



Taking care of your drinking water

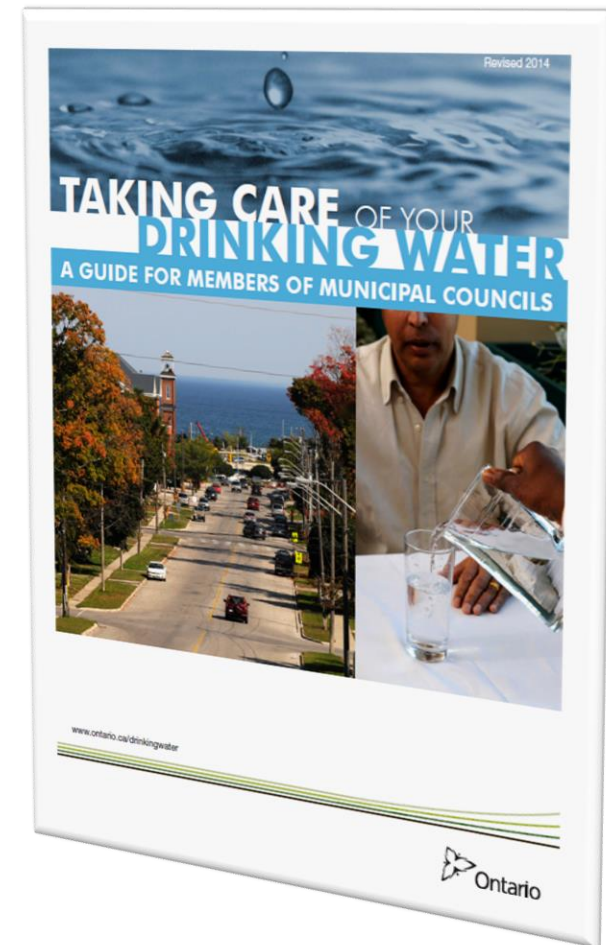
Prepared by:

Public Works Services

Date: February 13, 2023

Why are we here?

- Statutory Standard of Care
- Council, as Owner, needs to:
 - Understand personal duty.
 - Be informed: ask questions, get answers.
 - Be vigilant.
- Provide an overview of Newmarket's drinking water system.



SDWA s. 19 Statutory Standard of Care – the Owner shall:

- Exercise ***level of care, diligence*** and ***skill***
 - ...that a ***reasonably prudent*** person would be ***expected to exercise*** in a similar situation; and
 - Act ***honestly, competently, with integrity***
 - ...ensuring the ***protection and safety*** of the users of the municipal drinking water system.
- ...or be guilty of an offence
(SDWA s.19(3)).

SDWA s. 19

– if found guilty of an offence:

- Maximum fines of up to **\$4 million** for a first offence and provision for ***imprisonment for up to five years***.
 - No minimum penalties are established.
 - Actual penalties would be decided by the courts depending on the severity and consequences of the offence.
- The provision of the Municipal Act, 2001 ***does not limit*** the ***personal liability*** of members of municipal councils and officials subject to the duty imposed by SDWA s.19.
 - Municipal councillors and officials could be penalized if a prosecution is commenced and a court determines they have failed to carry out the duty imposed under that section.

Safe drinking water: a shared responsibility

1. The province:

- Ministry of the Environment, Conservation and Parks
- Ministry of Health and Long-Term Care



