# Town of Bradford West Gwillimbury 2023 Stormwater Management System Performance Report

**Consolidated Linear Infrastructure Environmental Compliance Approval No. 116-S701**

**Community Services Department**

**April 2024**

# Table of Contents



## List of Tables



## List of Figures



## Appendices

# 1. Introduction

This report contains the relevant information required to meet the annual reporting requirements outlined within the Town of Bradford West Gwillimbury's (Town) Stormwater Management System Consolidated Linear Infrastructure Environmental Compliance Approval (CLI ECA) No. 116-S701. This report provides a performance summary for the period of January 1st to December 31st 2023. This is the first Annual Report completed under the Stormwater Management System CLI ECA.

Compliance with regulatory requirements continues to be overseen by qualified staff, compliance staff, and regular reporting mechanisms.

## 1.1 Regulatory Requirements

In Ontario, municipal stormwater management systems and discharge is governed by a number of regulatory acts, regulations and instruments. This includes but is not limited to the following:

- Federal Fisheries Act (R.S.C 1985)
- Ontario Drainage Act (R.S.O 1990)
- Ontario Environmental Protection Act (EPA)
    - Revised Regulation of Ontario 1990, Regulation 360 - Spills
    - Ontario Regulation 675/98 – Classification and Exemption of Spills and Reporting of Discharges
    - Ontario Regulation 347/90 – Waste Management
- Ontario Water Resources Act (OWRA)
    - Consolidated Linear Infrastructure Environmental Compliance Approval (CLI ECA) No. 116-S701
- Ontario Fish and Wildlife Conservation Act
    - Ontario Regulation 664/98 – Fish Licensing
- Ontario Endangered Species Act
    - O. Reg 242/08
- Ontario Conservation Authorities Act

More specifically, this report fulfills the reporting requirements set out within the Town of BWG's CLI ECA 116-S701, Schedule E Section 5.2. The associated requirements are outlined in Table 1 below.

**Table 1. CLI ECA Reporting Requirement**

| CLI ECA Reporting Requirement | Report Section |
|---|---|
| A. Includes a summary of all required monitoring data along with an interpretation of the data and an overview of the condition and operational performance of the Authorized System and any Adverse Effects on the Natural Environment. | 3.1 |
| B. Includes a summary and interpretation of environmental trends based on all monitoring information and data for the previous five (5) years. | 3.2 |
| C. Includes a summary of any operating problems encountered and corrective actions taken. | 3.3 |
| D. Includes a summary of all inspections, maintenance, and repairs carried out on any major structure, equipment, apparatus, mechanism, or thing forms a part of the Authorized System. | 3.4 |
| E. Includes a summary of the calibration and maintenance carried out on all monitoring equipment. | 3.5 |
| F. Includes a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints. | 3.6 |
| G. Includes 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. | 3.7 |
| H. Includes a summary of all Spills or abnormal discharge events. | 3.8 |
| I. Includes a summary of actions taken, including timelines, to improve or correct performance of any aspect of the Authorized System. | 3.9 |
| J. Includes a summary of the status of actions for the previous reporting year. | 3.10 |

# 2. Stormwater Management System

## 2.1 System Description

The Town is part of both the Lake Simcoe and Nottawasaga watersheds, which are managed by the Lake Simcoe Region Conservation Authority (LSRCA) and the Nottawasaga Valley Conversation Authority (NVCA) respectively. There are two (2) sub-watersheds within the municipal boundaries of the Town, the Holland River sub-watershed and the Innisfil Creek sub-watershed.

The Town's Stormwater Management (SWM) system is owned and operated by the Town of BWG in accordance with the Consolidated Linear Infrastructure Environmental Compliance Approval (CLI ECA) No. 116-S701, issued in July 2022. The issuance of the CLI ECA consolidated the individual ECA's that had previously governed individual facilities.

The SWM System is subdivided into two groups for inspection and maintenance purposes: Stormwater Management Facilities and Stormwater Collection System.

