



# 2024 Annual Performance Report Stormwater Management System



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# 1. Introduction

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The Stormwater Management (SWM) System is an integral component of the linear infrastructure in the County of Brant (County). Under the ownership of the County and with operational oversight by the Operations Department, the SWM System plays a critical role in drainage, flood control, and environmental protection.

The Ministry of the Environment, Conservation and Parks (MECP) oversees stormwater regulatory compliance, inspections, and reporting. Consolidated Linear Infrastructure Environmental Compliance Approvals (CLI-ECA) are issued under the Environmental Protection Act and Ontario Water Resources Act. The MECP issued SWM CLI-ECA # 062-S701 to the County on October 14, 2022. The CLI-ECA defines the terms and conditions of operation of the County's SWM System.

Schedule E, Section 5.2 of the CLI-ECA, requires the County to submit an Annual Performance Report to the Ministry Director on or before April 30th of each calendar year. This report covers the period from January 1st to December 31st of the preceding calendar year and includes summary information with respect to monitoring data, environmental trends, operational problems and corrective actions taken, inspections, maintenance, repairs, public complaints, alterations, spills/abnormal discharges, and any other items that may have affected the SWM System operations during the reporting period. This report will be made available by June 1, 2025 on the County website at <https://www.brant.ca/en/water-services/operational-reports.aspx> or by contacting the County of Brant Operations Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report, please contact the County at the address and phone number listed below or by email at [operations@brant.ca](mailto:operations@brant.ca).

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|                   |                                            |
|-------------------|--------------------------------------------|
| Reporting Period: | <b>January 1, 2024 – December 31, 2024</b> |
|-------------------|--------------------------------------------|

Stormwater Management System Owner & Contact Information:  
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## 2. System Description and History

The County's SWM System is a separated system for stormwater only. The SWM System does not have any combined sewer systems. Combined sewer systems are designed to convey stormwater and sanitary sewage during high flow events. The SWM System consists of many types of infrastructure, including storm sewers, maintenance holes (MH), catch basins (CB), culverts, ditches, stormwater management facilities (ponds and Low Impact Development (LID) features), oil and grit separators (OGS), and outlets.

Since 2021, the County has been undertaking a comprehensive review of all available data sources and conducting field investigations to update and digitize the SWM infrastructure assets. Tables 1 and 2 present the assets within the SWM System at the time of CLI-ECA issuance in October 2022, contrasting them with the status upon conclusion of the 2024 reporting period. Following the initial CLI-ECA submission the County has made refinements to our Stormwater GIS data which included clarifying ownership status (assumed or unassumed), missing or incorrect data, and removal of duplicate data. It should be noted that the data provided in the table below is the most recent and accurate information available at the time of the preparation of this report.

**Table 1: Stormwater Collection System Linear Assets**

| Sewer Type        | As reported in<br>CLI-ECA # 062-S701<br>(October 14, 2022) | Assumed<br>quantity<br>December 2024 | Unassumed quantity<br>December 2024 |
|-------------------|------------------------------------------------------------|--------------------------------------|-------------------------------------|
| Storm Sewers (km) | 177.9                                                      | 160.65                               | 17.74                               |
| Culverts (#)      | NA                                                         | 5411                                 | 18                                  |
| Ditches (km)      | NA                                                         | 1200*                                | NA                                  |

NA = data was not available

\* Reported number is an estimate.

**Table 2: Stormwater Collection Structures and Facilities**

| Component                                           | As reported in<br>CLI-ECA # 062-S701<br>(October 14, 2022) | Assumed<br>quantity<br>December 2024 | Unassumed quantity<br>December 2024 |
|-----------------------------------------------------|------------------------------------------------------------|--------------------------------------|-------------------------------------|
| LID Facilities                                      | 5                                                          | 9                                    | 0                                   |
| SWM Ponds – Wet<br>(includes wetlands ,<br>hybrids) | 10                                                         | 9                                    | 10                                  |
| SWM Ponds – Dry                                     | 11                                                         | 13                                   | 3                                   |
| Oil and Grit Separator<br>(OGS)                     | 8                                                          | 10                                   | 0                                   |
| Catch Basins (CB)                                   | NA                                                         | 3393                                 | 458                                 |
| Maintenance Holes (MH)                              | NA                                                         | 1958                                 | 351                                 |
| Outlets                                             | NA                                                         | 251                                  | 13                                  |

NA = Not applicable

## 3. Monitoring Data and Environmental Trends

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Schedule E, Sections 5.2.2 and 5.2.3 of the ECA, requires a summary and interpretation of monitoring data, and environmental trends based on data from the previous five (5) years.

### 3.1 Summary and Interpretation of Monitoring Data

The County is presently awaiting the release of the MECP Monitoring Guidance Document to fulfill the monitoring obligation for the overall SWM System. As required by the CLI-ECA, Schedule E, Section 4.0 the County must develop and implement a monitoring plan within 24 months of the issuance of the finalized MECP Guidance Document. The MECP Monitoring Guidance Document has not been finalized at the time of the submission of this report.