2. Public Health:

- York Region Public Health
- York Region Operations & Maintenance



3. Drinking water system Owner:

- Town of Newmarket Council

4. Accredited Operating Authority:

- Newmarket Public Works



Duties – SDWA s.11-18

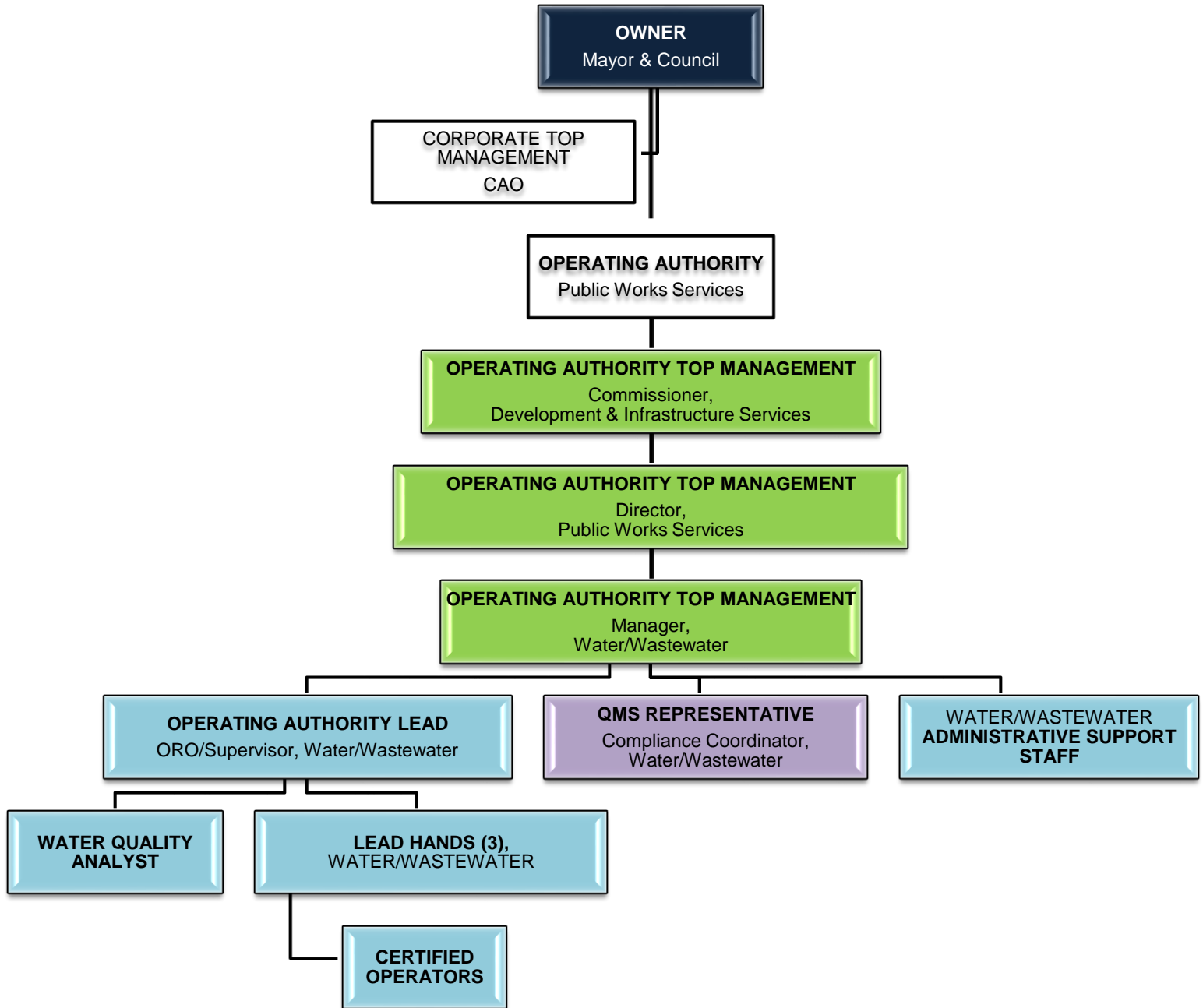
OWNER

- Ensure accredited Operating Authority (OA) operating DWS
- Report to the public on any matter required by regulations
- Agreement with accredited OA: DWS description, Owner vs. OA responsibilities (re: Act, approvals, emergencies, OP's)
- Can delegate responsibilities to OA in agreement (not S.19)
- Can rely on experts in good faith

