



Sanitary Annual Performance Report

February 2024

Town of Aurora



Executive Summary

The Town of Aurora (Town) Wastewater Collection System – Class 2 consists of works for the collection and transmission of sewage, consisting of trunk sewers, separate sewers, sewage pumping stations and force mains with discharge into York Region Sanitary System. The Wastewater Collection System does not include any Combined Sewage Structures or Collection System Overflow Points.

The sewage collection system operates under the authority of Environmental Compliance Approval (ECA) number 115-W601.

Public Complaints

There were no public complaints related to the Town sewage collection system in 2023 other than the reports related to the Spill that occurred in February 2023.

Spills

In February 2023, a sewage blockage within the sanitary sewer system located off Timpson Drive within Elizabeth Hader Park occurred and was reported to the Ministry (SAC Incident # 1-2HV8XK). The blockage was identified and cleared between February 11 and 12 with no impacts to upstream residential users identified.

There were no sewage overflows at any of the identified sanitary sewer overflow points including Pumping Stations as identified in Table B5 within ECA #115- W601.

2023 Capital Improvements, Maintenance and Studies

Five (5) sanitary upgrade projects were completed in 2023. The capital projects include planned extensions for new developments and replacements of aging sewers.

The Town also completed condition assessments of all six (6) sewage pumping stations and is in progress in generating Operation and Maintenance (O&M) Manuals for each facility.

2024 Capital Improvements, Maintenance and Studies

One (1) upgrade is planned to commence in 2024 for the existing sanitary system. The upgrade is to replace the sanitary sewer on Poplar Crescent.

The Town is currently updating their water and wastewater hydraulic models for the existing system to assist with the Water and Wastewater Master Plan scheduled to begin in 2024.

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1 Sewage Collection System Overview

The Town of Aurora (Town) Wastewater Collection System – Class 2 consists of infrastructure for the collection and transmission of sewage, consisting of trunk sewers, collection sewers, and six (6) sewage pumping stations (SPS), and their associated forcemains. Sewage is conveyed through this system to a York Region trunk sewer where it is collected and discharged to the York Durham sanitary system.

A summary of the sewage collection system is shown in Figure 1.

