	Storm System	$	164,250.00
4.0	Electrical System	$	735,000.00
	Subtotal	**$**	**6,532,865.00**
	20% Engineering Contingency	**$**	**1,306,573.00**
	HST (14%)	**$**	**1,097,521.32**
	Total	**$**	**8,936,959.32**

ESTIMATE OF PROBABLE COST

Majestic Pump Station Upgrade

Beaverbank, Nova Scotia

Project Number: 25-430

Date: June 10, 2026

Drawings: Sheets 1 to 12, Rev #3, Jun. 10, 2026

Note: This estimate of probable cost is prepared for preliminary planning purposes only. The estimate is based on unit rates obtained from previous tenders of similar work and represents a budget only. The actual construction cost will be subject to various factors that are not known at the time of estimate preparation, including market conditions, industry workload, and changes to the design through the approval process. The actual cost cannot be known until the project is tendered and a contract is awarded. This estimate should be used with caution if using for business budgeting purposes.

No.		Unit Description	Unit	Quantity	Unit Rate	Estimated Cost
1.00		**Site work**				
1.01		Clearing	L.S.	1.00	$ 5,000.00	$ 5,000.00
1.02		Grubbing	L.S.	1.00	$ 5,000.00	$ 5,000.00
1.03		Mass Excavation - Common	m^3	380	$ 25.00	$ 9,500.00
1.04		Mass Excavation - Rock	m^3	76	$ 100.00	$ 7,600.00
1.05		Mass Excavation - Fill	m^3	180	$ 30.00	$ 5,400.00
1.06		Type 1 Gravel	m^3	250	$ 120.00	$ 30,000.00
1.07		Type 2 Gravel	m^3	250	$ 125.00	$ 31,250.00
1.08		Asphalt Concrete Type C-HF	m^3	67	$ 500.00	$ 33,500.00
1.09		Asphalt Concrete Type B-HF	m^3	84	$ 550.00	$ 46,200.00
1.10		Environmental Controls (Sedimentation & Erosion)	L.S.	1	$ 25,000.00	$ 25,000.00
1.11		2.5m High Security Fence	m	115	$ 350.00	$ 40,250.00
1.12		Double Vehicle Slide Gate	each	2	$ 20,000.00	$ 40,000.00
1.13		Bollard	each	18	$ 500.00	$ 9,000.00
1.14		Existing Station Removals	L.S.	1	$ 65,000.00	$ 65,000.00
1.15		Upgrade of Existing Wet Well to flow splitting chamber	L.S.	1	$ 35,000.00	$ 35,000.00
1.16		Transformer Pad	each	1	$ 35,000.00	$ 35,000.00
1.17		Generator Pad	each	1	$ 35,000.00	$ 35,000.00
1.18		300mm Thick Retaining Wall	m	17	$ 2,500.00	$ 42,500.00
					Subtotal	**$ 500,200.00**
2.00		**Sanitary System**				
2.01		Station Mechanical				
	.1	Flygt NP 3202 HT3 ~458 70 HP Submersible Pump c/w Flush Valve	each	4	$ 195,000.00	$ 780,000.00
	.2	1/2 HP Sump Pump c/w Check Valve	each	1	$ 5,000.00	$ 5,000.00
	.3	Pump Lifting Chains & Misc Accessories	each	4	$ 10,000.00	$ 40,000.00
	.4	300mm Electromagnetic Flow Meter	each	2	$ 15,000.00	$ 30,000.00
	.5	Digital Pressure Transmitter c/w Ball Valve, Analog Guage & Isolation Ring	each	2	$ 9,500.00	$ 19,000.00
	.6	Laser Level Transmitter (Primary)	each	3	$ 7,800.00	$ 23,400.00
	.7	Level Floats & Assembly (Secondary) - Set	each	2	$ 4,000.00	$ 8,000.00
	.8	Mechanical Sluice Gate c/w Floor Stand, Square Nut & Valve Box, 400x400mm (SS 316L SCH40)	each	3	$ 25,000.00	$ 75,000.00
2.02		Station Piping				
	.1	150mm Make-Up-Piece (SS 316L SCH40)	m	5	$ 200.00	$ 1,000.00
	.2	150mm Make-Up-Piece (DI CL54)	m	10	$ 180.00	$ 1,800.00
	.3	300mm Make-Up-Piece (SS 316L SCH40)	m	60	$ 325.00	$ 19,500.00
	.4	300mm Make-Up-Piece (DI CL54)	m	40	$ 275.00	$ 11,000.00
	.5	350mm PVC DR18 Twin Force Main	m	1420	$ 1,700.00	$ 2,414,000.00
	.6	250mm PVC DR18 Force main (Connection to Existing)	m	15	$ 1,150.00	$ 17,250.00
	.7	38mm SCH80 PVC pipe from Valve Chamber Sump to Wet Well	m	9	$ 100.00	$ 900.00
	.8	200mm PVC DR35 Riser Pipe in Wet Well	m	7	$ 100.00	$ 700.00
	.9	150mm PVC DR35 Pipe (Force Main Drain)	m	14	$ 350.00	$ 4,900.00
	.10	300mm PVC DR35 Pipe (Connection from MHSA2 to EMHSA9)	m	6	$ 575.00	$ 3,450.00
	.11	375mm PVC DR35 Pipe (Inlet Pipe and Overflow)	m	18	$ 680.00	$ 12,240.00
	.12	300x200mm Eccentric Reducer (SS 316L SCH40)	each	4	$ 475.00	$ 1,900.00
	.13	300mm 90 Degree Bend (SS 316L SCH40)	each	6	$ 900.00	$ 5,400.00
	.14	150mm 90 Degree Bend (SS 316L SCH40)	each	5	$ 400.00	$ 2,000.00
	.16	300mm 45 Degree Bend c/w Thrust Block (DI CL54)	each	8	$ 850.00	$ 6,800.00
	.17	150mm 45 Degree Bend c/w Thrust Block (DI CL54)	each	2	$ 600.00	$ 1,200.00
	.18	150 x 150 x 150mm Tee (SS 316L SCH40)	each	1	$ 750.00	$ 750.00
	.19	300 x 300 x 150mm Tee (SS 316L SCH40)	each	2	$ 1,300.00	$ 2,600.00
	.20	300 x 300 x 300 x 300mm Cross (SS 316L SCH40)	each	2	$ 1,850.00	$ 3,700.00
	.21	300mm bypass Tee c/w Valve and Quick Connect Coupler (SS 316L SCH40)	each	1	$ 5,000.00	$ 5,000.00
	.22	150mm Victaulic Coupling (SS 316L SCH40)	each	1	$ 650.00	$ 650.00
	.23	300mm Victaulic Coupling (SS 316L SCH40)	each	6	$ 2,200.00	$ 13,200.00
	.24	300mm Mechanical Dresser Coupling (DI CL54)	each	2	$ 800.00	$ 1,600.00
	.25	150mm Wet Well Cleaning Line (SS 316L SCH40)	m	19	$ 200.00	$ 3,800.00
	.26	150mm PVC Ventilation Piping for Wet Well	m	1.5	$ 350.00	$ 525.00
	.27	150mm PVC Ventilation Piping for Valve Chamber	m	15	$ 350.00	$ 5,250.00
	.28	S.S. 316L Strapping for 38mm Pipe	each	4	$ 100.00	$ 400.00
	.29	S.S. 316L Strapping for 150mm Pipe	each	16	$ 100.00	$ 1,600.00
	.30	S.S. 316L Hardware to Secure 200mm Pipe to Wet Well Wall	each	5	$ 100.00	$ 500.00
	.31	S.S. 316L Hardware to Secure 375mm Incoming Pipe to Wet Well Roof	each	1	$ 1,000.00	$ 1,000.00

ESTIMATE OF PROBABLE COST

Majestic Pump Station Upgrade

Beaverbank, Nova Scotia

Project Number: 25-430

Date: June 10, 2026

Drawings: Sheets 1 to 12, Rev #3, Jun. 10, 2026

Note: This estimate of probable cost is prepared for preliminary planning purposes only. The estimate is based on unit rates obtained from previous tenders of similar work and represents a budget only. The actual construction cost will be subject to various factors that are not known at the time of estimate preparation, including market conditions, industry workload, and changes to the design through the approval process. The actual cost cannot be known until the project is tendered and a contract is awarded. This estimate should be used with caution if using for business budgeting purposes.

No.		Unit Description	Unit	Quantity	Unit Rate	Estimated Cost
2.03		Station Valving				
	.1	300mm Swing Check Valve (SS 316L SCH40)	each	4	$ 15,100.00	$ 60,400.00
	.2	150mm Plug Valve (FL x FL)(SS 316L SCH40)	each	2	$ 12,800.00	$ 25,600.00
	.3	300mm Plug Valve (FL x FL)(SS 316L SCH40)	each	9	$ 15,900.00	$ 143,100.00
	.4	150mm Gate Valve (DI CL54)(Direct-Bury, Force Main Drain)	each	2	$ 5,000.00	$ 10,000.00
	.5	300mm Gate Valve (DI CL54)(Direct-Bury, Valve Chamber Exterior)	each	6	$ 9,500.00	$ 57,000.00
	.6	150mm Surge Anticipating Relief Valve (SS 316L SCH40)	each	2	$ 20,000.00	$ 40,000.00
	.7	Combination Vacuum/Air Release Valve (SS 316L SCH40)	each	2	$ 8,500.00	$ 17,000.00
2.04		Station Structures				
	.1	(4,000 mm (W) x 5,304 mm (L) x 9,072 mm (H) (Inner Dimensions) Pre-cast Wet Well	L.S.	1	$ 500,000.00	$ 500,000.00
	.2	4,589 mm (W) x 6,492 mm (L) x 2,495 mm (H) (Inner Dimension) Pre-cast Valve Chamber	L.S.	1	$ 400,000.00	$ 400,000.00
	.3	Traffic-Rated Aluminum Access Frame and Cover, 2900 x 1300mm Min. Clear Space	each	2	$ 21,000.00	$ 42,000.00
	.4	Traffic-Rated Aluminum Access Frame and Cover, 1400 x 1000mm Min. Clear Space c/w Safety Grate	each	1	$ 15,200.00	$ 15,200.00
	.5	Traffic-Rated Aluminum Access Frame and Cover, 900 x 900mm Min. Clear Space c/w Safety Grate	each	2	$ 10,500.00	$ 21,000.00
	.6	Double-leaf Traffic-Rated Aluminum Access Frame and Cover, 1900 x 1220mm Min. Clear Space c/w Safety Grate	each	2	$ 18,500.00	$ 37,000.00
	.7	Pump Guide Rails & Brackets (SS 316L SCH40)	each	8	$ 5,200.00	$ 41,600.00
	.8	Galvanized Pipe Supports	each	10	$ 3,000.00	$ 30,000.00
2.05		Control Building				
	.1	Building Mechanical - Ventilation Fan	each	1	$ 25,000.00	$ 25,000.00
	.2	Charcoal Filter	each	1	$ 10,000.00	$ 10,000.00
2.06		1050mm Precast Manhole	each	2	$ 11,000.00	$ 22,000.00
2.07		Station Testing & Commissioning	L.S.	1	$ 30,000.00	$ 30,000.00
2.08		Existing Station Decommissioning	L.S.	1	$ 40,000.00	$ 40,000.00
2.09		Temporary Diversion Pumping	L.S.	1	$ 35,000.00	$ 35,000.00
2.10		Temporary Overflow Piping	L.S.	1	$ 6,500.00	$ 6,500.00
					Subtotal	**$ 5,133,415.00**
3.00		**Storm System**				
3.01		1050mm RCP Culvert	m	16.5	$ 8,500.00	$ 140,250.00
3.02		Precast Concrete Headwall (1050)	Each	2	$ 4,500.00	$ 9,000.00
3.03		Existing 600mm CSP Culvert Removal	L.S.	1	$ 15,000.00	$ 15,000.00
					Subtotal	**$ 164,250.00**
4.00		**Electrical System**				
4.01		Underground Electrical (Primary, Secondary, Wet Well, Generator)	L.S.	1	$ 325,000.00	$ 325,000.00
4.02		Instrumentation & Controls	L.S.	1	$ 295,000.00	$ 295,000.00
4.03		Control Building Electrical Fit-up	L.S.	1	$ 65,000.00	$ 65,000.00
4.04		Electrical Permits/Fees	L.S.	1	$ 10,000.00	$ 10,000.00
4.05		Existing Station Decommissioning, Removals/Demolition	L.S.	1	$ 40,000.00	$ 40,000.00
					Subtotal	**$ 735,000.00**
					Total	$ 6,532,865.00
				20%	**Engineering & Contingency**	$ 1,306,573.00
					14% HST	$ 1,097,521.32
					Total	**$ 8,936,959.32**

Attachment 3 – Total Project Cost Estimate (Pre – Tender) – June 17, 2026

Majestic Avenue PS Upgrades and FM Twinning

TOTAL PROJECT COST ESTIMATE

June 17, 2026

CONTRACTOR COSTS	
Construction Cost Estimate (Pre-Tender)	$6,532,865
Contractor Sub-Total	**$6,532,865**
CONSULTANT COSTS	
Design Phase Services Estimate - nearing completion	$170,010
Tender Phase Services Estimate	$9,830
Construction Phases Services Estimate	$165,655
Consultant Sub-Total	**$345,495**
CONTINGENCY (Class 1: Detailed Design - 10 %) *	
Construction Cost Estimate Contingency	$653,287
Tender Phase Services Estimate Contingency	$983
Construction Phases Services Estimate Contingency	$16,566
Contingency Sub-Total	**$670,835**
OTHER COSTS	
External QA Material Testing	$10,000
Other Costs (Taxable) Sub-Total	**$10,000**
CONTRACTOR + CONSULTANT + CONTINGENCY + OTHER COSTS SUB-TOTAL	
Contractor + Consultant + Contingency + Other Costs Sub-Total	**$7,559,195**
NET HST	
Net HST (3.857%)	$291,558
HALIFAX WATER COSTS	
Internal Halifax Water Cost Estimate (Project Management and Site Inspections)	$191,000
Internal Halifax Water Costs Spent to Date	$36,040
Halifax Water Sub-Total	**$227,040**
SUB-TOTAL + OVERHEAD	
Sub-Total	$8,077,793
Overhead (1%)	$80,778
Total Project Cost Estimate	**$8,158,571**
TOTAL PROJECT COST ESTIMATE **	**$8,160,000**

** Contingency not applied to phases that are complete*

*** Rounded up*

ITEM # 5.1
Halifax Water Board
June 25, 2026

TO: John MacPherson, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: _____
Louis de Montbrun, CPA, CA Director, Corporate Services/CFO

APPROVED: _____
Kenda MacKenzie, P.Eng., General Manager & CEO

DATE: June 16, 2026

SUBJECT: Halifax Regional Water Commission Employees' Pension Plan Financial Statements for the Year Ended December 31, 2025

ORIGIN

The Halifax Regional Water Commission Employees' Pension Plan (the "Plan") financial statements are audited annually.

RECOMMENDATION

It is recommended that the Halifax Water Board approve the financial statements for the Halifax Regional Water Commission Employees' Pension Plan for the year ended December 31, 2025.

BACKGROUND

At the June 19, 2026, meeting of the Halifax Water Audit and Finance Committee (the Committee), the attached report, Item 5.1.1. - Halifax Regional Water Commission Employee's Pension Plan Financial Statements for the year ended December 31, 2025, was presented, reviewed, and discussed. Doane Grant Thornton, Halifax Water's auditor, presented their audit findings in the report included as Attachment 2 and the Committee had an opportunity to have an in-camera discussion with the auditor.

DISCUSSION

No additional information was requested to be brought forward to the Halifax Water Board meeting following the discussion of the attached at the Committee meeting.

ATTACHMENT

1. Halifax Regional Water Commission Employee's Pension Plan Financial Statements for the year ended December 31, 2025
2. Doane Grant Thornton – HRWC Employees' Pension Plan Financial Results for the year ended December 31, 2025 - Report to Audit and Finance Committee – Audit Results

ITEM #5.1.1

Halifax Water Audit and Finance Committee

June 19, 2026

TO: Chair and Members of the Halifax Regional Water Commission Audit and Finance Committee

SUBMITTED BY: Signed by:

Louis de Montbrun, CPA, CA, Director, Corporate Services/CFO

APPROVED: Signed by:

Louis de Montbrun, CPA, CA, A/General Manager & CEO

DATE: **June 1, 2026**

SUBJECT: **Halifax Regional Water Commission Employees' Pension Plan Financial Statements for the Year Ended December 31, 2025**

ORIGIN

The Halifax Regional Water Commission Employees' Pension Plan (the "Plan") financial statements are audited annually.

RECOMMENDATION

It is recommended that the Audit and Finance Committee recommend that the Halifax Regional Water Commission Board approve the financial statements for the Halifax Regional Water Commission Employees' Pension Plan for the year ended December 31, 2025.

BACKGROUND

Annually, the Plan's financial statements are prepared by staff and audited by the Plan's auditors, Doane Grant Thornton LLP.

DISCUSSION

Attached are the draft audited financial statements of the Plan for the year ended December 31, 2025, with comparative figures for 2024.

The auditor has indicated that they are prepared to issue an unqualified auditor's report. In the report issued to the Audit and Finance Committee by Doane Grant Thornton, the auditors indicate that the financial statements present fairly, in all material respects, the financial position of the Plan as at December 31, 2025, the changes in net assets available for benefits, and changes in pension obligations in accordance with Canadian accounting standards for pension plans.

The statement of financial position for the Plan is reported on page 3 of the financial statements, and the highlights are summarized in Table 1 below. The surplus as at December 31, 2025 of $53.5 million compares favourably to the surplus reported at December 31, 2024 of $48.3 million, representing an increase of $5.2 million. This is partially the result of increases in the fair value of investment assets due to positive returns in the global equity markets throughout 2025. Another component of this increased surplus year over year is the value of the pension obligation increased, but at a slightly lesser rate than the assets available for benefits increased. Net assets available for benefits as at December 31, 2025 amounted to $238.0 million compared to $218.3 million the prior year, an increase of $19.7 million or 9.0%. Pension obligations increased $14.5 million or 8.5% to $184.5 million as at December 31, 2025, up from $170.0 million in 2024.

Table 1

Statement of financial position
December 31

			Change	
	2025	2024	$	%
Net assets available for benefits	$237,962,995	$218,261,884	$19,701,111	*9.0%*
Pension obligations	184,498,600	$169,979,400	14,519,200	*8.5%*
Surplus	$ 53,464,395	$ 48,282,484	$ 5,181,911	*10.7%*
Funded position	129.0%	128.4%		

The statement of changes in net assets available for benefits is reported on page 4 of the financial statements, with highlights summarized in Table 2 below.

Table 2

Statement of changes in net assets available for benefits
December 31

	2025	2024	Change $	Change %
Revenue	$ 19,368,284	$27,006,592	$ (7,638,309)	*(28.3%)*
Expenses	8,466,105	$8,321,097	145,009	*1.7%*
Net revenue	10,902,179	$18,685,495	(7,783,316)	*(41.7%)*
Contributions	$ 8,798,932	$8,367,492	$ 431,441	*5.2%*
Increase in net assets available for benefits	$ 19,701,111	$ 27,052,987	$ (7,351,875)	*(27.2%)*

Of the $19.7 million increase in net assets available for benefits, net revenue accounted for $10.9 million with contributions of $8.8 million representing the remaining balance. Revenue consists of changes in the fair value of investment assets of $14.3 million and net investment income of $5.1 million. Compared to 2024, the change in the fair value of investment assets is lower by $8.5 million, and net investment income increased by $0.9 million. Assets of the Plan are invested as part of the Halifax Regional Municipality Master Trust and represent 6.69% (2024 - 6.66%) of the Master Trust's assets.

Combined contributions from employees and Halifax Water are reported at $8.8 million in 2025, representing an increase of $0.4 million or 5.2% compared to 2024. The increase is reflective of new hires and non-union compensation increases in respect of recent Korn Ferry market reviews, retroactive to January 1, 2025. For details with respect to contributions see Note 7.

Expenses reduce net assets available for benefits, with retirement benefit payments being the main expense driver, representing $6.1 million of the $8.5 million in expenses reported for 2025, see Note 8. Retirement benefit payments increased $0.5 million compared to 2024, and this increase is attributed to 8 retirements in 2025 (2024 - 14), a full year of pension payments to the 2024 retirees and annual indexing of pensions. Termination and death benefit payments are also included in expenses and represent $2.2 million of reported expenses in 2025, representing a decrease of $0.3 million compared to 2024. Termination and death benefits were paid in 2025 to 23 former employees and beneficiaries (2024 - 27).

The statement of changes in pension obligations is reported on page 5 of the financial statements and summarized in Table 3 below. The valuation of pension obligations as at December 31, 2025 was the result of an extrapolation of results from the January 1, 2025 actuarial valuation.

Table 3

Statement of changes in pension obligations
December 31

			Change	
	2025	2024	$	%
Pension obligations, beginning of year	$169,979,400	$164,295,100	$ 5,684,300	*3.5%*
Changes in pension obligations				
Changes in actuarial assumptions	$0	($5,085,500)	$5,085,500	*(100.0%)*
Miscellaneous sources of increase	$3,546,100	$1,298,580	$2,247,520	-
Interest accrued on benefits	10,603,200	$9,745,500	857,700	*8.8%*
Benefits accrued	8,606,300	$7,801,100	805,200	*10.3%*
Benefits paid	($8,236,400)	($8,075,380)	($161,021)	*2.0%*
	$14,519,200	$5,684,300	8,834,900	*155.4%*
Pension obligations, end of year	$184,498,600	$169,979,400	$14,519,200	*8.5%*

Pension obligations increased to $184.5 million in 2025 compared to $170.0 million in 2024, an increase of $14.5 million or 8.5%. Increases to the pension obligations came from three (3) sources, benefits accrued of $8.6 million, interest on accrued benefits of $10.6 million and the impact of pension plan changes of $3.5 million. Reductions to pension obligations totaled $8.2 million which is the value of benefits paid from the plan for retirement, termination, and death benefit payments in 2025. For details with respect to pension obligations including assumptions see Note 5.

Solvency funding is not required as the Plan received 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. Under legislation effective April 1, 2020, should the solvency ratio fall below the 85% threshold, a full actuarial valuation report would be required every 3 years, and a cost certificate annually. The Superintendent may require a valuation sooner than the 3 years if deemed warranted. The actuarial valuation as of January 1, 2025 reported a solvency ratio of 137.1%.

BUDGET IMPLICATIONS

There were no budget implications associated with the audited financial statements of the Plan for 2025. Budget implications arise from actuarial valuations.

ALTERNATIVES

None

ATTACHMENT

1. Halifax Regional Water Commission Employees' Pension Plan Draft Financial Statements as at December 31, 2025

Report Prepared by: Signed by: Heather Britten 7F50B0451C60405...
Heather Britten, Quality Assurance Officer

Financial Reviewed by: Signed by: Alicia Scallion AFA8696B6D3845C...
Alicia Scallion, Manager, Finance

Halifax Water

Financial Statements

Halifax Regional Water Commission

Employees' Pension Plan

December 31, 2025

Contents

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Independent auditor's report

To the Board of Trustees of the
Halifax Regional Water Commission
Employees' Pension Plan

Halifax Regional Water Commission
Employees' Pension Plan
Statement of financial position

December 31	2025	2024
Assets		
Investment assets (Note 3)	**$ 237,771,426**	$ 218,017,632
Contributions receivable (participants)	**214,692**	166,444
Contributions receivable (sponsor)	**5,666**	166,443
	237,991,784	218,350,519
Liabilities		
Payables and accruals		
Trade	**28,789**	88,635
Net assets available for benefits (Note 4)	**237,962,995**	218,261,884
Pension obligations	**184,498,600**	169,979,400
Surplus	**$ 53,464,395**	$ 48,282,484

On behalf of the Board of Trustees

_____ Trustee

_____ Trustee

See accompanying notes to the financial statements.

Halifax Regional Water Commission
Employees' Pension Plan
Statement of changes in net assets available for benefits

Year Ended December 31	2025	2024
Revenue		
Net investment income (Note 6)	**$ 5,088,269**	$ 4,199,583
Changes in the fair value of investment assets	**14,280,015**	22,807,009
	19,368,284	27,006,592
Contributions (Note 7)		
Participants	**4,663,258**	4,270,702
Sponsor	**4,135,674**	4,096,790
	8,798,932	8,367,492
Expenses		
Benefit payments (Note 8)	**$ 8,236,365**	$ 8,075,380
Administrative (Note 9)	**229,740**	245,717
	$ 8,466,105	$ 8,321,097
Increase in net assets available for benefits	**$ 19,701,111**	$ 27,052,987
Net assets available for benefits, beginning of year	**$ 218,261,884**	$ 191,208,897
Increase in net assets available for benefits	**19,701,111**	27,052,987
Net assets available for benefits, end of year	**$ 237,962,995**	$ 218,261,884

See accompanying notes to the financial statements.

Halifax Regional Water Commission
Employees' Pension Plan
Statement of changes in pension obligations

Year Ended December 31	2025	2024
Pension obligations, beginning of year	**$ 169,979,400**	$ 164,295,100
Change in pension obligations		
Changes in actuarial assumptions (Note 5)	-	(4,874,960)
Miscellaneous sources of increase	**3,546,100**	1,088,040
Interest accrued on benefits	**10,603,200**	9,745,500
Benefits accrued	**8,606,300**	7,801,100
Benefits paid (Note 8)	**($8,236,400)**	(8,075,380)
	$ 14,519,200	$ 5,684,300
Pension obligations, end of year	**$ 184,498,600**	$ 169,979,400

See accompanying notes to the financial statements.

1. Description of the Plan

The Halifax Regional Water Commission Employees' Pension Plan (the "Plan") is registered under the Pension Benefits Act of Nova Scotia (Registration Number 0344614). The following description of the Plan is a summary only. For more complete information, reference should be made to the Plan agreement restated as at January 1, 2021 plus subsequent Amendments 1 through 3.

(a) General

The Halifax Regional Water Commission maintains a contributory defined benefit pension plan for all employees, and participation in the Plan is compulsory for full-time and part-time employees. The pension plan provides pensions based upon length of service and best five consecutive years' earnings. The Plan was amended three times in 2025. Amendment number 1 added a defined contribution provision in respect of overtime earnings. Amendment number 2 changed the contribution rate as per the January 1, 2025 Actuarial Valuation funding requirements, changing both the employee and employer contribution rates to 8.72%. Amendment Number 3 changed the plan formula from Best Average 7 (BA7) to Best Average 5 (BA5) consecutive years of pensionable earnings with a rate change to 8.96% effective January 1, 2026.

The employees who transferred to the Halifax Regional Water Commission on August 1, 2007 with the transfer of the wastewater/stormwater operations have remained members of the Halifax Regional Municipality Pension Plan. The Halifax Regional Water Commission is responsible for funding the employer share of the contributions for these employees. All new employees hired after August 1, 2007 join the Halifax Regional Water Commission Employees' Pension Plan.

(b) Funding policy

Employees' required contributions in 2025 were 8.72% (2024 – 9.60%) of pensionable earnings with the Halifax Regional Water Commission matching employee contributions. Basic contributions from employers and members due to the Plan at the end of the year are recorded on an accrual basis. Pensionable earnings were capped temporarily to a maximum of $140,945 to December 31, 2023 and will be indexed at a rate of 1% per annum thereafter. Capped pensionable earnings for 2025 were $143,778.

In addition, the Plan and the Pension Benefits Act of Nova Scotia require that the Halifax Regional Water Commission, from time to time, make contributions to the Plan of such amounts which are required as special payments in accordance with the provisions of the Plan as determined by the actuary (see Note 5).

Nova Scotia funding regulations require a "Provision for Adverse Deviation" (PfAD), which is an explicit level of conservatism added to the going concern liabilities of the Plan. The PfAD is based on the riskiness of the asset mix of the Plan, and for the extrapolation of January 1, 2026, the PfAD is reported at 6.85%. As a result, total liabilities are required to be increased 6.85% in the determination of the Plan's surplus (funded liability/deficit) position (Note 5).

1. Description of the Plan (continued)

(c) Retirement benefits

Employees are entitled to annual pension benefits of an amount equal to 2.0% of their best earnings averaged over the highest five consecutive years of earnings for each year of credited service up to the maximum permitted by the Canada Revenue Agency. For credited service prior to January 1, 2016, the best average earnings cannot be less than the best average five consecutive years of earnings paid to an employee prior to 2016.

Benefits are adjusted each year. Adjustments are based on the increase in the Consumer Price Index over the previous calendar year to a maximum of 2% for benefits earned prior to January 1, 2016, and to a maximum of 1% for benefits earned after December 31, 2015.

(d) Disability pensions

Disabled employees continue to accrue credited service without having to continue their contributions. The employer and employees fund the actuarial cost of the pensions for disabled employees annually. Disabled employees are eligible for a pension if they meet the following criteria:

i. they have completed 10 years of continuous participation in the Plan;

ii. they are not in receipt of a salary continuance benefit under an insured plan to which the Halifax Regional Water Commission contributes; and

iii. they are totally and permanently disabled as certified by a medical practitioner.

(e) Death benefits

In the event a pensioner dies after the commencement of their pension payments, the death benefit will be in accordance with the normal or optional form of pension elected at the time of retirement.

In the event a member dies before their retirement date, a survivor pension is payable to the member's surviving spouse at the rate of 60% of the member's pension credits accrued prior to June 1, 1998. The beneficiary of a single employee who dies before retirement will be entitled to the member's contributions and interest up to the month preceding death during that same period. In respect of pension credits accrued after June 1, 1998, the commuted value of the normal retirement benefits shall be paid to the member's surviving spouse, beneficiary or estate. For pension credits accrued between January 1, 1988 and May 31, 1998 whereby a survivor pension payable to the member's surviving spouse is calculated as the greater of: 1) 60% of the survivor pension, or 2) the commuted value of the normal retirement benefits. The beneficiary or estate of a single employee who dies during this same period, January 1, 1988 and May 31, 1998, would be entitled to the commuted value of the normal retirement benefits.

1. Description of the Plan (continued)

(f) Termination of employment

Subject to any statutory limitations, Plan members become vested immediately upon joining the Plan. Members may elect to receive one of the following options upon termination:

i. a paid-up deferred pension commencing on the member's normal retirement date in an amount equal to the pension accrued to date of termination; or

ii. transfer the value of benefit to the member's new employer's pension plan, a Retirement Savings Plan, or purchase a deferred annuity.

(g) Voluntary contributions

Members of the Plan may make additional voluntary contributions up to the deductible limit provided under the Income Tax Act. The non locked-in additional voluntary contributions may be withdrawn from the Plan by a member prior to termination or retirement, either in the form of a lump sum cash payment or transferred directly to the member's Retirement Savings Plan.

Members of the Plan may transfer non locked-in or locked-in benefits from a previous employer. Non locked-in benefits are administered as outlined in the previous paragraph. Locked-in benefits can be withdrawn within ten years of the normal retirement date. Upon retirement, the locked-in and non-locked-in contributions may be used to purchase an annuity.

(h) Income taxes

The Plan is not subject to income taxes since it is a Registered Pension Trust as defined by the Income Tax Act.