OPERATING AUTHORITY (OA)

- Provide water meeting drinking water quality standards; labs used accredited, eligible to test
- Operate in accordance w/ Act
- Maintain DWS in fit state repair
- Satisfy req'ts for DWS Class
- Ensure DWS is operated by certified, trained persons as req'd; supervised by qualified persons (per reg's, approvals)
- Sampling, testing, monitoring requirements complied with
- Report as required

Organization Chart



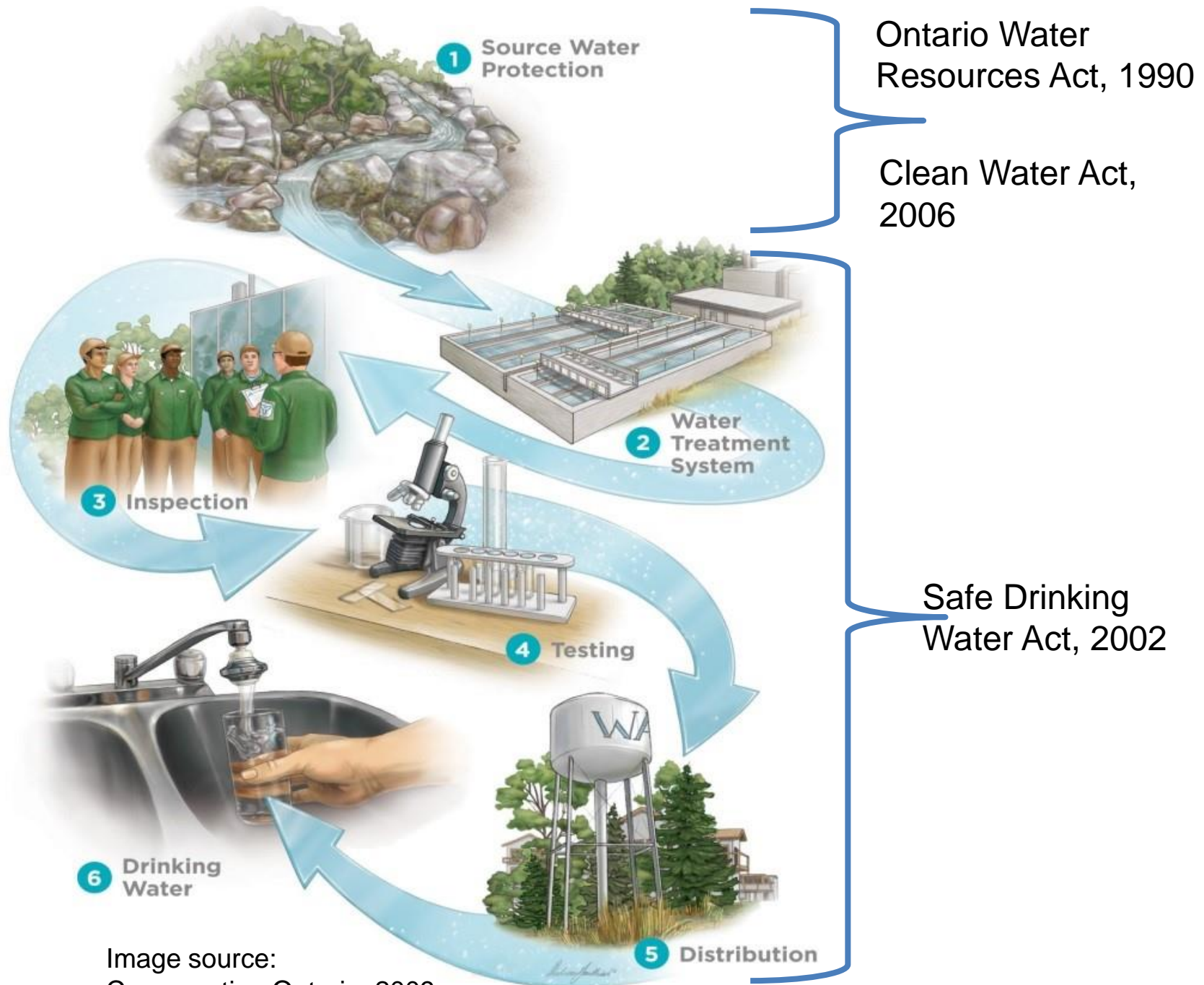
Town of Newmarket is committed to:

1. Maintenance and continual improvement of the quality management system,
2. Provide safe drinking water to our consumers, and
3. Comply with applicable legislation and regulations.

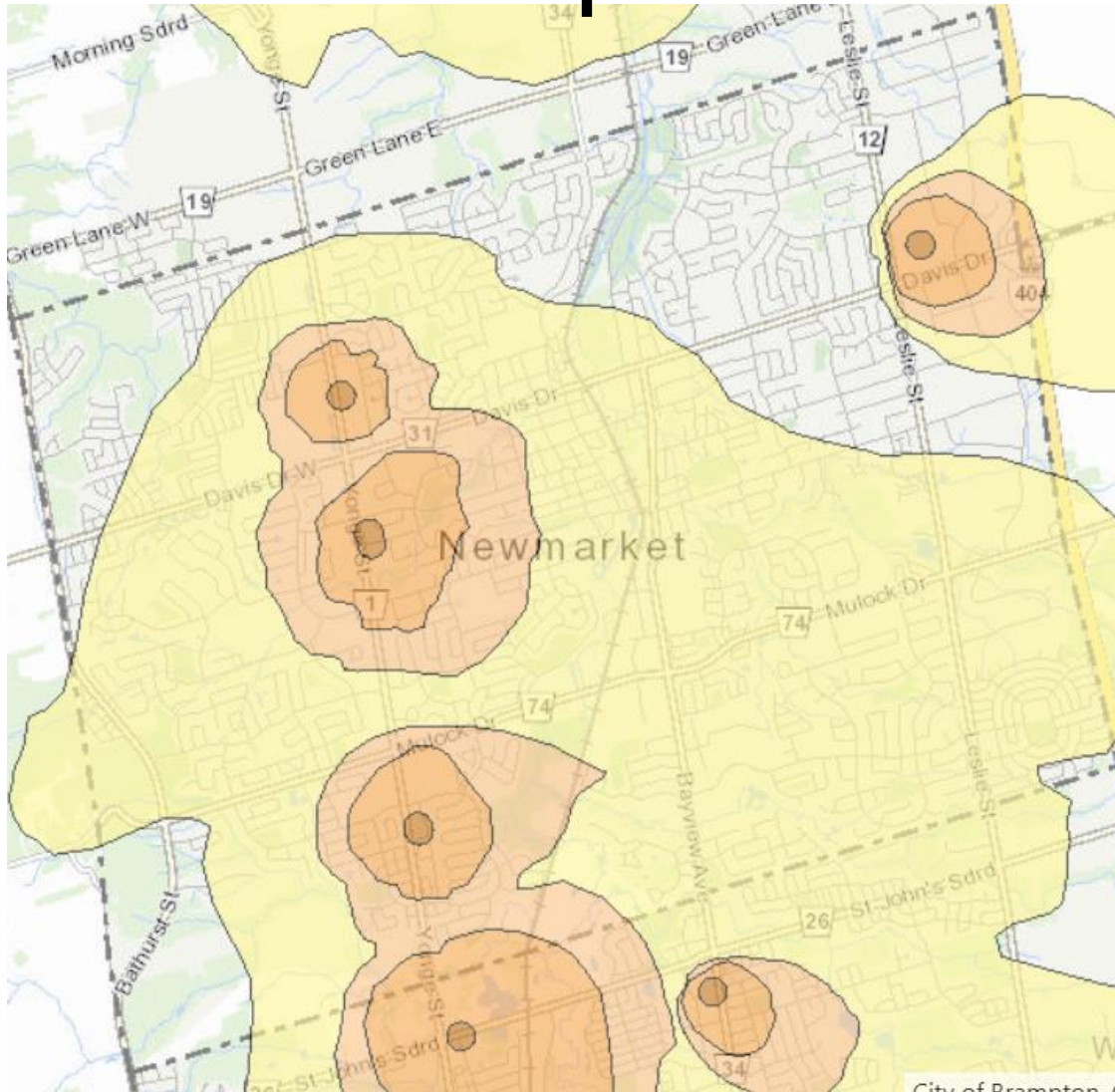
Top Management competency and years' experience

