

MUNICIPAL SEWAGE COLLECTION SYSTEM ANNUAL PERFORMANCE REPORT

ECA# 128-W601, Issue 1

TOWNSHIP OF SPRINGWATER MUNICIPAL SEWAGE COLLECTION SYSTEM

**FOR THE PERIOD:
JANUARY 1, 2024 – DECEMBER 31, 2024**

*Prepared for the Corporation of the Township of Springwater
by the Ontario Clean Water Agency*



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Township of Springwater Sewage Collection System 2024 Annual Performance Report

This report was prepared in accordance with the requirements of the Environmental Compliance Approval for Municipal Sewage Collection Systems, Schedule E, Section 4.6.1.

Municipal Sewage Collection System ECA #	128-W601, Issue 1
Sewage Works	Township of Springwater Municipal Sewage Collection System
Collection System Owner	The Corporation of the Township of Springwater
Reporting Period	January 1, 2024 to December 31, 2024

Note: As per Schedule E, Section 4.6.1 of CLI-ECA #128-W601, the Owner shall prepare an annual performance report for the Authorized System that is submitted to the Director on or before March 31st of each year and covers the period of January 1st to December 31st of the preceding calendar year.

Is the Annual Report available to the public at no charge on a website on the Internet?

Yes

Note: As per Schedule E, Section 4.7.1 of CLI-ECA #128-W601, the annual performance report must be made available, on request and without charge, to members of the public who are served by the Authorized System; and 4.7.2 must be made available, by June 1st of the same reporting year, to members of the public without charge by publishing the report on the Internet, if the Owner maintains a website on the Internet.

Location where Annual Performance Report required under CLI-ECA #128-W601, Schedule E will be available for inspection. (CLI-ECA #128-W601, Schedule E, Section 4.6.1 & 4.7.1):

- Township of Springwater Municipal Office 2231 Nursery Road, Minesing
- www.springwater.ca

Pursuant to Schedule E, sections 4.6.3 to 4.6.9, this Annual Performance Report shall:

- a) If applicable, includes a summary of all required monitoring data along with an interpretation of the data and any conclusion drawn from the data evaluation about the need for future modifications to the Authorized System or system operations.
- b) If applicable, include a summary of any operating problems encountered and corrective actions taken.
- c) Includes a summary of all calibration, maintenance, and repairs carried out on any major structure, Equipment, apparatus, mechanism, or thing forming part of the Municipal Sewage Collection System.

- d) Include a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.
- e) Include a summary of all Alterations to the Authorized System within the reporting period that are authorized by this Approval including a list of Alterations that pose a Significant Drinking Water Threat.
- f) Include a summary of all Collection System Overflow(s) and Spill(s) of Sewage.
 - i. Dates;
 - ii. Volumes and durations;
 - iii. If applicable, loadings for total suspended solids, BOD, total phosphorus, and total kjeldahl nitrogen and sampling results for E.Coli;
 - iv. Disinfection, if any; and
 - v. Any adverse impacts(s) and any corrective actions, if applicable
- g) Includes a summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses, including the following items, as applicable:
 - i. A description of projects undertaken and completed in the Authorized System that result in overall overflow reduction or elimination including expenditures and proposed projects to eliminate overflows with estimated budget forecast for the year following that for which the report is submitted.
 - ii. Details of the establishment and maintenance of a PPCP, including a summary of project progresses compared to the PPCP's timelines.
 - iii. An assessment of the effectiveness of each action taken.
 - iv. An assessment of the ability to meet Procedure F-5-1 or Procedure F-5-5 objectives (as applicable) and if able to meet the objectives, an overview of next steps and estimated timelines to meet the objectives.
 - v. Public reporting approach including proactive efforts.

