

Quality Management System for Drinking Water 2025 Annual Report

The Drinking Water Quality Management Standard (DWQMS) requires the City of Richmond Hill to establish and maintain a Quality Management System (QMS) that conforms to the Standard.

The City owns a stand-alone drinking water distribution system, QMS policies and procedures govern the activities and services performed by the City. The DWQMS also requires that Members of Council are made aware to the following areas within the QMS, as they are:

- Review and Provision of Infrastructure
- Infrastructure Maintenance, Rehabilitation and Renewal Summary
- Management Review Outcomes
- Third-Party Audit Outcomes and Accreditation Renewal
- Organizational Structure, Roles, Responsibilities and Authorities

1. Review and Provision of Infrastructure

Council is being communicated on the status of the programs in place to rehabilitate and renew the infrastructure of the drinking water system through the 10 Year Capital Forecast for Roads, Water and Wastewater.

For the 2025 calendar year there were 800 metres of watermain rehabilitated/renewed on the following streets: Arnold Ave. (170 m) and Rosegarden Cres. (630 m).

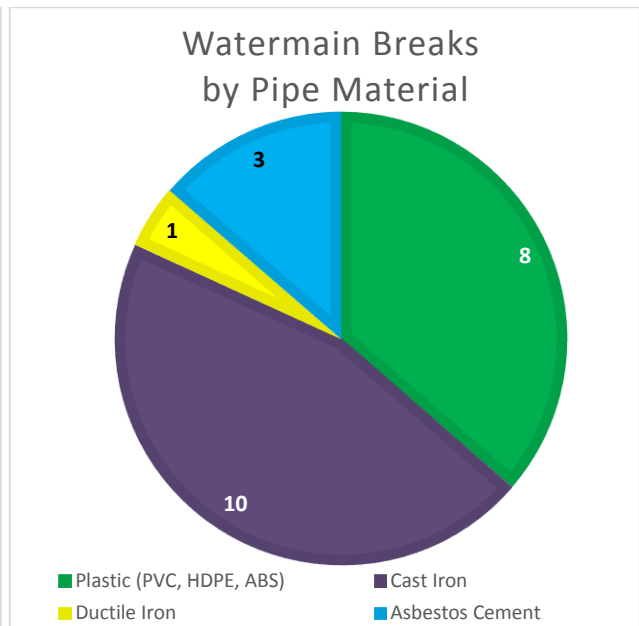
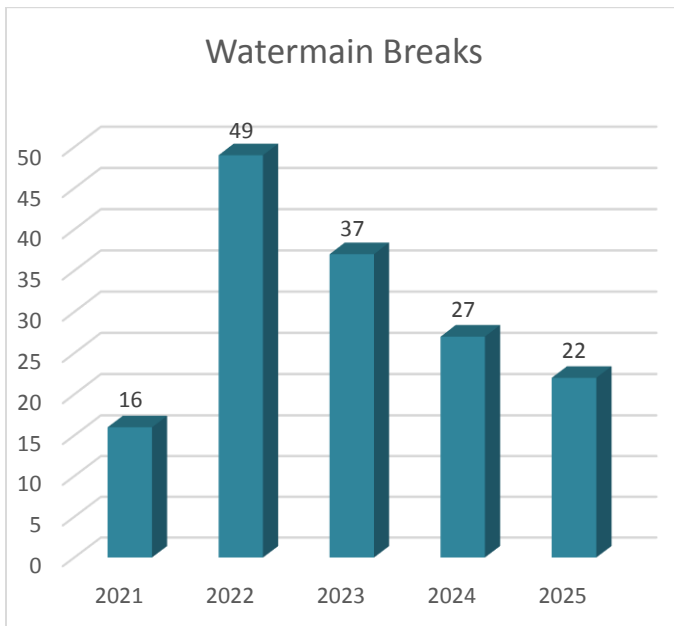
2. Infrastructure Maintenance, Rehabilitation and Renewal Summary

The following is a summary of the various infrastructure maintenance programs the City of Richmond Hill has in place to maintain, rehabilitate, and renew the infrastructure of the drinking water system.

Watermain Maintenance Program:

Watermain Repairs - Repair of watermains following pipe breakage.

For the 2025 year we had a total of 22 watermain breaks, most of the breaks were from ductile iron and cast iron watermains.