(i) Surplus

Where the Plan is continuing and there is a surplus resulting from an actuarial review, the Halifax Regional Water Commission may decide how the surplus is to be treated. However, no amounts can be paid out of the fund to the employer without prior approval of the Superintendent of Pensions. This was reinforced with Memorandums of Understanding between the Halifax Regional Water Commission and each of the union groups, November 14, 2007, whereby the Halifax Regional Water Commission had to assume responsibility to fund any unfunded liability and/or solvency deficiency arising under the Plan, as required by the Pension Benefits Act of Nova Scotia. Subsequently, special payments required to fund any unfunded liability resulting from an actuarial review, were deposited into a separate fund, to track the unique nature of these contributions into the Plan. As at December 31, 2025, the balance of this fund totals $42,119,000 consisting of contributions in the amount of $15,289,000 and investment income/gains (net of expenses) totalling $26,830,000.

1. Description of the Plan (continued)

(i) Surplus (continued)

Pursuant to the Memorandums of Understanding (Pensions) between the Halifax Regional Water Commission and each of the two union groups dated November 19, 2024, indexing of pensions to a maximum of 2% would be reinstated once the going concern special payments made by the Halifax Regional Water Commission have been recouped, subject to the Plan:

- Having a going concern funded ratio of 108% (or above);
- No solvency deficit; and
- So long as the implementation can be affected while maintaining a going concern funded ratio of 108%.

A Memorandum of Agreement (Pension Plan #2) between the Halifax Regional Water Commission and each of the two union groups dated November 19, 2024, stated that following receipt of the results of the Actuarial Valuation scheduled for January 1, 2025, the employer will schedule a meeting with each of the two union groups to review the current state of the pension plan and to discuss changes to pension benefits as outlined in the Memorandum of Understanding (Pensions #1) as noted above. On December 5, 2025, the Trustees of the Plan approved an employer contribution holiday starting on pay period #1, 2026, to recoup an initial $1.9 million from the Plan.

A Memorandum of Agreement – Defined Contribution Pension – Overtime between the Halifax Regional Water Commission and each of the two union groups dated November 19, 2024, stated that the employer will establish a Defined Contribution Pension Plan (DCPP) effective July 1, 2025. As a result, the Halifax Regional Water Commission Employees' Pension Plan was amended to include a Defined Contribution Provision to meet the requirements of this Memorandum of Agreement.

A surplus resulting from the wind-up of the Plan will be used to increase the benefits to the living Members of the Plan (including pensioners) and their beneficiaries to the extent permitted by the Income Tax Act and Regulations. Any balance remaining will be returned to the Halifax Regional Water Commission, however no amounts can be paid out of the fund to the employer without prior approval of the Superintendent of Pensions.

2. Statement of compliance with Canadian accounting standards for pension plans and summary of significant accounting policies

The financial statements are presented in accordance with Canadian accounting standards for pension plans in Part IV of the Chartered Professional Accountants of Canada (CPA) Handbook, Section 4600 – Pension Plans. Section 4600 provides specific accounting guidance on pension obligations and investments, with investments complying with international financial reporting standards ("IFRS") in Part I of the CPA Canada Handbook. For accounting policies that do not relate to either investments or pension obligations, the Plan must consistently comply with either IFRS or Canadian accounting standards for private enterprises ("ASPE") in Part II of the CPA Canada Handbook. The Plan has elected to comply on a consistent basis with ASPE. To the extent that ASPE is inconsistent with Section 4600, Section 4600 takes precedence.

2. Statement of compliance with Canadian accounting standards for pension plans and summary of significant accounting policies (continued)

(a) Financial Instruments

Financial assets and financial liabilities are recognized when the Plan becomes a party to the contractual provisions of the financial instrument.

Financial assets are derecognized when the contractual rights to the cash flows from the financial assets expire, or when the financial asset and all substantial risks and rewards are transferred.

A financial liability is derecognized when it is extinguished, discharged, cancelled or expires.

All financial assets and financial liabilities are initially measured at fair value. Fair value is an estimate of the amount of consideration that would be agreed upon in an arm's length transaction between knowledgeable, willing parties who are under no compulsion to act. Financial assets and liabilities are subsequently measured as described below:

Investment assets
All investment assets are measured at fair value at the date of the statement of financial position in accordance with IFRS 13: Fair Value Measurement Part I of the CPA Canada Handbook. Fair values of investment assets is determined as follows:

- Pooled funds are valued at the unit value supplied by the Master Trust administrator and which represent the Plan's proportionate share of underlying net assets at fair value determined using closing bid prices.

Transaction costs are not included in the fair value of investment assets either on initial recognition or on subsequent re-measurement. Transaction costs are included in the statement of changes in net assets available for benefits as part of expenses incurred in the period.

Investment income, excluding changes in the fair value of investment assets, is presented in the statement of changes in net assets available for benefits.

Financial liabilities
Financial liabilities are measured subsequently at amortized cost using the effective interest method.

(b) Pension obligations

The Plan is a defined benefit plan established for members. The pension obligations recognized in the statements of financial position are the actuarial present value of accrued pension benefits determined by applying best estimate assumptions and the projected benefit method prorated on services.

2. Statement of compliance with Canadian accounting standards for pension plans and summary of significant accounting policies (continued)

(c) Net investment income

Income from investments is recognized on an accrual basis and includes dividend income (recognized on ex-dividend date), interest income, and is net of investment manager fees.

(d) Changes in the fair value of investment assets and liabilities

This includes both realized gains or losses on sale of investments and unrealized gains or losses on investments.

Realized gains or losses on sale of investments are the difference between the proceeds received and the average cost of investments sold.

Unrealized gains or losses on investments represent the difference between the carrying value at the year end and the carrying value at the previous year end or purchase value during the year, less the reversal of previously recognized unrealized gains and losses in respect of disposals during the year.

(e) Contributions

Required employee and employer contributions are recorded the month following when the payroll deductions are made. Employee and employer contributions and special payments due to the Plan at the end of the year are recorded on an accrual basis. Cash received from pension plan transfers or members for service purchases are recorded when received.

(f) Benefits

Benefit payments to retired members, commuted value payments and refunds to former members are recorded in the period paid. Accrued benefits are recorded as part of the accrued pension benefit obligation.

(g) Estimation uncertainty

When preparing the financial statements, management undertakes a number of judgements, estimates and assumptions about recognition and measurement of assets, liabilities, revenue, and expenses. The actual results are likely to differ from the judgments, estimates and assumptions made by management and will seldom equal the estimated results. Information about the significant judgments, estimates and assumptions that have the most significant effect on the recognition and measurement of assets, liabilities, revenue, and expenses are discussed below:

2. Statement of compliance with Canadian accounting standards for pension plans and summary of significant accounting policies (continued)

(g) Estimation uncertainty (continued)

Fair value of financial instruments
Management uses valuation techniques in measuring the fair value of financial instruments, where active market quotes are not available. Details of the assumptions used are given in the notes regarding financial assets and liabilities. In applying the valuation techniques, management makes maximum use of market inputs, and uses estimates and assumptions that are, as far as possible, consistent with observable data that market participants would use in pricing the instrument. Where applicable data is not observable, management uses its best estimate about the assumptions that market participants would make. These estimates may vary from the actual prices that would be achieved in an arm's length transaction at the reporting date.

Pension obligations
Management estimates the pension obligations annually with the assistance of an independent actuary; however, the actual outcome may vary due to estimation uncertainties. The estimate of the pension obligation of $184,498,600 (2024 - $169,979,400) is based on assumed rates of retirement, mortality, breaks in service and contributory hours. Discount factors are determined at or near year-end to reflect the long-term expectation of investment returns that are denominated in the currency in which the benefits will be paid and that have terms to maturity approximating the terms of the related pension obligation.

3. Investment in the Master Trust:

The investment in the Halifax Regional Municipality Master Trust (the "HRM Master Trust") is recorded at its fair value. The Plan's interest in the HRM Master Trust represents 6.69% (December 31, 2024 – 6.66%) of the HRM Master Trust units. The remaining units are held by the Halifax Regional Municipality Pension Plan. The co-mingling of investments does not affect the actuarial liabilities or the net assets available for benefits of the Plan.

The fair value of the investment in the HRM Master Trust is determined as at the date of the statements of financial position as described in note 2(a). The fair value of the investment in the HRM Master Trust is categorized as a Level 2 investment under fair value hierarchy measurement (Note 11).

There were no significant transfers between Level 1, Level 2 and Level 3 investments during the year ended December 31, 2025.

The schedule below presents the Master Trust's investments recognized at fair value within the fair value hierarchy.

2025	Level 1	Level 2	Level 3	Total
Cash	$ 55,819,493	$ -	$ -	$ 55,819,493
Accrued investment income	-	3,122,802	-	3,122,802
Short-term investments	154,218,615	-	-	154,218,615
Canadian bonds	59,414,886	159,447,809	-	218,862,695
Foreign bonds	-	230,988,336	-	230,988,336
Canadian equities	78,204,777	58,207,437	-	136,412,214
Foreign equities	166,452,265	882,223,471	-	1,048,675,736
Limited partnerships	-	-	1,578,803,101	1,578,803,101
Public market alternatives	-	130,237,253	-	130,237,253
Net investment transactions oustanding	(3,501,114)	-	-	(3,501,114)
Total	$ 510,608,922	$ 1,464,227,108	$ 1,578,803,101	$ 3,553,639,131
HRWC Plan Interest in the Master Trust (6.69%)				$ 237,771,426

2024	Level 1	Level 2	Level 3	Total
Cash	$ 44,742,664	$ -	$ -	$ 44,742,664
Accrued investment income	-	5,687,206	-	5,687,206
Short-term investments	152,008,999	-	-	152,008,999
Canadian bonds	58,304,439	142,631,267	-	200,935,707
Foreign bonds	-	251,433,182	-	251,433,182
Canadian equities	67,851,679	44,188,825	-	112,040,503
Foreign equities	161,083,059	760,496,741	-	921,579,800
Partnerships	-	-	1,483,617,429	1,483,617,429
Public market alternatives	-	106,222,015	-	106,222,015
Net investment transactions oustanding	(5,740,642)	-	-	(5,740,642)
Total	$ 478,250,198	$ 1,310,659,236	$ 1,483,617,429	$ 3,272,526,862
HRWC Plan Interest in the Master Trust (6.66%)				$ 218,017,632

Section 67 (3) of the *Pension Benefits Act Regulations* requires disclosure of each investment asset that has a fair value greater than two percent (2%) of the fair value of all the investment assets of the Plan. The following schedule reports all investments having a fair value greater than 2% of the fair value of all investment assets of the Plan.

Investment	Asset Class	Market Value
Blackrock Alpha Advantage Global Fund	Global Equities	$ 13,490,877
Blackrock Canadian World Index Fund	Global Equities	12,670,655
Wellington Management Global Total Return Fund	Foreign Bonds	9,698,959
Mawer International Equity Pooled Fund	International Equities	7,180,887
Marathon International Equity Fund	International Equities	6,732,482
CC&L Q Emerging Markets Equity Fund	Emerging Market Equities	5,247,155
		$ 55,021,015

4. Net assets available for benefits

	2025	2024
Allocation of net assets available for benefits		
To pension plan	**$ 236,484,310**	$ 217,004,238
To extra voluntary contribution benefits	**1,101,836**	927,304
To individual locked in amounts	**376,849**	330,342
	$ 237,962,995	$ 218,261,884

5. Pension obligations

An actuarial valuation of the Plan was performed as at January 1, 2025 by Eckler.

The actuarial value of accrued benefits, determined periodically by the Plan's actuary, is the amount that results from applying actuarial assumptions to adjust the Plan benefits to reflect the time value of money between the valuation date and the expected date of payment. The significant actuarial assumptions used include:

i. 40% of members will retire at the age of 65, and 60% will retire at the earliest date of eligibility for an unreduced pension;

ii. interest rate assumption of 6.55% per annum (2022 - 6.35%);

iii. salary scale assumption of 3.90% per annum (2022 - 3.90%); and

iv. life expectancy of participants based upon the CPM-2014 Combined mortality table, with Scale CPM-B (post-retirement), no mortality in pre-retirement.

The 2025 interest rate assumption of 6.55% referenced above reflects Eckler's latest Capital Market Assumptions at January 1, 2025.

As a result of the January 1, 2025 actuarial valuation, special payments in respect of going concern liabilities are not required. The next actuarial valuation for the Plan is required to be performed no later than January 1, 2028.

6. Net investment income

	2025	2024
Income from investment funds	**$ 5,683,344**	$ 4,736,825
Investment manager fees	**(595,075)**	(537,242)
	$ 5,088,269	$ 4,199,583

7. Contributions

	2025	2024
Participants' contributions		
Required	**$ 4,504,056**	$ 4,146,401
Voluntary	**159,202**	124,301
	$ 4,663,258	$ 4,270,702
Sponsor's contributions		
Required	**$ 4,135,674**	$ 4,096,790

8. Benefit payments

	2025	2024
Retirement benefit payments	**$ 6,080,163**	$ 5,595,413
Termination benefit payments	**1,939,229**	2,479,967
Death benefit payment	**216,973**	-
	$ 8,236,365	$ 8,075,380

During 2025, there were 19 termination benefit payments (2024 - 27) and 2 death benefit payments (2024 - 0). Termination benefits are paid out as described in Note 1(f).

9. Administrative expenses

	2025	2024
Actuarial and consulting fees	**$ 91,709**	$ 131,549
Audit and accounting fees	**13,139**	9,243
Bank custodian fees	**35,385**	31,331
Insurance	**9,000**	9,000
Miscellaneous	**23,346**	22,510
Professional fees	**53,849**	38,906
Registration fees	**3,312**	3,178
	$ 229,740	$ 245,717

10. Related party transactions

The Halifax Regional Water Commission, the Plan's sponsor, collects the Plan's contributions and pays certain expenses on behalf of the Plan. These items are then credited or charged back to the Plan.

11. Financial instruments

Financial instruments risk exposure and management

The Plan is exposed to various risks in relation to its investment in the HRM Master Trust, consisting of investment assets. The Plan's financial assets are categorized in Level 2. The main types of risks are market risk, credit risk and liquidity risk.

The Plan's risk management policy is derived from the HRM Master Trust in which the Plan holds units. The HRM Master Trust has set formal policies and operating procedures that establish an asset mix among equity, fixed income investments, public market alternatives, private debt, private equity, real estate and infrastructure that require diversification of investments within categories, a set limit on the size of exposure to individual investments, and a requirement to use A-rated counterparties.

The Plan does not actively engage in the trading of financial assets for speculative purposes nor does it write options. The most significant financial risks to which the Plan is exposed are described below:

(a) Market risks

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. For purposes of this disclosure, the Plan segregates market risk into three categories: interest rate risk, currency risk and other price risk.

i. Interest rate risk
Interest rate risk refers to the fact that the value of the Plan's assets is affected by changes in nominal interest rates and equity markets.

ii. Currency risk
The Plan's functional currency is Canadian dollars, and all the Plan's transactions are carried out in Canadian dollars.

iii. Other price risk
Other price risk is the risk that the fair value or future cash flows of financial instruments will fluctuate because of changes in market prices, other than those arising from interest rate risk or currency risk, whether those changes are caused by factors specific to the individual investment or factors affecting all securities traded in the market.

All investments have a risk of loss of capital. The maximum risk resulting from the investments is determined by the fair value of the instruments, which total $237,273,500 at December 31, 2025 (2024 - $218,017,632). A one percent change (1%) in market risk (holding all variables constant) will impact the fair value of these instruments by approximately $2,372,700 (2024 - $2,180,200).

11. Financial instruments (continued)

(b) Credit risk

Credit risk on financial instruments is the risk of financial loss occurring as a result of default or insolvency of a counterparty on its obligations to the Plan. The Plan's credit risk is primarily attributable to the underlying assets of the HRM Master Trust. Credit risk is mitigated through the management of the HRM Master Trust assets with generally accepted parameters of safety and prudence, using a diversified investment program. Investments in the HRM Master Trust must adhere to specific limitations as outlined in the Halifax Regional Municipality's Statement of Investment Policies and Procedures for the Defined Benefit Pension Plan ("the Statement of Investment Policies and Procedures").

(c) Liquidity risk

Liquidity risk is the risk of not being able to meet the Plan's cash requirements in a timely and cost-effective manner. Liquidity requirements are managed through income generated from investments and monthly contributions made by members and participating employers. The sources of funds are used to pay pension benefits, make additional investments, and fund operating expenses. The Plan's primary future liabilities include the accrued benefit obligation of the Plan. The Plan's main asset, the investment in the HRM Master Trust, is liquid as cash is available to make required payments.

The following are the contractual maturities of financial liabilities:

Payments due year ending December 31, 2025:

	Total	Less than 1 year	1 - 3 years	4 - 5 years	After 5 years
Payables and accruals	**$ 28,789**	**$ 28,789**	**$ -**	**$ -**	**$ -**

Payments due year ending December 31, 2024:

	Total	Less than 1 year	1 - 3 years	4 - 5 years	After 5 years
Payables and accruals	$ 88,635	$ 88,635	$ -	$ -	$ -

11. Financial instruments (continued)

Fair value disclosure

The financial instruments recognized at fair value on the statement of financial position must be classified as one of three fair value hierarchy levels. This hierarchy groups financial assets and liabilities into three levels based on the significance of inputs used in measuring the fair value of the financial assets and liabilities. The fair value hierarchy has the following levels:

Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities;

Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly (i.e. as prices) or indirectly (i.e. derived from prices); and

Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

The level within which the financial asset or liability is classified is determined based on the lowest level of significant input to the fair value measurement. The financial assets and liabilities measured at fair value in the statement of financial position are grouped into the fair value hierarchy as follows:

Financial assets at fair value as at December 31, 2025

	Level 1	Level 2	Level 3	Total
Assets				
Pooled fund	**$ -**	**$ 237,771,426**	**$ -**	**$ 237,771,426**

Financial assets at fair value as at December 31, 2024

	Level 1	Level 2	Level 3	Total
Assets				
Pooled fund	$ -	$ 218,017,632	$ -	$ 218,017,632

There were no transfers between the three levels between December 31, 2024 and December 31, 2025.

The methods and valuation techniques used for the purpose of measuring fair value are unchanged compared to the previous reporting period.

12. Capital management

The Plan defines its capital as the deficiency of the Plan, as determined annually based on the fair value of net assets and actuarial liabilities, provided by the actuarial valuation prepared by the Plan's independent actuary (Note 5).

The overall objectives in investing the assets of the Plan are to ensure sufficient liquidity to support its financial obligations, to continue to provide benefits in the best interest of its members, to remain financially self-sufficient and to preserve and enhance the value of capital through adequate diversification in high quality investments and achieve the highest investment return that can be obtained with the assumption of an acceptable degree of risk. The Plan holds units in the HRM Master Trust which has formal policies and procedures that establish asset mix, require diversification within different categories, set a limit on the exposure to individual investments and provides a requirement to use A-rated counterparties.

Doane Grant Thornton

Halifax Regional Water Commission Employees' Pension Plan

For the year ended December 31, 2025

Report to Audit and Finance Committee
Audit results

June 19, 2026

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Appendices

Executive summary

Purpose of report and scope

The purpose of this report is to engage in an open dialogue with you regarding our audit of the financial statements of Halifax Regional Water Commission Employees' Pension Plan (the "Plan") for the year ended December 31, 2025. This communication will assist Audit and Finance Committee in understanding the results of audit procedures and includes comments on misstatements, significant accounting policies, sensitive estimates and other matters.

The information in this document is intended solely for the information and use of the Audit and Finance Committee and management. It is not intended to be distributed or used by anyone other than these specified parties.

We were engaged to provide the following deliverables:

Deliverable	Timing/Status
Discussions and communications regarding planning	January 21, 2026
Communication of audit results	June 19, 2026
Report on the December 31, 2025 financial statements	TBD

Status of our audit

We have substantially completed our audit of the financial statements of the Plan and the results of that audit are included in this report.

We will finalize our report upon resolution of the following items that were outstanding as at June 19, 2026:

- Receipt of the final updated financial statements (for any final changes)
- Receipt of signed management representation letter (a draft has been attached in the appendices)
- Approval of the financial statements by the Board of Trustees
- Final inquiries regarding subsequent events

We have successfully executed our audit strategy in accordance with the plan presented to Audit and Finance Committee on January 21, 2026.

Independence

We confirm that there have been no changes to our status with respect to independence since we confirmed our independence to you on January 21, 2026.

Audit risks and results

Areas of focus

The following is a summary of areas of focus, and the related matters and findings we would like to communicate to Audit and Finance Committee.

Area of focus	Matter	Our response and findings
Pension obligation	A full valuation of the Plan was performed at January 1, 2025. The next actuarial valuation for the Plan is required to be performed no later than January 1, 2028. An extrapolation of the January 1, 2025, actuarial valuation results was performed to January 1, 2026, under going concern assumptions and methodology. As of December 31, 2025, the extrapolation of the actuarial results reported a going concern excess of approximately $52.8 million. Certain adjustments were made, such as the fair value adjustment for investment assets, to arrive at the surplus of approximately $53.5 million as reported in the 2025 financial statements. There were no required special payments in respect of going concern liabilities during the year as a result of the most recent valuation completed.	We performed the following: • Examined the Eckler extrapolated valuation results dated June 2025 prepared by the independent actuary; • Assessed the reasonability of assumptions used in the extrapolated valuation as compared to expectations and market information; • Performed testing of the data used by the actuary in the performance of their work; and • Confirmed the independence and qualifications of the Plan's actuary and materiality threshold. We have no findings to report.
Investments	As at December 31, 2025 the Plan holds an investment balance of approximately $238 million.	We performed the following: • Agreed amounts to investment statements; • Performed valuation testing of investments; • Verified historical accuracy of balances based on audited HRM financial statements; and • Obtained investment statements subsequent to year end and ensured appropriateness of related disclosures. We have no findings to report.

Adjustments and uncorrected misstatements

Adjustments

We have no adjusted misstatements to report.

Summary of disclosure matters

Our audit did not identify any unadjusted non-trivial misstatements of disclosure matters.

Other reportable matters

Internal control

The audit is designed to express an opinion on the financial statements. We obtain an understanding of internal control over financial reporting to the extent necessary to Plan the audit and to determine the nature, timing and extent of our work. Accordingly, we do not express an opinion on the effectiveness of internal control.

If we become aware of a deficiency in your internal control over financial reporting, the auditing standards require us to communicate to Audit and Finance Committee those deficiencies we significant. However, a financial statement audit is not designed to provide assurance on internal control. Based on the results of our audit, we did not identify any reportable observations.

Accounting & assurance updates

There have been no updates to Part IV of the CPA Canada Handbook – Accounting Standards for Pension Plans, since we provided our last update at the January meeting.

Further details of the changes to assurance standards are included in the Halifax Regional Water Commission's financial statement audit results communication.

Appendix A

Draft Independent Auditor’s Report

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Independent Auditor's report

To the Board of Trustees of the
Halifax Regional Water Commission
Employees' Pension Plan

Opinion

We have audited the financial statements of Halifax Regional Water Commission Employees' Pension Plan, which comprise the statement of financial position as at December 31, 2025, and the statements of changes in net assets available for benefits and changes in pension obligations for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly in all material respects, the financial position of Halifax Regional Water Commission Employees' Pension Plan as at December 31, 2025, and its changes in net assets available for benefits and its changes in pension obligations for the year then ended in accordance with Canadian accounting standards for pension plans.

Basis for opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of Halifax Regional Water Commission Employees' Pension Plan in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of management and those charged with governance for the financial statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian accounting standards for pension plans, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing Halifax Regional Water Commission Employees' Pension Plan's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate Halifax Regional Water Commission Employees' Pension Plan or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing Halifax Regional Water Commission Employees' Pension Plan's financial reporting process.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of Halifax Regional Water Commission Employees' Pension Plan's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on Halifax Regional Water Commission Employees' Pension Plan's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause Halifax Regional Water Commission Employees' Pension Plan to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Halifax, Canada
TBD

Chartered Professional Accountants

Appendix B

Draft Management Representation Letter

Management Representation Letter

June 19, 2026

Mr. Tom Brockway, CPA, CA
Doane Grant Thornton LLP
Suite 1000, Nova Centre, North Tower
1675 Grafton Street
Halifax, NS B3J 0E9

Dear Mr. Brockway:

We are providing this letter in connection with your audit of the financial statements of **Halifax Regional Water Commission Employees' Pension Plan** (the "Plan") as of December 31, 2025 and for the year then ended, for the purpose of expressing an opinion as to whether the financial statements present fairly, in all material respects, the financial position, changes in net assets available for benefits and changes in pension obligations in accordance with Canadian accounting standards for pension plans ("ASPP")**.**

We acknowledge that we have fulfilled our responsibilities for the preparation of the financial statements in accordance with Canadian accounting standards for pension plans and for the design and implementation of internal controls to prevent and detect fraud and error. We have assessed the risk that the financial statements may be materially misstated as a result of fraud, and have determined such risk to be low. Further, we acknowledge that your examination was planned and conducted in accordance with Canadian generally accepted auditing standards (GAAS) so as to enable you to express an opinion on the financial statements. We understand that while your work includes an examination of the accounting system, internal controls and related data to the extent you considered necessary in the circumstances, it is not designed to identify, nor can it necessarily be expected to disclose, fraud, shortages, errors and other irregularities, should any exist.

Certain representations in this letter are described as being limited to matters that are material. An item is considered material, regardless of its monetary value, if it is probable that its omission from or misstatement in the financial statements would influence the decision of a reasonable person relying on the financial statements.

We confirm, to the best of our knowledge and belief, as of June 19, 2026, the following representations made to you during your audit.

Financial statements

1 The financial statements referred to above present fairly, in all material respects, the financial position as at December 31, 2025, and the changes in net assets available for benefits and changes in pension obligations for the year then ended in accordance with Canadian accounting standards for pension plans, as agreed to in the terms of the audit engagement.

Completeness of information

2 We have made available to you all financial records and related data and all minutes of the meetings of trustees and committees, as agreed in the terms of the audit engagement. Summaries of actions of recent meetings for which minutes have not yet been prepared have been provided to you. All significant trustee and committee actions are included in the summaries.

3 We have provided you with unrestricted access to persons within the entity from whom you determined it necessary to obtain audit evidence.

4 We have also made available the Plan instrument and any Plan amendments thereto, the trust agreement and any insurance contracts entered into during the year, including any amendments to comply with applicable laws. The last amendment to the Plan instrument was as of October 7, 2019 and the Plan Text was amended and consolidated effective January 1, 2021. As well we have made available and provided to you all actuarial reports and other reports prepared by the actuary for the Plan and the Plan Sponsor were provided to you.

5 There are no material transactions that have not been properly recorded in the accounting records underlying the financial statements.

6 There were no restatements made to correct a material misstatement in the prior period financial statements that affect the comparative information.

7 We are unaware of any known or probable instances of non-compliance with the requirements of regulatory or governmental authorities, including their financial reporting requirements.

8 We are unaware of any violations or possible violations of laws or regulations the effects of which should be considered for disclosure in the financial statements or as the basis of recording a contingent loss.

9 We have disclosed to you all known deficiencies in the design or operation of internal control over financial reporting of which we are aware.

10 We have identified to you all known related parties and related party transactions, including sales, purchases, loans, transfers of assets, liabilities and services, leasing arrangements guarantees, non-monetary transactions and transactions for no consideration.

11 You provided a non-audit service by assisting us with drafting the financial statements and related notes. In connection with this non-audit service, we confirm that we have made all management decisions and performed all management functions, have the knowledge to evaluate the accuracy and completeness of the financial statements, and accept responsibility for such financial statements.

Fraud and error

12 We have no knowledge of fraud or suspected fraud affecting the Plan involving management; employees who have significant roles in internal control; or others, where the fraud could have a non-trivial effect on the financial statements.

13 We have no knowledge of any allegations of fraud or suspected fraud affecting the Plan's financial statements communicated by employees, former employees, analysts, regulators or others.

14 We acknowledge our responsibility for the design, implementation and maintenance of internal control to prevent and detect fraud.

Recognition, measurement and disclosure

15 We believe that the methods, significant assumptions and data used by us in making accounting estimates and related disclosures are appropriate to achieve recognition, measurement and disclosure that are in accordance with Canadian accounting standards for pension plans.

16 We believe that the significant judgements made in making accounting estimates have taken into account relevant information of which management is aware and that appropriate specialized skills and experience (including third party experts where applicable), has been applied in making the accounting estimates.

17 For non-readily marketable securities, we are in agreement with the methods used to estimate fair value or the approach used by the appraiser.

18 We have no plans or intentions that may materially affect the carrying value or classification of assets and liabilities, both financial and non-financial, reflected in the financial statements.

19 All related party transactions have been appropriately measured and disclosed in the financial statements.

20 The nature of all material measurement uncertainties has been appropriately disclosed in the financial statements, including all estimates where it is reasonably possible that the estimate will change in the near term and the effect of the change could be material to the financial statements.

21 All outstanding and possible claims, whether or not they have been discussed with legal counsel, have been disclosed to you and are appropriately reflected in the financial statements.

22 All liabilities and contingencies, including those associated with guarantees, whether written or oral, have been disclosed to you and are appropriately reflected in the financial statements.

23 The Plan has satisfactory title to (or lease interest in) all assets, and there are no liens or encumbrances on the Plan's assets nor has any been pledged as collateral.

24 All "off-balance sheet" financial instruments have been properly recorded or disclosed in the financial statements

25 We have disclosed to you, and the Plan has complied with, all aspects of contractual agreements that could have a material effect on the financial statements in the event of non-compliance, including all covenants, conditions or other requirements of all outstanding debt.

26 The Plan has complied with the rules and regulations of the Nova Scotia Office of the Superintendent of Pensions and the Canada Revenue Agency to which the Plan is subject.

27 We are responsible for the preparation of Plan amendments necessitated by changes in laws or regulations, or required by changes in the operation of the Plan. All amendments required by such changes have been adopted by the Plan.

28 All required filing of the Plan (trust) documents with the appropriate agencies have been made.

29 There have been no events subsequent to the balance sheet date up to the date hereof that would require recognition or disclosure in the financial statements. Further, there have been no events subsequent to the date of the comparative financial statements that would require adjustment of those financial statements and related notes.

30 There were no omissions from the participants' data provided to the Plan's actuary for the purpose of determining the actuarial present value of accumulated Plan benefits and other actuarially determined amounts in the financial statements.

31 We agree with the actuarial methods and assumptions used by the actuary for funding purposes and for determining accumulated Plan benefits and have no knowledge or belief that such methods or assumptions are inappropriate in the circumstances. We did not give any instructions, nor cause any instructions to be given, to the Plan's actuary with respect to how the valuation should be calculated from the underlying data, and we are not aware of any matters that have impacted the independence or objectivity of the Plan's actuary.

32 The defined benefit obligation of the Plan is appropriately measured as the actuarial present value of accrued pension benefits determined by applying best estimate assumptions and the projected benefit method prorated on services in accordance with Section 3462 Employee Future Benefits.

33 There have been no changes in:

(a) the actuarial methods or assumptions used in calculating amounts recorded or disclosed in the financial statements; and

(b) Plan provisions between the actuarial extrapolation date and the date of this letter.

34 We have no intentions to terminate the Plan.

Other

35 We have considered whether or not events have occurred or conditions exist which may cast significant doubt on the Plan's ability to continue as a going concern and have concluded that no such events or conditions are evident.