Role	Minimum Competency	Competency Achieved	Years' Experience
Manager, Water / Wastewater	Class I	Class II	29+
Op. Authority Lead - ORO / Supervisor	Class I	Class II	25+
Lead Hands (3)	Class I	Class II	15+
Certified Operators (16)	OIT	Class I and Class II	1-30 years
Water Quality Analyst	WQA Certificate	WQA Certificate	2 years

A multi-barrier approach



Source protection planning



1. ID source water and vulnerable areas
2. ID water quality and quantity issues
3. Identify threats
4. Establish the level of risk
5. Develop policies to address significant risks

Source protection activities

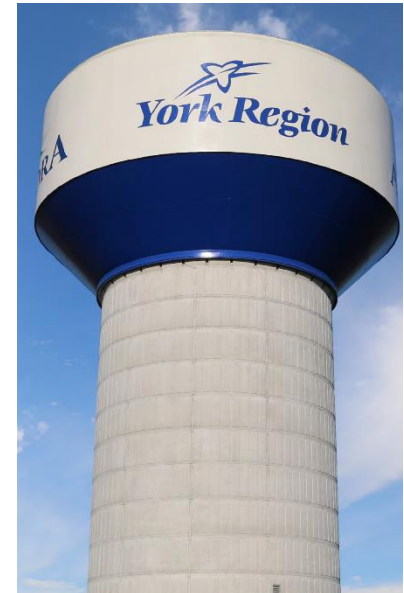


Source: Figure 8 from York Region's Source Water Protection Implementation – 2017 report.