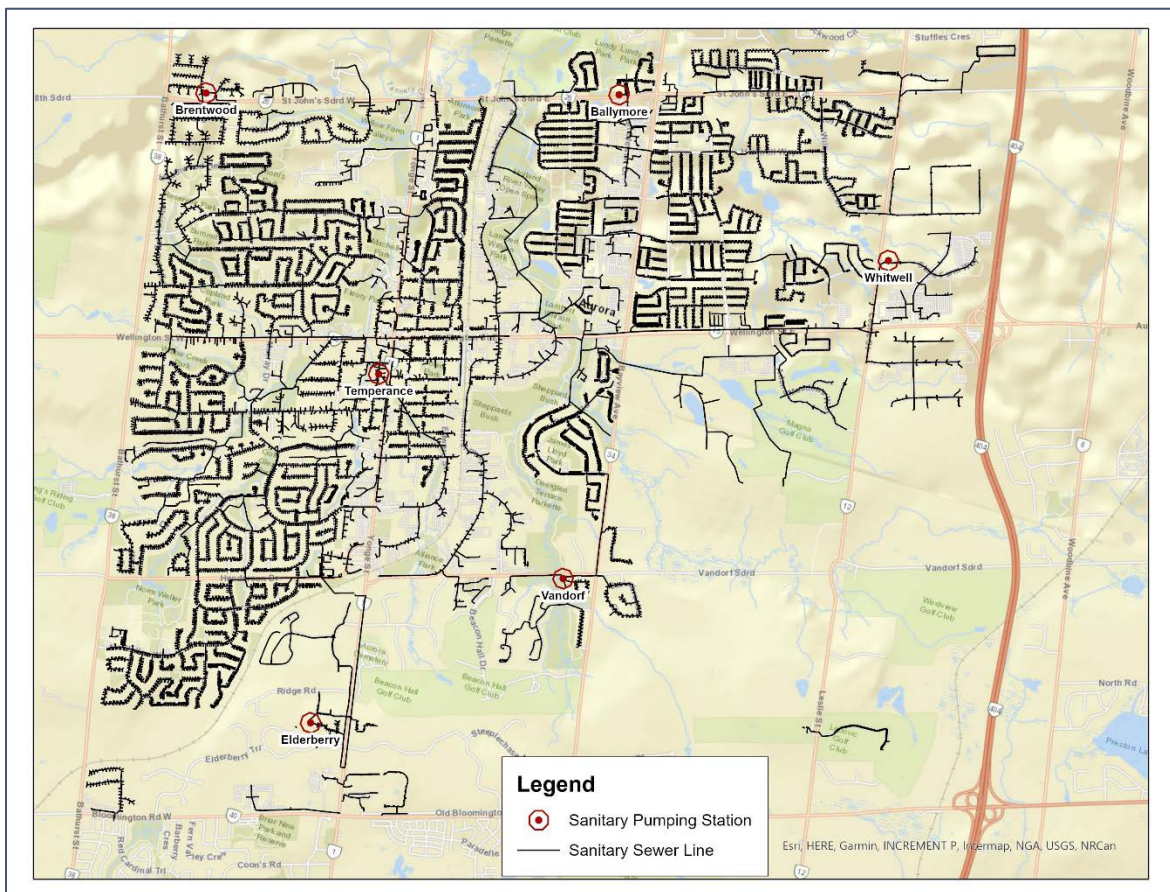


Figure 1. Overview of Wastewater Collection System

The sewage collection system operates under the authority of Environmental Compliance Approval (ECA) number 115-W601.

There are no SCADA services or workstations at any of the Town’s facilities. As such, the six (6) stations are controlled and monitored locally either via local Programmable Logic Controllers (PLCs) or pump control panels that use an Autodialer to output station faults.

A summary of all the pump stations operated by the Town is shown in Table 1.1.

Table 1.1 Sewage Pumping Station Summary

| Station Name | Location | Structures |
|----------------|----------------------------|--|
| Ballymore SPS | 560 St. John's Sideroad | Consists of a 2.4 diameter wet well and a control building. |
| Brentwood SPS | 3 Woodland Hills Boulevard | Consists of a 2.4 m diameter wet well and a control building. |
| Elderberry SPS | 12 Equestrian Drive | Consists of a 2.4 m diameter wet well and a control building. |
| Temperance SPS | 79 Temperance Street | Consists of a 2.4 m diameter wet well and an aboveground control panel. |
| Vandorf SPS | 385 Vandorf Sideroad | Consists of a 2.4 m diameter wet well and a control building. |
| Whitwell SPS | 24 Desjardins Way | Consists of two 1.2 m diameter collection manholes, two 2.4 m diameter wet wells (with only one in use), and a control building. |

There are sanitary sewer overflow pipes at all six pumping stations. A summary of the overflow infrastructure is shown in Table 1.2.

Table 1.2 Identified Sanitary Sewer Overflow Points including Pumping Stations

| Asset ID | Station Name | Pipe Diameter | Pipe Slope | Sewage Pumping Station – Collection System Overflow Description |
|----------------|---------------|---------------|------------|--|
| SAN-PS-5060-01 | Ballymore SPS | 200 mm | 1.0 % | 200 mm Emergency overflow to outfall in slope northwest of pumping station site. Elevation 249 |