Valve Maintenance and Inspection Programs:

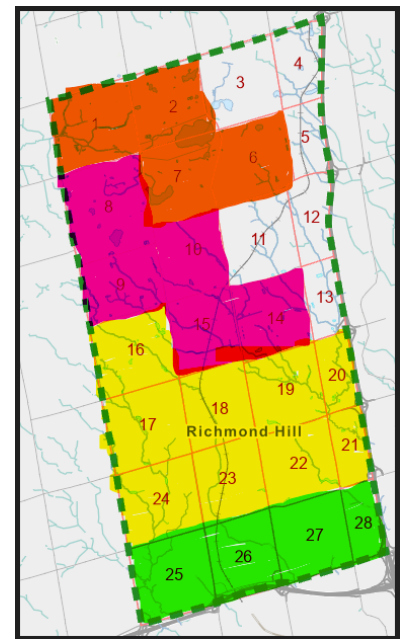
Valve Cycling and Inspection

A preventative program that exercises all valves in the distribution system with a target of 1000-1200 valves per year to locate and identify inoperable, defective, or broken valves.

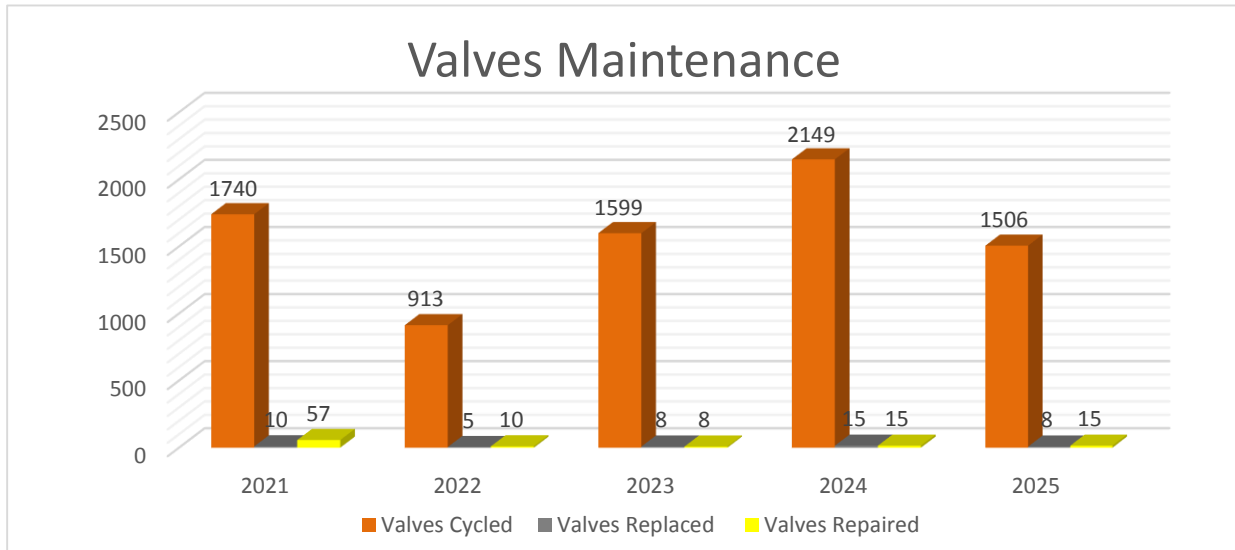
In 2025, a total 1506 valves were cycled within City Blocks 25 to 28, completing ahead of schedule the five-year valve cycling program started in 2022.

City Blocks completed by year:

- 2022 – Blocks 1, 2, 6, 7
- 2023 – Blocks 8, 9, 10, 14, 15
- 2024 – Blocks 16-24
- 2025 – Blocks 25-28



Valve Repair and Replaced - Repair/replacement of inoperable, defective, or broken valves.