Effective treatment

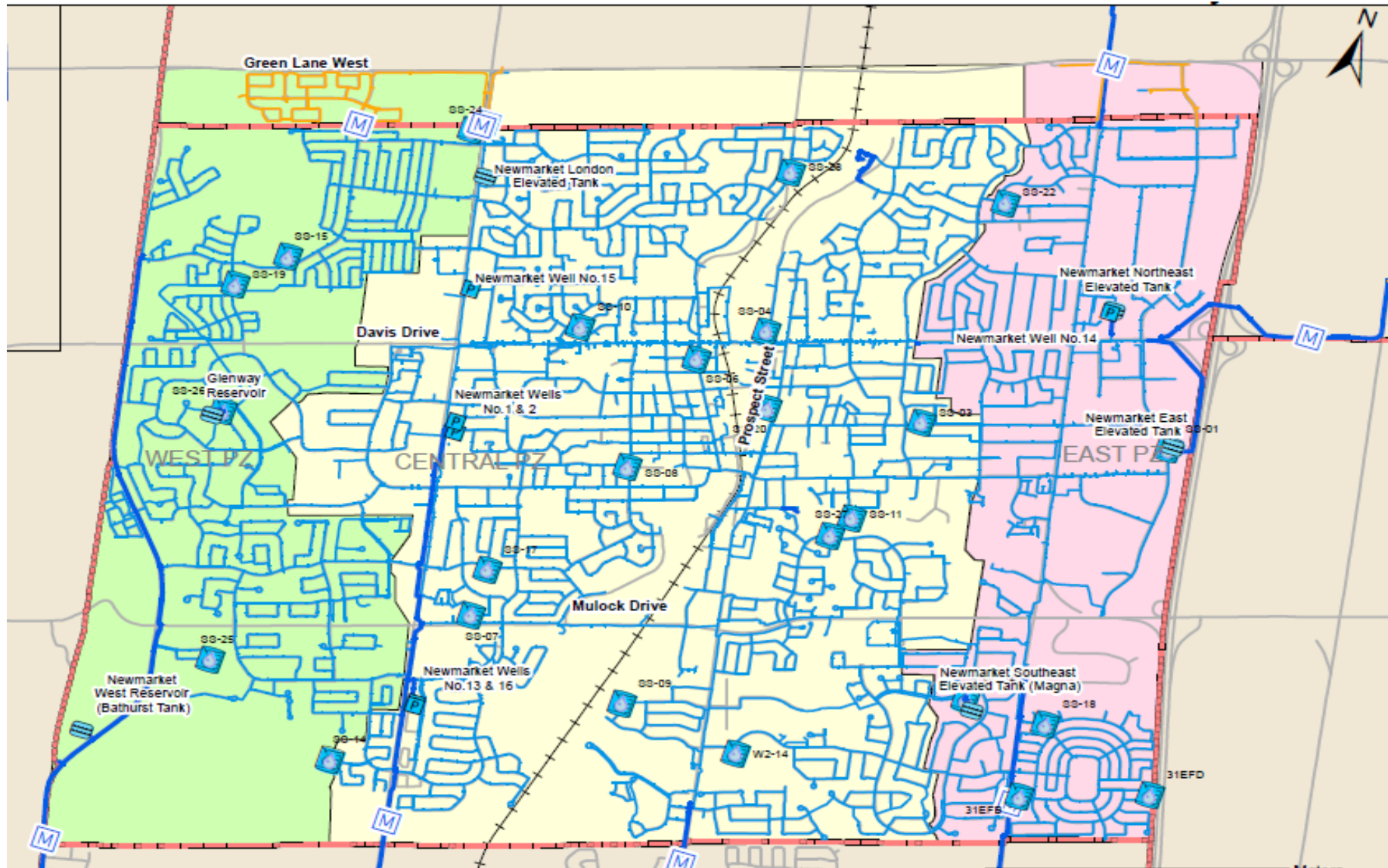
- Two main source types:
 1. surface water (York: Peel, Toronto)
 2. well water (York: 6 local wells)
- Water quality monitored continuously
- Well water treatment and chlorination is carried out by York Region.



Distribution system goals

- **Effective Design and Build**
 - Maximum daily use for residential and ICI customers
 - Fire fighting demand, and
 - Operational redundancy
- **Effective Operation**
 - Pressure management
 - Chlorine residual
 - Flushing and cleaning
 - Leak detection and condition assessment
- **Effective Maintenance**
 - Timely response to breakdowns
 - Preventive to ensure infrastructure longevity and reliability of service

Distribution system



Infrastructure planning

- Ensure infrastructure sustainability with 5-year plan (coordinated with Engineering and other divisions).
- Driven by:
 - Watermain age
 - Failures history (e.g. watermain breaks, water quality)
 - Condition assessments
 - Large capital maintenance and replacement projects
- Annual infrastructure meetings to discuss priorities and changing risks.
- Emergency repairs by contractors.