Yours very truly,

Louis de Montbrun, CPA, CA
Director, Corporate Services/CFO

Halifax Water

HRWC Employees' Pension Plan

Year End Results – December 31, 2025

Halifax Water Board
June 25, 2026

STRAIGHT from the SOURCE

Financial Results – December 31, 2025

Statement of financial position December 31				
			Change	
	2025	2024	$	%
Net assets available for benefits	$237,962,995	$218,261,884	$19,701,111	*9.0%*
Pension obligations	184,498,600	169,979,400	14,519,200	*8.5%*
Surplus	$ 53,464,395	$ 48,282,484	$ 5,181,911	*10.7%*
Funded position	129.0%	128.4%		

Net assets available for benefits

Statement of changes in net assets available for benefits
December 31

	2025	2024	Change $	Change %
Revenue	$ 19,368,284	$ 27,006,592	$ (7,638,308)	*(28.3%)*
Expenses	8,466,105	8,321,097	145,008	*1.7%*
Net revenue	10,902,179	18,685,495	(7,783,316)	*(41.7%)*
Contributions	$ 8,798,932	$ 8,367,492	$ 431,440	*5.2%*
Increase in net assets available for benefits	$ 19,701,111	$ 27,052,987	$ (7,351,876)	*(27.2%)*

In summary …

- Plan continues to improve
- Returns of the HRM Master Trust remains favourable
- Next actuarial valuation, January 1, 2028

ITEM # 6.1

Halifax Water Board

June 25, 2026

TO: John MacPherson, K.C., Chair, and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: Signed by: Kenda MacKenzie 0C084AC815794F6...

Kenda MacKenzie, P. Eng, General Manager and CEO

DATE: May 25, 2026

SUBJECT: **Corporate Balanced Scorecard Results 2025/26**

ORIGIN:

Annual Corporate Performance Measurement.

RECOMMENDATION:

It is recommended that the Halifax Water Board:

1) Approve the Corporate Balanced Scorecard (CBS) results for the 2025/26 fiscal year.

BACKGROUND

Halifax Water has been utilizing a Corporate Balanced Scorecard (CBS) to measure performance since 2001. In March 2002, the Board approved an organizational award program tied to twelve Organizational Indicators which were the most objective and outward looking.

DISCUSSION

Each year, the Organizational Indicators are reviewed and refined based on operational objectives and approved budgets. The Organizational Indicators, attached, are aligned with the four strategic pillars approved in the Business Plan as well with our purpose and vision statements.

Consistent with prior years, and the methodology approved by the Halifax Water Board, the most objective Organizational Indicators have been considered for the Organizational Award program. Twelve Organizational Indicators are recommended for inclusion in the award program. The recognition of an organizational award hinges two Gateway Targets being achieved and a minimum score of 7.0 out of 12.0 to give a passing grade. Funds for the award program are

connected to the operating expense to revenue ratio (excluding depreciation) being at/or below the target for the fiscal year, which is one of the Gateway Targets. This year it is 69.5%, below the target of 73.1%, achieving this Gateway. The second Gateway Target is related to the Lost time Injury Frequency-Number of accidents resulting in lost time per 100 employees. The result this year was 2.3, above the target of 2, and therefore was not achieved.

The following contains the results of the twelve Organizational Indicators. In addition to the two Gateway Indicators needing to be met, a minimum of 7 indicators need to be achieved. Overall, 17 of the 32 indicators were met:

Organizational Indicators	Organization Award	2025/26 Results
Operating Expenses (excluding depreciation) are less than budget by at least $ 1.0 million[1]	Gateway	1
Lost time Injury Frequency -Number of accidents resulting in lost time per 100 employees	Gateway	0
Safe driving - Number of traffic Accidents per 1,000,000 km driven (maximum of 5)	Org. Award	0
Percentage of WWTFs complying with NSE approval permits	Org. Award	0
Adherence with 6 objectives of Water Safety Plan for all water systems	Org. Award	1
Number of times primary disinfection in water supply facility criteria not met per year	Org. Award	1
Water Loss Control - Percentage reduction in real water loss over previous fiscal year	Org. Award	1
Percentage of time GIS and Cityworks are available	Org. Award	1
Energy management kwh/m^3 reduction associated with capital projects	Org. Award	1
Bio-solids residual handling - percentage of sludge meeting bio-solids concentration targets	Org. Award	1
Customer satisfaction about water quality - Percentage from customer survey	Org. Award	0
Customer satisfaction with service - Percentage from customer survey	Org. Award	0
	TOTAL:	7

[1.] The operating expenses excludes any unbudgeted "unusual items"

Overview of Results:

Financial and Regulatory Accountability:

The operating expenses were less than budget by at least $1.0 M, achieving one of the Gateway Indicators, as well the annual cost per customer connection for wastewater was achieved. The cost per customer connection for water, the total capital budget spent in the current fiscal year, and the capital budget expenditures – percentage of total unspent budget available spent in the current fiscal year, were not achieved.

Environment, Health, Safety and Social Responsibility:

Halifax Water Employees met the indicators related to NS Labour and Advanced Education compliance with the number of compliance orders issued, retraining prior to expiration of certifications, targets for safety talks and safety audits. Further, there were no environmental infractions, and along with completing the targeted engagements of industrial, commercial, institutional customers. The metrics of total recordable injury frequency (number of accidents resulting in lost time per 100 employees), safe driving per 1 million km's driven and the wastewater compliance with NSECC permits were not achieved. Efforts to improve the safe driving were implemented and there is a noticeable improvement from last year. The wastewater compliance target was not achieved, due to a variety of process related issues that has led to corrective actions to restore core treatment processes, improve operational controls, and address source and infrastructure deficiencies. This also includes the partnership with Dalhousie University to continue to optimize the process under challenging circumstances

Operational Excellence:

The water quality objectives were achieved along with the targets for service outages per 1000 customers for both water and wastewater and water loss control. The review time for building permits was achieved, but due to increased volume of applications and resourcing challenges, the target for subdivision reviews was not achieved. Other targets related to Inflow and Infiltration reduction, percentage of time GIS and Cityworks were outage, energy management, and bio-solids residual handling were achieved. However, call answer times fell short of the minimum target, as a result of limited staffing capacity and the onboarding and training of new staff.

People:

Metrics pertaining to customer satisfaction about water quality and overall service, although 82% and 86%, did not meet the targets. The percentage of grievances in the year and leaders engaging in career conversations though performance were not achieved. The employee survey score of "A-" was one of the highest in history, it did not meet the target of "A".

The participation in wellness moments was implemented and delivered but we were unable to accurately measure the results to develop a score this fiscal year.

BUDGET IMPLICATIONS

Funds for the Organizational Award program are available if the operating expense to revenue ratio is at/or below the target amount. In many cases, meeting the organizational indicator targets will realize direct savings to the utility, improved operational effectiveness, and/or improved customer service. However, where both Gateway indicators were not met, the organization award will not be issued.

ALTERNATIVES

There are no alternatives.

ATTACHMENT

Summary Corporate Balanced Scorecard

Report Prepared By: Signed by: Kenda MacKenzie 0C084AC815794F6...
Kenda MacKenzie, P. Eng, General Manager and CEO

Financial Approved By: Signed by: A65D6874EBC1467...
Louis de Montbrun, CPA, CA, Director, Corporate Services/CFO

Halifax Water

ITEM # 6.1
Halifax Water Board
June 25, 2026

Corporate Balance Scorecard - Final Results 2025-2026

Organizational Indicators	Organization Award	2025/26 TARGET	2025/26 YEAR END RESULTS	2026/27 TARGET
Financial and Regulatory Accountability				
Operating Expenses (excluding depreciation) are less than budget by at least $ 1.0 million[1]	Gateway	73.1%	69.5%	Y/N
Annual cost per customer connection – Water (excluding depreciation)		$587	$608	$587
Annual cost per customer connection – Wastewater (excluding depreciation)		$740	$732	$740
Total capital spend in the fiscal year (in millions)		$135	$114	$135
Capital budget expenditures. Percentage of total unspent budget available, spent in the current fiscal year.		45%	42%	45%
Environment, Health, Safety and Social Responsibility				
NS Labour and Advanced Education compliance – Number of Compliance Orders issued		2	1	2
Lost time Injury Frequency -Number of accidents resulting in lost time per 100 employees	Gateway	2	2.3	2
Total Recordable Injury Frequency - Number of accidents resulting in lost time per 100 employees		3.5	4.9	3.5
Safe driving - Number of traffic Accidents per 1,000,000 km driven (maximum of 5)	Org. Award	4	7.04	4
Training - Number of employees trained or re-certified before due date		85%	85%	85%
Percentage of completed safety talks		90%	100%	90%
Percentage of public health and environmental regulatory infractions resulting in a summary offense tickets		2%	0%	2%
Percentage of WWTFs complying with NSE approval permits	Org. Award	95.0%	93.0%	95%
Number of ICI properties engaged by Pollution Prevention each year		250	319	250
Operational Excellence				
Adherence with 6 objectives of Water Safety Plan for all water systems	Org. Award	80%	96%	80%
Number of times primary disinfection in water supply facility criteria not met per year	Org. Award	0.0%	0%	0.0%
Water service outages - Number of connection hours/1000 customers		200	163.0	200
Wastewater service outages – Number of connection hours/1000 customers		4	1.9	4
Average speed of answer – Percentage of calls answered within 5 minutes		90%	40%	90%
Response time for service connection permits – Percentage of formal responses provided from Halifax Water within 3 days or less		80%	81%	80%
Response time for subdivisions involving system extensions – Percentage of formal responses from Halifax Water provided within 4 weeks or less review		80%	64%	80%
Water Loss Control - Percentage reduction in real water loss over previous fiscal year	Org. Award	5%	7.2%	5%
I&I reduction - Number of private properties engaged about Inflow & Infiltration		1200	1491	1200
Percentage of time GIS and Cityworks are available	Org. Award	97%	99%	97%
Energy management kwh/m^3 reduction associated with capital projects	Org. Award	14%	15%	14%
Bio-solids residual handling - percentage of sludge meeting bio-solids concentration targets	Org. Award	95%	99.5%	95%
People				
Customer satisfaction about water quality - Percentage from customer survey	Org. Award	85%	82%	85%
Customer satisfaction with service - Percentage from customer survey	Org. Award	95%	86%	95%
Percentage of total grievances resolved within the year.		85%	78%	85%
Leaders to engage employees in career conversations to support employee development and succession planning initiatives through performance appraisals.		75%	70%	75%
Employee Engagement Index Score		A	A-	72
Percentage of employees to participate in monthly health and wellness moments. [2]		90%	N/A	90%

NOTES:

1. The operating expenses excludes any unbudgeted "unusual items"
2. Monthly health and wellness moments tracking issues did not permit an accurate result.

Halifax Water

Corporate Balanced Scorecard 2025/26 Results

Presented to Halifax Water Board

June 25, 2026

Kenda MacKenzie
General Manager/CEO

STRAIGHT from the SOURCE

Results 2025/26

- Met 17 of the 32 measures.
- Met 1 of 2 Gateway targets.

Missed measures:

Financial and Regulatory Accountability:

- Annual cost per customer connection – Water
- Total capital spend in the fiscal year
- Capital budget expenditures. Percentage of total unspent budget available, spent in the current fiscal year.

Operational Excellence:

- Percentage of calls answered within 5 minutes
- Percentage of formal responses from Halifax Water provided within 4 weeks or less review

Environment, Health, Safety and Social Responsibility:

- *Number of accidents resulting in lost time*
- Number of accidents resulting in lost time Number of traffic Accidents per 1M/km driven
- Percentage of WWTFs complying with NSE approval permits

People:

- Customer satisfaction about water quality
- Customer satisfaction with service
- Percentage of total grievances resolved within the year.
- Support employee development and succession planning initiatives through performance appraisals.
- Employee Engagement Index Score
- Percentage of employees to participate in monthly health and wellness moments.

Organizational Performance Award Program

- Based on 12 of our performance measures.
- Program pays for itself by meeting operating expense to revenue ratio target; ratio is reduced from approved budget to accommodate the award program potential.
- It is not a given; a threshold of 7.0 in scoring must be reached in a given year, and the gateway indicators must be met.
- To be eligible for the award, active employees must work a minimum of nine months during the fiscal year (April 1 to March 31).

Based on 12 measures which are the most objective:

Organizational Indicators	Organization Award	2025/26 Results
Operating Expenses (excluding depreciation) are less than budget by at least $ 1.0 million[1]	Gateway	1
Lost time Injury Frequency -Number of accidents resulting in lost time per 100 employees	Gateway	0
Safe driving - Number of traffic Accidents per 1,000,000 km driven (maximum of 5)	Org. Award	0
Percentage of WWTFs complying with NSE approval permits	Org. Award	0
Adherence with 6 objectives of Water Safety Plan for all water systems	Org. Award	1
Number of times primary disinfection in water supply facility criteria not met per year	Org. Award	1
Water Loss Control - Percentage reduction in real water loss over previous fiscal year	Org. Award	1
Percentage of time GIS and Cityworks are available	Org. Award	1
Energy management kwh/m^3 reduction associated with capital projects	Org. Award	1
Bio-solids residual handling - percentage of sludge meeting bio-solids concentration targets	Org. Award	1
Customer satisfaction about water quality - Percentage from customer survey	Org. Award	0
Customer satisfaction with service - Percentage from customer survey	Org. Award	0
TOTAL SCORE:	**12**	**7**

Employees Organizational Award

Achieving both gateway metric enables the organizational scoring framework. The program is structured on a 12-point scale, with each measure contributing one point.

When organizational performance meets expectations, employees are eligible for the following award in accordance with framework:

Number of Measures met	Organization Award Amount
≥ 11	$ 1,000
10	$ 900
9	$ 800
8	$ 700
7	$ 600
< 7	$ 0

Recommendation:

It is recommended that the Halifax Water Board:

- Approve the Corporate Balanced Scorecard (CBS) results for the 2025/26 fiscal year.

Questions or Comments?

TO: John MacPherson, K.C., Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY:

Signed by:
John Eisnor
51DA47B30B56460...
John Eisnor, MASc., P.Eng., Director, Operations

Signed by:
C70B2696701442F...
Wendy Krkosek, Ph.D., P.Eng., Director, Environment, Health and Safety

Signed by:
Ashley Kendell
7450D624BA6E42A...
Ashley Kendell, CPHR., Director, People & Culture

APPROVED:

Signed by:
Kenda MacKenzie
0C084AC815794F6...
Kenda MacKenzie, P.Eng., CEO & General Manager

DATE: June 19, 2026

SUBJECT: **Operational Performance Information Report**

ORIGIN

Regular update.

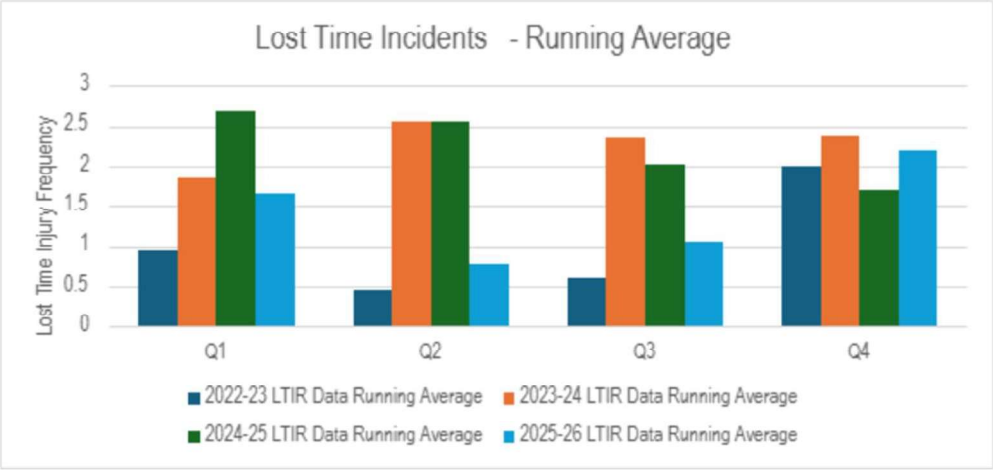
This report provides a high-level overview of operational performance for the utility. The safety statistics results are first, followed by indicators and statistics for water and wastewater.

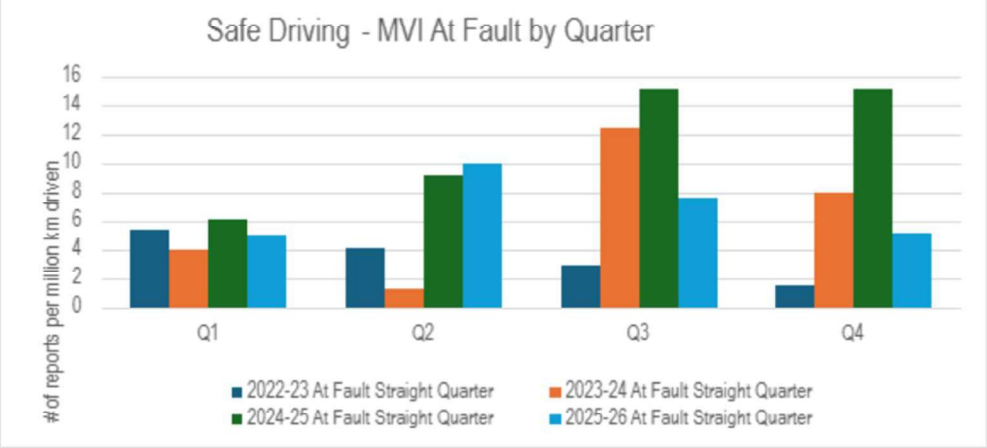
SAFETY STATISTICS – Q4 – January 1, 2026 to March 31, 2026

Organizational Metrics	Q4 Jan 1 - Mar 31	Year End 2025-26	CBS Target 2025-26
Lost Time Incident Reporting (LTIR) – running average (Lost Time Cases x 200,000 / Total Employee Hours Worked) YTD	2.2	2.3	2
Total Recordable Injury Frequency (TRIF) - running average (Lost Time + Medical Aid + Modified Work Cases) x 200,000/Hours Worked	4.4	4.9	3.5
Safe Driving – MVI at fault by quarter (Total number at fault traffic accidents per 1,000,000 km driven)	5.24	7.04	4
Workplace inspections conducted	113	329	Score
Safety Talks conducted (reported at the end of each quarter)	102%	102%	90%
High Potential/Near Miss	18	64	N/A
Employees on accommodation (new/still open)	2/12	12	N/A
Employees on gradual return to work	4	8	N/A
WCB claims (new/still open)	8/5	26	N/A
Work refusals	0	0	N/A
Incidents with written compliance orders	0	1	2
Employees trained or recertified before due date *	119	85%	85%
• Courses Taken	330	1530	N/A

* Percentage Data generated at year end due to variants in system data (ie. multiple certifications required for one employee)

TRENDS FOR SAFETY STATISTICS





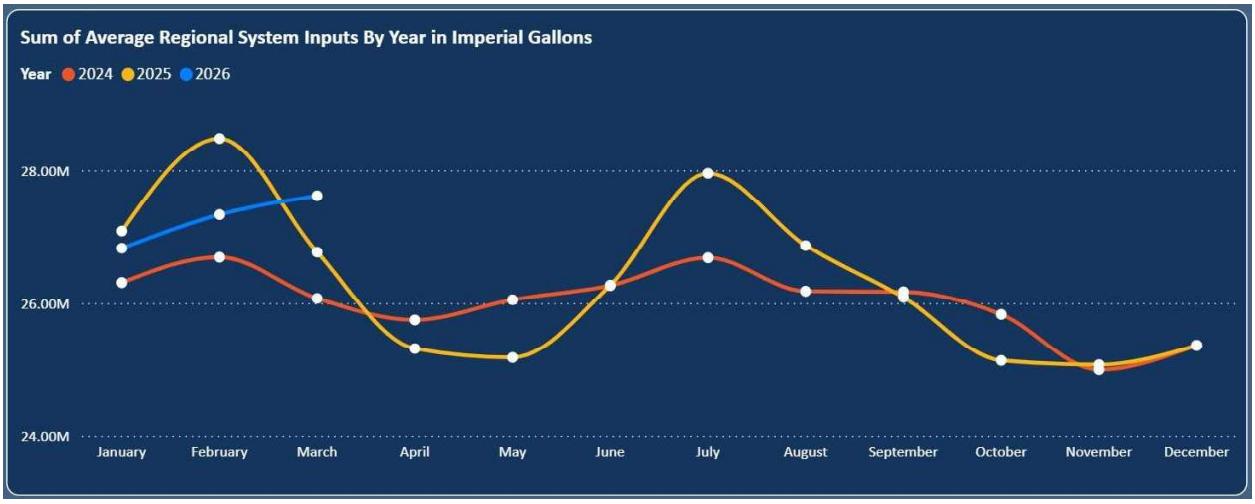
Severity Scale

L = Unlikely to cause serious property damage and personal injury

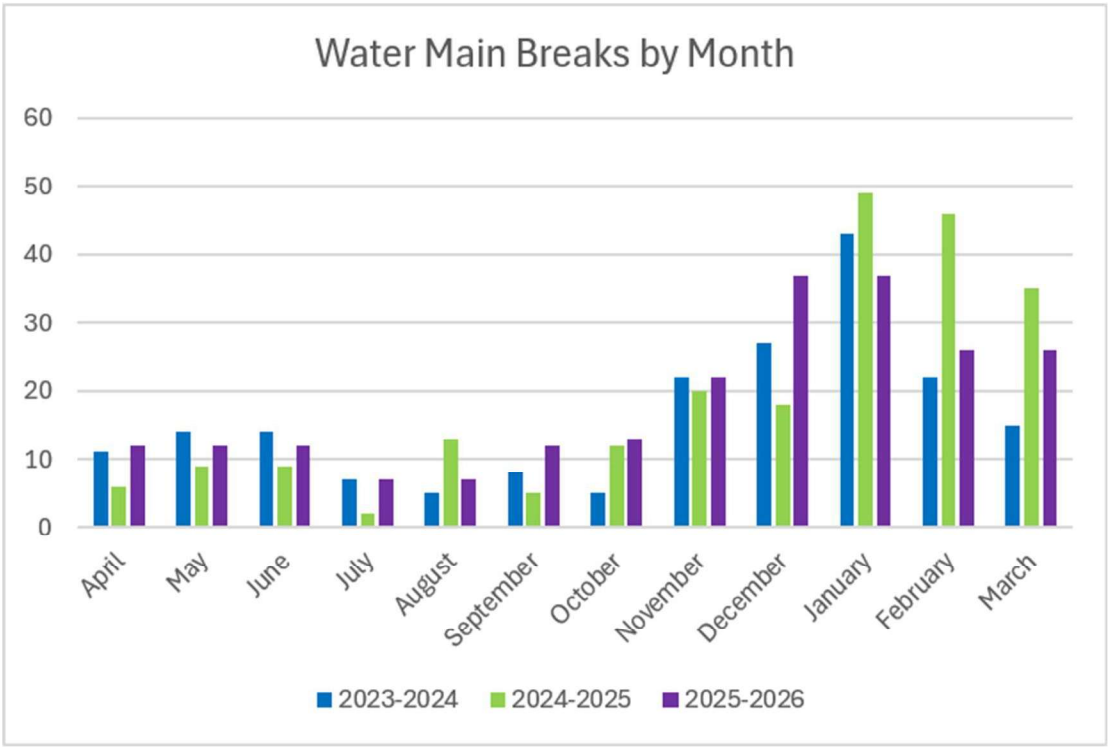
M = May cause serious property damage and personal injury

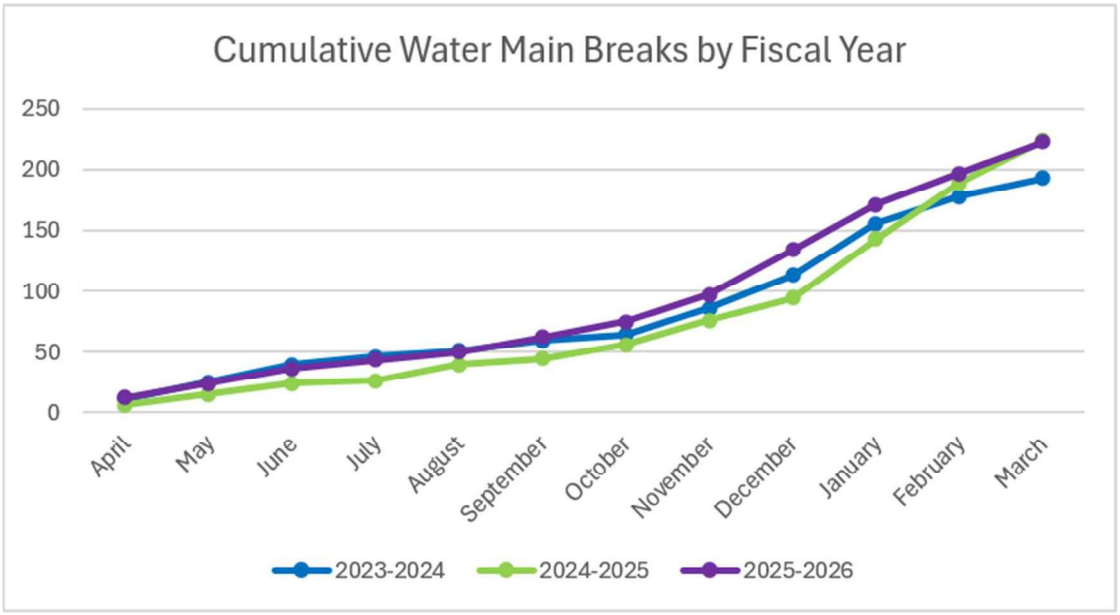
H = Very likely to cause serious extensive property damage and personal injury

AVERAGE DAILY WATER PRODUCTION



Water Accountability
Losses per Service Connection/Day (International Water Association Standard)
Period Ending: March 31, 2026
2025-2026 Fiscal Year: 244 L/service connection/day


Water Main Breaks by Month
60
50
40
30
20
10
0
April
May
June
July
August
September
October
November
December
January
February
March
2023-2024
2024-2025
2025-2026


Cumulative Water Main Breaks by Fiscal Year
250
200
150
100
50
0
April
May
June
July
August
September
October
November
December
January
February
March
2023-2024
2024-2025
2025-2026

COMPLIANCE SUMMARY

Water Safety Plan Objectives 2025-2026 Q4				
Objective	Total Sites	% Sites Achieving Target	All Sites: 90th Percentile < 10 µg/L	CBSC Awarded Points
Disinfection	64	98%	---	18
Total Trihalomethanes	25	100%	---	20
Haloacetic Acids	24	100%	---	20
Particle Removal	5	100%	---	20
Bacteriological	64	97%	---	17
Corrosion Control	107	---	3.57	20
Summary Total	---	---	---	115

Score: 115/120
96%

Number of times primary disinfection in water supply facility criteria not met: 0

Fluoridation was reinstated at JDK WSP on December 12, 2024. Fluoridation remains off at Lake Major WSP.

In this report each facility is assessed using monthly or quarterly averages, depending on the averaging period specified in its Approval to Operate.

Wastewater Treatment Facility Monthly Compliance Summary

Wastewater Treatment Facility	January-26								February-26								March-26							
	$CBOD_5$ (mg/L)		TSS (mg/L)		E. coli (counts/ 100mL)		pH		$CBOD_5$ (mg/L)		TSS (mg/L)		E. coli (counts/ 100mL)		pH		$CBOD_5$ (mg/L)		TSS (mg/L)		E. coli (counts/ 100mL)		pH	
	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.
Halifax	67	32	50	24	5000	0	6-9	6.8	67	43	50	26	5000	0	6-9	6.8	67	30	50	25	5000	0	6-9	6.8
Dartmouth	50	41	40	35	5000	0	6-9	6.8	50	49	40	38	5000	0	6-9	6.8	50	36	40	61	5000	0	6-9	6.8
Herring Cove	50	27	40	24	5000	0	6-9	6.9	50	58	40	51	5000	0	6-9	6.9	50	16	40	15	5000	0	6-9	6.9
Eastern Passage	25	15	25	20	200	0	6-9	7.1	25	10	25	8	200	0	6-9	7.0	25	14	25	23	200	0	6-9	6.9
Mill Cove	25	15	25	21	200	21	6-9	7.0	25	18	25	20	200	25	6-9	7.0	25	17	25	20	200	30	6-9	6.8

*Seasonal Disinfection in effect November 1 through April 30.
E.coli is not measured during Seasonal Disinfection except HCWWTF December 25 to January 2.

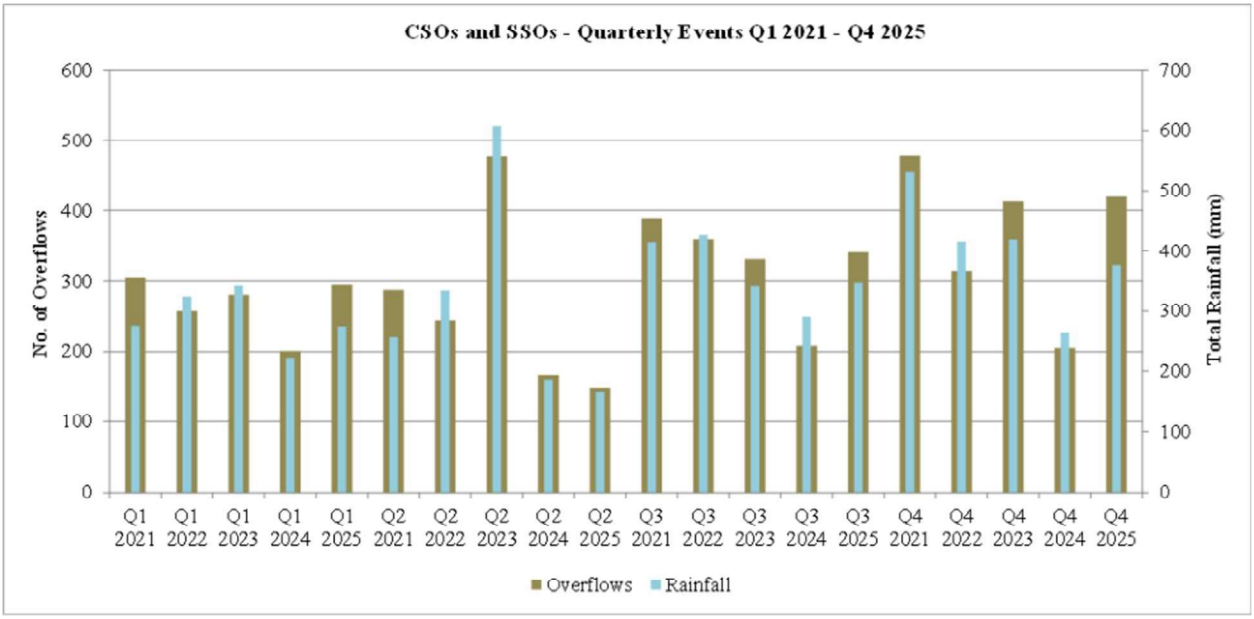
Wastewater Treatment Facility Quarterly Compliance Summary
January, February, March 2026

Wastewater Treatment Facility	$CBOD_5$ (mg/L)		TSS (mg/L)		E. coli (counts/ 100mL)		pH		Ammonia (mg/L)		Phosphorous (mg/L)		TRC (mg/L)		Dissolved Oxygen (mg/L)		Toxicity
	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.	NSECC Limit	Avg.	
Springfield	20	6	20	8	200	13	6-9	6.8	-		-		-		-		-
Frame	20	4	20	1	200	2	6-9	7.1	-		-		-		-		-
Middle Musq.	20	7	20	6	200	193	6-9	7.1	-		-		-		-		-
Uplands	20	19	20	8	200	136	6-9	7.0	-		-		-		-		-
Aerotech	5	3	5	1	200	5	6-9	7.0	5.7 W 1.2 S	0.8	0.13	0.09	-		6.5	7.4	Not acutely lethal
North Preston	Compliance based on annual averages																
Lockview	20	8	20	16	200	159	6.5-9	6.8	8.0 S	4.3	1.2 S	0.6	-		-		-
Steeves (Wellington)	Compliance based on annual averages																
BLT	15	6	20	18	200	52	6-9	7.0	5 W 3 S	7	3 W 1 S	2	0.02 *	0.11	-		-

NOTES & ACRONYMS:
$CBOD_5$ - Carbonaceous 5-Day Biochemical Oxygen Demand
TSS - Total Suspended Solids
* TRC - Total Residual Chlorine - an accredited lab can only measure 0.10 mg/L residual; results of <0.1 mg/L are compliant
BDL - Below Detection Limit
W / S - Winter / Summer compliance limits
NSECC requires monthly averages be less than the NSECC Compliance Limit for each parameter at Dartmouth, E'n Passage, Halifax, Herring Cove, Mill Cove
NSECC requires quarterly averages be less than the NSECC Compliance Limit for each parameter at Aerotech, Lockview, Middle Musquodoboit, Frame, BLT, Uplands and Springfield Lake
NSECC requires annual averages be less than the NSECC Compliance Limit for each parameter at North Preston and Steeves

LEGEND
NSECC Compliant
NSECC Non-Compliant

NON-COMPLIANCE EXPLANATIONS:
Dartmouth WWTF: March: high influent flows causing chemical dosing challenges.
Herring Cove WWTF: high influent flows and conductivity (road salt runoff) causing chemical dosing and solids removal challenges.
BLT WWTF: Difficulty with hypo dosing and insufficient dissolution of dechlor pucks in high flow scenarios. High ammonia due to slow growth of nitrifers in cold conditions. Improvement observed as temperatures rise.