1. Description of the Works

The Township of Springwater Municipal Sewage Collection System is Owned by the Township of Springwater and operated by the Ontario Clean Water Agency (OCWA) on behalf of the Owner. The Collection System consists of sewage works for the collection and transmission of sewage, consisting of separate sewers, sewage pumping stations and forcemains that discharge into the Elmvale, Royal Oaks, Snow Valley Highlands, Centre Vespra (Stonemanor) and Midhurst Valley Interim Wastewater Treatment Plants. Please refer to the individual WWTPs Annual Performance Reports for more information related to the annual performance of those works.

The Township of Springwater Municipal Sewage Collection System is comprised of five (5) separate Sanitary Sewer Systems which are described below.

The Elmvale Sanitary Sewer System

The Elmvale Sanitary Sewage System consists of Sewage Works for the collection, and transmission of sewage, consisting of two raw sewage pumping stations and forcemains, with discharge into the inlet works of the Elmvale Wastewater Treatment Plant. The sewage pumping stations in the Authorized system include:

- Bishop Park Pumping Station (PS) – is a submersible pump station comprised of a wet well and control building. This PS is listed as an authorized emergency bypass location, with the capability to discharge into Wye River (as necessary). The PS is equipped with PLC, level control system, relays, VFDs and a stand-by diesel generator in case of power failure. The PS discharges into the Elmvale WWTP.
- Queen Street Lift/Pumping Station (PS) – is a sewage lift station consisting of two wet wells, three submersible pumps and forcemains. The PS is equipped with a level control system, relays, and a stand-by diesel generator in case of power failure. The lift station discharges into Bishop Park PS.

The Royal Oaks Sanitary Sewer System

The Royal Oaks Sanitary Sewage System consists of Sewage Works for the collection, and transmission of Sewage, consisting of five raw sewage pumping stations, forcemains, with discharge into the inlet works of the Royal Oaks Wastewater Treatment Plant. The sewage pumping stations in the Authorized system include:

- Buddsmill Pumping Station (PS) – is a submersible sewage pumping station equipped with two (2) submersible pumps, relay and level sensors, and alarming equipment. The PS discharge to the Royal Oaks WWTP. Standby power comes from the generator at the Royal Oaks WWTP, in case of power failure.
- Orchardview Pumping Station (PS) – is a submersible sewage pumping station equipped with two (2) submersible pumps, relay and level sensors, and alarming equipment. The PS discharges to the Royal Oaks WWTP, and is equipped with a standby diesel generator in case of power failure.
- Jean Miller Pumping Station (PS) – is a submersible sewage pumping station equipped with two (2) submersible pumps, relay and level sensors, and alarming equipment. The PS discharges to the Heron PS which then discharges to Royal Oaks WWTP. Standby power comes from the generator at the Heron Pumping Station in case of power failure.
- Heron Pumping Station (PS) – is a submersible sewage pumping station equipped with two (2) submersible pumps, VFD and level sensors, and alarming equipment. The PS discharges to the Royal Oaks WWTP, and is equipped with a standby diesel generator in case of power failure.
- Black Creek Pumping Station (PS) – is a submersible sewage pumping station equipped with two (2) submersible pumps, relays and level sensors, and alarming equipment. The

PS discharges to the Royal Oaks WWTP via forcemain, and is equipped with a standby diesel generator in case of power failure.

The Centre Vespra Sanitary (Stonemanor) Sewer System

The Centre Vespra (Stonemanor) Sanitary Sewage System consists of Sewage Works for the collection, and transmission of Sewage, consisting of two raw sewage pumping stations, forcemains, with discharge into the inlet works of the Centre Vespra (Stonemanor) Wastewater Treatment Plant. The sewage pumping stations in the Authorized system include:

- Pumping Station (PS) #1 (East) – is a submersible sewage pumping station consisting of a wet well with three (3) submersible pumps with VFDs and a control building. Connects to 200 mm diameter forcemain that discharges to the Centre Vespra WWTP, and is equipped with a standby diesel generator in case of power failure.
- Pumping Station #2 (West) - is a submersible sewage pumping station consisting of a 3.6 m diameter and 5.85 m depth wet well that is equipped with three (3) submersible pumps. The PS connects to 250 mm diameter forcemain that discharges to the Centre Vespra (Stonemanor) WWTP, and is equipped with a standby diesel generator in case of power failure.