There are currently three (3) ponds that previously had monitoring requirements incorporated into their original ECA's, as noted below. These original ECAs have since been revoked and relevant requirements are included in the County's CLI-ECA. Details of these monitoring activities are outlined below:

#### 3.1.1 Royal Highland Estates SWM Facility

The Royal Highland Estates SWM Facility was assumed by the County on November 14, 2023. The MECP issued the original ECA to the developer on February 5, 2008. The original ECA contained monitoring and reporting requirements. The County is currently in discussions with the MECP requesting the discontinuation of the monitoring program based on the available historical monitoring data.

#### 3.1.2 Charlton Park (Northville Heights Infiltration Facility)

In 2024 the MECP agreed to amend the monitoring program that was noted in the original ECA for the facility.

#### 3.1.3 Brant 403 Business Park SWM Facility

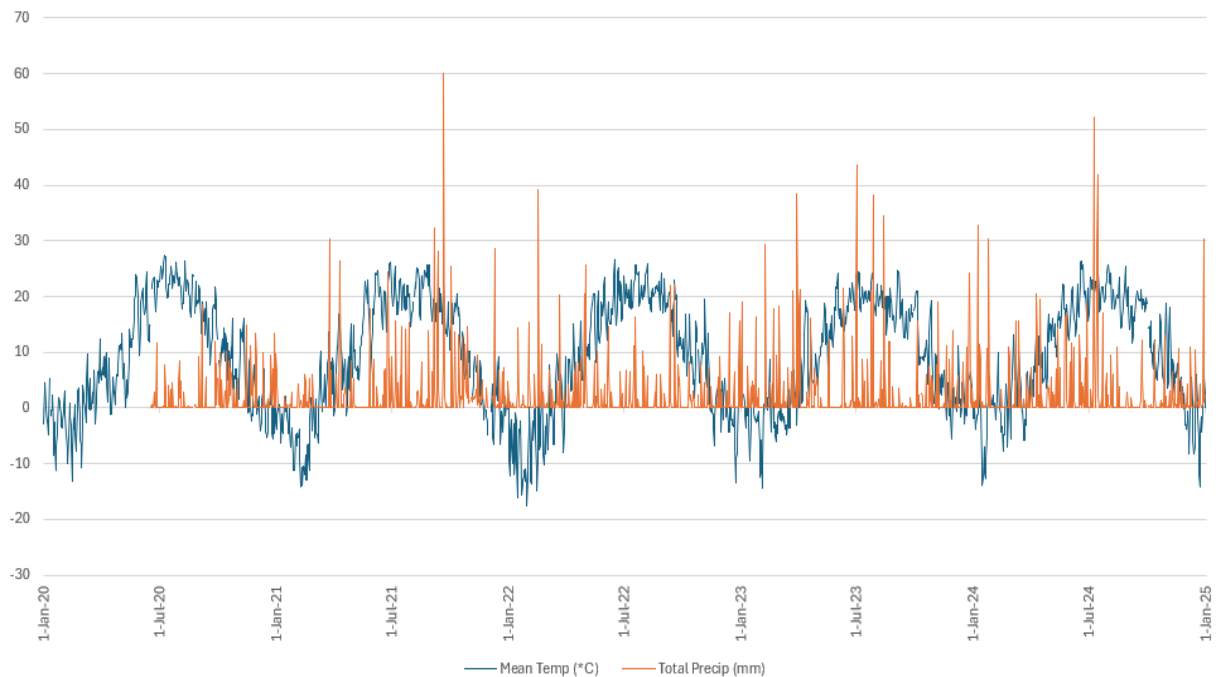
The Brant 403 Business Park SWM Facility's originally issued ECA requires the completion of an annual surface water monitoring program and submission of an Annual Monitoring report to the MECP. The 2024 report for this facility is attached in Appendix A. The pond has been in operation since 2012 and has been functioning as designed. The 2024 report concludes that the facility is operating in accordance with the requirements of the facilities originally issued ECA. The 2024 report discusses the option for a reduced monitoring program in both scope and frequency. The MECP has indicated their agreement that the current monitoring program can be reduced and will update the next version of the CLI-ECA.

## 3.2 Environmental Trends

To enhance the County's understanding of local environmental dynamics, and the impacts to the SWM System, five (5) years of precipitation (both rain and snowfall) and temperature data was collected and reviewed from the weather station at the Brantford Municipal Airport. This weather station is close to the geographic center of the County.

The data in Figure 1 below indicates an increasing trend, in both frequency and intensity of precipitation events. The data also indicates a trend of fewer days below -10 degrees Celsius. These trends in precipitation and temperature are important to point out because they have a direct impact on the SWM System.

**Figure 1: Brantford Municipal Airport Weather Monitoring Data**



## 4. Operating Problems and Corrective Actions

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Schedule E, Section 5.2.4 of the CLI-ECA requires a summary of operational problems and any corrective actions that were undertaken to address the problem. The list below provides a summary of documented Operational Problems and Corrective Actions with respect to linear infrastructure for the reporting period.

### **Operational Problem One (1)**

County staff were informed of a flooding concern in a private parking lot on West River Street in Paris, which discharged to County stormwater infrastructure during a heavy summer rain event.