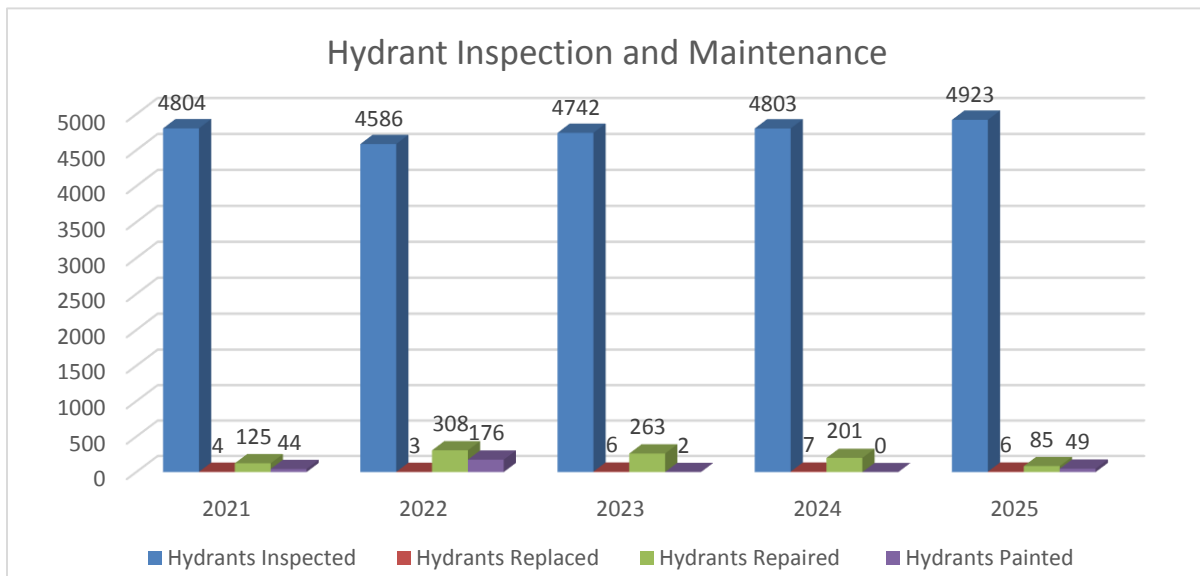


Hydrant Maintenance and Inspection Programs:

Hydrant Inspection and Winterizing - An annual preventative program to identify inoperable, defective, or broken hydrants while maintaining operability.

Hydrant Painting - An annual preventative program to protect hydrants from corrosion and maintain visibility.

Hydrant Repair and Replacement - Repair/replacement of inoperable, defective, or broken hydrants.

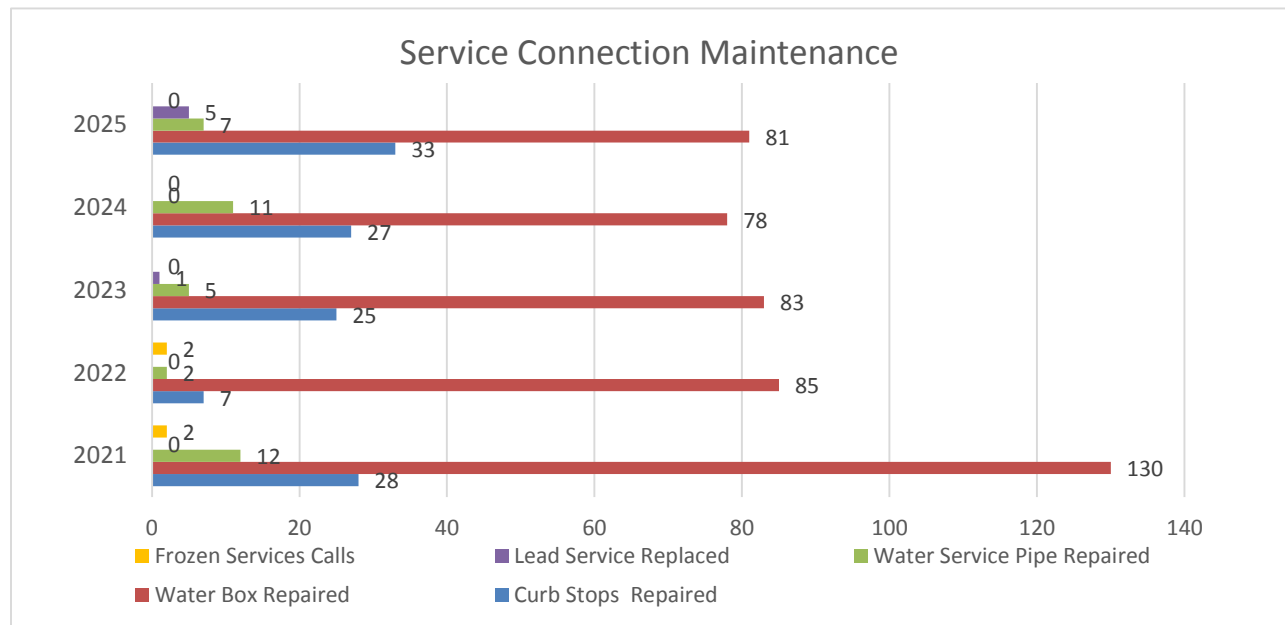


Service Connection Maintenance Programs:

Curb Stop Repairs - Repairs of inoperable, defective, or broken curb stops.

Water Service Pipe Repairs - Repairs and/or replacement of broken water service pipes. If the water service is lead pipe, this is then replaced up to the property line.

Frozen Services - Thawing of frozen water service piping.



3. Management Review Outcomes

Management Review meeting took place on December 18, 2025. The following table presents the outcomes of the management review:

<p>Summary of Deficiencies</p>	<ul style="list-style-type: none"> Parameter exceeded for the 10 adverse drinking water test result were: 9 Total coliform and 1 Chlorine residual. Upon flushing, sample test results received for all locations passed the Ontario Drinking Water Quality Standard. (Please see 2025 Drinking Water Annual Report)
<p>Summary of Decisions</p>	<p><u>Results of Infrastructure Review</u> From year to year, there is about 2 kilometres of watermain been replaced, which means that it will take about 40 years to replace all metallic pipe we have in the City. Furthermore, some projects are delay until the Region is ready to proceed on these locations.</p> <p>There is over 80 Km of metallic watermain in the City, and they pose the highest risk in the quality of the water within these pipes and in the number of breaks they experience as they are approaching end of life.</p> <p>Possible solutions:</p>

	<ul style="list-style-type: none"> • CIPP (cured-in-place pipe) can drastically expand the life of metallic pipes – push to rehabilitate pipe if replacement is not feasible and this way expand the life of the pipe significantly. • Reserve fund to be used for rehabilitation of watermain projects. • Watermain should be the type of asset, Asset Management should be considering more intensely.
Update on Previous Action Items	<p><u>Operational Performance</u></p> <p>Currently modeler working with Water and Wastewater Section, focusing on the wastewater as it relates to the Consolidated Linear Infrastructure Environmental Compliance Approvals (CLI ECA)</p> <p>Ongoing</p> <p>Consecutive model for chlorine dissipation and water age study has not been performed again after suboptimal results from the initial study.</p>
Update on Previous Action Items	<p><u>Operational Performance</u></p> <p>Do you track watermain breaks by depth of service? Is there a correlation in terms of the depth of service and breakage? Watermain breaks will be tracked in terms of depth of service in addition to pipe material</p> <p>Completed</p> <p>The average depth of watermain breaks is of 1.7 metres. There is not correlation between the depth and break but instead the correlation is in the type of pipe, as most breaks are from ductile and cast-iron pipe and these kinds of pipes are reaching their end of life cycle.</p>
Update on Previous Action Items	<p><u>Resources needed to maintain the Quality Management System</u></p> <p>QMS Rep to work with IT to develop in-house solution for various portions of the Management System:</p> <ul style="list-style-type: none"> • Document and Records Control – SharePoint • Training hours – Maximo • Operational Performance for Management Review reporting – Power BI <p>Ongoing</p> <p>Power BI report is being created to show up-to-date operational performance. The parameter that will be represented using this tool include:</p> <ul style="list-style-type: none"> • Valve cycling and maintenance • Hydrant inspection and maintenance • Service connection components maintenance • Adverse water quality incidents

4. Third-Party Surveillance Audit

The Surveillance Audit took place on October 23-24, 2025. Two minor non-conformances were identified and 2 opportunities for improvement:

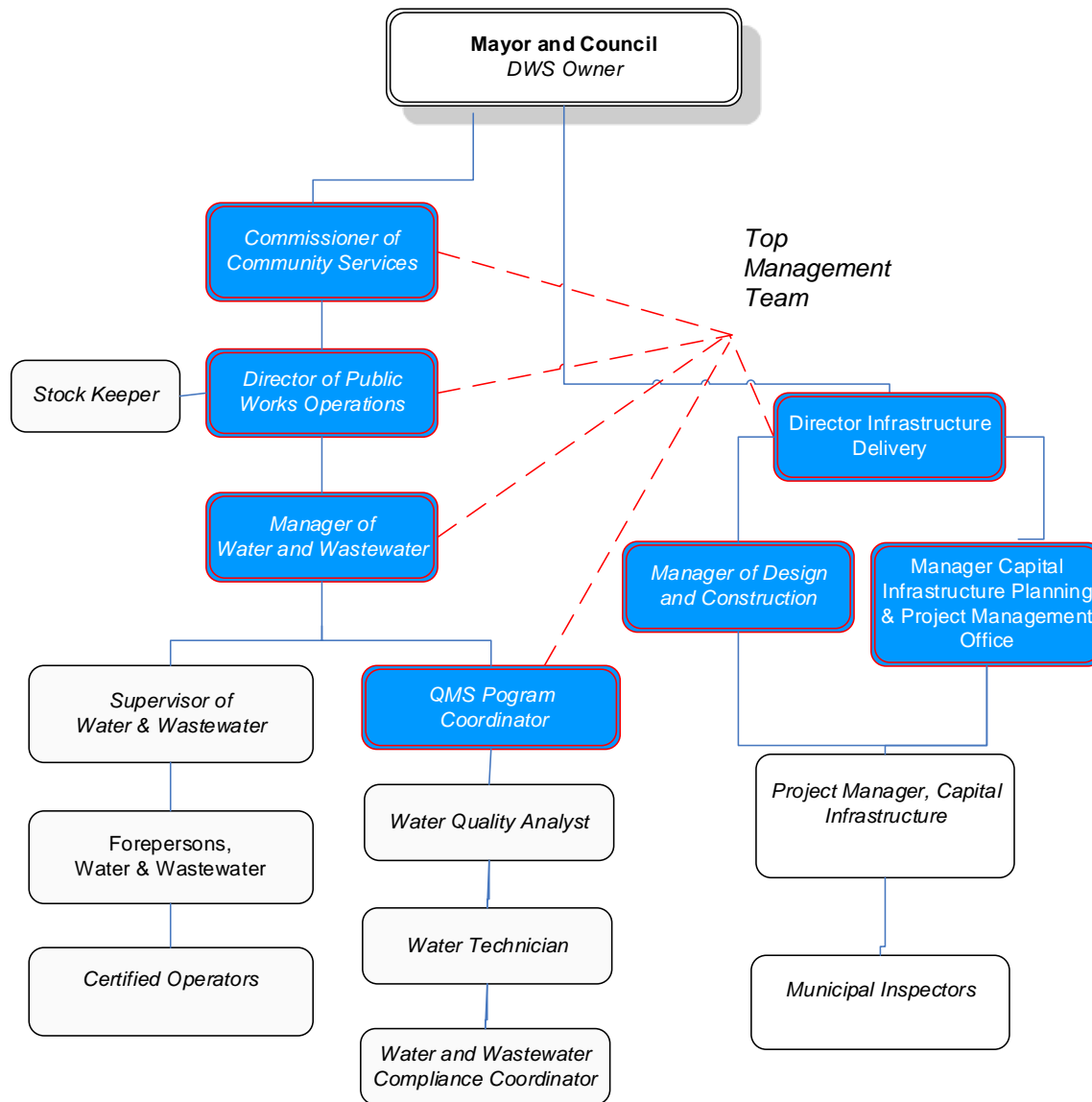
Element	Non-conformances
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Element 13 Essential Supplies & Services	Approved corrective actions were not implemented as committed. Three (3) actions were identified with a time schedule committed. These actions were approved by NSR-ISR but only one of three (1 of 3) actions were implemented. Operating Authority to submit root cause of the original non-conformance as well as this new non-conformance (failed to implement approved action plan in a timely manner) as response to this new corrective action.
Element 19 Internal Audit	Not all the requirements of the DWQMS 2017 were audited in 2025. Procedure claims audit of all requirements of DWQMS Element 19, yet there is no evidence available which suggests Element 19 requirements either were audited during Aug. 2025 internal audit or a schedule is in place which suggest Element 19 requirements will be audited at other time during the calendar year.
Element	Opportunity for improvement
Element 1 Document and Records Control	Opportunity exists to document how legibility of documents is attained within the documented procedure.
Element 19 Internal Audit	While Operating Authority is in conformance with the requirements of internal audit the following opportunities exists. (a) Auditee sample size (especially where operators are responsible) could be larger than one operator audited. (b) Objective evidence gathered could be documented specifically for random sample selected for the audit of Elements 5, 10, 12, 13, 15, 16, 17, and 21. (c) One day on site surveillance audit based on the above a) and b) appear too short to judge conformity using sufficient objective evidence.