NOTES & ACRONYMS: CSO - Combined Sewer Overflow SSO - Sanitary Sewer Overflow

Rainfall data is from Halifax Water's rain gauge at the Halifax WWTF.

There were 46 overflows in Q4 beginning on days when there was no recorded rainfall, as follows:

1. January 9: The CSO at Lyle St CSO was due to a self-clearing blockage caused by debris. The CSO at Upper Water St CSO was due to precipitation on a previous day.
2. January 19: The SSO at Herring Cove PS was due to a power outage at the Herring Cove WWTF, causing the influent gate at the facility to close.
3. January 25: The CSO at Park Ave PS & CSO was due to a valve blockage caused by debris.
4. February 2: The CSOs at Park Ave PS & CSO were due to a blockage caused by debris.
5. March 2: The SSO at Herring Cove PS was due a pump failure at the station.
6. March 9: The CSOs at Skokomul St PS & CSO, Jamieson St PS & CSO, Lyle St CSO, Old Ferry Rd PS & CSO, Duffus St PS & CSO, Fairview CSO, Upper Water St CSO, and Bayne St CSO were due to precipitation on the previous day and snow melt. The SSOs at Mill Cove WWTF Surge Tank and Herring Cove PS were due to precipitation on the previous day and snow melt.
7. March 10: The CSOs at Skokomul St PS & CSO and Old Ferry Rd PS & CSO were due to rain on a previous day and snow melt. The SSOs at Herring Cove PS were due to rain on a previous day and snow melt.
8. March 11: The CSOs at Skokomul St PS & CSO, Old Ferry Rd PS & CSO, and Chain Rock PS & CSO were due to precipitation on a previous day and snow melt. The CSO at Dartmouth Cove PS was due to a network failure which caused the pumps at the station to go into pump inhibit.
9. March 14: The CSO at Dartmouth Cove PS was caused by network failure/communications losses which caused the pumps at the station to go into pump inhibit.
10. March 15: The CSOs at Dartmouth Cove PS, Park Ave PS & CSO, Lyle St CSO and Jamieson St PS & CSO were caused by network failure/communications losses which caused the pumps at the station to go into pump inhibit and the main gate at the Dartmouth WWTF to close several times. The CSO at Joseph Howe CSO was due to precipitation on the previous day.
11. March 18: The CSOs at Park Ave PS & CSO, Jamieson St PS & CSO, and Old Ferry Rd PS & CSO were due to

precipitation on the previous day. The bypass at North Preston WWTF was due to precipitation on the previous day.

12. March 19: The CSO at Joseph Howe CSO was due to precipitation on a previous day. The CSO at Old Ferry Rd PS & CSO was due to a blockage caused by debris. The bypass at North Preston WWTF was due to precipitation on a previous day.
13. March 20: The bypass at North Preston WWTF was due to precipitation on a previous day.
14. March 24: The CSO at Old Ferry PS & CSO was due to precipitation on the previous day.
15. March 28: The CSO at Joseph Howe CSO was due to precipitation on the previous day.

ITEM # 2-I

Halifax Water Board

June 25, 2026

TO: John MacPherson, K.C., Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: Signed by: A65D6874FBC1467...

Louis de Montbrun, CPA, CA, Director, Corporate Services/CFO

APPROVED: Signed by: Kenda MacKenzie 0C084AC815794F8...

Kenda MacKenzie, P.Eng., General Manager & CEO

DATE: June 25, 2026

SUBJECT: HW Employee's Pension Plan Financial Report Q1 as at March 31, 2026

Information Item

ORIGIN

Financial reporting for the Halifax Regional Water Commission Employees' Pension Plan (the Plan).

BACKGROUND

At the June 19, 2026, meeting of the Halifax Water Audit and Finance Committee (the Committee), the attached report, Item 5.1.4. - HW Employee's Pension Plan Financial Report Q1 as at March 31, 2026, was presented, reviewed, and discussed.

DISCUSSION

No additional information was requested to be brought forward to the Halifax Water Board meeting following the discussion of the attached at the Committee meeting.

The Committee passed a motion to forward the report to the Board as an information report.

ATTACHMENT

1. Item 5.1.4. - HW Employee's Pension Plan Financial Report Q1 as at March 31, 2026

Report Prepared by: Signed by: Heather Britten 7E50B0451C60405...
Heather Britten, Quality Assurance Officer

Financial Reviewed by: Signed by: A65D6874EBC1467...
Louis de Montbrun, CPA, CA
Director, Corporate Services/CFO

ITEM #5.1.4

Halifax Water Audit and Finance Committee

June 19, 2026

TO: Chair and Members of the Halifax Regional Water Commission Audit and Finance Committee

SUBMITTED BY: Signed by:

Louis de Montbrun, CPA, CA, Director, Corporate Services/CFO

APPROVED: Signed by:

Louis de Montbrun, CPA, CA, A/General Manager & CEO

DATE: **June 4, 2026**

SUBJECT: **Halifax Regional Water Commission Employees' Pension Plan Financial Report First Quarter 2026**

ORIGIN

Financial reporting for the Halifax Regional Water Commission Employees' Pension Plan (the "Plan").

RECOMMENDATION

It is recommended that the Audit and Finance Committee accept the financial report for the Halifax Regional Water Commission Employees' Pension Plan for the three-month period ended March 31, 2026, and forward the report to the Halifax Water Board as the Trustee of the Plan as an information report.

BACKGROUND

The Audit and Finance Committee is required to review the financial results of the Plan throughout the year.

DISCUSSION

The attached statement of changes in net assets available for benefits (Appendix A) outlines the annual budget for the Plan and actual financial performance for the three-month period ending March 31, 2026. Un-audited financial results for 2025 and audited financial results for 2024 are shown for comparative purposes.

As shown on the statement of changes in net assets available for benefits, net assets available for benefits have increased by $2.3 million for the three (3) month period ending March 31, 2026.

The pro-rated budget for the period forecasted an increase of $4.2 million. Actual results for the period compared to the pro-rated budget result in an unfavourable variance of $1.9 million.

The annual budget forecasted revenue of $16.3 million. Revenue for the period is $2.8 million which when compared to the pro-rated revenue budget of $4.1 million results in an unfavourable variance of $1.2 million. Revenue figures are directly impacted by the performance of the HRM Master Trust. This unfavourable variance is a result of the increase in the fair value of investment assets tracking lower than the pro-rated budget for the period. Investment income for the period is $1.1 million compared to a pro-rated budget of $1.0 million resulting in a favourable variance of $0.1 million or 14%.

Contributions of $1.4 million are below the pro-rated budget of $2.4 million by $1.0 million. This results in an unfavourable variance of 41% and is due to the employer contribution holiday approved by the Halifax Water Board of an initial $1.9 million which was reached in May 2026.

Expenses of $1.9 million for the period are less than the pro-rated budget of $2.2 million by $0.3 million or 14%. The main contributor to this variance is termination payouts which are lower than the pro-rated budget in the period. Termination payments do vary from quarter to quarter and are difficult to predict.

SERVICE STANDARDS

Tracking of Regulatory Filing Requirements, Administrative Reporting Requirements and Service Standards for actuarial calculation requests is ongoing. The reports for Regulatory Filing Requirements and Administrative Reporting Requirements are attached as Appendix B and Appendix C respectively, and document administrative compliance within the various levels of reporting for the period.

Service Standard results for the First Quarter (January 1 – March 31, 2026) have been attached as Appendix D. The primary purpose of the service standard report is to report on the administrative compliance with the Pension Benefits Act of Nova Scotia (the “Act”) respecting the timing of statements or notifications required under the Act, such as:

- Retirement statement to member;
- Notification of options to retiring member;
- Death benefits statement; and
- Statement on termination.

The secondary purpose of the report is to provide performance reporting respecting the Plan’s actuaries, for required deliverables based on pre-determined standards. These standards are internal in nature and mutually agreed upon by the actuary and Halifax Water.

First Quarter results reported in Appendix D show, out of 11 requests submitted for retirement estimates (with options), all the retirement packages were provided to the members within the prescribed timelines under the Act of 60 days prior to the Member's intended retirement date. There were 3 termination calculations completed during the period, with the terminated employee provided a termination package (with options) within the prescribed timelines under the Act of 60 days after their termination date.

Performance of the actuary, also reported in Appendix D, shows out of 14 requests in total, the actuary met the pre-determined standard in 13 instances, with average response times for retirement and termination calculation estimates of 9 days and 8 days respectively. The response time of the actuaries is continuously monitored to ensure required service standards are maintained. Halifax Water will be informed in advance of potential upcoming delays in response times.

ATTACHMENTS

APPENDIX A – Financial Report:
Statement of changes in net assets available for benefits, for the three (3) month period ended March 31, 2026

APPENDIX B – Regulatory Filing Requirements Q1 2026

APPENDIX C – Administrative Reporting Requirements Q1 2026

APPENDIX D – Service Standards Report Q1 2026

Report Prepared by: Signed by: Heather Britten 7F50B0451C80405...
Heather Britten, Quality Assurance Officer

Financial Reviewed by: Signed by: Alicia Scallion AFA8090B8D3845C...
Alicia Scallion, Manager, Finance

Halifax Regional Water Commission Employees' Pension Plan
Statement of changes in net assets available for benefits
For the three (3) month period ended March 31, 2026
Benchi 25%

		March 31, 2026					
			Prorated	Actual versus Budget		Actual	Actual
	2026		Budget	Change		(Un-audited)	(Audited)
	Budget	**Actual**	25%	$	%	2025	2024
Revenue							
Net investment income:							
Total investment income	**$3,900,000**	$1,110,607	$975,000	$135,607	14%	$5,683,344	$4,736,825
Investment manager fees	**($520,000)**	($148,663)	($130,000)	($18,663)	14%	($595,075)	($537,242)
Increase (decrease) in the fair value of investment assets	**$12,900,000**	$1,877,918	$3,225,000	($1,347,082)	(42%)	$14,280,015	$22,807,009
	$16,280,000	**$2,839,862**	$4,070,000	($1,230,138)	**(30%)**	$19,368,284	$27,006,592
Contributions							
Participants:							
Current service (including Additional Voluntary Contributions)	**$4,713,600**	$1,310,498	$1,178,400	$132,098	11%	$4,431,405	$4,221,091
DC contributions on overtime earnings	**$94,900**	$32,109	$23,725	$8,384	35%	$49,109	$0
Reciprocal Transfers	**$0**	$24,639	$0	$24,639	0%	$182,744	$49,611
Sponsors:							
Current service	**$4,562,100**	$2,835	$1,140,525	($1,137,690)	(100%)	$4,086,565	$4,096,790
DC contributions on overtime earnings	**$94,900**	$32,109	$23,725	$8,384	35%	$49,109	$0
	$9,465,500	**$1,402,190**	**$2,366,375**	**($964,185)**	**(41%)**	$8,798,932	$8,367,492
Expenses							
Benefit payments:							
Benefit payments	**$6,456,000**	$1,584,955	$1,614,000	($29,045)	(2%)	$6,080,163	$5,595,413
Termination payments	**$2,300,000**	$281,411	$575,000	($293,589)	(51%)	$1,939,229	$2,479,967
Death benefit payments (pre-retirement)	**$0**	$0	$0	$0	n/a	$216,973	$0
Administrative:							
Actuarial & consulting fees	**$100,000**	$22,129	$25,000	($2,871)	(11%)	$91,709	$131,549
Audit & accounting fees	**$9,400**	$5,961	$2,350	$3,611	154%	$13,139	$9,243
Bank custodian fees	**$30,800**	$8,949	$7,700	$1,249	16%	$35,385	$31,331
Insurance	**$9,000**	$0	$2,250	($2,250)	(100%)	$9,000	$9,000
Miscellaneous	**$25,300**	$6,986	$6,325	$661	10%	$23,346	$22,510
Professional fees	**$46,200**	$22,451	$11,550	$10,901	94%	$53,849	$38,906
Registration fees	**$3,500**	$0	$875	($875)	(100%)	$3,312	$3,178
Training (Trustees/ Administration/ Pension Committee)	**$5,000**	$0	$1,250	($1,250)	(100%)		$0
	$8,985,200	**$1,932,843**	$2,246,300	($313,457)	**(14%)**	$8,466,105	$8,321,097
Increase in net assets available for benefits	**$16,760,300**	**$2,309,208**	$4,190,075	($1,880,867)	**(45%)**	$19,701,111	$27,052,987
Net assets available for benefits, beginning of period	**$237,962,995**	**$237,962,995**				**$218,261,884**	**$191,208,897**
Increase (decrease) in net assets available for benefits	**$16,760,300**	**$2,309,208**				**$19,701,111**	**$27,052,987**
Net assets available for benefits, end of period	**$254,723,295**	**$240,272,203**				**$237,962,995**	**$218,261,884**

Expenses on this statement are reported on a cash basis.

Halifax Regional Water Commission Employees' Pension Plan
Regulatory Filing Requirements - 2026
as at March 31, 2026

	Report	Regulatory Body	Filing Deadline	Date last filed		Comments
1	Annual Form 3 - Summary of Contributions	Superintendent of Pensions	60 days after the beginning of each fiscal year	February 3, 2026	DB Plan	Filed directly with the Trustee, Northern Trust, for the DB Plan.
				January 30, 2026	DC Plan	Filed directly with the Trustee, Industrial Alliance, for the DC Plan.
2	Pension Plan Income Tax Return (T3)	Canada Revenue Agency	March 31st	March 10, 2026	DB Plan	CRA requires Northern Trust as the custodian to prepare and file T3 Income Tax Returns each year. Information obtained from HRM Pension Plan office.
3	Pension Plan Audited Financial Statements	Superintendent of Pensions	6 months after the Plan's fiscal year end	October 1, 2025	DB Plan	2024 audited financial statements were approved by the Halifax Water Board on June 19, 2025. Financial statements were signed in conjunction with the corporate financial statements in late September. (Superintendent was notified by letter that the financial statements would be later than June 30th due to timing of the Board meeting and subsequent signing of the statements.)
				June 25, 2025	DC Plan	Audited financial statements are not prepared for this pension plan. However, Industrial Alliance provides a Financial Report detailing all pertinent details of the plan. This report is submitted to the regulatory body prior to June 30th each year.
4	Annual Information Returns (AIR)	Superintendent of Pensions	June 30th	June 25, 2025	DB Plan	Annual Information Return is filed each year prior to June 30.
				June 25, 2025	DC Plan	Annual Information Return is filed each year prior to June 30.
5	Actuarial Valuation*	Superintendent of Pensions Canada Revenue Agency	September 30th	January 21, 2026 January 28, 2026		Actuarial Valuation was conducted as of January 1, 2025 and was filed with the Nova Scotia Regulator on August 28, 2025 and Canada Revenue Agency on September 17, 2025. An addendum to the January 1, 2025 Actuarial Valuation was filed with the Nova Scotia Regulator and Canada Revenue Agency on January 21, 2026 and January 28, 2026, respectively. This addendum was necessary as the plan was amended to change the definition of "Best Average Earnings" to the best five consecutive years of service from the previous best seven. Revised funding recommendations were part of the amendment to fund the plan improvement.
6	Plan Amendments	Superintendent of Pensions Canada Revenue Agency	60 days after the amendment approved by the Board	January 21, 2026 January 28, 2026	DB Plan	Amendment #1 was to amend the plan to address the contribution rate change as determined by the Actuarial Valuation of January 1st, 2025. Amendment # 2 was in respect of the DC provision on overtime earnings. Both amendments were approved by the Halifax Water Board at the June 19, 2025 meeting and filed by Eckler with the Nova Scotia Regulator on August 28, 2025 and the Canada Revenue Agency on September 17, 2025. Amendment #3 was to change the definition of "Best Average Earnings" to the best five consecutive years of service from the previous best seven. The contribution rate was increased from 8.72% to 8.96% to fund this plan improvement.
		Superintendent of Pensions Canada Revenue Agency	60 days after the amendment approved by the Board	n/a	DC Plan	All documents relating to the registration of the DC Plan were received by the Superintendent October 6, 2017.

* Actuarial Valuations are required at a minimum every three (3) years.
** Notional Agreements were implemented during 2017 with an effective date for January 1, 2017. Notional Agreements are not registered therefore not subject to reporting requirements to a regulatory body.

Halifax Regional Water Commission Employees' Pension Plan
Administrative Reporting Requirements - 2026
as at March 31, 2026

	Report	Filing Deadline/ Recurrence	Date last filed/ Performed		Comments
1	Pensioners' Payroll	Monthly	June 1, 2026		Pensioners are paid the 1st of each month; no exceptions to report for the First Quarter 2025.
2	Contributions to the Trustee	Monthly	May 26, 2026	DB Plan	Remittances due to Northern Trust within 30 days of month end; no exceptions to report for the First Quarter 2026.
			January 6, 2026	DC Plan	Remittances due to Industrial Alliance within 30 days of month end; there were no contributions for the First Quarter of 2026.
			n/a	Notional Agreement*	Contributions are not made to an external trustee or custodian. Liability plus interest is recorded by Halifax Water annually on the corporate financial statements.
3	Pension Plan Financial Statements	Quarterly	June 25, 2026	DB Plan	First Quarter 2026 (January - March)
			June 25, 2026	DC Plan	Quarterly statements are not prepared for the Defined Contribution (DC) Plan. A financial report is prepared by Industrial Alliance which is filed with the Annual Information Return (AIR) to the regulator. The 2025 report will be provided to the Halifax Water Board on June 25, 2026.
			n/a	Notional Agreement*	Financial statements not required.
4	Investment Performance Review & Compliance with SIP&P	Quarterly	June 25, 2026	DB Plan	First Quarter 2026 (January - March 2026) Report prepared quarterly by administration staff for the Halifax Water Board, in conjunction with the quarterly HRM Pension Plan Committee meeting documentation. The HRM Pension Plan Committee reviews the Statement of Investment Policies & Procedures (SIP&P) annually and was last reviewed and approved on December 17, 2025.
5	Annual Pension Statements to Members	June 30th	June 26, 2025	DB Plan	Statements issued annually by June 30
			June 26, 2025	DC Plan	Statements issued annually in conjunction with the Defined Benefit (DB) Plan statements. Members also have access to online, real-time reporting.
			June 26, 2025	Notional Agreement*	Statements issued annually in conjunction with the DB Plan statements.
6	Fiduciary Liability Insurance	Triennially	October 31, 2024	DB Plan	Reviewed and renewed annually until November 2024 when a three year term was negotiated. The Policy period will now expire In November 2027.

* Notional Agreements were implemented during 2017 with an effective date for January 1, 2017. Notional Agreements are not registered therefore not subject to reporting requirements to a regulatory body.

Halifax Regional Water Commission Employees' Pension Plan
Service Standards Report - 2026

Quarter 1 (as at March 31, 2026)

	Actuary					HW Staff			
Transaction	**Standard**	**Total # Completed**	**# Past Standard**	**% within Standard**	**Average Service Days**	**Total # Completed**	**Average Service Days**	**Total Average Service Days**	**Compliance with PBA**
Retirement Estimates	11 Business Days	11	0	100%	9	11	25	34	Yes
Marriage Breakdown Calculations	15 Business Days								
Post-Retirement Death Letter	15 Business Days								
Pre-Retirement Death Benefit	15 Business Days								
Termination Estimate Calculations									
- Standard	11 Business Days	3	1	67%	8	3	21	29	Yes
- Non Standard (Incl RTAs)	15 Business Days								
	Total for Actuary	**14**	**1**	**93%**	**9**	**14**	**23**	**32**	

ITEM # 3-I

Halifax Water Board

June 25, 2026

TO: John MacPherson, K.C., Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: Signed by:

Louis de Montbrun, CPA, CA, Director, Corporate Services / CFO

APPROVED: Signed by: Kenda MacKenzie

Kenda MacKenzie, P.Eng., General Manager & CEO

DATE: June 25, 2026

SUBJECT: Halifax Regional Municipality Master Trust Investment Performance Fourth Quarter 2025

Information Item

ORIGIN

The Halifax Regional Municipality Master Trust (the "Master Trust") investment performance is reported to the Halifax Regional Water Commission Board as Trustees of the Halifax Regional Water Commission Employees' Pension Plan periodically throughout the year.

BACKGROUND

At the June 19, 2026, meeting of the Halifax Water Audit and Finance Committee (the Committee) the attached report, Item 5.3. - HRM Master Trust Investment Performance Q4 2025, was reviewed, and discussed.

DISCUSSION

No additional information was requested to be brought forward to the Halifax Water Board meeting following the discussion of the attached at the Committee meeting.

The Committee passed a motion to forward the report to the Board as an Information Report.

ATTACHMENT

1. Item 5.3. - HRM Master Trust Investment Performance Q4 2025

Report Prepared by: Signed by: Heather Britten 7F50B0451C60405...

Heather Britten, Quality Assurance Officer

Financial Reviewed by: Signed by: A65D6874EBC1467...

Louis de Montbrun, CPA, CA
Director, Corporate Services/CFO

ITEM #5.3

Halifax Water Audit and Finance Committee
June 19, 2026

TO: Chair and Members of Halifax Regional Water Commission Audit and Finance Committee

SUBMITTED BY: Signed by: A65D6874EBC1467...
Louis de Montbrun, CPA, CA, Director, Corporate Services / CFO

APPROVED: Signed by: A65D6874EBC1467...
Louis de Montbrun, CPA, CA, A/General Manager & CEO

DATE: June 1, 2026

SUBJECT: Halifax Regional Municipality Master Trust Investment Performance Fourth Quarter 2025

ORIGIN

The Halifax Regional Municipality Master Trust (the "Master Trust") investment performance is reported to the Halifax Regional Water Commission Board as Trustees of the Halifax Regional Water Commission Employees' Pension Plan periodically throughout the year.

RECOMMENDATION

It is recommended that the Audit and Finance Committee accept the report and forward it to the Halifax Water Board as an information report.

BACKGROUND

None

DISCUSSION

The table below and the attached Investment Report provide a performance update for the Fourth Quarter of 2025 (October to December) for the Master Trust, of which Halifax Regional Water Commission Employees' Pension Plan (the "Plan") is a part. The fair value of the investment in the Master Trust is determined and updated at year-end, and the Plan's share in the Master Trust at December 31, 2025, was 6.69%, totaling $237.3 million.

The Master Trust earned 0.72% in the Fourth Quarter, which underperformed the Fourth Quarter policy benchmark of 1.77% by 1.05%. The return for the 1-year period ended December 31, 2025, was 8.99%, underperforming the 1-year policy benchmark of 12.78% by 3.79%. Other historical returns are provided in Table 1 below.

Table 1 – Returns

	Current Quarter (Oct - Dec)	1-Year	3 - Year Annualized	4 - Year Annualized	Inception To Date
Fund Return	0.72%	8.99%	10.78%	7.87%	7.48%
Policy Benchmark	1.77%	12.78%	13.73%	8.95%	6.31%
Excess Return	-1.05%	-3.78%	-2.95%	-1.08%	1.17%

The total fund returns are subject to investment management fees and plan expenses.

As at December 31, 2025, the Master Trust was in compliance with the Statement of Investment Policies and Procedures (SIP&P).

ATTACHMENT

Attachment 1 – HRM Master Trust Investment Performance Q4 2025

Attachment 2 – HRM Master Trust Investment Risk & Analytical Services Q4 2025

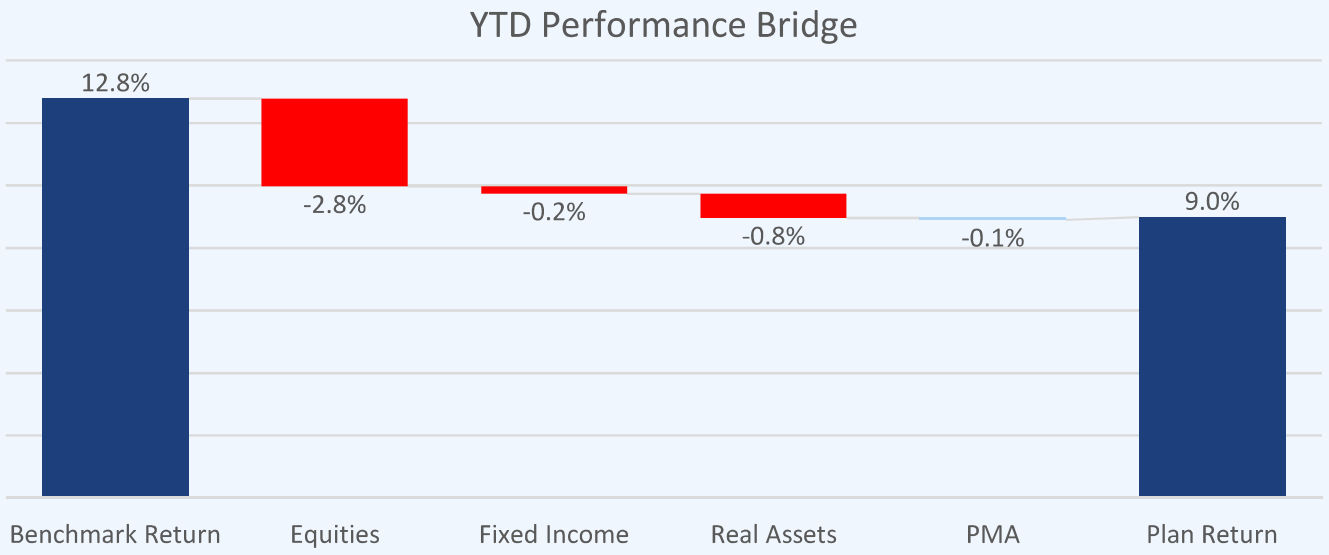
Report Prepared by: Signed by: Heather Britten 7F50B9451C60405...
Heather Britten, Quality Assurance Officer

Financial Reviewed by: Signed by: Alicia Scallion AFA8090B9D3845C...
Alicia Scallion, Manager, Finance

Plan Performance

Total Plan Performance

	Q4	1 Year	4 Year	10 Year
Total Plan	0.7%	9.0%	7.9%	8.1%
Benchmark	1.8%	12.8%	9.0%	7.6%
Value Add	-1.1%	-3.8%	-1.1%	0.5%



Note: Bridge returns for each asset class are the relative asset allocation and relative security selection returns. HRM Operating account, and residual effects are included within fixed income for total performance purposes.
Note: Total Plan Benchmark and breakdown is provided in the Appendix

NORTHERN TRUST

HRM Master Trust

Investment Risk & Analytical Services

December 31, 2025

Table of Contents

SECTION 1

HRM Master Trust

Investment Risk & Analytical Services

December 31, 2025

Market Overview

IMPORTANT INFORMATION

Indexes used: Bloomberg Barclays (BBC) 1-3 Month UST (Cash); BBC Municipal (Muni); BBC Aggregate (Inv. Grade); BBC TIPS (TIPS); BBC High Yield 2% Capped (High Yield); JP Morgan GBI-EM Global Diversified (Em. Markets Fixed Income); MSCI U.S. Equities IMI (U.S. Equities); MSCI World ex-U.S. IMI (Dev. ex-U.S. Equities); MSCI Emerging Market Equities IMI (Em. Markets Equities); S&P Global Natural Resources (Natural Resources); MSCI ACWI IMI Core Real Estate (Global Real Estate); S&P Global Infrastructure (Global Listed Infrastructure).

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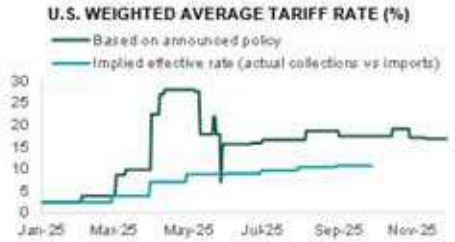
Northern Trust Asset Management is composed of Northern Trust Investments, Inc. Northern Trust Global Investments Limited, Northern Trust Fund Managers (Ireland) Limited, Northern Trust Global Investments Japan, K.K, NT Global Advisors, Inc., 50 South Capital Advisors, LLC, Belvedere Advisors LLC, Northern Trust Asset Management Australia Pty Ltd, and investment personnel of The Northern Trust Company of Hong Kong Limited and The Northern Trust Company.

U.S. Economic Resilience Amid Data Fog

Commencing at the start of the fourth quarter, the U.S. government shutdown lasted through mid-November. The U.S. economy avoided major broader disruption but the six-week shutdown hampered economic data collection. Resumed economic data took longer to materialize than initially expected with some noisy and incomplete data reports for the labor market and inflation. Overall, the broader narrative around the U.S. macroeconomic backdrop remained intact with ongoing resilience amid a gradually cooling labor market.

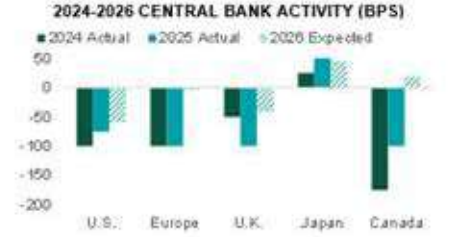
Ebbing Tariff Policy Uncertainty

Policy uncertainty eased overall in 4Q, especially with respect to tariffs. Aggregate economic impacts from tariffs have been less disruptive than initially expected earlier in the year. The level of monthly collected tariffs continues to rise but is noticeably below the level based on announced policies – implying a tariff rate of around 11% (actual collections) versus 17% (announced tariffs). On the other hand, tariff impacts continue to filter through heading into 2026 and a reciprocal tariff-related Supreme Court case remains underway.