The Snow Valley Highlands Sanitary Sewer System

The Snow Valley Highlands Sanitary Sewage System consists of Sewage Works for the collection, and transmission of Sewage, consisting of three raw sewage pumping stations, forcemains, with discharge into the inlet works of the Snow Valley Highlands Wastewater Treatment Plant. The sewage pumping stations in the Authorized system include:

- Cameron Estates Pumping Station (PS) – is a submersible sewage pumping station equipped with a 3 m by 3 m wet well, two (2) submersible pumps with VFDs discharging to the Snow Valley Highlands WWTP via a 152 mm diameter forcemain, and is equipped with a standby diesel generator in case of power failure.
- Boothby Pumping Station (PS) – is a pumping station with two (2) pumps (1 duty, 1 standby), each 1HP with a capacity of 0.8 L/s at 42 TDH which discharges to Snow Valley Highlands WWTP, and is equipped with a standby diesel generator in case of power failure.
- Timberwolf Pumping Station (PS) – is a submersible sewage pumping station equipped with a 1.8 m diameter and 3.1 m deep wet well, two (2) submersible pumps discharging to the Snow Valley Highlands WWTP via a 75 mm diameter forcemain and sanitary sewers. Standby power comes from the generator at the Snow Valley Highlands WWTP, in case of power failure.

The Midhurst Valley Interim Sanitary Sewer System

The Midhurst Valley Interim Sanitary Sewage System consists of Sewage Works for the collection, and transmission of Sewage, consisting of one raw sewage pumping station, forcemains, with discharge into the inlet works of the Midhurst Valley Interim Wastewater Treatment Plant. The WWTP receives raw sewage from the influent Pumping Station and influent is directed to the headworks building of the WWTP.

The Township of Springwater Municipal Collection System contains no combined sewage pumping stations, no combined sewage storage structures or combined storage tanks. The authorized collection system also contains no authorized combined sewer collection system overflow points and one authorized sanitary sewer overflow point (Bishop Park PS).

2. Summary of Monitoring Data and Interpretation

For the reporting period, monitoring data was required under Schedule E, Section 3.4.2 for the bypass incident that occurred on July 11, 2024 at the Bishop Park PS within the Elmvale Wastewater Treatment Collection System. For details of the incident, refer to section 7. *Summary of Collection System Overflow(s) and Spill(s) of Sewage* for more information.

As required by the ECA, a least one (1) grab sample was taken and analyzed by a Ministry approved ISO/IEC: 17025 accredited laboratory (SGS Lakefield) and analyzed for BOD₅, Total Suspended Solids, Total Phosphorus, and Total Kjeldahl Nitrogen. The below tables provide a summary of the sampling results.

Table 1: Summary of Sampling Results for Sewage Overflow incident #1- 8TH9E0 at Bishop Park Pump Station

Parameter	Concentration Bishop Park Pump Station	Concentration Upstream	Concentration Downstream
BOD ₅ (mg/L)	20	<12	<4
Total Suspended Solids (mg/L)	42	106	116
Phosphorus (mg/L)	0.30	0.23	0.23
TKN (as N) (mg/L)	2.70	1.40	0.90
<i>E.Coli</i> (cfu/100mL)	NDOGEC*	1260	1160

*Where NDOGEC is no data: overgrown with *E.coli*

The ECA also requires, where possible, the calculation of the loadings to the Natural Environment for each of the parameters using the discharged volume. The below tables list the calculated loadings based on the estimated discharged volume.