### **Corrective Actions to resolve Operational Problem One (1)**

County staff attended the location and confirmed the reported observations, including observing a surcharging storm MH. Once confirmed, staff immediately retained a sewer maintenance contractor to CCTV inspect the County SWM infrastructure, including a 450 mm (transitioning to 600 mm) storm sewer pipe that outlets to the Nith River. An obstruction was identified at approximately six (6) metres downstream from the surcharging MH. The debris was partially cleared to restore the function of the storm sewer. The sewer maintenance contractor reported that it appeared that a beaver had attempted to dam the sewer. At that time, County staff inspected the area for evidence of beaver activity, and none was observed. The full cleaning and CCTV inspection of the entire pipe was completed in the fall of 2024. A large root mass was removed from the storm sewer and repair options for protection from root intrusion are being evaluated.

### **Operational Problem Two (2)**

In preparation for a capital improvement project a box culvert directing drainage under a primary rail artery in Paris was found to be substantially obstructed with fine sediment and debris.

### **Corrective Actions to resolve Operational Problem Two (2)**

Operations staff and a sewer maintenance contractor developed a plan to clear, inspect and, if required, rehabilitate the structure. Debris was cleared from the outlet and a section of the downstream ditching in 2024. The remainder of this work is currently ongoing and is anticipated to be completed in 2025 as part of a Capital infrastructure project.

### **Operational Problem Three (3)**

The Brant 403 Business Park SWM Facility's south Hickenbottom outlet piping, which discharges to the infiltration trench, was found to be blocked. The SWM facility has two (2) outlets to the infiltration facility. The facility is functional at a reduced discharge capacity.

### **Corrective Actions to resolve Operational Problem Three (3)**

Attempts were made during the annual inspection of the facility to determine the cause of the blockage. Operations staff are developing a plan to rehabilitate the structure. This work is currently ongoing and is anticipated to be completed in 2025.

## 5. Inspection, Maintenance, Repairs, Calibration

Schedule E, Section 5.2.5 of the CLI-ECA requires a summary of all inspections, maintenance and repairs carried out on any major component(s) of the Authorized System. The SWM System has been designed to operate independently and takes advantage of gravity flow for stormwater to reach its outlet (e.g. SWM Facility, water course). The County completes inspections and maintenance as outlined below to ensure the continued operation of the system.

### 5.1 Inspections of the Stormwater Management System

Infrastructure inspections are crucial to ensure the SWM System is functioning properly. Regular inspections serve as a proactive measure to identify potential issues before they escalate, contributing to the overall effectiveness and longevity of the system. By conducting timely, thorough, and routine inspections, Operations can promptly detect any signs of deterioration, damage, or malfunction in key components of the SWM System and infrastructure. This proactive maintenance approach minimizes the risk of system failures and allows for timely and cost-effective maintenance and repairs to be completed. Proactive maintenance ensures that the system continues to meet the designed performance standards, regulatory compliance requirements and can also extend the useful life of the asset.

Inspections provide valuable data for continuous improvement efforts, allowing the County to optimize the system's design and operations based on real-time observations and feedback.

2024 was the first year of a proactive storm sewer inspection program. Table 3 presents an overview of the inspection activities that took place within the reporting period.

**Table 3: 2024 Stormwater Infrastructure Inspection**

| Asset Type             | Asset Quantity | Inspection Type  | Frequency   | Completed in 2024 | 2024 Comments                                                                                                                                                                                                                                              |
|------------------------|----------------|------------------|-------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Catch Basin            | 3393           | Visual           | Biannually  | 1247              | Completed, no concerns                                                                                                                                                                                                                                     |
| Oil and Grit Separator | 10             | Visual           | Annually    | 10                | Clean outs to be coordinated in 2025                                                                                                                                                                                                                       |
| Maintenance Holes      | 1958           | Visual           | As required | 0                 | Program to start in 2025                                                                                                                                                                                                                                   |
| Storm Sewer Outlets    | 251            | Visual           | As Required | 0                 | Program to start in 2025                                                                                                                                                                                                                                   |
| Storm Sewer            | 161 km         | CCTV             | As required | 8 km              | The following items were found requiring repair or investigation: <ul style="list-style-type: none"><li>- 1 cross connection</li><li>- 2 cross bores</li><li>- 11 spot repairs</li><li>- Approx. 50 meter of storm sewer with noticeable sagging</li></ul> |
| Culverts               | 5411           | Visual Condition | As required | 634               | Inspection and Condition rating program, based on MTO protocol.                                                                                                                                                                                            |

| Asset Type   | Asset Quantity | Inspection Type  | Frequency     | Completed in 2024 | 2024 Comments                                                                                                                                                                            |
|--------------|----------------|------------------|---------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SWM Facility | 30             | Visual Condition | Annually      | 29                | The following items were found requiring repair or investigation:<br>- Vegetation removal<br>- Invasive Species Management<br>- Structural deterioration<br>- Erosion<br>- Site Security |
| SWM Facility | 30             | Sediment Survey  | Every 5 years | 7                 | The sediment survey indicated 1 facility requires a clean out                                                                                                                            |

## 5.2 Maintenance and Repair Summary

The County has historically received notification of potential maintenance and repair needs through a variety of formal and informal communications such as emails, phone calls, and conversations between residents and staff. Concerns reported through phone calls and emails to our Operations Administrative staff were forwarded to the appropriate Operations staff for follow-up. Staff document the actions taken and any subsequent follow-up work.