Central Bank Easing Continued in 2025

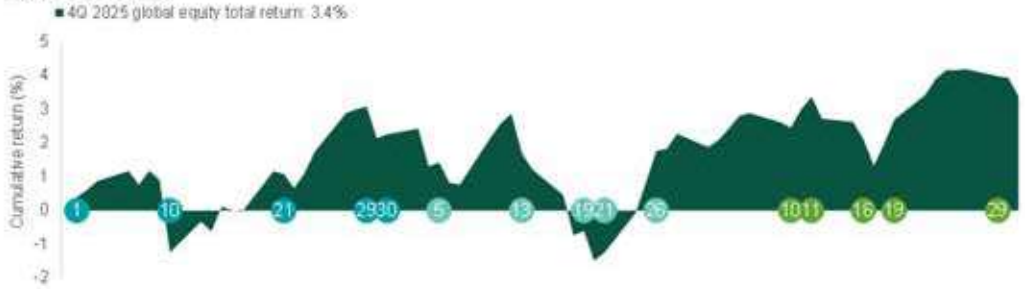
Amid downside labor market risk, the Fed eased twice in 4Q. Diverging views across Fed policymakers have limited the extent of rate cuts expected by investors in 2026 (currently two). Since mid-2024, most major developed market central banks have cut rates by 150-200 basis points or more, meaning some could be close to the end of their easing cycle. The Bank of Japan remains on a separate trajectory with a gradual pace of rate hikes from a highly accommodative starting point, including two in 2025 and two more expected in 2026.



Sorting Through AI Winners & Losers

Artificial intelligence (AI) remained a central market topic throughout 4Q. Initial focus on outsized AI-related investments gave way to investors taking a more critical eye at the sustainability and potential returns of AI-related investment plans. This led to wider variation in performance across both the largest tech-related companies and the broader AI complex. Most of the largest tech companies continue to have strong overall balance sheets and profitability, but investor scrutiny is likely to continue around cash flows and debt financing.

MARKET EVENTS



OCTOBER	NOVEMBER	DECEMBER
1 U.S. government shutdown begins.	5 Oral arguments begin in the Supreme Court IEEPA (International Emergency Economic Powers Act) tariff case.	10 The Fed cuts rates by 25 basis points with three dissents and the updated dot plot shows one rate cut in 2026.
10 U.S.-China trade tensions escalate with threats around rare earth exports (China) and higher tariffs (U.S.); S&P 500 declines about 3%.	12 The U.S. government reopens after President Trump and Congress reach agreement on short-term funding bill.	11 Oracle (ORCL) declines more than 10% following concerns around AI-related spending plans in its earnings release.
21 Sanae Takaichi becomes Japan's first female Prime Minister, with plans for targeted fiscal spending following support from new coalition partner.	19 Nvidia (NVDA) earnings top expectations overall; but stock price ends 3% lower on the day following the release.	16 Combined November and October jobs report reflects continued gradual cooling in the labor market; the unemployment rate moves up to 4.6%.
29 The Fed cuts rates by 25 basis points for the second consecutive meeting with two dissents (one for a larger cut, one for a hold).	21 Comments from New York Fed President Williams lead to increased market expectations for a December Fed rate cut.	19 The Bank of Japan raises rates to 0.75%, marking its second rate hike of 2025.
30 A one-year U.S.-China trade truce is announced including a pause on China rare earth export restrictions and reduced U.S. tariffs on China.	26 In a glitchy release, the U.K. Autumn Budget includes tax hikes and increased fiscal headroom; Gilt yields end lower on the day.	29 Metals prices see large one-day drop following a stretch of strong gains. Gold and silver both end up finishing 2025 with 50%-plus gains.

Indexes used: Bloomberg (BBG) 1-3 Month UST (Cash); BBG Municipal (Muni); BBG Aggregate (Inv. Grade); BBG TIPS (TIPS); BBG High Yield 2% Capped (High Yield); JP Morgan GBI-EM Global Diversified (Em. Markets Fixed Income); MSCI U.S. Equities IMI (U.S. Equities); MSCI World ex-U.S. IMI (Dev. ex-U.S. Equities); MSCI Emerging Market Equities IMI (Em. Markets Equities); S&P Global Natural Resources (Natural Resources); MSCI ACWI IMI Core Real Estate (Global Real Estate); S&P Global Infrastructure (Global Listed Infrastructure)

PROVIDED BY NORTHERN TRUST ASSET MANAGEMENT - FOURTH QUARTER 2025

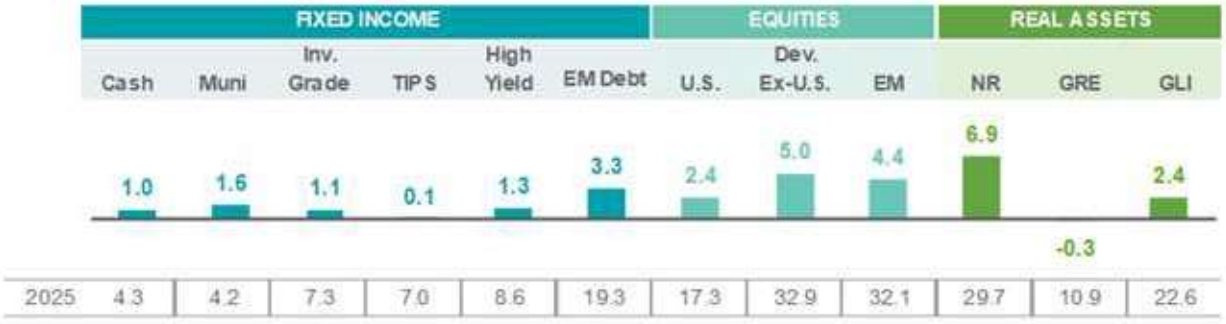
HIDDEN CURRENTS, STEADY TIDES

Resilience through the fog. For most of the final quarter of 2025, the macroeconomic landscape was shaped as much by what investors couldn't see as by what they could. The U.S. government shutdown—lasting a record 43 days—created a significant information vacuum just as markets sought clarity on growth, inflation, and policy trajectories. Despite the data fog, the global macro backdrop proved "good enough" for risk assets. Global growth held firm, inflation stayed sticky but avoided more disruptive outcomes, and most central banks leaned more accommodative than hawkish. In the U.S., elevated downside labor market risk kept Fed easing in play, leading to rate cuts even as the economy expanded. However, policymaker dissents emerged as the Fed Funds rate approached the Federal Open Market Committee's neutral estimate. International markets—particularly Japan and parts of Europe—offered broadly supportive signals, though political uncertainty occasionally weighed on European sentiment. Overall, the global tariff environment proved less disruptive than earlier fears. U.S. monthly tariff collections rose but remained well below levels implied by announced policies, while statutory rates edged lower as deals and exemptions took hold. Still, investors monitored persistent trade-related risks alongside other potential headwinds, including slower AI investment, labor market softening, bond market volatility tied to inflation or fiscal stress, and ongoing risk of geopolitical shocks.

Markets end 2025 on a good note. Financial markets capped a strong 2025 with 4Q gains across both equities and fixed income. Many fixed income segments gained around 1%. The Treasury yield curve steepened as short-end rates dropped following multiple Fed rate cuts in the quarter. Credit spreads were mostly unchanged in both investment grade and high yield, ending near their lowest levels in 2025. Global equities added a little more than 3% as non-U.S. regions outperformed the U.S. in U.S. dollar terms (despite slight U.S. dollar strengthening). U.S. equity returns were positive (roughly 2.5%) in a fairly wide-ranging manner – leaving the equal-weighted S&P 500 up just under 1.5%. Across sectors, healthcare led with a 12% gain, while consumer staples (flat) and utilities and real estate (low-single-digit losses) lagged. A strong 3Q2025 corporate earnings season helped bolster the earnings outlook heading into 2026. Both megacap tech and broader AI-adjacent equities were all over the map in 4Q, generally positive on average but with notable winners and losers. Initial broad investor enthusiasm over AI-related investment news gave way to more scrutiny on the potential returns of such investments. Overall, the Mag 7 contributed around 42% of the 18% 2025 gain for the S&P 500; less than the roughly 55-60% contributions in 2023 and 2024. International equities gained around 5% in 4Q, with both non-U.S. developed and emerging markets returns topping 30% in U.S. dollar terms for 2025. Real assets performance was modestly positive, led by a 7% gain for natural resources. Surging metals prices helped support the natural resources complex: gold, silver and copper prices were all up double-digits in the quarter.

FOURTH QUARTER 2025 TOTAL RETURNS (%)

Global equities gained several percent during the quarter, capping off the third year in a row of +15% returns.



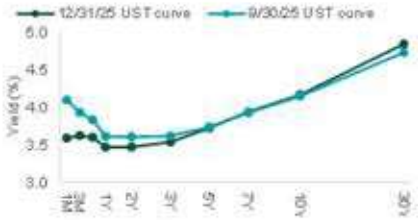
	Cash	Muni	Inv. Grade	TIPS	High Yield	EM Debt	U.S.	Dev. Ex-U.S.	EM	NR	GRE	GLI
2025	4.3	4.2	7.3	7.0	8.6	19.3	17.3	32.9	32.1	29.7	10.9	22.6

Source: Northern Trust Asset Management, Bloomberg. NR: Natural Resources; GRE: Global Real Estate; GLI: Global Listed Infrastructure. Indexes are gross of fees. Past performance is not indicative or a guarantee of future results. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index.

Interest Rates

The Fed continued easing, delivering 25-basis-point cuts at each of its two meetings. However, an increase in hawkish dissents and adjustments to the policy statement signaled a higher threshold for future reductions. Even so, ongoing easing contributed to further steepening of the Treasury curve, as front-end yields through five years moved lower. The 2-year yield ended the quarter at 3.47%, down 14 basis points (bps). In contrast, longer-term rates remained more resilient, with the 10-year yield up 2 bps to 4.17%.

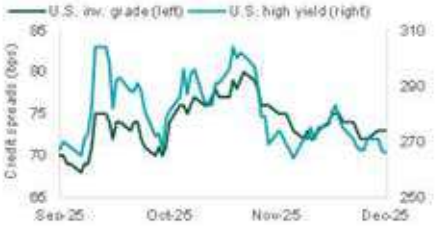
U.S. TREASURY YIELD CURVE



Credit Markets

Investment grade (IG) credit spreads widened by 3 bps to 0.73%, while high-yield (HY) spreads tightened by 1 bp to 2.66%. In terms of return, IG fixed income gained 1.1%, with high yield slightly outperforming at 1.3%. Periods of short-lived weakness followed by a strong recovery mirrored the pattern seen throughout most of the year. As a result, credit spreads enter 2026 below where they began 2025 across many quality buckets. Fundamentals continue to look healthy, but AI-related capex is helping to accelerate corporate debt issuance.

CREDIT SPREADS



Equities

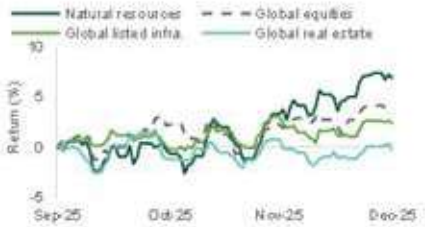
Global equities closed out a strong year with a 3.4% return in the quarter. Valuations edged lower, meaning that earnings growth remained the primary driver of equity gains. Non-U.S. equities outpaced the U.S., led by Europe and Latin America. In the U.S., more value-oriented stocks outperformed large-cap growth, reversing earlier year-to-date trends. Tech stocks finished the quarter higher but came under more scrutiny as investors increasingly differentiated between the likely winners and losers in the evolving AI complex.

REGIONAL EQUITY INDICES

Real Assets

There was notable dispersion among real asset indices. Natural Resources delivered a strong 6.9% gain, while Global Real Estate slipped 0.3%. Global Listed Infrastructure landed in between, returning 2.4%, which was modestly below global equities. Strength in Natural Resources was driven largely by metals, as has been the case throughout the year: gold rose another 12%, and silver surged more than 50%. Global Real Estate remained out of favor, weighed down by weakness in the office and data-center property sectors.

REAL ASSET INDICES



Investment Hierarchy

Account/Group	Ending Market Value CAD	Ending Weight	% Rate of Return								
			One Month	Three Months	Year to Date	One Year	Three Years	Four Years	Ten Years	Inception to Date	Inception Date
HRM Master Trust	**3,542,127,930**	**100.00**	**-0.36**	**0.72**	**8.99**	**8.99**	**10.78**	**7.87**	**8.13**	**7.48**	**09/30/1999**
HRM Policy Benchmark			*-0.07*	*1.77*	*12.78*	*12.78*	*13.73*	*8.95*	*7.58*	*6.31*	*09/30/1999*
Excess Return			*-0.29*	*-1.05*	*-3.78*	*-3.78*	*-2.95*	*-1.08*	*0.55*	*1.17*	*09/30/1999*
HRM Total Equity	**1,753,294,695**	**49.50**	**-0.16**	**1.48**	**13.91**	**13.91**	**16.27**	**9.00**	**9.51**	**9.51**	**12/31/2015**
HRM Total Equity Benchmark			*-0.21*	*2.41*	*19.37*	*19.37*	*20.60*	*11.70*	*11.25*	*11.25*	*12/31/2015*
Excess Return			*0.05*	*-0.93*	*-5.46*	*-5.46*	*-4.33*	*-2.70*	*-1.73*	*-1.73*	*12/31/2015*
HRM Cdn Equity	**141,781,767**	**4.00**	**1.33**	**2.83**	**24.71**	**24.71**	**19.12**	**12.38**	**8.88**	**6.66**	**03/31/2006**
S&P/TSX Composite			*1.32*	*6.25*	*31.68*	*31.68*	*21.42*	*13.94*	*12.66*	*8.13*	*03/31/2006*
Excess Return			*0.00*	*-3.42*	*-6.97*	*-6.97*	*-2.30*	*-1.56*	*-3.78*	*-1.47*	*03/31/2006*
Blackrock	**58,207,437**	**1.64**	**1.32**	**6.24**	**31.72**	**31.72**	**21.62**	**14.17**	**12.78**	**10.02**	**12/31/2003**
S&P/TSX Composite			*1.32*	*6.25*	*31.68*	*31.68*	*21.42*	*13.94*	*12.66*	*9.38*	*12/31/2003*
Excess Return			*-0.01*	*-0.01*	*0.04*	*0.04*	*0.20*	*0.23*	*0.12*	*0.65*	*12/31/2003*
EdgePoint	**83,574,331**	**2.36**	**1.33**	**0.59**	**19.04**	**19.04**	**-**	**-**	**-**	**18.98**	**03/14/2024**
S&P/TSX Composite			*1.32*	*6.25*	*31.68*	*31.68*	*-*	*-*	*-*	*26.56*	*03/14/2024*
Excess Return			*0.01*	*-5.66*	*-12.65*	*-12.65*	*-*	*-*	*-*	*-7.57*	*03/14/2024*
P2P Holdings	**0**	**0.00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**02/03/2017**
S&P/TSX Composite			*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*02/03/2017*
Excess Return			*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*02/03/2017*
HRM Global Equity	**1,049,834,948**	**29.64**	**-0.17**	**1.69**	**16.84**	**16.84**	**20.49**	**-**	**-**	**20.49**	**12/31/2022**
HRM Custom Global Equity Index			*-0.50*	*1.86*	*16.90*	*16.90*	*20.23*	*-*	*-*	*20.23*	*12/31/2022*
Excess Return			*0.33*	*-0.17*	*-0.06*	*-0.06*	*0.27*	*-*	*-*	*0.27*	*12/31/2022*
AB EDHEC	**163,614,746**	**4.62**	**-0.36**	**1.45**	**14.95**	**14.95**	**17.97**	**10.56**	**10.32**	**10.32**	**12/31/2015**
MSCI World ND			*-0.88*	*1.59*	*15.41*	*15.41*	*21.64*	*12.12*	*12.02*	*12.02*	*12/31/2015*
Excess Return			*0.52*	*-0.14*	*-0.46*	*-0.46*	*-3.67*	*-1.55*	*-1.70*	*-1.70*	*12/31/2015*
Blackrock Global Alpha Advanta	**201,398,015**	**5.69**	**0.90**	**3.86**	**24.59**	**24.59**	**27.99**	**17.26**	**-**	**17.84**	**05/25/2021**
MSCI ACWI ND			*-0.65*	*1.76*	*16.60*	*16.60*	*21.12*	*11.69*	*-*	*12.95*	*05/25/2021*
Excess Return			*1.55*	*2.10*	*7.99*	*7.99*	*6.87*	*5.57*	*-*	*4.89*	*05/25/2021*
Blackrock MSCI Small Cap	**0**	**0.00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**05/19/2021**
MS Wld Small Cap Net Index			*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*05/19/2021*
Excess Return			*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*05/19/2021*
Blackrock MSCI World Passive	**189,153,358**	**5.34**	**-0.89**	**1.62**	**15.84**	**15.84**	**22.05**	**12.53**	**-**	**14.83**	**05/12/2021**
MSCI World ND			*-0.88*	*1.59*	*15.41*	*15.41*	*21.64*	*12.12*	*-*	*14.42*	*05/12/2021*
Excess Return			*-0.01*	*0.04*	*0.42*	*0.42*	*0.42*	*0.41*	*-*	*0.40*	*05/12/2021*

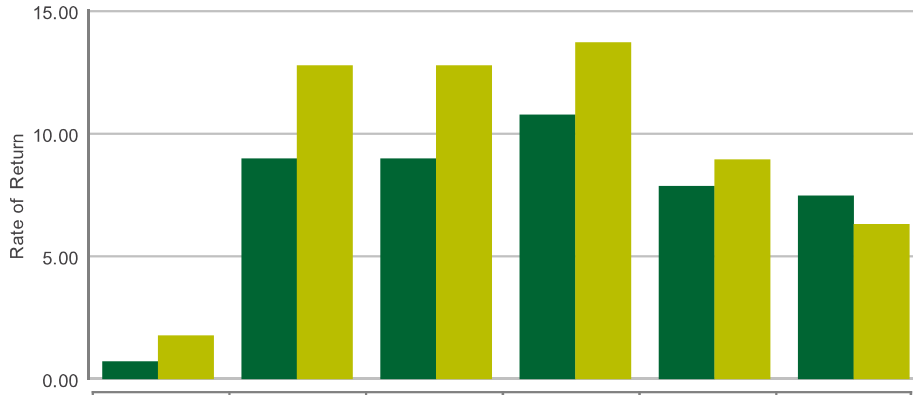
Account/Group	Ending Market Value CAD	Ending Weight	% Rate of Return One Month	Three Months	Year to Date	One Year	Three Years	Four Years	Ten Years	Inception to Date	Inception Date
CC&L - GLOBAL SMALL CAP	**59,891,140**	**1.69**	**0.12**	**2.40**	**-**	**-**	**-**	**-**	**-**	**18.58**	**03/20/2025**
MSCI ACWI Sm Cap Net			*-0.77*	*1.14*	*-*	*-*	*-*	*-*	*-*	*16.04*	*03/20/2025*
Excess Return			*0.89*	*1.26*	*-*	*-*	*-*	*-*	*-*	*2.54*	*03/20/2025*
Global Alpha	**69,141,864**	**1.95**	**-0.94**	**3.38**	**10.85**	**10.85**	**13.04**	**-**	**-**	**8.60**	**03/09/2022**
MS Wld Small Cap Net Index			*-0.76*	*1.30*	*14.26*	*14.26*	*14.94*	*-*	*-*	*10.37*	*03/09/2022*
Excess Return			*-0.18*	*2.07*	*-3.41*	*-3.41*	*-1.90*	*-*	*-*	*-1.77*	*03/09/2022*
Marathon International Equity	**100,505,582**	**2.84**	**1.37**	**1.24**	**23.09**	**23.09**	**17.12**	**10.43**	**-**	**9.65**	**05/28/2021**
MSCI EAFE ND			*1.28*	*3.30*	*25.07*	*25.07*	*17.68*	*10.58*	*-*	*10.40*	*05/28/2021*
Excess Return			*0.09*	*-2.06*	*-1.97*	*-1.97*	*-0.56*	*-0.15*	*-*	*-0.75*	*05/28/2021*
Mawer International Equity	**107,199,590**	**3.03**	**0.39**	**-1.24**	**20.17**	**20.17**	**16.79**	**7.71**	**-**	**8.44**	**02/28/2021**
MSCI ACWI ex USA ND			*1.28*	*3.49*	*26.18*	*26.18*	*17.79*	*10.16*	*-*	*9.49*	*02/28/2021*
Excess Return			*-0.89*	*-4.73*	*-6.01*	*-6.01*	*-0.99*	*-2.45*	*-*	*-1.05*	*02/28/2021*
Wellington US Equity	**158,930,653**	**4.49**	**-1.58**	**0.65**	**9.43**	**9.43**	**22.42**	**13.22**	**15.60**	**14.87**	**04/30/2011**
HRM US Equity			*-1.61*	*1.13*	*12.35*	*12.35*	*23.48*	*13.20*	*14.96*	*13.87*	*04/30/2011*
Excess Return			*0.03*	*-0.48*	*-2.92*	*-2.92*	*-1.06*	*0.01*	*0.63*	*1.00*	*04/30/2011*
HRM Emerging Markets	**154,934,081**	**4.37**	**0.93**	**0.89**	**26.01**	**26.01**	**14.97**	**8.21**	**6.60**	**6.53**	**09/30/2010**
MSCI Emerging Markets ND			*1.27*	*3.18*	*27.30*	*27.30*	*16.85*	*8.14*	*8.27*	*6.24*	*09/30/2010*
Excess Return			*-0.34*	*-2.28*	*-1.30*	*-1.30*	*-1.88*	*0.07*	*-1.67*	*0.29*	*09/30/2010*
Acadian - Emerging Markets	**28,170,838**	**0.80**	**1.87**	**3.67**	**-**	**-**	**-**	**-**	**-**	**17.17**	**06/30/2025**
MSCI Emerging Markets ND			*1.27*	*3.18*	*-*	*-*	*-*	*-*	*-*	*16.41*	*06/30/2025*
Excess Return			*0.60*	*0.49*	*-*	*-*	*-*	*-*	*-*	*0.77*	*06/30/2025*
CC&L Emerging Markets	**78,332,029**	**2.21**	**2.22**	**3.78**	**30.59**	**30.59**	**-**	**-**	**-**	**-**	**12/31/2022**
MSCI Emerging Markets ND			*1.27*	*3.18*	*27.30*	*27.30*	*16.85*	*-*	*-*	*16.85*	*12/31/2022*
Excess Return			*0.95*	*0.60*	*3.29*	*3.29*	*-*	*-*	*-*	*-*	*12/31/2022*
Trinetra Emerg Mrkts Grwth Fnd	**48,431,214**	**1.37**	**-1.60**	**-4.20**	**18.76**	**18.76**	**8.18**	**4.70**	**-**	**4.08**	**08/31/2017**
MSCI Emerging Markets ND			*1.27*	*3.18*	*27.30*	*27.30*	*16.85*	*8.14*	*-*	*6.72*	*08/31/2017*
Excess Return			*-2.87*	*-7.38*	*-8.55*	*-8.55*	*-8.67*	*-3.44*	*-*	*-2.64*	*08/31/2017*
HRM Private Equity	**406,743,898**	**11.48**	**-1.05**	**0.71**	**0.74**	**0.74**	**5.50**	**8.77**	**14.68**	**17.85**	**09/30/2011**
HRM PE Benchmark			*-0.71*	*2.09*	*17.70*	*17.70*	*24.03*	*19.39*	*11.37*	*9.90*	*09/30/2011*
Excess Return			*-0.34*	*-1.37*	*-16.96*	*-16.96*	*-18.53*	*-10.61*	*3.31*	*7.95*	*09/30/2011*
Private Equity	**406,743,898**	**11.48**	**-1.05**	**0.71**	**0.74**	**0.74**	**5.50**	**8.77**	**14.68**	**17.85**	**09/30/2011**
HRM Total Fixed Income	**714,815,360**	**20.18**	**-0.41**	**0.50**	**3.75**	**3.75**	**5.16**	**2.66**	**3.34**	**3.34**	**12/31/2015**
HRM FI Benchmark			*-0.39*	*0.27*	*3.70*	*3.70*	*5.65*	*2.51*	*2.29*	*2.29*	*12/31/2015*
Excess Return			*-0.03*	*0.23*	*0.05*	*0.05*	*-0.49*	*0.15*	*1.05*	*1.05*	*12/31/2015*

Account/Group	Ending Market Value CAD	Ending Weight	% Rate of Return One Month	Three Months	Year to Date	One Year	Three Years	Four Years	Ten Years	Inception to Date	Inception Date
Cash and Cash Equivalents	**35,086,645**	**0.99**	**0.17**	**0.58**	**1.68**	**1.68**	**3.89**	**3.21**	**2.79**	**4.25**	**03/31/2009**
HRM Canadian 91 Day T-Bill			*0.19*	*0.63*	*2.84*	*2.84*	*4.39*	-	-	-	*03/31/2009*
Excess Return			*-0.02*	*-0.04*	*-1.16*	*-1.16*	*-0.50*	-	-	-	*03/31/2009*
Lincluden CDOR	**35,086,645**	**0.99**	**0.17**	**0.58**	**1.68**	**1.68**	**3.89**	**3.68**	**2.24**	**2.07**	**12/31/2013**
Canadian 91 Day T-Bill (CAD)			*0.19*	*0.63*	*2.84*	*2.84*	*4.15*	*3.56*	*1.93*	*1.73*	*12/31/2013*
Excess Return			*-0.02*	*-0.04*	*-1.16*	*-1.16*	*-0.26*	*0.12*	*0.31*	*0.33*	*12/31/2013*
Global Credit	**79,301,136**	**2.24**	**0.16**	**0.80**	**4.93**	**4.93**	**5.76**	**-**	**-**	**3.98**	**03/31/2022**
Global Credit Custom Benchmark			*0.12*	*0.72*	*4.62*	*4.62*	*5.29*	-	-	*3.45*	*03/31/2022*
Excess Return			*0.04*	*0.07*	*0.31*	*0.31*	*0.47*	-	-	*0.53*	*03/31/2022*
AB Global Credit	**79,301,136**	**2.24**	**0.16**	**0.80**	**4.93**	**4.93**	**5.76**	**2.89**	**3.29**	**4.94**	**03/31/2009**
Global Credit Custom Benchmark			*0.12*	*0.72*	*4.62*	*4.62*	*5.29*	-	-	-	*03/31/2009*
Excess Return			*0.04*	*0.07*	*0.31*	*0.31*	*0.47*	-	-	-	*03/31/2009*
North American Credit	**235,764,506**	**6.66**	**-0.70**	**-0.17**	**4.85**	**4.85**	**7.50**	**4.88**	**6.22**	**6.22**	**12/31/2015**
HRM Custom Corporate Benchmark			*-0.22*	*0.47*	*5.00*	*5.00*	*6.54*	*2.17*	*3.20*	*3.20*	*12/31/2015*
Excess Return			*-0.48*	*-0.64*	*-0.15*	*-0.15*	*0.97*	*2.71*	*3.02*	*3.02*	*12/31/2015*
Canso	**104,634,942**	**2.95**	**-0.28**	**-0.23**	**5.37**	**5.37**	**8.60**	**4.89**	**7.41**	**8.00**	**02/28/2010**
FTSE TMX Corporate Bond IDX			*-0.59*	*0.34*	*4.48*	*4.48*	*6.60*	*2.22*	*3.21*	*3.93*	*02/28/2010*
Excess Return			*0.30*	*-0.57*	*0.89*	*0.89*	*2.01*	*2.67*	*4.20*	*4.07*	*02/28/2010*
HRM Corporate Debt	**131,129,564**	**3.70**	**-1.02**	**-0.12**	**4.44**	**4.44**	**6.59**	**5.01**	**4.41**	**6.23**	**01/31/2014**
FTSE TMX Short Corp BD IDX			*-0.08*	*0.58*	*4.80*	*4.80*	*6.24*	*3.47*	*2.92*	*2.89*	*01/31/2014*
Excess Return			*-0.94*	*-0.70*	*-0.36*	*-0.36*	*0.35*	*1.54*	*1.49*	*3.34*	*01/31/2014*
Government Bonds	**231,605,443**	**6.54**	**-1.47**	**-0.83**	**1.60**	**1.60**	**3.57**	**-0.18**	**1.68**	**1.68**	**12/31/2015**
FTSE TMX Government Univers			*-1.50*	*-0.54*	*2.05*	*2.05*	*3.81*	*-0.49*	*1.43*	*1.43*	*12/31/2015*
Excess Return			*0.03*	*-0.30*	*-0.45*	*-0.45*	*-0.24*	*0.30*	*0.25*	*0.25*	*12/31/2015*
Lincluden Gov't	**133,168,422**	**3.76**	**-1.52**	**-0.54**	**1.88**	**1.88**	**3.70**	**-0.24**	**1.67**	**2.37**	**08/31/2013**
FTSE TMX Government Univers			*-1.50*	*-0.54*	*2.05*	*2.05*	*3.81*	*-0.49*	*1.43*	*2.26*	*08/31/2013*
Excess Return			*-0.02*	*0.00*	*-0.17*	*-0.17*	*-0.11*	*0.25*	*0.24*	*0.11*	*08/31/2013*
Wellington Bond Overlay	**98,437,021**	**2.78**	**-1.40**	**-1.23**	**1.22**	**1.22**	**3.22**	**-0.14**	**1.62**	**2.30**	**08/31/2012**
FTSE TMX Government Univers			*-1.50*	*-0.54*	*2.05*	*2.05*	*3.81*	*-0.49*	*1.43*	*1.93*	*08/31/2012*
Excess Return			*0.10*	*-0.70*	*-0.83*	*-0.83*	*-0.59*	*0.35*	*0.20*	*0.37*	*08/31/2012*
Private Debt	**133,057,630**	**3.76**	**1.55**	**4.05**	**5.45**	**5.45**	**3.59**	**5.14**	**6.99**	**1.14**	**12/31/2011**
HRM PD Benchmark			*0.45*	*0.75*	*4.21*	*4.21*	*9.15*	*8.48*	*7.18*	*6.99*	*12/31/2011*
Excess Return			*1.10*	*3.30*	*1.24*	*1.24*	*-5.56*	*-3.33*	*-0.19*	*-5.85*	*12/31/2011*
Private Debt	**133,057,630**	**3.76**	**1.55**	**4.05**	**5.45**	**5.45**	**3.59**	**5.14**	**6.99**	**1.14**	**12/31/2011**