5. Organizational Structure, Roles, Responsibilities and Authorities

Members of Council as the “Owner” of the drinking water distribution system are responsible for ensuring their drinking water system meets all prescribed drinking water quality standards, operate in accordance with the *Safe Drinking Water Act* and its regulations, keep a fit state of repair, comply with all sampling, testing, and monitoring requirements, and meet all reporting requirements.

QMS Top Management consist of: Commissioner of Community Services, Director Public Works Operations, Director Infrastructure Delivery, Manager of Water and Wastewater, Manager of Design and Construction, Manager Capital Infrastructure Planning & Project Management Office and QMS Program Coordinator.



Roles and Responsibilities in accordance with the Safe Drinking Water Act:

<p>Section 11 – Duties of Owner and Operating Authorities</p>	<ul style="list-style-type: none"> • Ensure that drinking water meets prescribed standards. • Ensure that the system is operated by qualified persons • Ensure that all sampling, testing and monitoring requirements are complied with • Use licensed (accredited) labs.
<p>Section 14 – Agreement with accredited</p>	<ul style="list-style-type: none"> • Municipal officials with decision-making authority remain personally liable, even when the system is run by a corporate entity

operating authority	<ul style="list-style-type: none"> • System owners are not relieved of duty to comply, even if operations are delegated • Owners must ensure the Operating Authority is carrying out its responsibilities
Section 19 – Standard of Care, Municipal Drinking Water System	<ul style="list-style-type: none"> • Those with decision-making authority: <ul style="list-style-type: none"> ○ Exercise care to ensure the protection and safety of the users of the system ○ Act honestly, competently and with integrity • May rely in good faith on a report of an engineer, lawyer, accountant, or other qualified professional. • Enforcement of the Standard of Care <ul style="list-style-type: none"> ○ A provincial officer can lay a charge against a person to whom the standard applies ○ Maximum penalties - \$4 million fine and potential imprisonment for up to five years ○ Penalties are decided by the courts based on the severity and consequences of the offence

In the City of Richmond Hill Council assumes “Owner” responsibilities and authorities outlined in the *Safe Drinking Water Act* and the DWQMS which include attending the “Responsibilities Under the Statutory Standard of Care: Safe Drinking Water Act” training session at minimum once per Council term (four years).

Roles and Responsibilities during an Emergency Response:

	Description	Response Team	Communication Process
Level 1	Minor Operational Impact or Interruption of Service/System	Certified Operator Supervisor Overall Responsible Operator (ORO) /Manager	Verbal notification of Level 1 emergency Escalation
Level 2	Water Quality and/or Large Volume Consumer Affected	Certified Operator Supervisor Overall Responsible Operator (ORO) /Manager	Verbal notification of Level 2 emergency Escalation Public Health and MECP Notification

<p>Level 3</p>	<p>Immediate Danger to Health or Property</p>	<p>Certified Operator Supervisor</p> <p>Overall Responsible Operator (ORO) /Manager</p> <p>Director Public Works</p> <p>Top Management</p> <p>Communication Services</p>	<p>Verbal notification of Level 3 emergency</p> <p>Escalation</p> <p>Public Health and MECP Notification</p> <p>Top Management in consultation with the Communication Services shall decide upon the public communication process.</p>
<p>Level 4</p>	<p>City-wide Emergency</p>	<p>Certified Operator Supervisor</p> <p>Overall Responsible Operator (ORO) /Manager</p> <p>Director Public Works</p> <p>Top Management</p> <p>Communication Services</p> <p>Fire Chief</p> <p>Mayor and Council</p>	<p>Verbal notification of Level 4 emergency</p> <p>Escalation</p> <p>Public Health and MECP Notification</p> <p>City-wide emergency communication coordinated by the Communications Services Department</p>