**Facilities**

- Stormwater Ponds
- Oil Grit Separators (OGS)
- Manufactured Treatment Devices
- Low Impact Development (LID) Units
- Storage Tanks

**Collection System**

- Catch Basins
- Culverts
- Ditches
- Storm Sewers

The SWM system collectively services a population of approximately 45,000.

The Town of BWG's SWM Pond system is currently comprised of twenty-one (21) facilities. Table 2 shows a breakdown of SWM Ponds by type (i.e. wet, constructed wetland, and dry pond) and includes only ponds currently assumed by the Town of BWG. There are an additional 9 SWM Ponds currently under development which are the responsibility of the developer to maintain until assumption by the Town.

**Table 2. Stormwater Pond by Type**

| Number of Ponds | Type of Pond | | |
|---|---|---|---|
| | Wet | Dry | Wetland |
| 21 | 16 | 3 | 2 |

A complete list of SWM Ponds, including all related details on their size and drainage area, can be found in the Town's SWM CLI ECA under Schedule B Section 1.4. In

addition, Table B3 in the SWM CLI ECA includes a table breaking down the number of the other SWM facilities by type.

The Town's Stormwater Collection system consists of approximately 135 km of storm sewer main and an estimated 217 road sections with open ditch. The total length of ditches is anticipated to be measured in 2024. Culverts and catch basins are also part of the stormwater collection system.

There is currently no third pipe collection system in the Town of BWG. As per the CLI ECA, a third pipe collection system is designed to collect groundwater and/or foundation drain discharge to a receiving surface or dry well.

# 3. Performance Reporting Data

The following sections provide the relevant information regarding the performance and compliance of the Town's SWM system.

## 3.1 Interpretation of Monitoring Data

The creation and implementation of a Monitoring Plan for the Town's Stormwater Management System is a pending requirement as per Schedule E Section 4 of the CLI ECA. At the time of this annual report, the Ministry of the Environment, Conservation and Parks (MECP) has not published the monitoring guidance. As such, there is currently no required water quality monitoring data for the Town.

While there is no current water quality monitoring data gathered by the Town, programs to maintain continued operational performance of the Stormwater Management System are undertaken by the Town. These programs ensure there are no adverse effects on the natural environment from the Town's SWM system. Additional information on these programs can be found in section 3.4 Inspection, Maintenance, and Repair of this report.

This section will be revisited and updated in the future as needed after the MECP publishes the monitoring guidance for the Monitoring Plan and as additional monitoring programs are put into place.

## 3.2 Interpretation of Environmental Trends

As part of the future implementation of the Monitoring Plan for the Town's Stormwater Management System, the summary and interpretation of environmental trends will be required.

As there is currently no analytical or monitoring data gathered by the Town there are no environmental trends to provide a summary and interpretation of as per Schedule E Section 5.2.3 of the CLI ECA.

No abnormal environmental conditions have been identified by staff through the current operation and maintenance programs. These programs includes catch basin cleanouts, stormwater pond inspections, and storm mainline flushing.

This section will be revisited and updated in future annual reports after the creation and implementation of the future Monitoring Plan creation and as planned system performance improvements are undertaken.

## 3.3 Operating Problems and Corrective Actions

A majority of Stormwater Management System infrastructure in the Town operates largely through natural processes such as gravity and sedimentation. Continued maintenance, detailed in the Town's SWM System Operations and Maintenance (O&M) Manual, ensures the continuous function of the system. For further information regarding the maintenance programs refer to Section 3.4.

There were no operating problems encountered in the 2023 year in the Town of BWG's Stormwater Management System.

## 3.4 Inspection, Maintenance, and Repair

Regular maintenance and inspection programs have been implemented for the Town's Stormwater Management System to ensure continued function of the system. These programs identify and prioritize necessary repairs to the system. This section details the inspection, maintenance, and repair activities from the 2023 year.

The creation of an O&M Manual for the SWM System was required as per Schedule E Section 3.2 of the CLI ECA. The O&M Manual was completed in December of 2023. The O&M Manual outlines the policies and procedures for the routine operation of the SWM System. The O&M Manual will be updated as maintenance programs continue to expand for the Town's SWM system.

