



# Infrastructure Review 2022

December 12<sup>th</sup>, 2022 – Hamlet Room

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## Drinking Water System Name:

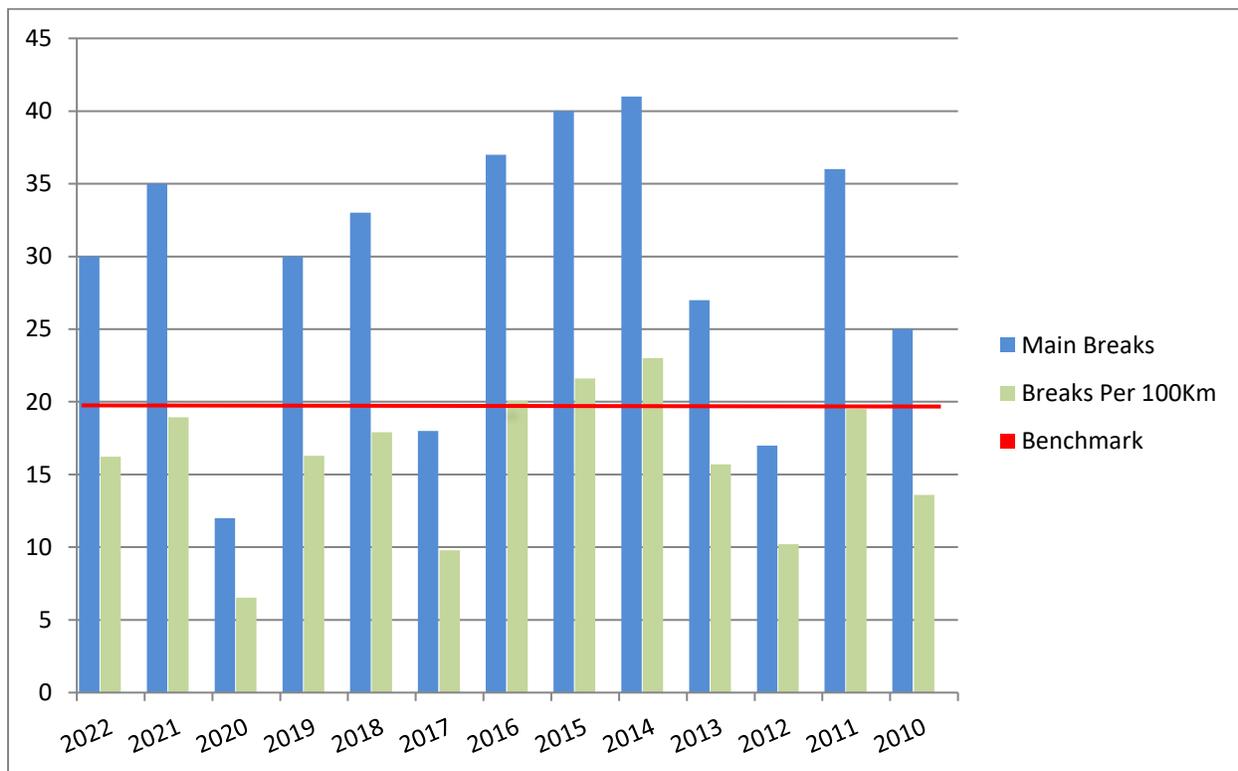
*Stratford Drinking Water System*

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## Maintenance Review

November 1<sup>st</sup>, 2021 – November 30<sup>th</sup>, 2022

1. Number of Mainbreaks
  - 17 in 2020
  - 35 in 2021
  - 30 in 2022



*\*Average number of breaks per km of water distribution network*

2. Frozen Services Response
  - 2021 – 0 frozen Services
    - i. Batch 1 – 7 services (Jan. 8 – April 13)
    - ii. Batch 2 – 70 services (Feb. 9 – April 13)
  - 2022 – 2 frozen services (38 & 58 Norfolk Street)



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- i. Batch 1 – 9 services (Jan. 10 – April 11)
- ii. Batch 2 – 72 services (Jan. 14 – April 11)
- iii. Batch 3 – 126 services (Jan. 31 – April 11)

## 3. Valve Program

- Exercise program –197 valves exercised in 2019
- Exercise program –121 valves exercised in 2020
- Exercise program – 588 valves exercised in 2021
- Exercise program – 196 valves exercised in 2022

## 4. Hydrants Checked 2022

- Hydrant maintenance program – 22 Hydrants repairs.
- Replaced 0 hydrant valves
- All public hydrants are operated to ensure hydrants are operational at a minimum of 2x per year, in conjunction with our biannual flushing program. During this time, no in-depth hydrant inspections conducted.