Account/Group	Ending Market Value CAD	Ending Weight	% Rate of Return One Month	Three Months	Year to Date	One Year	Three Years	Four Years	Ten Years	Inception to Date	Inception Date
HRM Real Assets	**923,659,378**	**26.08**	**-0.35**	**0.02**	**5.71**	**5.71**	**7.45**	**8.90**	**-**	**10.20**	**08/31/2020**
HRM Real Asset BM			*0.63*	*1.92*	*7.86*	*7.86*	*8.34*	*-*	*-*	*-*	*08/31/2020*
Excess Return			*-0.98*	*-1.90*	*-2.15*	*-2.15*	*-0.89*	*-*	*-*	*-*	*08/31/2020*
Infrastructure	**413,763,770**	**11.68**	**-0.34**	**-0.44**	**7.32**	**7.32**	**12.70**	**12.94**	**9.05**	**17.29**	**06/30/2011**
HRM Infrastructure Index			*0.63*	*1.92*	*7.86*	*7.86*	*8.35*	*9.16*	*8.03*	*7.48*	*06/30/2011*
Excess Return			*-0.97*	*-2.37*	*-0.54*	*-0.54*	*4.35*	*3.78*	*1.02*	*9.81*	*06/30/2011*
Infrastructure	**413,763,770**	**11.68**	**-0.34**	**-0.44**	**7.32**	**7.32**	**12.70**	**12.94**	**9.05**	**17.29**	**06/30/2011**
Real Estate	**509,895,608**	**14.40**	**-0.36**	**0.40**	**4.31**	**4.31**	**3.37**	**5.70**	**10.23**	**10.33**	**09/30/2011**
HRM Real Estate Index			*0.63*	*1.92*	*7.86*	*7.86*	*8.35*	*9.16*	*8.03*	*7.47*	*09/30/2011*
Excess Return			*-0.99*	*-1.52*	*-3.55*	*-3.55*	*-4.98*	*-3.45*	*2.20*	*2.85*	*09/30/2011*
Real Estate	**509,895,608**	**14.40**	**-0.36**	**0.40**	**4.31**	**4.31**	**3.37**	**5.70**	**10.23**	**10.33**	**09/30/2011**
Public Market Alternatives	**134,597,281**	**3.80**	**1.90**	**3.41**	**10.50**	**10.50**	**9.04**	**-**	**-**	**7.80**	**02/28/2022**
Canadian 91 Day T-Bill +3%			*0.44*	*1.37*	*5.92*	*5.92*	*7.51*	*-*	*-*	*7.29*	*02/28/2022*
Excess Return			*1.46*	*2.04*	*4.59*	*4.59*	*1.53*	*-*	*-*	*0.51*	*02/28/2022*
Public Market Alternatives	**134,597,281**	**3.80**	**1.90**	**3.41**	**10.50**	**10.50**	**9.04**	**-**	**-**	**7.80**	**02/28/2022**
Canadian 91 Day T-Bill +3%			*0.44*	*1.37*	*5.92*	*5.92*	*7.51*	*-*	*-*	*7.29*	*02/28/2022*
Excess Return			*1.46*	*2.04*	*4.59*	*4.59*	*1.53*	*-*	*-*	*0.51*	*02/28/2022*
HRM Operating	**15,761,217**	**0.44**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**12/31/2015**
Operating Account	**15,761,217**	**0.44**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**03/31/2004**

Executive Summary

HRM MASTER TRUST TOTAL FUND NET OF FEES



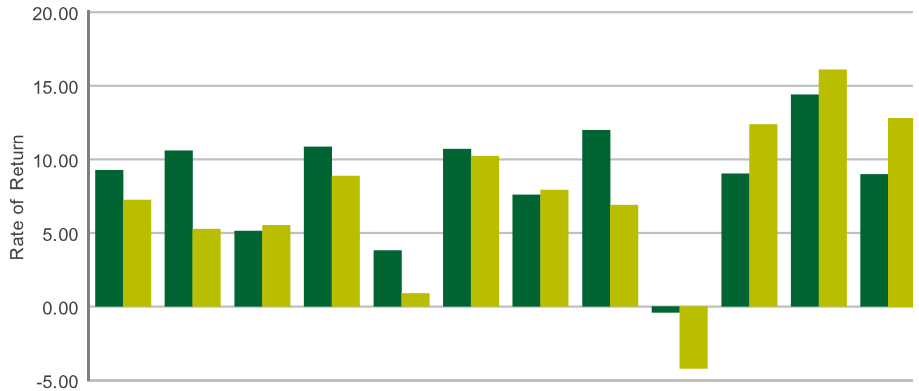
	Three Months	Year to Date	One Year	Three Years	Four Years	ITD
Fund	0.72	8.99	8.99	10.78	7.87	7.48
Index	1.77	12.78	12.78	13.73	8.95	6.31

Index: HRM Policy Benchmark

RISK STATISTICS	3 Mos	1 Yr	4 Yrs
Return	0.72	8.99	7.87
Index Return	1.77	12.78	8.95
Excess Return	-1.05	-3.78	-1.08
Standard Deviation	-	3.88	4.46
Index Standard Deviation	-	5.20	6.08
Tracking Error	-	2.13	2.42
Information Ratio	-	-1.78	-0.45
Sharpe Ratio	-	1.40	1.02
Index Sharpe Ratio	-	1.77	0.93
Jensen's Alpha	-	-0.86	0.66
Relative Volatility (Beta)	-	0.70	0.68
R Squared	-	0.87	0.87
Beginning MV (in 000s)	3,513,297	3,257,857	2,659,555
Net Contributions (in 000s)	3,622	-7,308	-43,816
Income (in 000s)	29,311	82,531	260,706
Appreciation (in 000s)	-4,102	209,049	665,683
Ending MV (in 000s)	3,542,128	3,542,128	3,542,128

Index: HRM Policy Benchmark. Risk Free Index: JP Morgan 3 month Cash (CAD)
Category: Total Fund Net of Fees. Calculation Frequency: Monthly

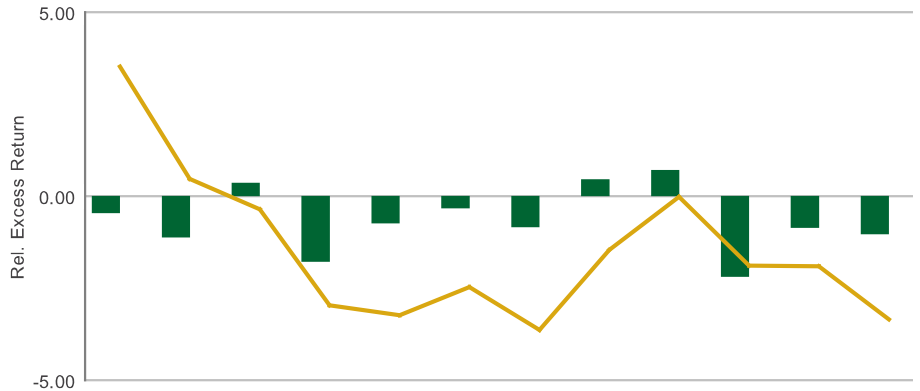
HRM MASTER TRUST ROLLING YEARS TOTAL FUND NET OF FEES



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Fund	9.27	10.59	5.13	10.85	3.81	10.69	7.59	11.98	-0.41	9.03	14.39	8.99
Index	7.24	5.27	5.53	8.88	0.89	10.21	7.92	6.89	-4.22	12.37	16.08	12.78

Index: HRM Policy Benchmark

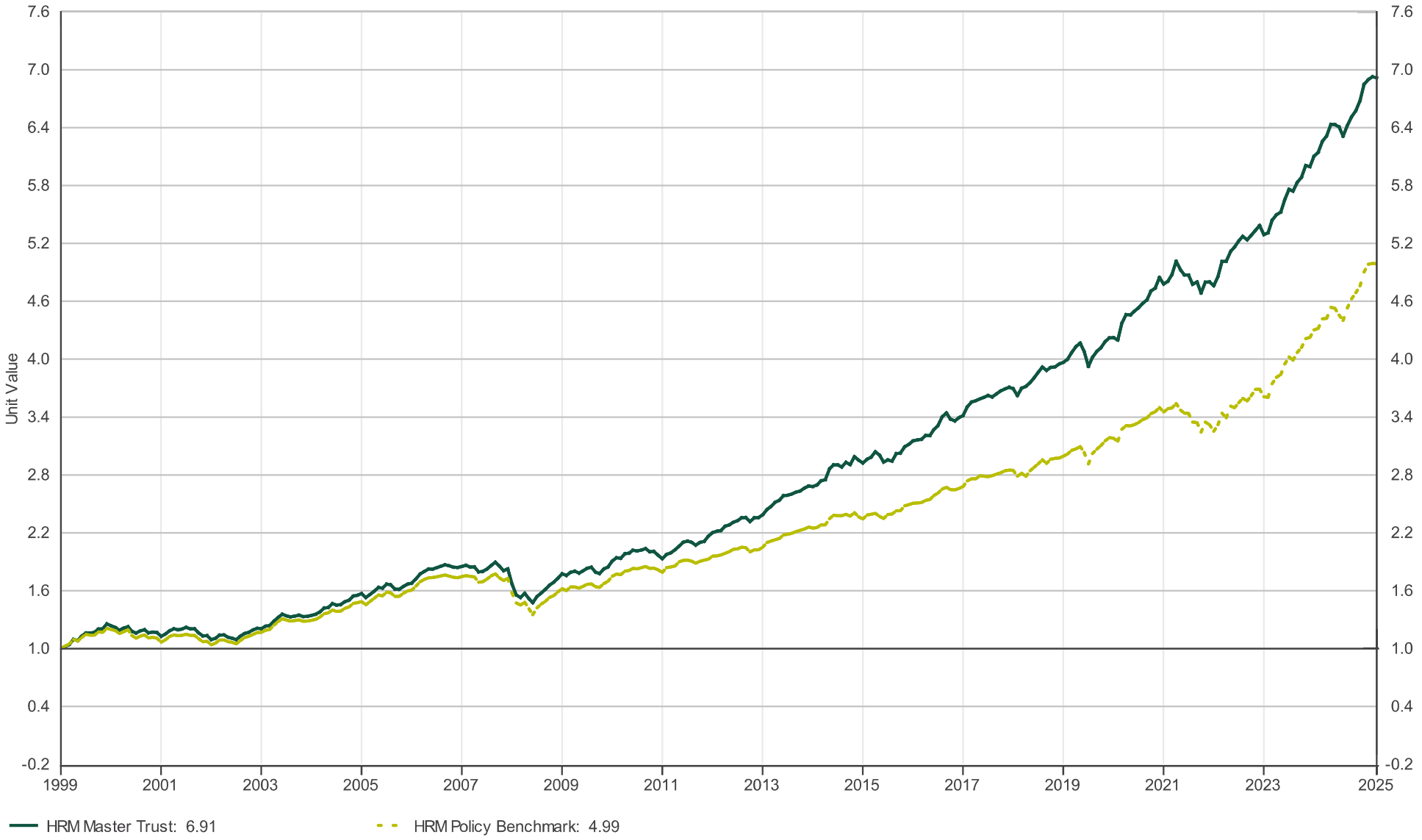
HRM MASTER TRUST ROLLING QUARTERS TOTAL FUND NET OF FEES



	Q1 '23	Q2 '23	Q3 '23	Q4 '23	Q1 '24	Q2 '24	Q3 '24	Q4 '24	Q1 '25	Q2 '25	Q3 '25	Q4 '25
3M R.Excess	-0.46	-1.12	0.36	-1.78	-0.74	-0.33	-0.84	0.45	0.71	-2.19	-0.86	-1.03
1Y R.Excess	3.52	0.47	-0.36	-2.97	-3.24	-2.47	-3.64	-1.46	-0.02	-1.89	-1.91	-3.35

Index: HRM Policy Benchmark

Growth Over Time - Inception to Date



Risk Statistics

	One Year	Three Years	Four Years	Seven Years	Ten Years	ITD
Return	8.99	10.78	7.87	8.81	8.13	7.48
Index Return	12.78	13.73	8.95	8.68	7.58	6.31
Excess Return	-3.78	-2.95	-1.08	0.12	0.55	1.17
Relative Excess Return	-3.35	-2.60	-0.99	0.11	0.51	1.10
Internal Rate of Return	8.99	10.78	7.85	8.80	8.11	-
Index Internal Rate of Return	12.81	13.77	8.94	8.69	7.73	-
Risk-free Return	3.56	4.42	3.31	2.44	2.10	2.54
Standard Deviation	3.88	3.58	4.46	4.58	4.45	5.86
Index Standard Deviation	5.20	5.04	6.08	5.55	5.00	6.01
Tracking Error	2.13	2.29	2.42	2.26	2.24	1.87
Relative Tracking Error	2.12	2.26	2.40	2.24	2.23	1.86
Information Ratio	-1.78	-1.29	-0.45	0.05	0.24	0.62
Relative Information Ratio	-1.58	-1.15	-0.41	0.05	0.23	0.59
Sharpe Ratio	1.40	1.78	1.02	1.39	1.35	0.84
Index Sharpe Ratio	1.77	1.85	0.93	1.12	1.10	0.63
M Squared	10.85	13.36	9.51	10.16	8.86	7.61
Sortino Ratio	2.50	3.22	1.78	2.35	2.31	1.22
Index Sortino Ratio	3.58	3.93	1.70	1.96	1.90	0.89
Treynor Ratio	7.80	9.77	6.66	8.34	7.52	5.30
Jensen's Alpha	-0.86	0.33	0.66	1.52	1.56	1.36
Relative Volatility (Beta)	0.70	0.65	0.68	0.76	0.80	0.93
R Squared	0.87	0.84	0.87	0.84	0.79	0.90
Up Market Capture Ratio	71.13	71.03	71.69	85.36	92.76	117.22
Down Market Capture Ratio	76.90	55.56	60.13	71.20	77.03	95.19

Index: **HRM Policy Benchmark** • Risk Free Index: **JP Morgan 3 month Cash (CAD)**• Category : **Total Fund Net of Fees.** Calculation Frequency: **Monthly**

SECTION 2

Appendix

Investment Risk & Analytical Services

December 31, 2025

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ITEM # 4-I

Halifax Water Board

June 25, 2026

TO: John MacPherson, K.C., Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: Signed by: A65D6874EBC1467...

Louis de Montbrun, CPA, CA, Director, Corporate Services / CFO

APPROVED: Signed by: Kenda MacKenzie 0C884A0815784F8...

Kenda MacKenzie, P.Eng., General Manager & CEO

DATE: June 25, 2026

SUBJECT: Halifax Water Supplemental Pension Plan Report Dec 31, 2025

Information Item

ORIGIN

Financial information reporting.

BACKGROUND

At the June 19, 2026, meeting of the Halifax Water Audit and Finance Committee (the Committee), the attached report, Item 5.2. - Halifax Water Supplemental Pension Plan Report Dec 31, 2025, was presented, reviewed, and discussed.

DISCUSSION

No additional information was requested to be brought forward to the Halifax Water Board meeting following the discussion of the attached at the Committee meeting.

The Committee approved a motion to forward the report to the Board as an Information Report.

ATTACHMENT

1. Item 5.2. - Halifax Water Supplemental Pension Plan Report Dec 31, 2025

Report Prepared by: Signed by: Heather Britten 7F50B0451C60405...

Heather Britten, Quality Assurance Officer

Financial Reviewed by: Signed by: A65D6874EBC1467...

Louis de Montbrun, CPA, CA

Director, Corporate Services/CFO

ITEM #5.2

Halifax Water Audit and Finance Committee

June 19, 2026

TO: Chair and Members of the Halifax Regional Water Commission Audit and Finance Committee

SUBMITTED BY: Signed by: A65D6874EBC1467...

Louis de Montbrun, CPA, CA, Director, Corporate Services / CFO

APPROVED: Signed by: A65D6874EBC1467...

Louis de Montbrun, CPA, CA, A/General Manager & CEO

DATE: June 1, 2026

SUBJECT: **Halifax Water Supplemental Pension Plan Reports**

ORIGIN

On April 28, 2016, the Halifax Water Board (the "Board") approved the creation of a Supplementary Pension Benefit Framework (Item #2Cb) for non-union staff members, to become effective January 1, 2017.

BACKGROUND

The Halifax Regional Water Commission Employees' Pension Plan (the "DB Plan") is a registered, defined benefit plan providing pension benefits on pensionable earnings previously capped at $140,945, which represented the 2015 Canada Revenue Agency (CRA) maximum annual pensionable earnings. These earnings were capped throughout 2023 and increased by 1% each year starting in 2024. For 2025, the annual pensionable earnings cap was $143,778.

Pursuant to the framework approved by the Board as noted above, the Halifax Water Employees' Defined Contribution Plan (the "DC Plan") and a Notional Retirement Compensation Arrangement (the "NRCA") were established, effective January 1, 2017.

1 **DC Plan:**
A registered, defined contribution plan providing pension benefits on members' pensionable earnings between the DB Plan cap and CRA maximum, annual pensionable earnings threshold. Members contribute at a rate of 9% of pensionable earnings, which is matched by Halifax Water.

2 NRCA:
A non-registered agreement with individual members which provides pension benefits on members' earnings over the CRA maximum, annual pensionable earnings threshold. The NRCA is a non-contributory arrangement between Halifax Water and individual members. Halifax Water contributes 9% of a member's eligible earnings annually, holding these funds in trust for members until their retirement, termination or death. Interest applied to members' accounts is based on the annual CANSIM rate.

DISCUSSION

The Financial Report from Industrial Alliance (see Appendix A attached) reports the revenues and disbursements for the DC Plan during the January 1, 2025 to December 31, 2025 period. The balance at the beginning of the period was $85.1 thousand. Revenues for the period consisted of new deposits of $45.3 thousand, and investment revenues of $12.6 thousand. Disbursements totaled $1.1 thousand, leaving a balance at the end of the period of $141.9 thousand.

As of December 31, 2025, the liability with respect to NRCA member accounts was $24.3 thousand, with contributions of $8.9 thousand in 2025, and interest applied totaling $0.4 thousand. For further details on the NRCA, see Appendix B attached.

ATTACHMENTS

APPENDIX A- Industrial Alliance Financial Group, Financial Report for the Halifax Water Employees' Defined Contribution Plan – January 1, 2025, to December 31, 2025.

APPENDIX B- Notional Retirement Compensation Arrangement Dashboard at December 31, 2025.

Report Prepared by: Signed by: Heather Britten 7F50B0451C80405...
Heather Britten, Quality Assurance Officer

Financial Reviewed by: Signed by: Alicia Scallion AFA8696B0B3845C...
Alicia Scallion, Manager, Finance

	Book value	Market value
Balance at the beginning of the period	**$ 85,060.74**	**$ 85,060.74**
Revenues		
New deposits	$ 45,350.72	$ 45,350.72
Investment revenues	$ 12,554.88	$ 12,554.88
Total revenues	**$ 57,905.60**	**$ 57,905.60**
Disbursements		
Deaths, withdrawals, other	$ 0.00	$ 0.00
Fees	$ 939.94	$ 939.94
Taxes	$ 133.78	$ 133.78
Total disbursements	**$ 1,073.72**	**$ 1,073.72**
Balance at the end of the period	**$ 141,892.62**	**$ 141,892.62**

Halifax Water
Notional Retirement Compensation Arrangement

Annual Summary					
Year	Opening Balance	Contributions	Interest Earned	Withdrawals	Closing Balance
2017	$0.00	$10,070.37	$7.79		$10,078.16
2018	$10,078.16	$10,149.62	$121.76		$20,349.53
2019	$20,349.53	$11,878.05	$310.44		$32,538.03
2020	$32,538.03	$15,508.59	$338.48		$48,385.10
2021	$48,385.10	$12,222.11	$338.30	($9,447.68)	$51,497.83
2022	$51,497.83	$13,147.89	$1,361.06		$66,006.77
2023	$66,006.77	$7,207.02	$718.74	($50,469.97)	$23,462.57
2024	$23,462.57	$6,381.26	$628.17	($15,546.03)	$14,925.96
2025	$14,925.97	$8,916.13	$434.38	$0.00	$24,276.48

ITEM #5-I
Halifax Water Board
June 25, 2026

Halifax Water Compliance Statement
Quarterly Certification

For the period of January 1, 2026 to March 31, 2026

We hereby certify that the Halifax Regional Water Commission is current in making all statutory remittances for payroll taxes, Harmonized Sales Tax and other remittances as required under the laws of the Government of Canada and its Provinces (the significant remittances are noted in the appendix) and that all significant legal claims have been disclosed.

Signed by:
Kenda MacKenzie
0C084AC815794F6...

Kenda MacKenzie, P.Eng.
General Manager & CEO

Signed by:
A65D6874EBC1467...

Louis de Montbrun, CPA, CA
Director, Corporate Services/CFO

Dated:

Jun-24-2026 | 4:43 PM ADT

Halifax Water Compliance Statement
Quarterly Certification
Appendix I

Significant statutory remittances for payroll taxes, Harmonized Sales Tax and other remittances as required under the laws of the Government of Canada and its Provinces for the Halifax Regional Water Commission.

Statutory Payroll Remittances

- **Canada Revenue Agency (CRA) -** Statutory employee payroll deductions and employer related contributions for:
  - Income Tax
  - Canada Pension Plan (CPP)
  - Employment Insurance (EI)

- **Workers' Compensation Board of Nova Scotia (WCB)** – Employer remittance based on employee payroll

Other Payroll Remittances

- **Northern Trust -** Employee payroll deductions and employer contributions to Halifax Water and HRM defined benefit pension plans

- **Industrial Alliance** – employer and employee contributions to defined contribution pension plan

- **Medavie Blue Cross & SSQ** – employee payroll deductions and employer related contributions for Health & dental, LTD, and Life benefit coverage, and payroll deductions for AD&D

- **Canadian Union of Public Employees** – Employee payroll deductions of union dues
  - CUPE Local 227
  - CUPE Local 1431

HST and Other Remittances

- **Canada Revenue Agency (CRA) -** Harmonized Sales Tax (HST) is filed online and a refund issued as HST paid is greater than HST collected

- **Workers' Compensation Board of Nova Scotia (WCB)** – Remittance for sub-contractors

Quarterly Remittance Certification

Appendix II

Period: **Jan-Mar** **2026**

Vendor	Vendor #	Items Remitted	Total remitted	Exceptions
Statutory Payroll Remittances				
CRA	174	Tax, CPP, EI, WCB	$6,948,822.78	
Other Payroll				
Northern Trust	1215	HW Pension Plan	$ 1,402,189.98	
Northern Trust	1216	HRM Pension Plan	$ 236,833.65	
Manulife Financial	1171	Bedford Pension Plan	$ 2,462.18	
Industrial Alliance	2971	DCPP	$ 570.00	
Medavie Blue Cross	340, 3101	Health, Dental, Life, LTD	$ 1,104,492.54	
SSQ Insurance	429	AD&D	$ 7,687.28	
CUPE	160	Union Dues 1431	$ 62,931.02	
CUPE	3517	Union Dues 227	$ 83,133.98	

Other payroll items remitted in accordance with stated requirements:

United Way, Credit Union, Garnishments (WCB, CRA, Family Court, Sherriff's Office), Water for People, Salvation Army, Racially Visible Caucus

HST and Other				
CRA	N/A	HST (refunds)	$ (4,414,325.48)	
Receiver General	210	WCB subcontractors	$ 237.72	

Exceptions, errors and/or late remittances

ITEM # 6-I

Halifax Water Board

June 25, 2026

TO: John MacPherson, K.C., Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: Signed by: A65D6874EDC1487...

Louis de Montbrun, CPA, CA, Director, Corporate Services/CFO

APPROVED: Signed by: Kenda MacKenzie 0C084AC815794F6...

Kenda MacKenzie, P.Eng., General Manager & CEO

DATE: June 25, 2026

SUBJECT: Cost Containment Report

Information Item

ORIGIN

Financial reporting for the Halifax Regional Water Commission Cost Containment Report.

BACKGROUND

At the June 19, 2026, meeting of the Halifax Water Audit and Finance Committee (the Committee), the attached report, Item 4.7 - Cost Containment Report, was presented, reviewed, and discussed.

DISCUSSION

This report outlines the cost containment initiatives impacting operations for the 2025/26 fiscal year, reflecting both new initiatives introduced during the year and ongoing initiatives carried forward from previous fiscal years.

At the Audit and Finance Committee it was noted that there were additional cost containment initiatives to be added. The initiatives related to process improvements and chemical savings at JD Kline with a total of $460,000 per year in savings.

The inclusion of initiatives and amounts from prior years reflects an intentional focus on sustainable results over the long-term. Estimated cost savings for 2025/26 are approximately $7.4 million as outlined in the updated Figure #1 below:

Figure #1

General Budget Strategies	$	-	0.0%
Facilities/Process Strategies	$	2,723,375	36.7%
Human Resource Strategies	$	3,365,501	45.3%
Information Technology Strategies	$	1,084,025	14.6%
Procurement Strategies	$	149,627	2.0%
Technology and Business Process Changes	$	12,000	0.2%
Reduce Paper and Printing Costs	$	89,946	1.2%
	$	7,424,474	100.0%

The Committee passed a motion to forward an amended report to the Board for their information.

ATTACHMENT

1. Item 4.7 - Cost Containment Report

Report Prepared by: Signed by: Fabio Alonso 0926008315C7474...
Fabio Alonso, MBA Manager, Finance

Financial Reviewed by: Signed by: A63D6874EBC1467...
Louis de Montbrun, CPA, CA
Director, Corporate Services/CFO

TO: Chair and Members of the Halifax Water Audit and Finance Committee

SUBMITTED BY: Signed by: A65D6874EBC1467...
Louis de Montbrun, CPA, CA
Director, Corporate Services/CFO

APPROVED: Signed by: A65D6874EBC1467...
Louis de Montbrun
A/General Manager and CEO

DATE: June 19, 2026

SUBJECT: **2025/26 Cost Containment Initiatives**

ORIGIN

- The Cost Containment Process as approved by the Halifax Water Board on October 3, 2013.
- April 14, 2015, Nova Scotia Utility and Review Board (NSUARB) Decision - Halifax Regional Water Commission General Rate Application (M06540).

RECOMMENDATION

It is recommended the Audit and Finance Committee forward the Cost Containment report for the year ended March 31, 2026, to the Halifax Regional Water Commission Board as an information report.

BACKGROUND

The process for cost containment as approved by the Halifax Water Board on October 3, 2013, called for the implementation of a number of recommended actions that would assist Halifax Water in addressing the NSUARB's request for a more rigorous approach to cost containment. 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 Halifax Water 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.

DISCUSSION

A Summary Report - Cost Containment Initiatives for 2025/26 is attached, with updated information as of March 31, 2026. This report shows the cost containment initiatives affecting operations for 2025/26 due to new initiatives implemented during the year and ongoing initiatives from previous fiscal years. The inclusion of initiatives and amounts from prior years reflects an intentional focus on sustainable results over the long term. Estimated cost savings for 2025/26 are approximately $7.0 million as outlined by categories in Figure #1 below:

Figure #1

General Budget Strategies	$	-	0.0%
Facilities/Process Strategies	$	2,263,375	32.5%
Human Resource Strategies	$	3,365,501	48.3%
Information Technology Strategies	$	1,084,025	15.6%
Procurement Strategies	$	149,627	2.1%
Technology and Business Process Changes	$	12,000	0.2%
Reduce Paper and Printing Costs	$	89,946	1.3%
	$	6,964,474	100.0%

As shown above, cost containment initiatives are concentrated mostly in the areas of Human Resources, Facilities/Process Strategies, and Information and Technology. Within Human Resource Strategies, the effects of pension plan re-design initiated in 2015/16 are one of the main contributors to cost containment savings along with the HRWC Employees Pension Plan employer contribution holiday in the current year, contributing to $1.3M

Facilities/Process Strategies include a range of initiatives, however one of the main contributors in this category is Halifax Water's Energy Efficiency Program, which incorporate measures such as solar panel-powered generation, peak demand reduction, and biogas production. Projects under this Program account for approximately $1.7 million in projected savings for the current year, representing 24.0% of total company savings in 2025/26.

New cost containment initiatives introduced in 2025/26 fiscal year generated approximately $2.5 million and are highlighted for ease of reference in the Summary Report - Cost Containment Initiatives attached. Cost savings from these initiatives are of a one-time ($1.7 million) or on-going

nature ($0.8 million) and fall within the Human Resources, Facilities/Process and Information and Technology category.

BUDGET IMPLICATIONS

Available information on cost containment initiatives was taken into consideration in developing the 2026/27 budget. Initiatives that impact future fiscal periods will be incorporated into budget cycles and processes of these future periods as those implementing the cost containment measures will ensure they are captured when completing their budgets.

ATTACHMENTS

Cost Containment Initiatives 2025-26

Report Prepared by: Signed by: Fabio Alonso 0026008315C7474...