The County conducts routine maintenance activities that include grass cutting and tree trimming, litter and garbage removal, as necessary, in and around the SWM facilities. County staff complete street sweeping and cleaning of catch basin grates as required to limit the grit and sediment entering the SWM System.

Table 4 summarizes actions taken to maintain and improve the SWM System during the reporting period.

**Table 4: 2024 Maintenance and Repair Activities**

| Asset Type                       | Activity                               | Frequency   | Completed in 2024 | 2024 Comments                                              |
|----------------------------------|----------------------------------------|-------------|-------------------|------------------------------------------------------------|
| Catch Basin (CB)                 | Cleanout                               | Biannually  | 1247              | No comments                                                |
| Oil and Grit Separator           | Cleanout and repair                    | As required | 0                 | No clean outs or repairs in 2024                           |
| Maintenance hole and Catch Basin | Frame and cover repairs                | As required | 35                | Completed                                                  |
| Storm sewer                      | Storm sewer outlet cleaning and repair | As required | 2                 | Debris removed from outlets into two (2) SWM Facilities    |
| Storm sewer                      | Flushing                               | As required | 463 m             | Flushing activity completed based on 2024 CCTV Inspections |
| Storm sewer                      | Maintenance and Repairs                | As required | 1                 | Repaired cross connection.                                 |
| Storm sewer                      | Lining                                 | As required | 2                 | Catch Basin Leads                                          |
| Storm valve                      | Maintenance                            | Annual      | 4                 | Annual valve exercising                                    |
| SWM Facility                     | Sediment removal and cleanout          | As required | 0                 | Planned for 2025                                           |

| Asset Type   | Activity                        | Frequency   | Completed in 2024 | 2024 Comments                                                                                                                                                                                                                                                                                                                                                  |
|--------------|---------------------------------|-------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SWM Facility | General maintenance and repairs | As required | 7                 | <ul style="list-style-type: none"> <li>- Vegetation maintenance at 7 SWM facilities</li> <li>- Invasives (Giant Knotweed) and tree removal at Rest Acres Ridge</li> <li>- Fence repair and tree clean up at Malcom Mills</li> <li>- Beaver and dam removal at Telferwood.</li> <li>- Vegetation maintenance and gate repair at Foxhill SWM Facility</li> </ul> |
| Culvert      | Maintenance and replacements    | As required | 10*<br>2<br>28*   | Flushed, or cleaned (10*); lined (2); and replaced (28*)                                                                                                                                                                                                                                                                                                       |
| Ditches      | General maintenance and repairs | As required | 9500* m           | Ditch restoration                                                                                                                                                                                                                                                                                                                                              |

\* Reported number is an estimate.

### 5.3 Calibration and Maintenance of Monitoring Equipment

Schedule E, Section 5.2.6 of the CLI-ECA requires a summary detailing all calibrations performed on monitoring equipment for the SWM System in the Annual Performance Report. As of the current reporting period, the County's SWM System does not include any SWM monitoring equipment.

## 6.Complaints and Resolutions

Schedule E, Section 5.2.7 of the CLI-ECA requires a summary of any complaints related to the SWM System, along with steps taken to address the concerns. County complaints are logged through Service Requests (SR) created by Operations Administration staff when a concern or complaint is received relating to the SWM System. The SRs are sent to the appropriate Operations staff (Roads Division or Environmental Services Division) to investigate and resolve. Additionally, the Public can report a stormwater problem through the County website at <https://www.brant.ca/en/water-services/stormwater-report-a-problem.aspx>.

There were 57 complaints reported in 2024. Eight (8) complaints were associated with SWM facilities, six (6) of which were related to aesthetics/grounds maintenance and two (2) were safety related.

Table 5 summarizes all SWM System documented complaints received during the reporting period. The County has investigated all reported concerns and satisfactorily addressed each issue.

**Table 5: Summary of Complaint / Concerns and Follow-up Actions**

| Complaint / Concern Type               | Quantity of Complaints | General Description                                                     | Actions Taken                                                                                                                              |
|----------------------------------------|------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Drainage / Flooding, CB & MH condition | 46                     | Condition of or blocked structure, culvert or drain                     | Operations visited and assessed each complaint to determine appropriate measures. All complaints were satisfactorily addressed.            |
| Improper use of facility               | 0                      | Trespassing, loitering,                                                 | No calls were received for improper use of a facility.                                                                                     |
| Aesthetics/Litter                      | 6                      | Vegetation maintenance, litter                                          | Matter either referred to developer, or Operations Staff visited and assessed the complaint. All complaints were satisfactorily addressed. |
| Safety                                 | 5                      | Reported concern related to potential risk of harm or injury to public. | Operations visited and assessed each complaint to determine appropriate measures. All complaints were satisfactorily addressed.            |
| Animal Control                         | 0                      | Reported concern related to animals in or around SWM facilities         | No calls were received for concerns related to animal control at County SWM Facilities.                                                    |

## 7. Alterations to the Authorized System

Schedule E, Section 5.2.8 of the CLI-ECA requires a summary of all Alterations to the Authorized System within the reporting period.