All SWM infrastructure components are managed, operated, and maintained through the cooperation and participation of multiple divisions within the Town of BWG.

All SWM Ponds were inspected in 2023, including those still under developer ownership and maintenance. Required maintenance activities were identified through the inspections. Maintenance requirements on unassumed ponds were provided to developers to complete. Follow-up inspections were completed as required. Routine inspections will continue on an annual basis.

There were no full SWM Pond dredging clean outs in 2023. Vegetation management was done to clean out excess vegetation from Dale Crescent Pond (SWMF-0002).

In the Stormwater Collection System a total of 11.6 kilometres of storm mainline were flushed in 2023.

The yearly catch basin cleaning program was completed with approximately 11.7% of the catch basins in the urban area of the Town cleaned. Repairs of catch basins were completed by both Town staff and contractors. Critical repairs were completed on an as-need basis. Contractors were given scheduled repairs that had previously been identified as required but not of an urgent nature.

There were no significant flooding events that required additional inspections of system facilities. A significant flooding event was defined as a storm event that overwhelms the linear system and causes localized flooding to occur as stated in the O&M Manual.

In addition to regular maintenance and inspection activities, training for the inspection and cleaning of the new Jellyfish® Filter units was completed for staff in 2023.

## 3.5 Calibration and Maintenance of Monitoring Equipment

As mentioned in Sections 3.1 and 3.2, there was no analytical or water quality monitoring data being collected during the 2023 reporting year. There is currently no monitoring equipment requiring maintenance and calibration.

Planned system improvements in the 2024 year, detailed in Section 3.9, include the installation of data loggers at a selected number of stormwater ponds. The information in this section will be updated in the 2024 report to reflect the new calibration and equipment maintenance requirements.

## 3.6 Summary of Complaints

The Town maintains a record of all stormwater-related complaints and the remedial actions taken to resolve each situation as required by the SWM CLI ECA. Complaint responses are handled by either the Stormwater Division or Transportation Division depending on the nature of the incident.

Two (2) complaints were received in the 2023 year regarding the Town's Stormwater Management System. Please see Table 3 below for details.

**Table 3 Summary of 2023 SWM System Complaints**

| Date | Complaint | Corrective Action |
|---|---|---|
| 5/2/2023 | A resident was concerned with slow drainage of rainwater from the ditches and culverts near their home. | The culverts were flushed to relieve issue. |
| 7/26/2023 | A resident was concerned with the ditches and culverts near their home getting blocked by debris and draining slowly after rainfall. | The culverts were flushed to relieve issue. |

## 3.7 Alterations to the Authorized System

The issuance of the CLI ECA shifted the approval of low-risk stormwater infrastructure works onto the Town.

A summary of the 2023 SWM system alterations is provided in Table 4.

**Table 4. Summary of Alterations of the Authorized System**

| Alternation Type | Project Name | Submission Date | Description | Status |
|---|---|---|---|---|
| SW1-Storm Sewer/Ditch/Culvert | 151 Simcoe Road | 9/29/2022 | New storm sewer and associated outlet installation. | Construction Complete. |
| SW1-Storm Sewer/Ditch/Culvert | West Park Avenue | 2/2/2023 | New storm sewer installation. | Construction Complete. |
| SW1-Storm Sewer/Ditch/Culvert | Bradford East | 4/3/2023 | New storm sewer installation. | Construction Complete. |

A SW1 form submitted in 2022 is included in this report as it had not been previously included in a report because 2023 is the first year that requires an annual report. There were no SW2 Forms Submitted in 2022 or 2023 for the Alteration of SWM Facilities in the Town.

None of the Alterations were determined to pose a Significant Drinking Water Threat. All of the proposed works are wholly located within the municipal boundaries of the Town of BWG.

## 3.8 Spills and/or Abnormal Discharge Events

The SWM system had three (3) spill events in 2023. All spills were reported to the Spills Action Centre (SAC) as required either by the responsible party or by Town staff. A summary of each spill event including the date and time of occurrence, the cause of the spill, and the corrective action taken can be found in Table 5.