| Asset ID | Station Name | Pipe Diameter | Pipe Slope | Sewage Pumping Station – Collection System Overflow Description |
|----------------|----------------|---------------|-----------------|--|
| SAN-PS-4465-01 | Brentwood SPS | 200 mm | 1.4 % | 200mm dia emergency overflow pipe - Elevation: 296.72 - A maximum of 4 hours of storage is provided in the sanitary sewer pipes, sanitary manholes and pumping station wet well at average flow rates to allow for adequate response time in the case of an emergency. |
| SAN-PS-3680-1 | Elderberry SPS | 300 mm | 1.0 % | 300 mm diameter emergency overflow sewer, discharging into a valley adjacent to pumping station and an emergency by-pass system. Elevation 296.51 |
| SAN-PS-3000-01 | Temperance SPS | 75 mm | Inverted Siphon | wet well has as approx. 10m by 75 mm diameter Emergency overflow pipe connecting to a downstream receiving manhole at an invert elevation of 255.10m |
| SAN-PS-2190-01 | Vandorf SPS | 250 mm | 1.0 % | 250 mm diameter emergency overflow sewer, discharging into an open space block adjacent to pumping station. |
| SAN-PS-1675-01 | Whitwell SPS | 300 mm | 8.5 % | 300 mm diameter emergency overflow sewer from collection manhole MH PS1 discharging to stormwater management pond; |

2 Operations and Monitoring

2.1 Sanitary Sewers

The Town's wastewater collection system is comprised of gravity sewers, which eventually flow into the York Region sanitary sewer system as seen in Figure 1.

2.1.1 Monitoring

The Town has a 10-year rotational basis CCTV inspection program. The Town is currently in year 5 of a 10-year CCTV program to assess all sanitary sewers and identify infrastructure that have structural deficiencies.

This is an opportunity to renew, rehabilitate and extend the life of the Town's sewer infrastructure while contributing to inflow and infiltration (I&I) reduction.

Major infrastructure deficiencies identified during the CCTV inspections are addressed by the Town immediately.

The information collected during the CCTV inspections is reviewed and analyzed by a consultant. An assessment condition rating and prioritization report is provided to the Town to support future infrastructure repairs and replacement projects.

The monitoring areas for the 10-year plan are shown in Figure 2, with Year 5 corresponding to the year 2023.