In accordance with Schedule E, Section 8.2 of the CLI-ECA an update to the "Significant Drinking Water Threat Assessment Report for Proposed Alterations" was prepared by Cambium Inc. (Risk Management Official for the County) which was finalized on December 18, 2024. The "Significant Drinking Water Threat Assessment Report for Proposed Alterations" includes "Threat Circumstances" screening criteria to be utilized in reviewing projects for Significant Drinking Water Threats (SDWT). The below alterations noted as a Potential SDWT were selected using the "Threat Circumstances" screening criteria. The alterations were constructed in accordance with the MECP "Design Criteria for Sanitary Sewers, Storm Sewers and Force mains for Alterations Authorized under an Environmental Compliance Approval" which includes measures required when infrastructure is constructed which could pose a potential SDWT.

Alterations to the Authorized System are shown below in Tables 6 and 7, including if it has been identified as a Potential SDWT. Table 10 indicates Infrastructure Added to System Inventory which was installed or approved prior to the issuance of the CLI-ECA.

**Table 6: Summary of Stormwater Management Facility Alterations**

| Description  | CLI-ECA Form MECP Director Notification (DN) Issued | Comment | Potential SDWT |
|--------------|-----------------------------------------------------|---------|----------------|
| None in 2024 | NA                                                  | None    | NA             |

**Table 7: Summary of Stormwater Sewer Alterations**

| Description                                                      | CLI-ECA Form SW1 – Part 5 Completion Date* | Comment                                                                                 | Potential SDWT |
|------------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------------------------------|----------------|
| Pinehurst Subdivision – Phase 2 – Assumption of Storm Sewers     | NA                                         | Storm Sewer previously approved under ECA ECA 2883-BMVLN7 – Assumed on January 25, 2024 | No             |
| Paris Meadows Subdivision – Phase 1 – Assumption of Storm Sewers | NA                                         | Storm Sewers previously approved under ECA 7815-BRGRRM– Assumed on October 21, 2024     | IPZ2-9         |

\*Alterations that require Form SW1 do not require a MECP Director Notification to be completed.

**Table 8: Summary of Stormwater Infrastructure Added to System Inventory  
(Transition to CLI-ECA)**

| Description                                                                                                         | CLI-ECA Form<br>Director<br>Notification<br>(DN) Issue Date | Comment                                                                              |
|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Cedar Street - Stormwater Management System consisting of storm sewers, two stormwater facilities and appurtenances | 2024/04/02                                                  | Not in service prior to CLI-ECA issuance - originally approved under ECA#9829-CCHRAR |
| Fox hill Subdivision – Oil and Grit Separator                                                                       | 2024/11/25                                                  | Discovery of existing works not previously documented in CLI-ECA.                    |

## 8.Spills and Abnormal Discharge Events

Schedule E Section 5.2.9 of the CLI-ECA requires a summary of all known spills or abnormal discharge events. A summary of spills and abnormal discharges to the SWM System is provided below in Table 9.

**Table 9: Summary of Spills and Abnormal Discharge Events**

| Reported Spill<br>Location/Date                  | Details                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Snowball Park, St.<br>George<br><br>September 20 | <p>County Operations staff were advised of a concern of floating white material and a sheen in the open ditch downstream of storm sewer outlets into Snowball Park. Staff attended the location, completed a visual and physical inspection of the SWM System.</p> <p>The County notified the MECP Spills Action Center (SAC) to report the incident and continue to communicate with MECP Inspector to monitor the Site.</p> |

## 9. Status of Actions

Schedule E, Section 5.2.11 of the CLI-ECA requires a summary of the status of actions items that were report in the previous reporting period. Table 10 below provides a summary and update on the Action Plan from the previous reporting period.