**Table 5 Summary of Stormwater System Spill Events in 2023**

| Date | SAC No. | Cause | Corrective Action |
|---|---|---|---|
| 1/12/2024 | 1-1G7MAK | Hydraulic leak from a vehicle. | Absorbent material was applied to the area by the responsible party. The spill was contained to the roadway and did not enter the storm system. Town staff attended the site and cleaned the area with a street sweeping vehicle. |
| 5/4/2024 | 1-3G0FS5 | Sediment/Slurry from concrete vehicle operations. | The responsible party was ordered to cease the works causing the spill and retain a remediation company. A vacuum truck was used to clean the area. Town staff completed follow-up inspections to ensure the remediation work was properly completed. |
| 7/31/2024 | 1-3OWQY8 | Powder compound released due to a broken line. | The compounding line was immediately shut down and repaired immediately by the responsible party. The responsible party retained a contractor to complete cleaning of the area. Town staff attended the site the following day and confirmed the remediation had been completed. |

### 3.9 System Performance Improvements

The Town's SWM Program is undergoing a period of rapid expansion and development since the issuance of the CLI ECA. The information below summarizes the capital and operating projects that were incorporated during the reporting year.

Staff gauges for the purpose of monitoring the hydraulic operation of Ponds were purchased in 2023 and will be installed during spring 2024. In addition, select ponds will have data loggers installed in 2024 to more accurately measure the hydraulic operation of targeted ponds. The collected data will be analyzed and discussed in the 2024 Annual Report.

A pilot Stormwater Mainline CCTV program was developed in late 2023 with the Asset Management division. The program will be completed by a contractor in 2024.

An additional pilot project installing LittaTrap™ inserts into a subset of catch basins began the planning stages in 2023 and will be undertaken in 2024. The amount of debris captured by the system will be measured and reported in the 2024 Annual Report. Future installation of LittaTrap™ in Town catch basins will be based on the success of the pilot.

### 3.10 Previous Reporting Year Update

This section is to include a summary of the status of actions from the previous reporting year. As this is the first annual report, there are currently no update to provide. Moving forward, staff will be developing goals and objectives, including performance improvements, which will be discussed in the 2024 performance report.

## 4. Source Water Protection

The Source Water Protection Plan for the South Georgian Bay Lake Simcoe Source Protection Region contains policies designed to prevent contaminates from getting into municipal wells and water supplies, refer to Appendix A for the wellhead protection area map.

As part of the requirements of the Stormwater Management System CLI ECA a Significant Drinking Water Threat Assessment Report was completed in May 2023 to meet Schedule E Section 8.2. The report details how the Town determines if an alteration poses a significant drinking water threat (SDWT) and any existing design considerations or mitigation measures put into place for SDWTs. At the time of this report, there are no SWM alterations that have been identified as a SDWT.

## 5. Education and Outreach

The Town's website (www.townofbwg.com) contains educational information regarding the stormwater management system and current outreach initiatives including the Yellow Fish Road program.

In addition to electronic information, Town staff attend public events to educate the public on how they can help protect the Town's infrastructure and the environment, through

informative pamphlets and games. Signs to be installed at stormwater management ponds have been updated to contain educational material about the stormwater system. More information on pond signage can be found in the section below.

Education and outreach initiatives empower the local community the do their part in protecting the environment.

## 5.1 Stormwater Management Pond Signage

New Stormwater Management Facility signage containing educational materials regarding the purpose and function of stormwater management ponds were designed in 2023. The signs are to be installed in 2024. To increase public knowledge of the stormwater system the signs contain a basic overview of how stormwater flows through the system from rain through a SWM Pond.

Additionally, the new stormwater pond signage was designed to meet the requirements of Schedule E Section 3.3 of the CLI ECA.

## 5.2 Yellow Fish Road Program

The Yellow Fish Road project has been brought to the Town. The projects goal is to provide information to the public regarding stormwater. It helps residents identify what stormwater catch basins and manholes are by painting yellow fish beside them. It raises awareness that stormwater flows directly into the natural environment and that any other materials should be kept out of the storm system to protect the environment.