Fabio Alonso, MBA
Manager, Finance, (902) 399-4668

Halifax Water
Summary Report - Cost Containment Initiatives
2025/2026
Fiscal Year

#	Initiative	Comments	Year Initiated	2025/26 Cost Savings
1	**General Budget Strategies**			
	Sub-total			$0
2	**Procurement Strategies**			
	Customer account collections	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	Savings as a result of contract tendering.	2013/14	$60,000
	NSPI rate reclassification	Eastern Passage Wastewater Treatment Facility (WWTF).	2014/15	$16,000
	NSPI rate reclassification	Duffus Street Pumping Station.	2015/16	$15,000
	Equipment calibration	Internal staff are now able to calibrate fixed gas detectors instead of outsourcing this to a MSA Safety Inc. technician service provider.	2019/20	$3,000
	In-house training	Developed in-house method to purge primary sludge discharge line from primary gallery to the sludge holding tank. As a result, an external contractor is no longer required to perform this work. This is on a 3-year cycle.	2019/20	$4,500
	Elimination of a customer satisfaction survey	HW performed two customer surveys annually. Upon review it was determined there was a redundancy in questions asked between the two surveys therefore, it was decided to consolidate the questioning into one.	2020/21	$5,319
	Reduction in depreciation costs related to discounted meter purchase	As the AMI metering project was concluding, an opportunity to purchase AMI meters in bulk became available to take advantage of significant price savings from a capital perspective.	2021/22	$1,254
	Operational cost savings related to purchase of a single axle, hydro excavation unit	After an successful pilot with a single axle, hydro excavation unit, it was decided to purchase the rental unit. It is expected the savings as a result of purchasing the unit versus outsourcing the work will be in the range of $28-$42 thousand per year, over a 7-year period.	2021/22	$28,000
	Procurement of annual audit fees	Reduction in the annual audit fees through a request for proposal (RFP) process. The contract term is for a 5-year period, and assuming an inflation factor of 2% over fees of the prior year, potential savings over the term could approximate $41 thousand.	2021/22	$6,555
	Sub-total			$149,627
3	**Human Resource Strategies**			
	Pension plan re-design	Through the collective bargaining process, HW was able to negotiate pension plan re-design to make the plan more sustainable. Earnings were capped at the 2015 CRA maximum from 2016 through 2023 then indexed at 1%, the final year average adjusted from five to seven years, and conditional indexing changed from a maximum of 2% to 1% for post-2015 effective January 1, 2015.	2015/16	$1,700,000
	Workload, labor force assessment	November 2016 saw the elimination of a Compliance Sampling position as a result of a reduction in sampling requirements.	2016/17	$81,966
	Modifications to the Pre-Retirement Leave Program	In June 2019, employees were given the opportunity to withdraw their accrued benefit under the Pre-Retirement Leave Program in the form of a lump-sum payment, rather than continuing to accrue a benefit under a modified program. The Pre-Retirement Leave Program had been closed to new, non-union employees hired after March 31, 2018, and is now effectively closed for all other employees hired after June 7, 2018.	2019/20	$260,000
	Pension plan contribution rate	Pension Plan contribution rate decreases	2025/26	$23,535
	Pension Holiday	The trustees of the HRWC Employees' Pension Plan approved an initial employer contribution holiday to start January 1, 2026.	2025/26	$1,300,000
	Sub-total			$3,365,501
4	**Information Technology Strategies**			
	Scada Alarm Management, maintenance and Electrical Proje	Utilization of internal employee versus consultant	2024/25	$83,000
	Switch of Software annual renewal to long term contract	Adjustment to software contract	2024/25	$1,472
	Move from external provider to Inhouse solution	Transitioned Customer Care Splashboard with increased level of information and accuracy.	2024/25	$75,000
	Integration of 3 water quality data sources	Integration of data sources to be available to the Insights reporting platform automatically, saving 25 hours per month of an FTE	2024/25	$20,000
	Consolidated Capital savings related to switch from External Vendors to Internal Staff (5 years)	This initiative combines various changes the business did to switch external vendors/contractors to internall HW staff	2025/26	$449,000
	Consolidated Operating savings related to switch from External Vendors to Internal Staff	This initiative combines various changes the business did to switch external vendors/contractors to internall HW staff	2025/26	$100,500
	Vendor rationalization - Human Resources Software	Savings achieved through vendor rationalization by transitioning human resources software, which replaced higher cost legacy contracts, reduced recurring licensing and platform fees, and lowered ongoing support and maintenance costs.	2025/26	$10,800
	Software Contract Negotiation - Consolidation	Consolidation of various software negotiations ranging from 1 to 5 year contracts	2025/26	$141,325
	Software Subscription - reduced licenses	Rightsized subscription number of licenses based on actual usage and current business need.	2025/26	$7,000
	Project Contract Management and Vendor Performance - phas	e-Procurement: One time savings of $15,000 achieved leveraging Halifax Water employee to download data from software, instead of using their data extraction service, which was quoted at $15,000	2025/26	$15,000
	Software Contract Negotiation	Software annual renewal applied a documented discount of $134,160.00 CAD	2025/26	$134,160
	Summer Students - Landlines	Eliminated planned summer student support for landline activities, allowing the work to be absorbed by existing staff without impacting service levels.	2025/26	$12,000
	ITIL Training	Group Cost training savings and efficiency over individual training delivery	2025/26	$22,768
	Attributes GIS Updating	Discontinuing planned attribute updates (estimated at 5.5 hours per week) due to reduced requirements and stabilization of GIS data, allowing the work to be absorbed within existing resourced hours.	2025/26	$12,000
	Sub-total			$1,084,025
5	**Facilities/Process Strategies**			
	Waste oil boiler system - Herring Cove WWTF	New system to allow the use of waste oil from Metro Transit as an alternative heating source.	2014/15	$15,000

Halifax Water
Summary Report - Cost Containment Initiatives
2025/2026
Fiscal Year

#	Initiative	Comments	Year Initiated	2025/26 Cost Savings
	Decommissioning of the Bedford South pumping station	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	Expected energy savings.	2014/15	$4,793
	Insulation upgrades - Bennery Lake WSP	Expected energy savings.	2014/15	$36,000
	Lighting upgrades - Eastern Passage WWTF	Expected energy savings.	2014/15	$7,880
	Lighting upgrades - Dartmouth WWTF	Expected energy savings.	2014/15	$22,542
	Lighting upgrades - Herring Cove WWTF	Expected energy savings.	2014/15	$13,744
	Lighting upgrades - Halifax WWTF	Expected energy savings.	2014/15	$29,845
	Lighting upgrades - Aerotech BPF	Expected energy savings.	2014/15	$19,109
	HVAC upgrades - Eastern Passage WWTF	Expected energy savings.	2014/15	$20,711
	HVAC upgrades - Roach's Pond pumping station	Expected energy savings.	2014/15	$13,500
	MCC 190 cooling and heat recovery - Halifax WWTF	Expected energy savings.	2014/15	$13,164
	Aeration system upgrades - Eastern Passage WWTF	Expected energy savings.	2014/15	$76,382
	Orchard Park in-line turbine project	COMFIT/Renewable Energy Generation.	2014/15	$23,291
	Wind farm - Pockwock WSP	Net annual royalty from Pockwock Wind Farm energy production.	2014/15	$158,639
	Biogas CHP system - Mill Cove	Expected energy savings.	2014/15	$86,000
	Transition bills to E-delivery	Transitioning from traditional billing methods to e-delivery (paperless).	2014/15	$51,128
	Highway #7 Booster Station Upgrade	Expected energy savings.	2015/16	$14,300
	Dartmouth WWTF - UV Channel Isolation	Expected energy savings.	2015/16	$59,460
	Halifax WWTF - Fixed Compressed Air Leaks	Expected energy savings.	2015/16	$2,293
	Halifax WWTF - UV Channel Isolation	Expected energy savings.	2015/16	$62,115
	Herring Cove WWTF - MCC 190 Cooling/Heat Recovery	Expected energy savings.	2015/16	$8,496
	Process change	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.	2015/16	$4,854
	UV disinfection shutdown - HHSP and Eastern Passage WWTFs	Annual shutdown of UV disinfection system resulted in cost savings associated with electrical energy savings, peak demand reduction.	2016/17	$296,142
	Halifax WWTF - Ventilation Air Heat Recovery System	Halifax Harbour Solutions Plant Air heat recovery for Fiscal 2025/26 - one-time (combination of Heating Fuel Oil and Waste Oil).	2025/26	$126,653
	Halifax WWTF - Carbon Scrubber By-Pass	Expected energy savings.	2016/17	$72,144
	Tools developed internally	Tools developed internally to install new operating nuts on buried valves. Previously nuts were lost on buried valves resulting in a need to excavate the valve and install new nuts. Cost savings are achieved regarding excavation and reinstatement.	2016/17	$20,000
	Utilization of industrial water	A new filter system was installed at the Eastern Passage WWTF that provides the capability to use the current industrial water system rather than potable water to deliver water to the polymer feed systems.	2016/17	$26,000
	Servicing oxygen monitors in-house	Technical Service staff have been trained by the manufacturer to service the fleet of personal gas monitors in-house, specifically the replacement of the oxygen sensor. These monitors, 165 in total, are used by all operation and treatment departments throughout the organization.	2018/19	$30,000

Halifax Water
Summary Report - Cost Containment Initiatives
2025/2026
Fiscal Year

#	Initiative	Comments	Year Initiated	2025/26 Cost Savings
	Automated Flushing Stations	Automated flushing stations are now used to ensure the proper chlorine residuals are achieved in all areas of the transmission and distribution system. Previously this operation was performed manually on a daily basis from approximately June to September. As a result labor and vehicle costs have been reduced accordingly.	2018/19	$8,000
	Corrosion Sampling	Corrosion sampling in the distribution system was reduced from bi-weekly to monthly in June 2018, since enough baseline data has been collected and there are no immediate plans to change corrosion control in the near future.	2018/19	$12,600
	Dosage Optimization	Desiccant filters were fitted to the polymer totes to prevent warm, moist air from contaminating the polymer dosed to thicken centrifuge and drum thickener solids. The polymer no longer reacts early with water before being dosed, thus allowing the optimization of the dose and preventing polymer waste, leading to reduced consumption.	2019/20	$20,000
	Belt drive change-out (Mill Cove)	Replacing the belt drive with a synchronous chain drive on a 30 horsepower blower resulted in a cost savings associated with energy consumption.	2019/20	$1,375
	Upgrading equipment (Mill Cove)	Upgrading the water flow meter used in the dilution of polymer resulted in lowering water usage in the process by approximately 20,000 litres per day.	2019/20	$12,775
	Fan belt/ pulley replacements - Mill Cove WWTF	Expected energy savings - based on 12,750 kWh.	2019/20	$1,300
	Fan belt/ pulley replacements - Dartmouth WWTF	Expected energy savings - based on 177,980 kWh.	2019/20	$20,000
	Preventative maintenance program established	A preventative maintenance program was created in conjunction with HW operations staff to clean centrifuge centrate lines weekly at a cost of $235. Clogging of centrate in the centrate lines was being experienced resulting in a backup in the centrifuge drum and bio-solids bin. Every 2-3 weeks it was costing approximately $1,000 to remove obstructions by an outside contractor, in addition to internal staff time and equipment.	2020/21	$10,000
	Solar PV - COMFIT/ Renewable Energy Generation WWTF	Renewable energy generation at the Halifax WWTF.	2020/21	$25,609
	Solar PV - 450 Cowie Hill	Renewable energy generation.	2025/26	$17,624
	Fan belt/ pulley replacements - Eastern Passage WWTF	Expected energy savings - based on 118,348 kWh.	2020/21	$13,366
	Harbour Solution Plants - Ventilation Air Heat Recovery	Expected energy savings for the Halifax, Dartmouth and Herring Cove WWTF.	2015/16	$126,653
	The production of biogas used to heat the digesters, and all facility buildings	Both the Mill Cove and Timberlea WWTF's have anaerobic digesters which produce biogas or renewable natural gas (RNG) which is used to heat the digesters as well as all the facility buildings.	2021/22	$278,797
	450 Cowie - Lighting Control Upgrades	Expected energy savings - Based on 169,785 kWh.	2022/23	$17,620
	455 Cowie - Lighting Control Upgrades	Expected energy savings - Based on 189,939 kWh.	2022/23	$19,681
	Training provided by Internal Staff	Activated Sludge Training is a requirement for staff working in advanced primary treatment facilities in preparation for certification exams. The HW Lab Analyst deliver the training at virtually no cost to HW. External organizations typically charge $517.50 per student for the full day course.	2023/24	$10,350
	Lab Training	The HW Lab Analyst provides training to new staff and as a refresher for more experienced staff. They can deliver the training at virtually no cost to HW. The course and curriculum has been accepted by NSECC and is eligible for Continuing Education Units (CEUs). These organizations typically charge $517.50 per student for the full day course.	2023/24	$10,350
	Combination Sewer Cleaners	We have done this rebuild process 3 times with an RFP. Essentially we are adding a new chassis to an existing fleet unit and rebuilding the body. These units cost $700K new and we can rebuild and re-chassis them once at the 10 to 12 year mark for $350K.	2023/24	$250,000
	Effluent leachate samples	No longer required to collect and submit effluent leachate samples to lab on a monthly basis. NS Environment approved the change.	2023/24	$5,589
	Aerotech WWTF - Solar PV - COMFIT/ Renewable Energy Generation	Renewable Energy Generation Operational at the Aerotech WWTF.	2023/24	$18,501
	Utilize white trucks in the fleet	10 new trucks were only available in white. Traditionally the vehicles would have been painted blue. Decision was make to not paint the vehicles, a savings of approximately $7,000 per vehicle amortized over the 5 years life of vehicles.	2024/25	$14,000
	EHS - Jurisdiction scan of customer I&I programs	Originally intended to be contracted out, but completed by internal staff which contacted 22 utilities and 9 meetings with stakeholders.	2025/26	$40,000
		Sub-total		$2,263,375
6	**Reduce Paper and Printing Costs**			
	Electronic HRWC Board Packages	Send Board packages out electronically rather than issuing hard copies.	2013/14	$7,500
	Changes to document archiving	Transitioning file storage from outside contractor to public resources.	2013/14	$3,175
	Changes to document archiving	Transitioning file storage from outside contractor to public resources.	2016/17	$9,000
	Cost reduction associated with off-site storage	There has been an effort to reduce the number of boxes (documents) stored in facilities such as Iron Mountain, by sorting and purging documents in accordance with the document retention policy of the Commission.	2018/19	$10,000
	Cost reduction associated with the Annual Report	Reduction in the number of printed annual reports.	2019/20	$1,000
	Paperless payroll	All payroll timesheets and approvals now completed electronically. Pay statements also available online saving on paper, envelopes, and mailing costs.	2020/21	$4,804
	Cost reduction associated with off-site storage	Due to further reductions in the number of boxes (documents) stored in facilities such as Iron Mountain, additional savings have been realized.	2022/23	$2,052
	Paperless Overdue Notice	Switch from printed overdue notice to paperless for customers that are registered fro paperl;ess billing	2025/26	$52,415
		Sub-total		$89,946
7	**Technology and Business Process Changes**			
	Cost Reduction for Dispute Resolution Officer	Reduction in costs resulting from efficiency gains from process enhancement and strong financial management relating to the Dispute Resolution Officer.	2022/23	$12,000
		Sub-total		$12,000
				$6,964,474

ITEM # 7-I
Halifax Water Board
June 25, 2026

TO:	John MacPherson, K.C., Chair and Members of the Halifax Regional Water Commission Board
SUBMITTED BY:	Signed by: A65D6874EBC1467... Louis de Montbrun, CPA, CA, Director, Corporate Services/CFO
APPROVED:	Signed by: Kenda MacKenzie 0C084AC815704F0... Kenda MacKenzie, P.Eng., General Manager & CEO
DATE:	June 25, 2026
SUBJECT:	Capital Expenditure Report for the fiscal year ended March 31, 2026

Information Item

ORIGIN

Financial reporting for the Halifax Regional Water Commission Capital Expenditure.

BACKGROUND

At the June 19, 2026, meeting of the Halifax Water Audit and Finance Committee (the Committee), the attached report, Item 4.8 - Capital Expenditure Report for the fiscal year ended March 31, 2026, was presented, reviewed, and discussed.

DISCUSSION

No additional information was requested to be brought forward to the Halifax Water Board meeting following the discussion of the attached at the Committee meeting.

The Audit and Finance Committee passed a motion to forward the report to the Board as an Information Report.

ATTACHMENT

1. Item 4.8 - Capital Expenditure Report for the fiscal year ended March 31, 2026

Report Prepared by: Signed by: Warren Brake FF7DA207844542C...

Warren Brake, Manager of Accounting

Financial Reviewed by: Signed by: A65D6874EBC1467...

Louis de Montbrun, CPA, CA

Director, Corporate Services/CFO

ITEM #4.8

Halifax Water Audit & Finance Committee

June 19, 2026

TO: John MacPherson, K.C., Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: Signed by:

Louis de Montbrun, CPA, CA, Director, Corporate Services/CFO

DocuSigned by:

Josh DeYoung, P.Eng., Director, Engineering & Capital Infrastructure

APPROVED: Signed by:

Louis de Montbrun, A/General Manager & CEO

DATE: June 11, 2026

SUBJECT: **Capital Expenditures Report for the fiscal year ended March 31, 2026**

ORIGIN

The Corporate Balanced Scorecard (CBS) identifies the percentage of total unspent budget available, spent in the current fiscal year as a critical success factor and sets a target of 45%. There is an additional CBS target of $135 million in capital spend during the year.

BACKGROUND

The Halifax Regional Water Commission (Halifax Water) Board reviews financial information throughout the year. Halifax Water's 2019 *Integrated Resource Plan* (IRP) identifies a 30-year capital investment plan valued at $2.7 Billion (net present value - 2019). In relation to the IRP, the capital budget program focuses on providing required infrastructure for asset renewal, regulatory compliance, and growth. The IRP calls for delivery of an average of $135 million in capital projects per year. Halifax Water's annual capital budget, and capability to deliver capital projects, has not yet reached this level.

DISCUSSION

Below is the breakdown by asset class and project status of the expenditures for the fiscal year to March 31, 2026. The total budget available of $373.2 million represents total approved budgets at March 31, 2026. Halifax Water has spent $215.7 million on active projects.

The total capital budget remaining to be spent at March 31, 2026 is $157.5 million. Total expenditures as a percentage of the total budget available is 57.8%. Expenditures in the current fiscal year as a percentage of the opening cumulative unspent capital budget, as of April 1, 2025,

is 41.9%. To meet the CBS target of $135.0 million will require additional expenditures of $21.5 million.

The average capital spend per month compared to the same timeframe in the prior year has decreased from $9.9 million to $9.5 million.

Capital Expenditure Report

ıet Category	Total Budget Available	Expenditures to March 31, 2025	Expenditures April 1, 2025 to March 31, 2026	Total Expenditures to March 31, 2026	Remaining Budget Available as of March 31, 2026	Total Expenditures to March 31, 2026 as a Percentage of Total Budget Available
Active						
Water	$ 44,216,531	$ 644,210	$ 1,328,261	$ 1,972,471	$ 42,244,060	4.5%
Wastewater	77,331,379	$ 12,809,765	2,139,885	14,949,650	62,381,729	19.3%
Stormwater	26,034,811	$ 5,038,792	6,156,537	11,195,329	14,839,482	43.0%
Corporate	108,464,855	$ 31,442,864	42,617,898	74,060,762	34,404,092	68.3%
District Energy	6,009,988	-	2,407,326	2,407,326	3,602,662	40.1%
	$ 262,057,564	$ 49,935,632	$ 54,649,906	$ 104,585,538	$ 157,472,026	39.9%
Closed						
Water	$ 40,558,033	$ 18,962,026	$ 21,596,007	$ 40,558,033	$ -	
Wastewater	35,033,673	20,344,857	14,688,815	35,033,673	-	
Stormwater	8,136,177	1,817,564	6,318,613	8,136,177	-	
Corporate	27,404,323	11,136,475	16,267,848	27,404,323	-	
District Energy	-		-	-		
	$ 111,132,206	$ 52,260,923	$ 58,871,283	$ 111,132,206	$ -	
Total	**$ 373,189,770**	**$ 102,196,554**	**$ 113,521,190**	**$ 215,717,744**	**$ 157,472,026**	**57.8%**

The achievement of annual targets for the fiscal year has been impacted by the timing of several major projects. The procurement process for the Biosolids Processing Facility continues. The Project Delivery Methodology analysis for Mill Cove Wastewater Treatment Facility Upgrades and projects under the Water Supply Enhancement Program umbrella are close to completion.

Several significant capital milestones were achieved during the current fiscal year, including significant progress on the construction of the Burnside Operations Centre, start of the new Integrated Resource Plan, completion of the Phase 1 Port Wallace Watermain, 2025/26 Integrated Projects with HRM and UV Disinfection Upgrades at the Dartmouth Wastewater Treatment Facility.

Report prepared by: Signed by: Warren Brake FF7DA207844542C...

Warren Brake, Manager of Accounting, (902) 719-4814

TO: John MacPherson, K.C., Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: Signed by: John Eisnor 51DA47B30B56460...
John Eisnor, MASc., P.Eng., Director, Operations

APPROVED: Signed by: Kenda MacKenzie 0C084AC815794F6...
Kenda MacKenzie, P.Eng., CEO & General Manager

DATE: June 16, 2026

SUBJECT: **NSRAB O&M Audit Update**

ORIGIN

Regular update.

This report provides an update on the status of the NSRAB Operations and Maintenance Audit that Carollo Engineers Canada has been working on.

UPDATE

The audit was initiated in December 2025. Since that time, Halifax Water has provided information to Carollo through two information requests.

Carollo completed onsite visits to the water treatment plants on February 9 to 11, 2026 and onsite visits to the wastewater treatment plants on March 9 to 12, 2026.

Carollo is working on the draft report and expect to have the final report ready by August 2026.

TO: John MacPherson, K.C., Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: Signed by: John Eisnor 51DA47B30B56460...
John Eisnor, MASc., P.Eng., Director, Operations

APPROVED: Signed by: Kenda MacKenzie 0C084AC815794F8...
Kenda MacKenzie, P.Eng., CEO & General Manager

DATE: June 16, 2026

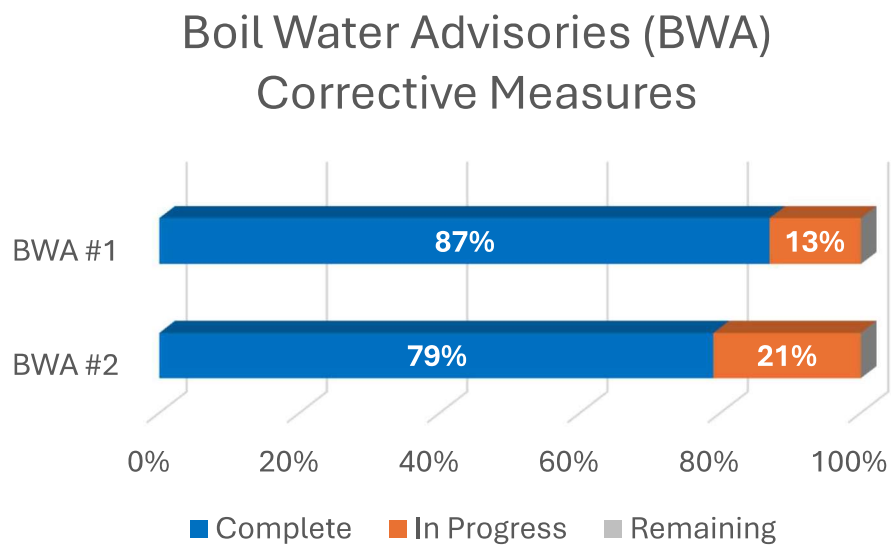
SUBJECT: **Boil Water Advisories Corrective Actions Update**

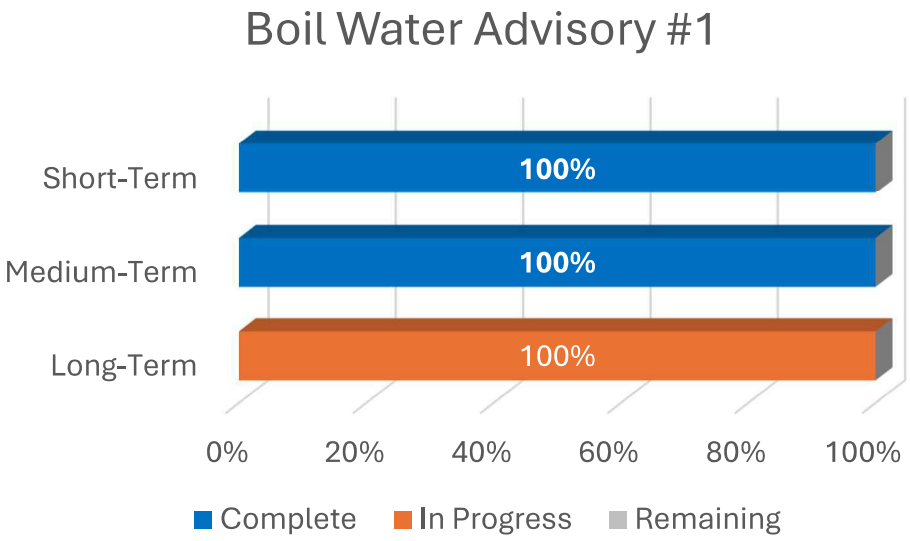
ORIGIN

Regular update.

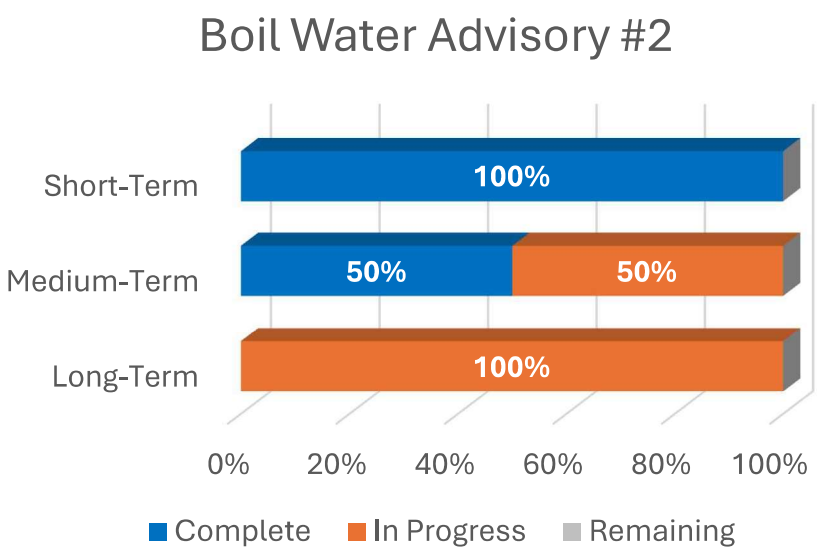
This report provides a high-level update on the progress of the corrective actions from the reports for the two Boil Water Advisories.

Boil Water Advisory Corrective Measures Update





* Short term refers to measures that can be implemented in less than one year. Medium term is estimated to take 1-2 years and long-term is estimated at 5-10 years from the issuance of the After Incident Report on September 19, 2024 .



* Short term refers to measures that can be implemented in less than one year. Medium term is estimated to take 1-2 years and long-term is estimated at 5-10 years from the issuance of the After Incident Review and Root Cause Analysis on March 21, 2025.

Item #	Corrective Measure	Timeline	Status		Update
July 14, 2024 BWA			June 1, 2025	May 31, 2026	
1	Assess and conduct repairs as required on raw water pumps and components.	Short-term	Complete	Complete	
2	Assess the emergency generators.	Short-term	Complete	Complete	
3	Install a temporary generator to power the main plant building, replacing the auxiliary generator.	Short-term	Complete	Complete	
4	Install standby electrical system to power emergency chlorination equipment, in the event of a complete power failure, to reduce time to initiate the system and remove immediate need for portable gas-powered generator.	Short-term	Complete	Complete	
5	Install an uninterrupted power supply (UPS) that will be able to supply power to necessary instrumentation in the event of a power failure.	Short-term	Complete	Complete	
6	Conduct thermal scanning of electrical equipment at the low-lift pump station.	Short-term	Ongoing	Complete	

7	Assess main incoming power bus and associated utility, emergency breakers, as well as transfer controls. Assess the sequence settings that control the safety systems at the pump station. Re-program the sequence as necessary based on the assessment.	Short-term	Ongoing	Complete	
8	Assess layers of engineered protection on raw water pumps and install additional layers as needed.	Short-term	Complete	Complete	
9	Complete formal incident debriefs with various levels of staff.	Short-term	Complete	Complete	
10	Increase operator staffing on shift to minimize response time to emergency incidents.	Short, medium-term	Complete	Complete	
11	Review and update SOPs for clarity. Ensure staff understanding through training.	Short, medium-term	Implemented (Ongoing Program)	Complete	
12	Conduct emergency exercises to enhance knowledge on response to varying incidents.	Short, medium-term	Implemented (Ongoing Program)	Complete	
13	Improve emergency lighting throughout the facility.	Short, medium-term	Complete	Complete	
14	Install a permanent generator to replace the auxiliary generator.	Medium-term	Ongoing (Interim solution implemented)	Complete	

15	Upgrade and increase resiliency of incoming power feed. Consider adding a new, dedicated utility service to the main water supply plant building.	Long-term	Ongoing	Ongoing	Incoming power and backup redundancy options analysis progressed in consultation with utility provider; routing identified, equipment options and costing pending to advance design.
16	Address fundamental design constraints by providing adequate treated and chlorinated water storage and the ability to shut down for maintenance or failure conditions without interruption to water quantity or quality.	Long-term	Ongoing	Ongoing	The JD Kline New Clearwell/Reservoir is nearing completion of Conceptual Design.
Item #	**Corrective Measure**	**Timeline**	**Status**		**Update**
January 20-21, 2025 BWA			**June 1, 2025**	**May 31, 2026**	
1	Formalize a procedure for communications with NSP. Update and regularly review phone numbers on file with NSP, clarify communication protocols for various types of power events and improve internal communications for power outages (emergency and non-emergency).	Short-term	Ongoing	Complete	

2	Review alarms from the incident. Conduct a holistic review of alarm philosophy and prioritization to assist operators in emergencies. Implement alarm rationalization and prioritization process based on review, train staff on alarm rationalization and prioritization process.	Medium-term	Ongoing	Ongoing	Alarm management philosophy complete. Implementation of new alarm standard anticipated by Q4 2026/27.
3	Develop checklists based on SOPs that can be referenced quickly during emergency situations.	Short-term	Ongoing	Complete	
4	Develop a schedule of drills and tabletop exercises (at least quarterly). Conduct these emergency exercises to enhance emergency preparedness as part of an improved comprehensive operator training plan.	Short-term	Ongoing	Complete	
5	Complete electrical review to inform electrical risk as part of the Operational Resiliency Review.	Medium-term	Ongoing	Ongoing	Final report anticipated Q2 2026/27
6	Address fundamental design constraints by providing adequate treated and chlorinated water storage and the ability to shut down for maintenance or failure conditions without interruption to water quantity or quality.	Long-term	Ongoing	Ongoing	JD Kline new clearwell/reservoir is nearing completion of conceptual design.

7	Review and update SOPs for clarity. Create new SOPs as appropriate. Ensure staff understand through training as part of an improved comprehensive operator training plan.	Short, medium , and long-term	Ongoing	Complete	
8	Install labels on chlorine analyzer and on the HMI to indicate 10-to-25-minute delay in readings.	Short-term	Complete	Complete	
9	Install a second chlorine analyzer in a location closer to the chlorine injection point to mitigate delay in chlorine residual readings.	Short-term	Ongoing	Complete	
10	Improve the design and operation of the backup hypo system to prevent the formation of airlocks.	Short-term	Complete	Complete	
11	Install flow meters on the backup hypo system to improve monitoring to ensure that the system is feeding chlorine.	Short-term	Ongoing	Complete	
12	Complete formal incident debriefs with various levels of staff.	Short-term	Ongoing	Complete	
13	Evaluate and develop an improved comprehensive operator training plan with defined key performance measures of competency and operator success.	Short-term	Ongoing	Complete	

14	Investigate the feasibility of chlorine analyzer monitoring earlier in the distribution system to better assess the impact of events.	Short-term	Ongoing (Interim solution implemented)	Complete	
15	Investigate the feasibility of additional rechlorination locatio ns within the distribution system to minimize impacts of chlorine disinfection interruptions.	Medium-term	Ongoing	Complete	
16	Clarify protocols for issuing municipal and provincial alerts for advisories with HRM and the Province.	Short-term	Ongoing	Complete	
17	Explore additional options for notifying customers beyond PSAs and social media.	Medium-term	Ongoing	Complete	
18	Engage with NSECC and MOH to clarify language in the Approval to Operate and Guidelines for Monitoring Public Drinking Water Supplies regarding loss of disinfection and discuss a public health risk-based approach.	Medium-term	Ongoing	Complete	
19	Complete an Operational Resiliency Review for the JDKWSP.	Short, medium-term	Ongoing	Ongoing	Final report anticipated by Q2 2026/27

* Short term refers to measures that can be implemented in less than one year. Medium term is estimated to take 1-2 years and long-term is estimated at 5-10 years from the issuance of After Incident Review and Root Cause Analysis.

ITEM # 10-I
Halifax Water Board
June 25, 2025

TO: John MacPherson, K.C., Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: Signed by: Wendy Krkosek C70B2696701442F...
Wendy Krkosek, PhD, P.Eng, Director of Environment, Health & Safety

APPROVED: Signed by: Kenda MacKenzie 0C084AC815794F6...
Kenda MacKenzie, P.Eng., General Manager & CEO

DATE: June 25, 2026

SUBJECT: Research Grant with Dalhousie

Information Item

ORIGIN
Reporting for the Halifax Regional Water Commission NSERC Alliance Research Grant with Dalhousie University.

BACKGROUND
At the June 19, 2026, meeting of the Halifax Water Environmental, Health, And Safety Committee (the Committee), the attached report, Item #3.7 - Research Grant with Dalhousie, was presented, reviewed, and discussed.

DISCUSSION
It was recommended that the Research Grant with Dalhousie be accepted and brought forward to the Halifax Water Board meeting as an information report.

ATTACHMENT
Item 3.7 - Research Grant with Dalhousie

Report Prepared by: Signed by: Lindsay Anderson CA001E986632443...
Lindsay Anderson, MASc, PhD, P.Eng
Water Quality Manager

ITEM # 3.7

Halifax Water Environment Health and Safety Committee

June 19, 2026

TO: Chair and Members of the Halifax Regional Water Commission Environment Health and Safety Committee

SUBMITTED BY: Signed by: Wendy Krkosek
Wendy Krkosek, PhD, P.Eng, Director of Environment, Health & Safety

APPROVED: Signed by:
Louis de Montbrun, CPA, CA, A/General Manager & CEO

DATE: June 19, 2026

SUBJECT: Support for Dalhousie University's NSERC Alliance Grant Proposal

ORIGIN

Halifax Water has supported the NSERC/Halifax Water Industrial Research Chair program with Dr. Gagnon at Dalhousie University since 2007 and has supported the NSERC CRD for wastewater research With Dr. Stoddart since 2020. In 2022, an NSERC Alliance Grant "Partnership for Innovation in Climate Change Adaptation in Water and Wastewater Treatment" was supported by Halifax Water at an annual cost of $350,000 and is nearing the end of its term in March, 2027.