**Table 10: Summary of Status of 2024 Actions Plan Items**

| Program                                                | 2024 Action Plan                                                                                                                                                                                                                                             | Status                                                                                                                           |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| SWM System Monitoring Plan                             | Develop and implement a monitoring plan within 24 months of the issuance of the finalized MECP Monitoring Guidance Document (per Schedule E, Section 4.1).                                                                                                   | MECP did not issue guidance document in 2024                                                                                     |
| Storm Sewer Outlets Inspection and Maintenance Program | Develop a 5-year scheduled inspection and maintenance program, to commence in 2025.                                                                                                                                                                          | Inventory of outlets was created in 2024 to utilize for inspection program in 2025.                                              |
| Culvert Inspection Program                             | Condition Inspection Program developed and trialed in 2023. Full roll out in 2024.                                                                                                                                                                           | Condition inspection program was fully rolled out in 2024. Information collected is being used to determine work in 2025.        |
| Storm Sewer Flushing and Inspection Program            | Develop 10-year scheduled inspection plan to commence in 2025. Repairs to be scheduled, as required for 2025, based on 2024 inspections.                                                                                                                     | 4-year scheduled inspection program, to be initially completed. Repairs to be completed based on 2024 inspections.               |
| MH Inspection Program                                  | Develop 10-year scheduled inspection plan to commence in 2025.                                                                                                                                                                                               | Ongoing                                                                                                                          |
| SWM Pond Inspection and Maintenance Program            | Annual inspections of all assumed Pond. Maintenance activities to be determined based on inspection results.                                                                                                                                                 | Annual inspections completed in 2024, Maintenance work determined through inspections will be coordinated in 2025                |
| SWM Pond Sediment Survey Program                       | Develop initial 5-year sediment survey plan in 2024 to commence in 2025. Frequency of inspections is to be evaluated upon completion of first cycle of inspections. Results of the survey will feed into future Capital rehabilitation and restoration work. | 7 Sediment surveys completed at all wet ponds in 2024.                                                                           |
| SWM Pond Signage                                       | Establish site specific signage to meet the requirements of Schedule E, condition 3.3                                                                                                                                                                        | Signs produced in 2024, they will be installed by May 19,2025 as required by CLI-ECA                                             |
| Work Order Tracking                                    | Review and implement improved systems to report and track work. Includes improved tracking for minor repairs, and reported concerns and complaints.                                                                                                          | Ongoing. Environmental Services Division is evaluating the most suitable software for tracking work orders and service requests. |

| Program                                 | 2024 Action Plan                                                                                                                                      | Status                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standard Operating Procedures           | Review, update, develop and implement new SOP's, as required.                                                                                         | Ongoing                                                                                                                                                                                                                                                                                                                     |
| SWM System Asset Data Improvements      | Continue to review all existing data sources to improve the quality and accuracy of digital asset data for our GIS systems and Asset Management Plan. | Ongoing                                                                                                                                                                                                                                                                                                                     |
| Invasive Species Monitoring and Control | Expand Phragmites eradication efforts, in collaboration with our Community Services staff.                                                            | All SWM facilities were reviewed in 2024 for the presence of invasive vegetation species. Invasive species at 12 SWM Facilities were identified, inventoried and mapped for the development of an Action Plan. An area of approximately 660 m <sup>2</sup> of Giant Knotweed was treated and removed from one SWM Facility. |

## 10. SWM System Improvements

Schedule E, Section 5.2.10 of the CLI-ECA requires a summary of actions taken, including timelines, to improve or correct performance of any aspect of the Authorized System. Table 11 below outlines the action plan to improve or correct performance of the SWM System.

**Table 11: Summary of Actions for Improvement**

| Program                                                | 2025 Action Plan                                                                                                                                                                                                                                                  | Implementation Timeline                                    |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| SWM System Monitoring Plan                             | Develop and implement a monitoring plan (per Schedule E, Section 4.1).                                                                                                                                                                                            | Within 24 months of the issuance of MECP Guidance Document |
| Storm Sewer Outlets Inspection and Maintenance Program | Implement a 5-year scheduled inspection and maintenance program.                                                                                                                                                                                                  | 2025                                                       |
| Culvert Inspection Program                             | Continue Condition Inspection Program which was rolled out in 2024.                                                                                                                                                                                               | 2025                                                       |
| Storm Sewer Flushing and Inspection Program            | Implement an initial 4 -year scheduled inspection plan of the mainline sewers to determine the state of all assets.<br><b>(Estimated cost for year 1 inspection is \$150,000)</b><br>10-year plan will be created once all assets have had an initial inspection. | 2025                                                       |
| Storm Sewer Maintenance Program                        | Repairs to be scheduled, as required for 2025, based on 2024 CCTV inspections.<br><b>(Estimated cost of repairs \$50,000)</b>                                                                                                                                     | 2025                                                       |
| CB Inspection and Cleaning Program                     | Continue biannual Inspection and Cleaning Program.<br><b>(Estimated cost of year 1 program is \$170,000)</b>                                                                                                                                                      | 2025                                                       |
| MH Inspection Program                                  | Implement 10-year scheduled inspection plan                                                                                                                                                                                                                       | 2025                                                       |
| SWM Pond Inspection and Maintenance Program            | Continue Annual Inspections of all assumed ponds. Maintenance activities to be determined based on inspection results. Complete Maintenance activities based on 2024 inspections results.<br><b>(Estimated cost of 2025 maintenance work is \$75,000)</b>         | 2025                                                       |

| Program                                                | 2025 Action Plan                                                                                                                                                                                    | Implementation Timeline |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| SWM Pond Sediment Survey Program                       | Complete sediment survey of dry ponds. Results of the survey will determine future capital rehabilitation and restoration work.                                                                     | 2025                    |
| SWM Pond Sediment Removal                              | Coordinate sediment removal requirements based on 2024 Sediment Surveys of Wet Ponds.<br><b>(Estimated cost for Telferwood Pond sediment removal is \$100,000)</b>                                  | 2025                    |
| SWM Pond Signage                                       | Install site specific signage to meet the requirements of Schedule E, condition 3.3                                                                                                                 | Install by May 19, 2025 |
| Oil and Grit Separator (OGS) Clean Out and Maintenance | Coordinate clean out and maintenance requirements based on 2024 Inspections<br><b>(Estimated cost of cleanout and maintenance of 10 OGS is \$50,000)</b>                                            | 2025                    |
| Work Order Tracking                                    | Review and implement improved systems to report, track, and document the information required for this report, including improved tracking for minor repairs, and reported concerns and complaints. | Ongoing                 |
| Standard Operating Procedures                          | Review, update, develop and implement new SOP's, as required.                                                                                                                                       | Ongoing                 |
| SWM System Asset Data Improvements                     | Continue to review all existing data sources to improve the quality and accuracy of digital asset data for our GIS systems and Asset Management Plan.                                               | Ongoing                 |
| Invasive Species Vegetation Monitoring and Control     | Implement control plan based on mapping completed in 2024.<br><b>(Estimated contractor cost for invasive vegetative species control at 10 locations is \$50,000)</b>                                | 2025                    |