## 6. Stormwater Management Program Highlights

This section contains a brief overview of the achievements attained and ongoing in the development of the Stormwater Program in order to meet the requirements of the CLI ECA.

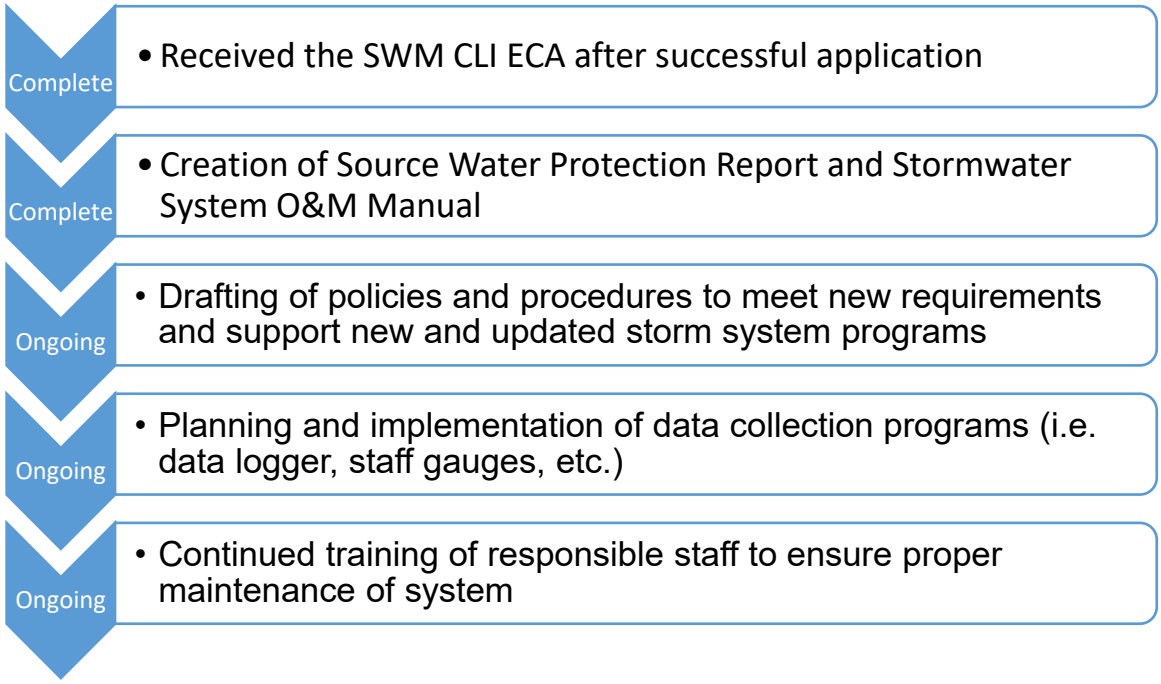


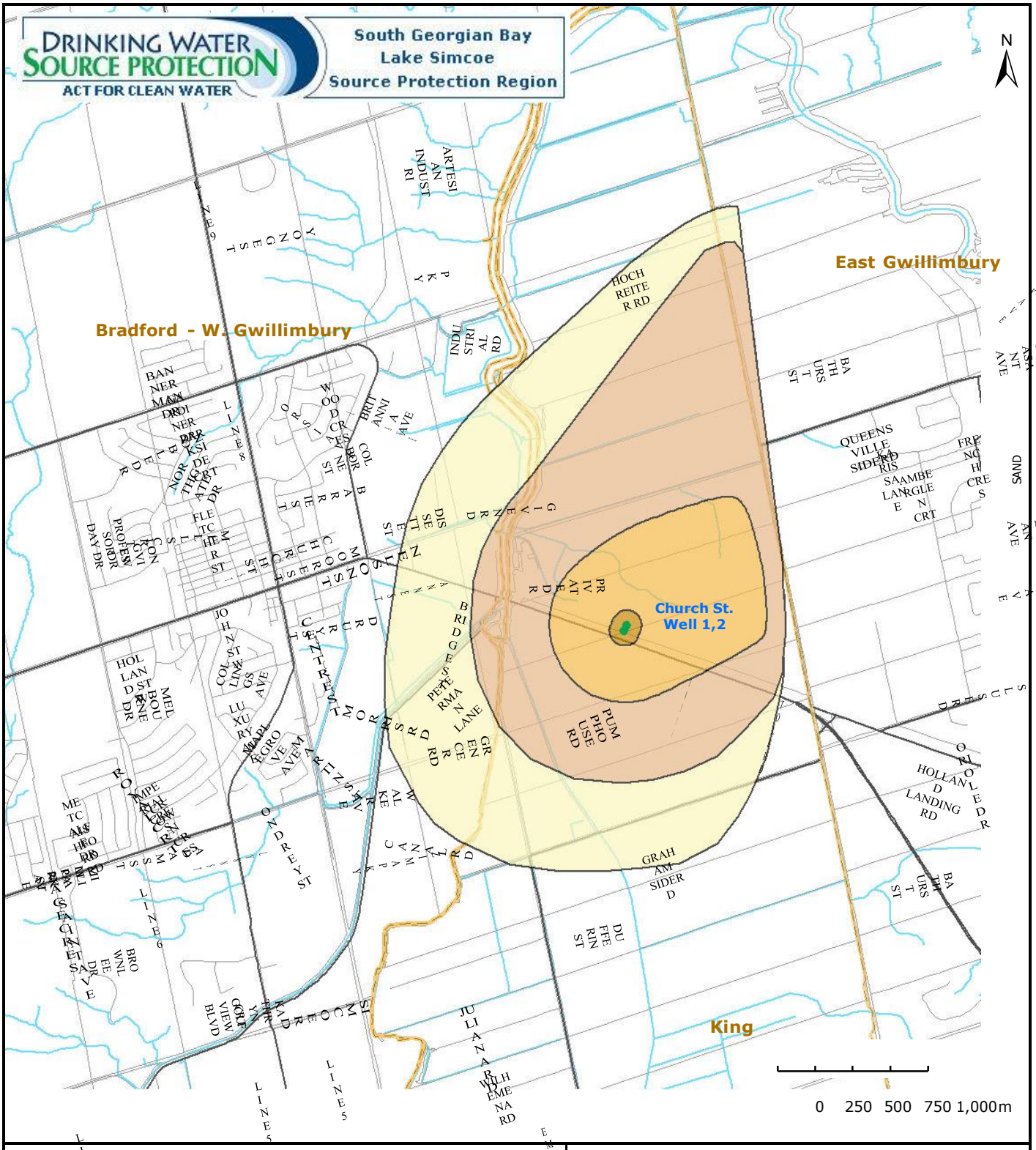

**Figure 1 Overview of Stormwater System Program Achievements and Planned Improvements**

## 7. Conclusions

The following conclusions are provided based on the information reviewed in this report:

- The Significant Drinking Water Threat Assessment Report for Proposed Alterations was completed as required by the CLI ECA for the SWM system.
- New Stormwater Management Pond Signs were designed and to be installed as per CLI ECA Requirements.
- Stormwater System Operation and Maintenance Manual was completed as required by the CLI ECA.
- Two (2) complaints related to the Stormwater Management System were received in 2023.
- Zero (0) operating problems were encountered to report in 2023.
- All Stormwater Management Ponds were inspected during the reporting year.

# Appendix A




- Municipal Supply Well in Bradford-West Gwillimbury
- WHPA-A (100m)
- WHPA-B (2-years time of travel)
- WHPA-C1 (10-years time of travel)
- WHPA-D (25-years time of travel)
- Municipality Boundary
- Water Course

**Wellhead Protection Areas**
**Bradford-West Gwillimbury**

Created by: LSRCA Scale: 1:35,000
Date: 2014-04-08 UTM Zone 17N, NAD83

GENIVAR

This map was produced by the Lake Simcoe Region Conservation Authority, lead agency of the South Georgian Bay Lake Simcoe Region Source Protection Region. Base data have been compiled from various sources, under data sharing agreements.
While every effort has been made to accurately depict the base data, errors may exist.

Ontario

**Figure 9a-1**