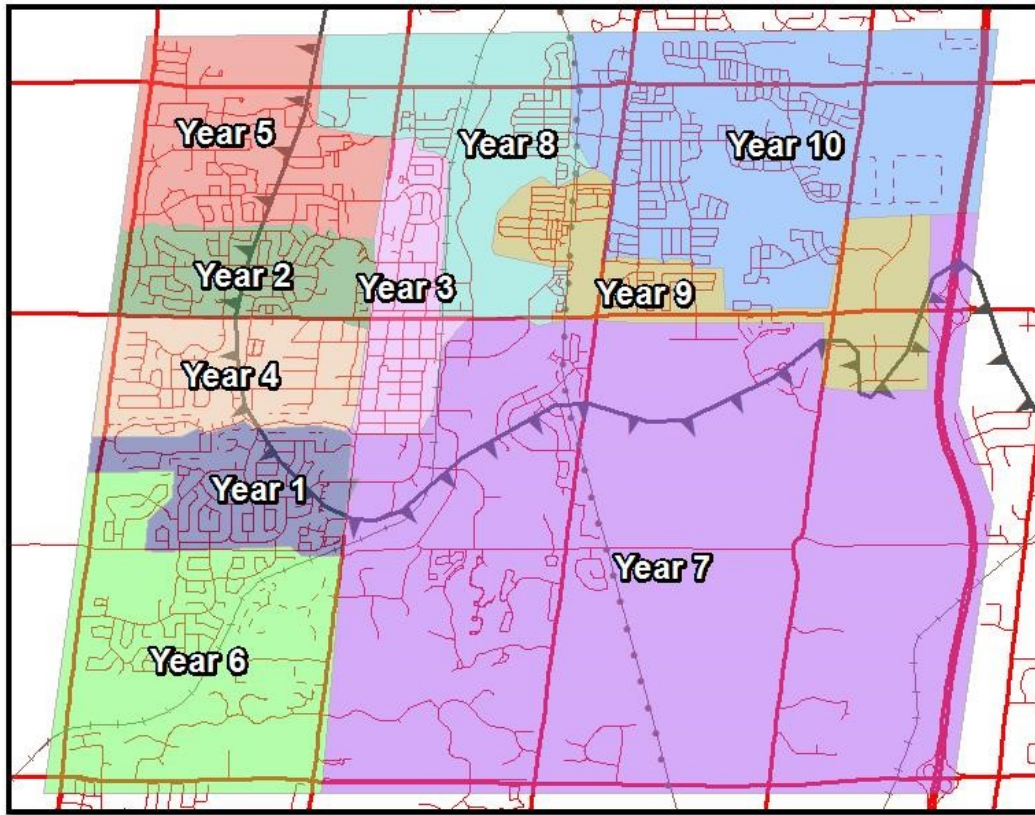


Figure 2. 10-year CCTV Monitoring of Sanitary Sewers

2.1.2 Public complaints

There were no public complaints related to the sanitary sewers in 2023 other than the reported spill discussed in the following section.

2.1.3 Spills

There was one (1) reported sewage spill related to a section of sanitary sewer. A summary of the incident is noted in Table 2.1.

Table 2.1 Spill Information Incident(s) in 2023

| SAC Incident number | Date | Location | Reasoning | Action(s) taken |
|---------------------|-----------|---------------|--------------------|---------------------------|
| 1-2HV8XK | Feb 11 to | Sewer running | Asphalt and debris | - VAC Truck was called to |

| | | | | |
|--|----------------|---|--|--|
| | Feb 12 2023 | underneath Elizabeth Hader Park, between Murray Drive and Timpson Drive | blockage in sewer creating a sewage backup to grade. | <p>site to drawdown the surcharged MH.</p> <ul style="list-style-type: none"> - Sewage was diverted. - CCTV was used from downstream pipe to locate issue and debris found in pipe creating a blockage. - Debris was cleared out and confirmed with CCTV footage. |
|--|----------------|---|--|--|

2.1.4 Alterations, Extensions, and Replacements in 2023

Five upgrades were completed in 2023. A summary of the upgrades and their locations are shown in Table 2.2 and Figure 3 respectively.

Table 2.2 Upgrade Projects Completed in 2023

| Label no. | Location (Latitude & Longitude) | Description |
|-----------|---------------------------------|--|
| 1 | 43°57'52.9" N 79°27'11.0" W | 1,422 m of new 200 mm diameter PVC sanitary sewer and 125 mm diameter PVC sanitary connections, to service new development. |
| 2 | 43°59'45.8" N 79°28'00.8" W | 5.0 m of rehabilitation for 200 mm diameter PVC sanitary sewer. |
| 3 | 43°59'55.2" N 79°27'27.1" W | Rehabilitation of two 125 mm diameter PVC sanitary sewer connections, which are 8 m and 11.4 m in length respectively. |
| 4 | 44°01'02.3" N 79°28'47.6" W | 265 m of new 200 mm diameter and 222m of 250 mm diameter PVC sanitary sewers, 487 m total, to service St. Anne's private school. |