## 5. Water Loss

- Water Loss 2019 – 12.1%
- Water Loss 2020 – 8.5% (flushing, fire department, main breaks, service leaks, frozen services, automatic flusher, dead-end flushing).
- Water Loss 2021 – 21% (Hydrant flushing, fire department, main breaks, large hydrant break on Griffith Rd, service leaks, frozen services, automatic flusher, dead-end flushing, Romeo Reservoir cleaning).
- Water Loss 2022 - TBA

## 6. Lead Replacements Replaced (city side) or removed

- 15 in 2018 (11 were part of Ballantyne reconstruction project)
- 2 in 2019
- 0 in 2020
- 2 in 2021 (140 Norman Street & 151 Nelson Street)
- 28 in 2022 (11 on Huron Street, 16 Arglye Street, 1 Mackenzie Street)



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Infrastructure Review 2021/2022						
Project Name	Topic	Description of Project	Costing	Budget	Action Items	Target Date
Unidirectional Flushing Program	Water Quality	Jacobs Consulting has been hired to assist in developing a UDF pilot program.	22,000	2022 Operating Budget	1. Waiting on final meeting, program package and invoice (November 21, 2022).	Ongoing
Mornington St. Well Access Hatch Replacement	Well Infrastructure Repair & Replacement	Replacement of the existing floor access hatch at the Mornington St. well. Install a new water seal tight hatch and address ladder rung issue.	\$6,000	2022 Capital Budget	None	Completed
Mornington St. Well Drainage Plumbing Replacement	Well Infrastructure Repair & Replacement	Drain the Mornington clearwell and remove failed piping. Replace with new, non-corrosive brackets and re-install to spec	\$3,500	2022 Capital Budget	None	Completed
E. Ris Software Improvements	Data Collection and Reporting	Westin (formally Eramosa) is working on continuous improvements to the existing water and wastewater E. Ris program	\$22,000	2022 Operating Budget	1. Water Taking Reporting Completed 2. Daily Data Dump Function Completed 3. Updated Reporting Tools 4. Ongoing Staff Training	Ongoing
Hydrant Monitoring	Pressure Monitoring	Ongoing leak detection using hydrant monitoring equipment. Support from Digital Water Solutions	\$20,000	2022 Capital Budget	1. Installed 2 additional pressure/leak monitors 2. Working with Digital Water Solutions for monitoring program	Completed
Field Well #7 Motor Replacement and Well	Well Infrastructure Repair & Replacement	Remove failed well pump motor from Field Well #7 located at the Romeo Control Centre. After	\$9,500	2022 Operating Budget	None	Completed



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Performance Testing		installation of the new well, complete performance testing.				
Dunn Rd. Well and Field Well #6 Performance Testing	System Performance	Complete performance and step-testing of FW#6 and Dunn Rd. wells.	\$4,000	2022 Operating Budget	None	Completed
Dead End Optimization Program	Water Quality	Creating a new dead end hydrant program to identify and correct water quality areas of concern in the system.	N/A	2022 Operating Budget	1. Data collection and program modeling 2. Field training and program implementation	Ongoing
Romeo Control Centre Upgrades	Water Quality/Facility Maintenance	Purchase and install new check valves and isolation gate valves for pump room. To be installed by staff over winter 2022/2023	\$28,000	2022 Capital Budget	Install new gate and check valves in High Lift Pump room for 6" and 8" lines.	Ongoing
Lorne Ave., Romeo and Chestnut VFD Installation	Environmental/Electrical Upgrade	Install Variable Frequency Drive (VFD) at Lorne Ave. well. Install VFD's at Romeo CC for High Lift Pumps 2 and 3. Install VFD at Chestnut Well.	\$20,000	2022 Operating Budget	None	Completed



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## Conclusions

- Valves - Program continues to evolve on an annual basis. New valve turner machine has improved efficiency. The New Valve PM Program was implemented in 2020 which has identified all the system valves and any deficiencies.
- Flushing – Watermain flushing program will continue to be reviewed for improvements. Uni-Directional Pilot will be developed internally for spring 2023.
- Well Program – In 2022 returned to a scheduled based system 5-10 years with a preliminary step-test component to determine if the well needs a full rehabilitation. Started with performance step testing on FW6, FW7 and Dunn Rd.
- Frozen Services - will continue to be a year-by-year analysis. Need to be aware of consequences of dates and revenue impact. Program was developed in 2021 to begin addressing the most critical batch of homes that are at risk of freezing.
- Water Loss – No concerns currently. Hydrant Distribution monitoring to improve analysis.
- Watermain Breaks – No concerns currently. Below benchmark. All procedures followed.