The attached report summarizes the major achievements of the current NSERC Alliance Grant (2022–2027) and shares details of the proposal for the renewed five-year Alliance proposal for the 2027–2032 period, to be submitted to NSERC in October 2026. If successful, the start date of the research partnership would be April 1, 2027 and the term is 5 years.

RECOMMENDATION

It is recommended that the Environment Health and Safety Committee forward the Support for Dalhousie University's NSERC Alliance Grant Proposal report and attached letter, to the Halifax Water Board for their information.

BACKGROUND

Attachment 1 provides a letter prepared by Dalhousie University that summarizes the major achievements of the current NSERC Alliance Grant (2022–2027) and shares details of the proposal for the renewed five-year Alliance proposal for the 2027–2032 period, to be submitted by October 2026. The CWRS–Halifax Water partnership has spanned nearly 20 years and has matured into a deeply embedded, operations focused collaboration that delivers measurable value to Halifax Water, the region's water professionals, and the broader public.

DISCUSSION

Building on the shared work from the 2022 NSERC Alliance, and guided by emerging climate, population growth, and environmental challenges, the renewed Alliance proposal is organized around three integrated themes designed to support Halifax Water's long-term operational and strategic objectives. The research directions for the 2027-2032 NSERC Alliance research grant are:

Theme A — Climate-Responsive Monitoring and Early Warning Systems
Development of advanced monitoring systems and coordinated source-to-tap-to-source surveillance approaches to improve detection of climate-driven water quality risks, harmful algal blooms, emerging contaminants, and treatment stressors.

Theme B — Treatment Optimization and Infrastructure Resilience
Optimization and intensification of drinking water and wastewater treatment processes to improve operational efficiency, reduce energy and chemical consumption, maximize infrastructure capacity, and support resilient service delivery under climate change and population growth pressures, all to deliver the most reliable service at the lowest costs to consumers, while being good stewards of our natural resources.

Theme C — UV LED and Advanced Treatment Innovation
Advancement of low-energy UV LED treatment technologies for pathogen inactivation, contaminant destruction, and emerging contaminant control using mercury-free systems that support environmental sustainability.

At its core, the proposed NSERC Alliance research themes directly support Halifax Water's purpose of "supplying and safeguarding sustainable, high-quality water services" and strengthens its ability to proactively manage risks, reduce the likelihood of service disruptions and enhance overall service reliability by providing research outcomes that will help Halifax Water respond to climate change, population growth and infrastructure pressures. The research program is strongly aligned with Halifax Water's strategic pillars outlined in the 5-year business plan by advancing capabilities in climate resilience, operational reliability, infrastructure optimization, and financial sustainability:

- **Environment, Health, Safety & Social Responsibility:** Themes A and C support the objective to effectively manage risks and safeguard water resources, including addressing climate impacts and protecting public health through improved monitoring and treatment technologies.

- **Operational Effectiveness:** Theme B advances the objective to improve service reliability and system resiliency through optimized treatment processes and better utilization of existing infrastructure.

- **Financial & Regulatory Accountability:** Across all themes, the program contributes to cost-effective operations, improved capital planning, and strengthened regulatory readiness, supporting long-term financial sustainability.

The NSERC Alliance renewal also supports Halifax Water's People strategic objectives by strengthening talent attraction, development, and retention. Through collaboration with academic partners, the program provides direct access to highly qualified personnel (HQP), including graduate students, postdoctoral fellows, and early-career researchers working on applied water sector challenges. This creates a structured pathway to recruit skilled, job-ready professionals with expertise in advanced monitoring, treatment optimization, data analytics, and emerging technologies—critical capability areas for Halifax Water's future operations. By integrating research and training with operational needs, the program supports development of a high-performing workforce and future leadership pipeline aligned with the organization's long-term talent strategy.

Across the themes, the NSERC Alliance renewal for 2027-2032 proposes a coordinated, forward-looking program that strengthens climate resilience, enhances data-driven decision-making, improves service reliability, and supports financial and environmental sustainability. It supports developing and attracting highly qualified talent in key technical areas. As such, it represents a highly aligned strategic investment that directly advances Halifax Water's business priorities and long-term objectives under the Halifax Water 2030 framework.

BUDGET IMPLICATIONS

Organization	Proposed Yearly Contribution (CAD)					
	2027	2028	2029	2030	2031	Total
Halifax Water	$199,999	$199,999	$199,999	$199,999	$199,999	$999,995
Other Research Partners	$383,000	$383,000	$385,000	$385,000	$385,000	$1,921,00
Total Operating Budget (NSERC + Mitacs Contributions)	$1,369,999	$1,369,999	$1,458,333	$1,458,333	$585,000	$7,114,996

RISK

The risk would be that research conducted does not align with Halifax Water's strategic objectives and does not provide value to the organization for money spent. This risk is mitigated through frequent engagement with the research team and recalibration throughout the five-year term as needed to meet emerging priorities.

ALTERNATIVES

The alternative to supporting the *Dalhousie NSERC Alliance* research program would be to not fund continued research. This alternative is not recommended. With the proposed research being strategically aligned to support Halifax Water's annual and 5-year business plans, the continued partnership with Dalhousie University in research is now more relevant and critical than ever.

Additionally, the value-add of research participation including local development of highly qualified personnel, knowledge transfer, development of partnerships, involvement in emerging issues and ability to be a utility leader have proven the value in investment in the research program time and again.

ATTACHMENT

1. Centre for Water Resources Studies–Halifax Water Partnership and NSERC Alliance Grant (2027–2032)

Report Prepared by: Signed by: Lindsay Anderson CA001E9886524145...

Lindsay Anderson, MASc, PhD, P.Eng
Water Quality Manager

Centre for Water Resources Studies
Dalhousie University
Halifax, Nova Scotia

May 29, 2026

Halifax Water Board of Commissioners
Halifax Water
Halifax, Nova Scotia

Re: Centre for Water Resources Studies–Halifax Water Partnership and NSERC Alliance Grant (2027–2032)

Dear Members of the Board,

On behalf of Dalhousie University's Centre for Water Resources Studies (CWRS), we are pleased to provide an update on the value and outcomes of the long-standing research partnership between CWRS and Halifax Water. This letter summarizes the major achievements of the current NSERC Alliance Grant (2022–2027) and shares details of the proposal for the renewed five-year Alliance proposal for the 2027–2032 period, to be submitted by October 2026. The CWRS–Halifax Water partnership has spanned nearly 20 years and has matured into a deeply embedded, operations focused collaboration that delivers measurable value to Halifax Water, the region's water professionals, and the broader public.

Structure and Nature of the CWRS–Halifax Water Partnership

The CWRS–Halifax Water relationship represents a unique **embedded research partnership** that accelerates innovation and provides a strong training ground for the next generation of civil and environmental engineers, well beyond what traditional academic research arrangements typically achieve. Since its inception in 2007, the collaboration has progressed through multiple NSERC mechanisms—including an Industrial Research Chair and, most recently, the NSERC Alliance program—each stage reflecting increasing scope, operational integration, and mutual reliance.

Under the current Alliance structure, Halifax Water and CWRS jointly define research priorities based on operational needs, regulatory drivers, and long-term capital planning questions. These priorities are translated into coordinated research themes spanning drinking water treatment, wastewater treatment, source water protection, distribution systems, and watershed science. Research is conducted at bench scale, pilot scale, and full scale within Halifax Water facilities, often directly informed by real-time operational data and plant performance.

The level of engagement and degree of integration between the CWRS research team and the Halifax Water Operations and Water Quality teams are significant, resulting in iterative and productive collaboration. Over the past five years alone, the partnership has involved hundreds of formal meetings and thousands of hours of on-site collaboration. Regular, structured coordination forums—including monthly strategic meetings and bi-weekly operational and research update meetings—ensure continuous alignment between research activities and utility needs. This cadence allows emerging scientific results to be rapidly interpreted, adapted, and applied in operational decision-making, reducing implementation risk and accelerating the translation of innovation into practice.

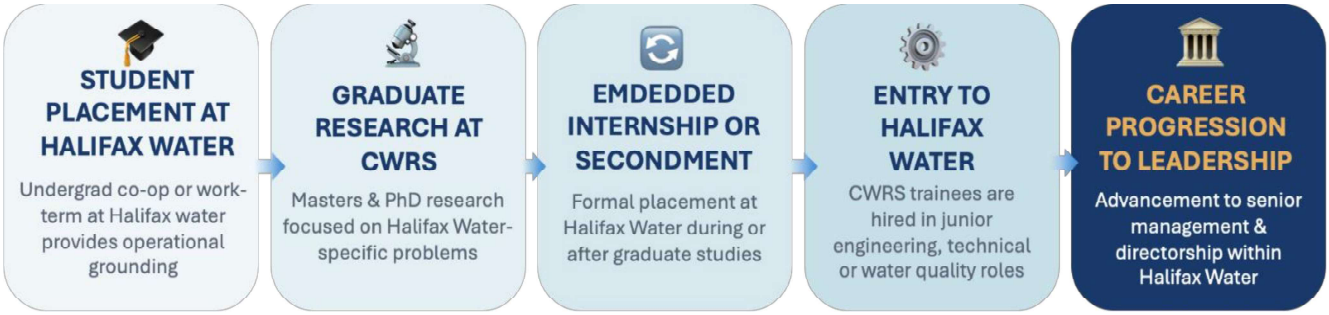
Over the 2021-2026 term, this partnership involved thousands of person-hours of direct collaboration with CWRS staff & students:

10 **Treatment facilities studied** *Including water & wastewater treatment, 3 major watersheds, and multiple distribution systems*	**300+** **Formal operational meetings** *Between Halifax Water staff and CWRS researchers*	**2,000+** **On-site visits to Halifax Water facilities** *Spanning water & wastewater treatment plants, watersheds, and distribution systems*	**3,000+** **Email Communications** *Technical correspondence between Halifax Water & CWRS staff on operations, pilot plants, research & strategic planning*

The collaboration has involved dozens of highly qualified personal (HQP), facilitated knowledge exchange meetings, and led to embedded work at Halifax Water facilities:

Drinking Water		
70+ **CWRS HQP** *Working on research for Halifax Water's High Quality Drinking Water and Public Health Protection Priority*	**200+** **Water Safety Meetings** *Between Halifax Water staff and CWRS researchers*	**1000+** **On-site visits to Halifax Water treatment facilities** *With direct collaboration with CWRS staff & students and Halifax Water staff*
Wastewater		
45+ **CWRS HQP** *Working on research for Halifax Water's Wastewater*	**120+** **Wastewater Meetings** *Between Halifax Water and CWRS staff*	**1000+** **On-site visits to Halifax Water treatment facilities** *With direct collaboration with CWRS staff & students and Halifax Water staff*

A defining feature of the partnership is the **physical and professional co-location of people**, not just projects. CWRS faculty, post-doctoral fellows, graduate students, undergraduate co-ops and research engineers maintain a consistent presence within Halifax Water pilot plant facilities and watershed monitoring locations. In parallel, several CWRS researchers have been formally seconded to Halifax Water in recent years, contributing directly to strategic planning, water quality management systems, and executive level initiatives. This reciprocal integration has created a shared institutional culture focused on evidence-based decision-making and long-term system stewardship.



SUPPORTING HALIFAX WATER'S STRATEGIC PRIORITIES

A. High-Quality Drinking Water and Public Health Protection

This partnership supports Halifax Water's multiple-barrier approach through advanced monitoring, treatment optimization, and climate-responsive risk assessment to address growing pressures on aging infrastructure. Across Nova Scotia, source waters are changing due to lake recovery from reduced acid rain and climate change, resulting in higher pH, increasing natural organic matter, and shifting biological conditions. Research conducted through the Halifax Water–CWRS partnership has documented significant water quality changes in Pockwock Lake and Lake Major, where long-term watershed changes and extreme weather events are increasing treatment demands. Following the record 2023 wildfires and extreme rainfall events, natural organic matter concentrations increased by more than 67% compared with 2022, substantially increasing alum demand and operational strain at the J.D. Kline Water Supply Plant.

At the J.D. Kline Water Supply Plant, increasing organic matter loads more than doubled annual coagulant demand from 500,000-700,000 kg (2010-2020) to over 1.4 million kg (2021-2024), while filter performance declined, backwash frequency exceeded 1,600 cycles in 2024, and approximately 3.3 billion litres of treated water were diverted annually to filter cleaning. Through pilot-scale and full-scale optimization studies, the partnership has supported operational improvements to reduce these pressures. Early outcomes from 2025 optimization efforts included reduced coagulant consumption (~1.0 million kg), improved filter run performance, fewer backwashes (1,282 annually), and nearly 50% lower backwash water volumes, while maintaining finished water quality. This work demonstrates how the partnership is helping Halifax Water improve reliability, recover treatment capacity, reduce costs, and extend the resilience of critical infrastructure assets.

Halifax Water continues to prioritize industry-leading source water monitoring, including long-term datasets and seasonal harmful algal bloom surveillance to strength Halifax Water's preparedness for harmful algal blooms and emerging cyanotoxin risks. Partnerships with the Water Research Foundation and the CWRS have supported improved risk assessment, rapid response, and sustained delivery of high-quality drinking water. Following the first recorded geosmin event in Pockwock Lake, the CWRS and Halifax Water co-developed an integrated cyanotoxin monitoring framework combining early warning approaches capable of identifying toxin-producing organisms before bloom maturation across source water lakes that serve 99.95% of Halifax Water's customer base. Since, Halifax Water has identified retrofit treatment for geosmin and cyanotoxin removal as a $3 million to $15 million capital question depending on technology selection. The integrated cyanotoxin monitoring framework approach extends the useful operational life of existing infrastructure by enabling targeted, episodic interventions rather than continuous advanced treatment.

Halifax Water has become leaders in lead exposure reduction through the "Get the Lead Out" program, informed by applied research with the CWRS. Recent corrosion control studies evaluating lower-zinc orthophosphate dosing strategies generated evidence supporting reduced chemical dosing while maintaining protection against lead and copper release within the distribution system. Research carried out by the CWRS at the J.D. Kline Water Supply Plant evaluated how coagulant choice and filter media affect both organic carbon removal and lead release in drinking water, showing that granular activated carbon delivers a dual benefit, including improved DBP precursor control and reduced lead corrosion, while alternative coagulants like polyaluminum chloride can inadvertently worsen galvanic corrosion. Further bench-scale research by the CWRS examined whether orthophosphate could be blended with sodium silicate to control lead corrosion and manage iron and manganese simultaneously, providing Halifax Water with evidence to consider orthophosphate-silicate as a single corrosion-control approach that addresses both lead compliance and the aesthetic issues that drive customer complaints.

B. Wastewater Compliance, Environmental Protection, and Cost Savings

The partnership has played an increasingly important role in supporting Halifax Water's long-term wastewater compliance planning and environmental protection objectives. In preparation for the 2040 Wastewater Systems Effluent Regulations (WSER) compliance deadline, the CWRS and Halifax Water have evaluated alternative compliance pathways for the Halifax and Dartmouth wastewater treatment facilities using existing infrastructure rather than full conventional secondary treatment upgrades. Pilot-scale biological aerated filter studies, combined with probabilistic modelling of full-scale operational datasets, demonstrated that optimized treatment approaches may achieve WSER performance targets under realistic flow conditions while identifying operational thresholds associated with elevated compliance risk. This work supports evidence-based evaluation of lower-cost compliance pathways that may substantially reduce future infrastructure expenditures and associated long-term debt servicing requirements. Halifax Water previously estimated that upgrading the Harbour Solutions facilities to full secondary treatment could exceed ~ $425 million. Research supporting optimized treatment pathways therefore represents a potentially significant opportunity to reduce capital burden exposure while maintaining regulatory compliance and environmental protection objectives.

Halifax Water's treatment facilities generate large volumes of complex data that technicians use for process optimization, however, this data often contains significant noise, making it

challenging to identify the optimal path. In collaboration with the CWRS, a probabilistic model and decision tree were co-developed to guide Halifax Water staff through decision making processes by presenting potential outcomes and their likelihood of success at each step.

The partnership has also contributed to to test the **world's first full-scale 280 nm UV-LED reactor for wastewater disinfection** at Halifax Water's Eastern Passage treatment facility. The results established that UV-LEDs are an effective at-scale wastewater disinfectant, comparable to conventional low-pressure UV systems, while using significantly less energy. This innovation also reduces our environmental impact. By integrating advanced technologies and data-driven approaches, we are improving the efficiency and effectiveness of our wastewater treatment processes and future-proofing our operations to ensure we continue to meet the needs of our community in a sustainable and responsible manner. This research has position Halifax Water and the CWRS as leaders in the development of UV LED treatment technologies and has results in Halifax hosting this years International UV Associations annual conference, a direct reflection of the importance of Halifax Water and CWRS's collaborative leadership in this field.

C. Workforce Development and Long-Term Sector Capacity

One of the most significant and enduring benefits of the CWRS–Halifax Water partnership is its role as a **talent pipeline** for the regional water sector—and for Halifax Water specifically. Since 2007, the partnership has trained **+300 highly qualified personnel**, including undergraduate students, master's students, PhD candidates, and post-doctoral researchers. Nearly 100 trainees have been supported during the current Alliance period alone, with several of these trainees ultimately being employed at Halifax Water.

140	90	45	20
UNDERGRADUATES	MASTERS	PHDS	POST-DOCS
40+ since 2021	*25 since 2021*	*20 since 2021*	*7 since 2021*

This training model is distinct from conventional academic education. Trainees work directly with Halifax Water systems, data, and staff, gaining hands-on experience with the utility's specific challenges, regulatory environment, and operational realities. Students are routinely embedded in treatment plants, laboratories, and field monitoring programs, developing practical competencies that cannot be acquired in classroom settings alone. As a result, graduates of the program are "day-one ready" professionals with a deep understanding of Halifax Water's infrastructure and decision-making context.

The outcomes of this approach are tangible. More than 25 alumni of the CWRS research programs are currently employed at Halifax Water, spanning roles from laboratory analysts and process technologists to engineers, program managers, and senior leaders. Notably, alumni of the CWRS–Halifax Water partnership currently occupy multiple director- and senior manager-level roles within the utility, including positions responsible for operations, water quality, and environmental health and safety. Many of these individuals have progressed within Halifax Water over 10–20-year careers, illustrating the durability and long-term value of the training pathway.

Beyond direct employment, the partnership has strengthened the broader ecosystem supporting Halifax Water. Alumni are now embedded in consulting firms, provincial regulatory agencies, and technology companies that interact regularly with Halifax Water. This creates a shared technical language and mutual understanding across institutions, improving project delivery, regulatory coordination, and innovation uptake. ***In effect, the partnership ensures that the professionals designing, operating, regulating, and advising Halifax Water's systems share a common foundation grounded in the utility's real-world challenges.***

Research Directions for the 2027–2032 NSERC Alliance Grant

Building on the shared work from the 2023 NSERC Alliance, and guided by emerging climate, growth, and environmental challenges, the renewed Alliance proposal is organized around three integrated themes designed to support Halifax Water's long-term operational and strategic objectives.

Theme A — Climate-Responsive Monitoring and Early Warning Systems

Development of advanced monitoring systems and coordinated source-to-tap-to-source surveillance approaches to improve detection of climate-driven water quality risks, harmful algal blooms, emerging contaminants, and treatment stressors.

Theme B — Treatment Optimization and Infrastructure Resilience

Optimization and intensification of drinking water and wastewater treatment processes to improve operational efficiency, reduce energy and chemical consumption, maximize infrastructure capacity, and support resilient service delivery under climate change and population growth pressures, all to deliver the most reliable service at the lowest costs to consumers, while being good stewards of our natural resources.

Theme C — UV LED and Advanced Treatment Innovation

Advancement of low-energy UV LED treatment technologies for pathogen inactivation, contaminant destruction, and emerging contaminant control using mercury-free systems that support Halifax Water's environmental sustainability and net-zero objectives.

Water Sector Benefit and Continued Commitment

The partnership has produced a substantial and growing body of peer-reviewed research, with findings presented across regional and international water industry forums (see Appendix A). A clear example of regionally driven research between Halifax Water and the CWRS is the work published by Anderson et al. (2017) and Anderson et al. (2023) which have collectively been cited over 150 times, influencing drinking water practices and policy in jurisdictions including Norway, Sweden, and beyond. This reach reflects the strength of the Halifax Water–CWRS partnership, where regionally driven research is informing international water management and elevating Halifax Water's position as a globally recognized leader in the sector.

40+ JOURNAL ARTICLES *Published since 2021*	**50+** CONFERENCE PRESENTATIONS *Since 2021*

The partnership has hosted three major knowledge exchange events during the current Alliance term, directly connecting CWRS research with Halifax Water staff, partner utilities, industry, and regulators, collectively **engaging >300 participants** and demonstrating the growing reach and influence of our research ecosystem in shaping the regional water sector. Across these events, major themes included advancing equity in water services, strengthening watershed and source water protection, and addressing shared challenges in municipal water resilience and infrastructure planning and translating research into practice through direct engagement with regional stakeholders.

2023
Inclusive Water Excellence Symposium
(>100 Attendees)
Connecting equity-focused research with operational water practice

2024
Halifax Water – Watersheds Research Symposium
(60 Attendees)
Source water protection and watershed science in practice

2026
Municipal Water Resiliency & Planning Symposium
(150 Attendees)
Future-focused water infrastructure resilience & planning

Investment in the renewal of the NSERC Alliance Partnership (2027 – 2032) will ensure the CWRS–Halifax Water collaboration continues to integrate applied research, workforce development, and strategic planning into the next decade. The NSERC Alliance framework has proven to be an effective mechanism for leveraging Halifax Water's investment through federal matching while delivering direct, measurable benefits to utility operations. The table below outlines a proposed funding structure and the return on investment.

Organization	Proposed Yearly Contribution (CAD)					
	2027	2028	2029	2030	2031	Total
Halifax Water	$199,999	$199,999	$199,999	$199,999	$199,999	$999,995
Other Research Partners	$383,000	$383,000	$385,000	$385,000	$385,000	$1,921,000
Total Operating Budget (with NSERC + Mitacs Contributions)	$1,369,999	$1,369,999	$1,458,333	$1,458,333	$585,000	$7,114,996

We look forward to continuing and expanding this partnership through the proposed 2027–2032 Alliance grant and respectfully thank the Board for its continued support of research, training, and innovation in service of safe, reliable, and resilient water systems for Halifax.

Yours sincerely,

Graham Gagnon
Director, Centre for Water Resources Studies
Dalhousie University

Appendix

Strategic Priority	*Publication*	*Article Title*	*Link to PDF*
High-Quality Drinking Water and Public Health Protection	Abkar & Gagnon (2021), *AWWA Water Science*	Biological responses to P-limitation in indigenous bacteria isolated from drinking water	Link
	Abkar et al. (2023), *ESWRT*	Microbiome and hydraulic performance changes of drinking water biofilters during disruptive events-media replacement, lake diatom bloom, and chlorination	
	Aghasadeghi et al. (2021)	Pilot-scale comparison of sodium silicates, orthophosphate and pH adjustment to reduce lead release from lead service lines	
	Anderson et al. (2021), *NPJ Clean Water*	Relative importance of organic- and iron-based colloids in six Nova Scotian lakes	
	Anderson et al. (2023a), *STOTEN*	A review of long-term change in surface water natural organic matter concentration in the northern hemisphere and the implications for drinking water treatment	
	Anderson et al. (2023b), *AWWA Water Science*	Adapting direct filtration to increasing source water dissolved organic carbon using clarification and granular activated carbon	
	Bennett et al. (2025b), *ES&T Water*	Photolysis at the Speed of Light: Chemical-Free Degradation of Trace Organic Contaminants by Bespoke Photolysis Using High-Intensity Ultraviolet C Light-Emitting Diodes	
	DeMont et al. (2020), *Water Process Engineering*	Assessing strategies to improve the efficacy and efficiency of direct filtration plants facing changes in source water quality from anthropogenic and climatic pressures	
	DeMont et al. (2024), *AWWA Water Science*	Monitoring natural organic matter in drinking water treatment with photoelectrochemical oxygen demand	
	Earle et al. (2020), *AWWA Water Science*	Predicting manganese and iron precipitation in drinking water biofilters	
	Earle et al. (2023), *SciReports*	Raw water biofiltration for surface water manganese control	
	Gao et al. (2022a), Environmental Management	Early phase effects of silicate and orthophosphate on lead (Pb) corrosion scale development and Pb release	

	Gao et al. (2022b), *ESWRT*	Release and migration of Pb from Pb(II) and Pb(IV) compounds in the presence of microbiological activity	
	Gora et al. (2024), *ESWRT*	Control of biofilms with UV light: a critical review of methodologies, research gaps, and future directions	
	Hood et al. (2025), *ES&T Water*	Evaluating Orthophosphate-Silicate Blend as an Alternative to Blended Phosphates for Corrosion Control and Sequestration	
	Hood et al. (2026), *ES&T Water*	Granular Activated Carbon Filtration as a Lead Control Strategy	
	Kent et al. (2022a), *AWWA Water Science*	Comparison of anthracite and GAC biofilter performance for surface-water manganese removal	
	King et al. (2022), *ESWRT*	Role of natural organic matter and hardness on lead release from galvanic corrosion	
	King et al. (2025), *AWWA Water Science*	Comparison of Real Versus Synthetic NOM on Lead and Copper Release Using Dump and Fill Studies	
	Lane et al. (2022), *AWWA Water Science*	Operator-informed risk assessment tool: Opportunities and barriers to support risk management practices	
	Lara de Larrea et al. (2023), *ES&T Water*	Comparison of Legionella pneumophila and Pseudomonas fluorescens Quantification Methods for Assessing UV LED Disinfection	
	Li et al. (2020a), *Water Research*	Impact of sodium silicate on lead release and colloid size distributions in drinking water	
	Li et al. (2020b), *Hazardous Materials*	Controlling lead release due to uniform and galvanic corrosion — An evaluation of silicate-based inhibitors	
	Li et al. (2020c), *ESWRT*	Impact of sodium silicate on lead release from lead(II) carbonate	
	Li et al. (2025), *AWWA Water Science*	Combined UV LED and Chlorine for Synergistic Drinking Water Disinfection and Assessment of Disinfection By-Product Formation	
	Locsin et al. (2022a), *SciReports*	Impacts of orthophosphate–polyphosphate blends on the dissolution and transformation of lead (II) carbonate	
	Locsin et al. (2022b), *ES&T*	Colloidal lead in drinking water: Formation, occurrence, and characterization	

	Mackie et al. (2022), *Environmental Chemical Engineering*	Calibration of high-performance size exclusion chromatography (HPSEC) for molecular weight estimation of aquatic humic substances	
	McCormick et al. (2021), *Water Research*	Biological and physico-chemical mechanisms accelerating the acclimation of Mn-removing biofilters	
	McCormick et al. (2023a), *Water Research*	Betaproteobacteria are a key component of surface water biofilters that maintain sustained manganese removal in response to fluctuations in influent water temperature	
	McCormick et al. (2023b), *ESWRT*	Understanding the impact of different source water types on the biofilm characteristics and microbial communities of manganese removing biofilters	
	Mullin et al. (2025), *SciReports*	Impact of material properties for improved Pseudomonas aeruginosa biofilm inactivation with 280 nm UV LEDs	
	Munoz et al. (2022), *ESWRT*	Effect of sodium silicate on drinking water biofilm development	
	Park et al. (2021), *Enviro Science Process & Impacts*	Monitoring the influence of wastewater effluent on a small drinking water system using EEM fluorescence spectroscopy coupled with a PARAFAC and PCA statistical approach	
	Rauch et al. (2022), *Water Process Engineering*	UV disinfection audit of water resource recovery facilities identifies system and matrix limitations	
	Redden et al. (2021), *Enviro Science Process & Impacts*	Chemical recovery and browning of Nova Scotia surface waters in response to declining acid deposition	
	Redden et al. (2023), *STOTEN*	An innovative passive sampling approach for the detection of cyanobacterial gene targets in freshwater sources	
	Redden et al. (2025), *Water Research X*	qPCR-based prediction of low-level microcystin-LR using mcyE and passive sampling across multiple lakes and years	
	Swinamer et al. (2024), *ES&T*	Climate-Driven Increases in Source Water Natural Organic Matter: Implications for the Sustainability of Drinking Water Treatment	
	Trueman et al. (2022a), *ES&T Water*	Seasonal Lead Release into Drinking Water and the Effect of Aluminum	

	Trueman et al. (2022b), *Environmental Science Advances*	Sodium silicate and hexametaphosphate promote the release of (oxyhydr)oxide nanoparticles from corroding iron	
	Trueman et al. (2023a), *ES&T Water*	Evaluating Sentinel Pipe Racks for Monitoring Lead Release and Optimizing Corrosion Control	
	Trueman et al. (2023b), *ES&T Water Engineering*	Comparing Corrosion Control Treatments for Drinking Water Using a Robust Bayesian Generalized Additive Model	
	Hayes et al. (2023b), *SciReports*	Enhanced detection of viruses for improved water safety	
	Gouthro et al. (2025a), *NPJ Viruses*	Detection of avian influenza virus in surface waters using passive samplers	
Wastewater Compliance, Environmental Protection, and Cost Savings	Bennett et al. (2025a), *ES&T Water*	Nitrate-Mediated Photooxidation of Steroid Estrogens: Efficacy and Prospects for Wastewater Treatment	Link
	MacIsaac et al. (2023), *Scientific Reports*	Improved disinfection performance for 280 nm LEDs over 254 nm low-pressure UV lamps in community wastewater	
	MacIsaac et al. (2024), *Water Research X*	UV LED wastewater disinfection: The future is upon us	
	MacIsaac et al. (2026), *ChemRix*	Reduction of Biochemical Oxygen Demand in Wastewater Effluents Using UV LED Photolysis and Advanced Oxidation Processes	
	Organ et al. (2025), *Water Process Engineering*	Investigation of process changes and microbial community dynamics to improve Ammonia removal in rotating biological contactors treating domestic and industrial wastewater	
	Rauch et al. (2024a), *Water Research X*		
	Sweeney et al. (2022), *ESWRT*	Development of a rapid pre-concentration protocol and a magnetic beads-based RNA extraction method for SARS-CoV-2 detection in raw municipal wastewater	
	Hayes et al. (2022a), *STOTEN*	Adsorption of SARS-CoV-2 onto granular activated carbon (GAC) in wastewater: Implications for improvements in passive sampling	
	Hayes et al. (2022b), *ES&T Water*	Operational Constraints of Detecting SARS-CoV-2 on Passive Samplers using Electronegative Filters: A Kinetic and Equilibrium Analysis	

	Hayes et al. (2023a), *STOTEN*	Simultaneous detection of SARS-CoV-2, influenza A, respiratory syncytial virus, and measles in wastewater by multiplex RT-qPCR	
	Hayes et al. (2023c), *ES&T Water*	Detection of Omicron variant in November 2021: a retrospective analysis through wastewater in Halifax, Canada	
	Hayes et al. (2024), *Water Research*	From capture to detection: A critical review of passive sampling techniques for pathogen surveillance in water and wastewater	
	Hayes et al. (2025), *ESWRT*	Isothermal amplification as a water safety tool: rapid detection of viruses in surface water and wastewater	
	Hayes et al. (2026), *ES&T Water*	A New In-Line GAC-Based Device for Concentrating Viruses in Treated Wastewater: Implications for Full-Scale UV C LED Treatment	
	Gouthro et al. (2024), *STOTEN*	Maximizing viral nucleic acid yield from passive samplers: Evaluating elution and extraction protocols	
Workforce Development & Long-Term Sector Capacity		List of HQP	