Table 2: Natural Environmental Loadings for Sewage Overflow incident #1- 8TH9E0 at Bishop Park Pump Station

Parameter	Concentration Loading Bishop Park Pump Station	Concentration Loading Upstream	Concentration Loading Downstream
BOD ₅ (Kg/day)	0.66	0.40	0.13
Total Suspended Solids (Kg/day)	1.39	3.51	3.84
Phosphorus (Kg/day)	0.01	0.01	0.01
TKN (as N) (Kg/day)	0.09	0.5	0.03

The estimated discharge volume from the Overflow/Spill event was 33.12 m³.

Based on the above tables, all parameter concentrations and loadings, with the exception of Total Suspended Solids, were higher at the Overflow site when compared to Upstream and Downstream locations. In addition, with the exception of *E.Coli* and TKN, all parameters had a higher concentration and loading downstream of the overflow location when compared to the upstream sampling point.

Based on the above information, the need for future modifications to the Authorized System or systems operations is not required at this time. The overflow/spill incident was a result of extreme environmental factors (heavy rainfall) which were outside the control of the Works.

3. Summary of Operating Problems Encountered and Corrective Actions Taken

There was one operating problem related to the overflow incident at Bishop Park PS that was encountered within the Municipal Sewage Collection System for the reporting period- See section 7. *Summary of Collection System Overflows and Spills of Sewage* for more information.

4. Summary of Calibration, Maintenance, and Repairs

All in-house monitoring equipment is calibrated/verified as per manufacturer’s recommendations. Monitoring and metering equipment is also calibrated by a third party on an annual basis. Preventative maintenance is scheduled for all equipment at the sewage treatment plant and pumping stations at regular frequency (frequency depends on the equipment and type of maintenance). Maintenance activities are scheduled within the work management system Maximo, upon completion, operators set the work order to complete. On a monthly basis, preventative work orders are reviewed for completion.

Elmvale Sanitary Sewer System

- Weekly alarm testing – All sewage pump stations (SPS)
- Semi-Annual Pump Station Cleanouts

- Sanitary sewer flushing program
- Lifting device inspections
- Backflow device testing
- Annual generator service/inspection
- Heater replacement (Bishop Park PS)
- Milltronics replacement (Bishop Park PS & Queen Street PS)

Royal Oaks Sanitary Sewer System

- Weekly alarm testing – All sewage pump stations (SPS)
- Semi-Annual Pump Station Cleanouts
- Lifting device inspections
- Backflow device testing
- Annual generator service/inspection Flusher valve replacement (Heron PS)
- Pump repair/replacement (Black Creek PS)
- Float replacement (Buddsmill PS)
- Multiranger LT500 Replacement (Royal Oaks PS)

Centre Vespra Sanitary (Stonemanor) Sewer System

- Weekly alarm testing – All sewage pump stations (SPS)
- Semi-Annual Pump Station Cleanouts
- Lifting device inspections
- Backflow device testing
- Annual generator service/inspection

Snow Valley Highlands Sanitary Sewer System

- Weekly alarm testing – All sewage pump stations (SPS)
- Semi-Annual Pump Station Cleanouts
- Lifting device inspections
- Backflow device testing
- Annual generator service/inspection
- Grinder pump replacement (Boothby PS)
- Pump 2 repair (Cameron Estates PS)

Midhurst Valley Interim Sanitary Sewer System

- Weekly alarm testing – sewage pump station (SPS)
- Backflow device testing

5. Community Complaints Received in Relation to the Sewage Works

There were four community complaints regarding the municipal collection system received in 2024

2024	Details of Community Complaints
January 18, 2024	OCWA responded to a sewer back up in the Stonemanor development area. OCWA staff investigated the situation and discovered a piece of construction green pvc sewer pipe which was thought to be causing the blockage in the system. Region of Huronia (ROHES) arrived on-site to vac debris/blockage.
January 31, 2024	Elmvale Resident called regarding a sewage backup. OCWA staff investigated the situation and determined the cause to be an internal plumbing issue.
February 20, 2024	Elmvale Resident called regarding a sewage backup. OCWA staff investigated the situation and determined the cause to be an internal plumbing issue.
September 3, 2024	Elmvale Resident called regarding a sewage backup. OCWA staff investigated the situation and determined the cause to be an internal plumbing issue.