Effective monitoring & reporting

- Regular sampling and monitoring
 - Regulatory sampling throughout the distribution system
 - Operational chlorine residual program
- Incident response and notifications
 - Adverse water quality incidents (AWQI's)
 - Notifications to: MECP, YRPH, Owner, public
- Reports and communications

Ministry of Environment, Conservation & Parks (MECP)

- Annual MECP inspections
- Ranges of scores are between 90-100%
- Summary of other notes included
 - Backflow recommendation – what actions are taken in response
 - Other opportunities for improvement

Municipal Drinking Water Licensing (MDWL) program

- **Municipal Drinking Water Licence (MDWL):**
 - May 2026 expiry (application deadline November 2025)
- **Drinking Water Works Permit (DWWP):**
 - May 2026 expiry (application deadline November 2025)
- **Permits to Take Water (PTTW):** (NA)
- **Operational plan:** updated annually (with ea. external audit) and endorsed by the Owner with each new council.
- **Accreditation maintained:** 2022 internal audit (DWQMS 2.0); 2022 external audit (DWQMS 2.0), 2021 external re-accreditation audit
- **Financial Plan, 2020:**

Annual QMS Activities

- **Emergency Response Training**
 - 2022 tabletop: Pandemic Response
- **Internal audit**
 - Winter timeline, last conducted November 2022
- **External audits**
 - Summer timeline, last conducted July 2022
- **MECP Inspections**

Annual QMS Activities

- **Annual Reports**
 - targeted March timeframe
 - council advised when posted.
- **Management Reviews**
 - Management Review meeting in March
 - Summary report posted in Spring timeline with deficiencies, decisions, action items
- **Annual Budget process**
 - looking at infrastructure review, asset management, outcomes of risk assessment

O. Reg. 170/03 s.11

Annual Reports:

- A description of the drinking water system,
- A list of water treatment chemicals used;
- A summary of most recent water test results;
- A summary of adverse test results or other issues (including corrective actions taken)
- A description of major expenses incurred to install, repair or replace required equipment,
- The locations where this report is available.

Highest risks

- **Highest risks**

- Chlorine residual maintenance
- Backflow events
- Short-staffing for winter maintenance vs. water operations

- **Plans to address these**

- Increased: sampling, preventive maintenance programs (e.g. flushing); studies with Stantec and work with York Region to improve water quality and reduce water age; changing pressure districts
- Backflow Prevention Program
- Consideration to seasonal staffing needs



Town Activities to Manage Water Quality Challenges

Emergency Management

Town Emergency (e.g. natural disaster)

- Municipal Emergency Control Group activated
- Town emergency plan activated
- Public Works Services' emergency plan may or may not be activated

Public Works Services Emergency (e.g. water advisory)

- Municipal Emergency Control Group activated
- Public Works Services staff fully engaged in response activities
- Both Public Works Services and Town emergency plans activated

Alert or Major Incident (e.g. severe weather)

- Public Works Services staff fully engaged
- Public Works Services emergency plan activated
- Town emergency plan not activated

Effective Management: Customer Service

- Water department staff respond to customer calls (7:30 am– 4:00 pm); after-hours by call centre
- Public Works Services 24/7 staff coverage.
- Same day call response, with most issues resolved over the phone.
- Water quality complaints mostly taste & odour; discoloured water; reduced pressure (re: plumbing and appurtenances), usually solved over phone.
- 85,000 customers keep eye on system.
- Potential to expand on community outreach and education events (e.g. through swabbing program, “touch-a-truck” PW initiative).

Key Challenges

- Chlorine residual maintenance.
- Increasing customer expectations (with public perception issues about flushing frequently).
- System vulnerability to backflow events.
- Winter maintenance activities taking away from normal water operations.
- Infrastructure sustainability and asset management (distribution system only).
- Changing regulations.

Conclusions – Policy Direction

- Owner oversight of major policy areas and programs:
 - Financial plans
 - Annual budget process to ensure sustainability of water system
 - 5-year capital plan for infrastructure planning
 - Emergency management
 - Customer service

Purpose of Quality Management

*“The purpose of the quality management approach in the context of drinking water is to **protect public health** by achieving **consistent good practice** in managing and operating a water system.”*

- Justice Dennis O'Connor, 2002,
Report of the Walkerton Inquiry

Thank you

For more information, please contact

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