## Appendix A: 2023 Environmental Monitoring Report, Brant 403 Business Park Stormwater Management Facility

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**REPORT**

**2024 Environmental Monitoring Report**  
*Brant 403 Business Park Stormwater Management Facility*

Submitted to:

**County of Brant**

26 Park Avenue, Burford ON N0E 1A0

Submitted by:

**WSP Canada Inc.**

55 King Street, Suite 701 St. Catharines, ON L2R 3H5

905-687-1771

CA0011988.3433 Task 500

February 24, 2025



## Distribution List

Mr. Aaron Todd, District Manager, Ministry of Environment, Conservation and Parks

Mr. Matt D'Hondt, Solid Waste / Wastewater Operations Manager, County of Brant

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## 1.0 INTRODUCTION

The Corporation of the County of Brant (County) owns a stormwater management (SWM) facility at the Brant 403 Business Park located at Lot 9 and 10, Concession 2 in the County of Brant (Site). A copy of the Site Plan for the facility, produced by Meritech Engineering (2011), is provided in Appendix A.

The SWM facility was originally operated under Environmental Compliance Approval (ECA) No. 9772-8Y4KKJ, which was issued by the Ministry of the Environment, Conservation and Parks (MECP) on November 29, 2012. ECA No. 9772-8Y4KKJ was revoked and replaced by Amended ECA No. 0737-AHFMC6, issued on January 17, 2017 to accommodate design changes to Phase 2 of the facility. On October 14, 2022, Municipal Consolidated Linear Infrastructure ECA (CLI-ECA) No. 062-S701 was issued to the County to approve the operation of several SWM facilities within the municipality, including the Brant 403 Business Park SWM facility. Therefore, Amended ECA No. 0737-AHFMC6 was revoked upon issuance of the CLI-ECA. Copies of Amended ECA No. 0737-AHFMC6 and CLI-ECA No. 062-S701 are provided in Appendix B.

The required monitoring and reporting program for the Site is outlined in Condition 7 of Amended ECA No. 0737-AHFMC6 (herein referred to as the Amended ECA). The 2024 monitoring program was completed by the County and the monitoring program results were provided to WSP Canada Inc. (WSP) for use in preparation of this annual report. This report was prepared to satisfy Condition 7(5) of the Amended ECA.

## 2.0 BACKGROUND

The Brant 403 Business Park is a 69.5 ha light industrial complex, located on the west side of Rest Acres Road, between Highway 403 and Bethel Road, in the County of Brant, Ontario, as shown in the Site Plan (**Appendix A**). Stormwater runoff from the Business Park is collected, treated and disposed with a SWM facility. The SWM facility is designed as a wet pond with a bentonite clay liner and a storage volume of approximately 68,906 m<sup>3</sup>. The pond is divided into two sections, with the main cell in the south and a sediment forebay in the north. Runoff from storm sewer and overland flow from Adi Dassler Way and Folsetter Drive is also directed to the pond. The SWM facility also provides 'Enhanced' Level water quality control, including long term average removal of 80% total suspended solids, erosion protection and attenuation of post-development peak flow rates to pre-development levels for storm events up to and including a 100-year storm event.

A 4,800 m<sup>2</sup> infiltration gallery, which consists of perforated pipes in a clearstone bedding, is located west of the Pond. During major storm events, the pond is designed to discharge water across Rest Acres Road via an overflow weir located at the east end of the pond. The overflow discharge eventually drains to the Grand River, approximately 1.5 km to the east.

## 3.0 PHYSICAL SETTING

The Site is located within the Horseshoe Moraines physiographic region, as described by Chapman and Putnam (1984). The Horseshoe Moraines are a series of till moraines with intervening glaciofluvial spillways. The Site is mostly situated on a mapped till moraine, which acts as a surficial till aquitard. Immediately east and south of the Site, the moraine pinches out, and a glaciofluvial spillway is mapped.

Surficial geology mapping indicates that the Wentworth Till is present at the Site, which is described as a stony, silty, sand till (OGS, 2010).

## 4.0 MONITORING PROGRAM

In accordance with Conditions 7(2) and 7(3) of the Amended ECA, quarterly samples of the surface water effluent from the SWM facility are required to be collected from “the main cell of the stormwater management pond near the two reverse slope outlet pipes prior to discharge to the infiltration gallery at the west end of the pond”. The sampling location is indicated in the Site Plan (**Appendix A**). According to the Amended ECA, samples are required to be analyzed for the parameters listed below.