6. Alterations to the Authorized System

There were a no alterations to the Authorized System within the reporting period. For a list of maintenance and repair activates completed for the reporting period see section 4. *Summary of Calibration, Maintenance and Repairs* of this report.

7. Summary of Collection System Overflow(s) and Spill(s) of Sewage

There was one collection system overflow/spill of sewage for the Municipal Collection System in 2024. For monitoring results of the below Overflow/Spill event, see section 2. *Summary of Monitoring Data and Interpretation* of this report.

Date (yyyy/mm/dd)	Event	Details
2024/07/11	Raw Sewage Spill (Emergency Overflow Event)	SAC Reference Number: 1-8TH9E0 Spill Location: Bishop Park Pump Station (PS) - Elmvale Collection System Duration: July 11 from 0006-0012 hrs and 0055-0101 hrs Total duration: 12 minutes Spill Contents: Untreated Sewage Approximate Volume: 33.12 m ³ <u>Incident Description</u>

		<p>On July 11, 2024, the Town of Elmvale experienced heavy rainfall, which contributed to increased flows to the PS. The system pumps were unable to keep up with the flow demand, causing an overflow from the wet well into the Wye River.</p> <p><u>Corrective Actions Taken to Control Incident</u></p> <ul style="list-style-type: none"> • Samples were collected as required and sent to an external laboratory to be analyzed for BOD₅, TSS, TP, TKN, and <i>E.Coli</i>. • OCWA staff responded to the high wet well level, and began a chlorine drip into the wet well until flows subsided and the overflow event ended. <p><u>Reporting Communications</u></p> <ul style="list-style-type: none"> • Verbal and written notification provided to SAC, MoH-SMDHU, Owner and MECP on July 11, 2024 • No further actions were required
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8. Efforts Made to Reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses

The sewage pumping stations are equipped with alarm monitoring for high flow events. Preventative maintenance procedures are in place to ensure the sewage pumping stations are operating as designed and include:

- Pump station inspections
- Alarm testing
- Generator inspection and maintenance
- Headworks inspections

On June 21, 2024, OCWA submitted on behalf of the Owner, an Assessment of Wet Weather Flows to Dry Weather Flows as required under ECA #128-W601. Within that assessment, the following actions were listed to be taken to reduce/eliminate overflows, bypasses and spills of sewage in the Township of Springwater Municipal Collection System.

#	Action Item	Proposed Timeline
1	Conduct high velocity flushing and CCTV inspections of the collection system	Every 5 Years
2	Complete repairs to the collection system based on the findings of the inspection identified in Action Item #1. These action plans must be approved as a capital expense, and will include timelines for repair.	Annually
3	Continue to complete pump station cleans in Spring and Fall	Semi-Annually
4	I/I Studies/investigations for problem areas	Every 5 Years

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5	Continue to complete pump inspections, repairs and track outstanding deficiencies	Annually
6	Complete repairs and pump rebuilds at the pump stations	2024-2032
7	Complete repairs as identified during watermain work and road replacements.	Annually
8	Continue to monitor and correlate overflows to wet weather events for future assessments	As they occur

For the 2025 reporting year, the following budget forecast for proposed/planned projects for 2025 to support efforts to continually achieve conformance with Procedure F-5-1 are summarized below:

Planned Scope of Work	Budget Allocated
Annual Pump Station and Tank Cleanouts- All Systems	\$90,000
Elmvale – Collection System Flushing	\$28,000
Bishop Park Pump Station & Forcemain (Elmvale) upgrade design/planning	\$200,000
Gravity Sewer/replacement work	\$600,000
Inflow & Infiltration Abatement Program	\$250,000