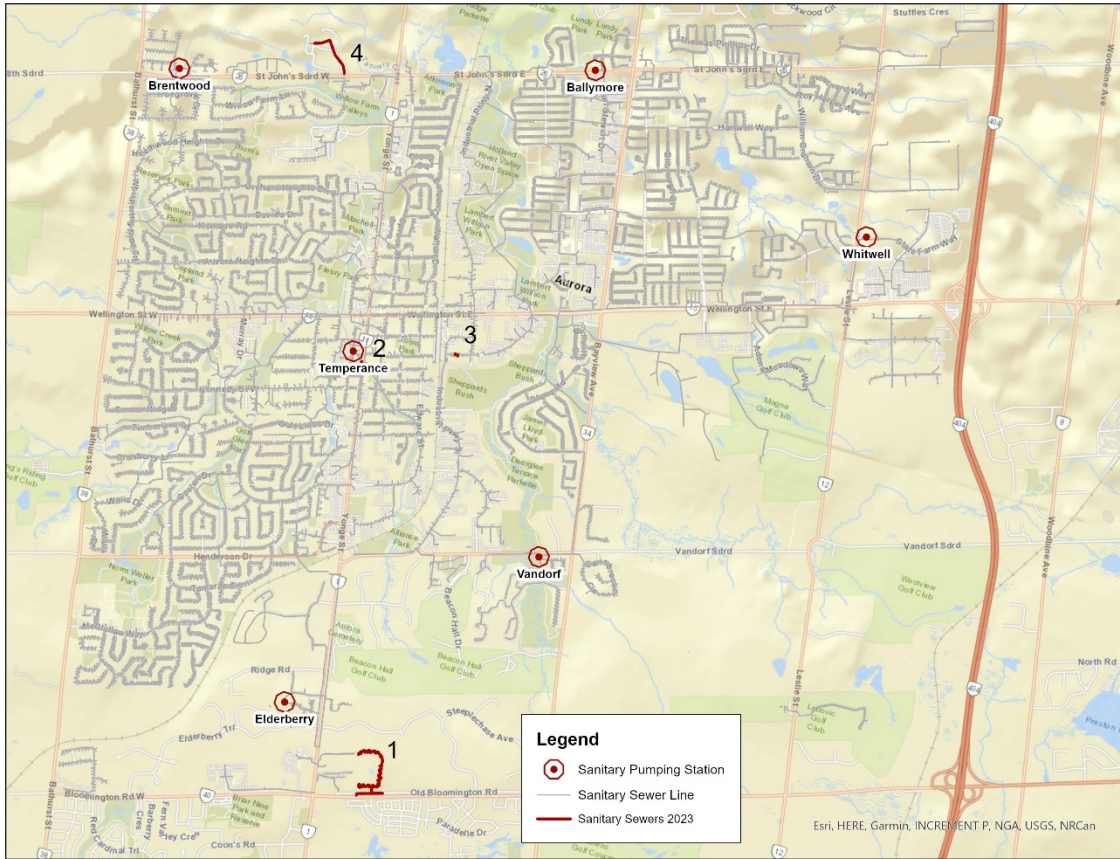


Figure 3. Upgrade works completed in 2023

2.1.5 Alterations, Extensions, and Replacements Planned for 2024

There is one (1) upgrade planned for 2024. A summary of the upgrades planned can be seen in Table 2.3.

Table 2.3 Future Upgrade Projects Planned for 2024

| Date | Location | Description of Upgrade Planned |
|------|--|---|
| 2024 | Poplar Crescent, from Henderson Drive (east intersection) to Henderson Drive (west intersection) | 429 m of existing 200 mm sanitary sewer to be replaced due to end of life. 27 m of existing 250 mm sanitary sewer to be replaced due to end of life. |

2.1.6 Sewage Overflows

There were no recorded sewage overflows at any Sewage Pumping Station (SPS).

2.1.7 Alterations, Extensions, and Replacements in 2023

There were no upgrades completed at any SPS.

2.1.8 Alterations, Extensions, and Replacements Planned for 2024

There is one (1) upgrade at Vandorf SPS to be completed in 2024. The Automatic Transfer Switch to be replaced early 2024.

2.1.9 Operation and Maintenance Activities Summary

Preventative maintenance actions were performed either on a weekly, monthly, or semi-annually basis at all SPS, depending on the maintenance schedule requirements.

Some of the maintenance activities include: pump check, wet well inspection, alarm system inspection, generator inspection, general inspection of building, testing the alarm system and verify check valves operation.

Corrective maintenance actions were performed by Town staff and contracted service providers along with the preventative maintenance actions.

A condition assessment of all SPS was performed in 2023.

Some of the corrective maintenance actions performed at SPS between July 2023 and December 2023 are:

- Condition Assessment Site Visit
- General Housekeeping of Site
- Update Contact Names on Autodialer
- Wet well visual inspection
- Wet well cleaning (Vac truck)
- Wet Well Testing (Capacity Storage Check)
- Thawed frozen lock
- Field measurements for the new Automatic Transfer Switch
- Repair door to control building
- Maintenance on Autodialer

- Housekeeping of Control Building
- Re-programmed Autodialer

The alarms that occurred at the SPS during the same time frame are related to:

- Power Failure
- Building Alarm
- High level alarm