**General Chemistry** – Total kjeldahl nitrogen (TKN) and total suspended solids (TSS)

**Total Metals** – aluminum, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, molybdenum, nickel, silver, thallium, vanadium and zinc

**Dissolved Metals** – aluminum

**Organic Parameters** – Total oil and grease, benzene, ethylbenzene, toluene and xylenes

**Microbiological Analysis** – Escherichia coli (E.coli) and total coliform

Samples are also submitted for laboratory analysis of sodium and chloride, which are not required to be analyzed according to the Amended ECA.

In 2024, samples were collected by County staff using the methods and protocols listed in Condition 7(4) of the Amended ECA. Samples were collected on March 14, June 6, September 16 and October 31, 2024. Samples were collected while the SWM pond was discharging to the infiltration gallery. Field measurements of pH, conductivity and temperature were collected during sampling and samples were submitted to AGAT Laboratories in Mississauga, Ontario for analysis.

## 5.0 MECP REVIEW COMMENTS

A Hydrogeologist and a Surface Water Specialist with the MECP Technical Support Section completed a review of the 2019 Environmental Monitoring Report prepared by Stantec Consulting Inc. The review comments were provided in two memorandums, dated February 5, 2020 and February 14, 2020. A MECP Surface Water Specialist completed an additional review of the 2022 Environmental Monitoring Report for the Site and provided review comments in a memorandum, dated July 29, 2023. Copies of the 2020 and 2023 MECP review comments are included in **Appendix B**.

Based on the 2020 and 2023 surface water related comments, the MECP reviewers have agreed that risk to surface water receivers is low as the nearest surface water receiver is over 1 km from the Site. The reviewers indicated that groundwater is the primary receiver of effluent from the pond discharge, under normal circumstances.

The groundwater related MECP comments provided in the February 14, 2020 memorandum state that the effluent quality should be compared to relevant groundwater quality standards, given that the effluent is discharged to the subsurface via the infiltration gallery. This analysis is presented in Section 7.2 of this report. The reviewer concluded that “Given that the measured effluent quality results have been generally innocuous over the last 7 years, they aren’t likely to present a significant threat to the local water supply aquifer, any downgradient groundwater users, of which there appear to be none present, or the municipal wells, which are over 200m from the infiltration pond, in a cross-gradient direction.”

## 6.0 CLIMATE CONDITIONS

Precipitation data were obtained from the Environment and Climate Change Canada's Roseville Climatological Station, located approximately 23 km north-northwest of the Site. Data from the Kitchener/Waterloo or Waterloo Wellington 2 Climatological Stations were used to infill missing data. Data up to and including October 31, 2024, was available for use in this report by the date of preparation.

The monthly and annual precipitation data is presented in Figures 6-1 and 6-2, below. The 30-year (1991-2020) climate normal for the Roseville Climatological Station is included in the graphs, for comparison.

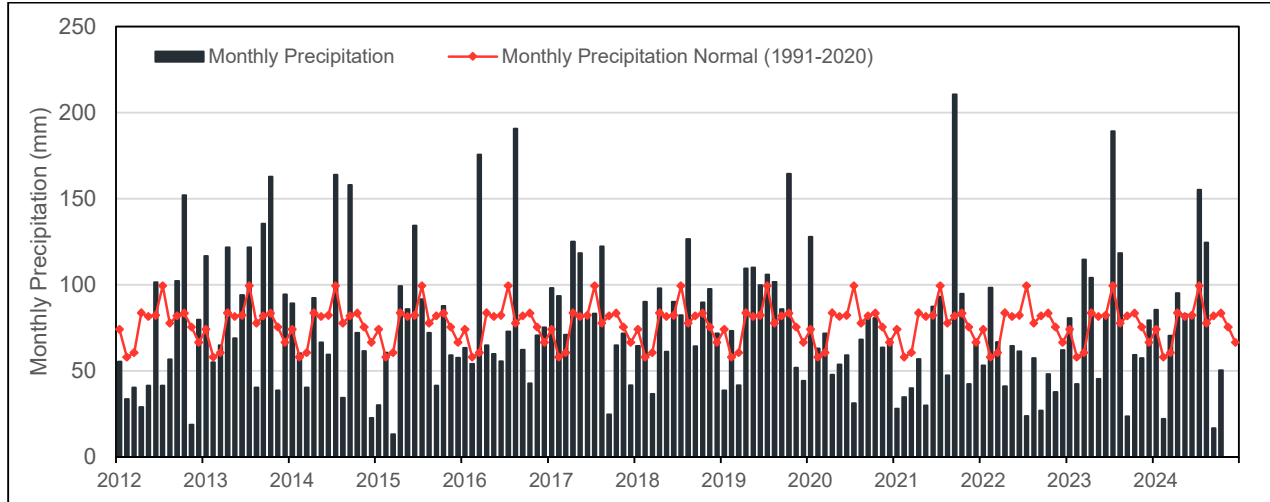


**Figure 6-1: Monthly Precipitation (2012-2024)**

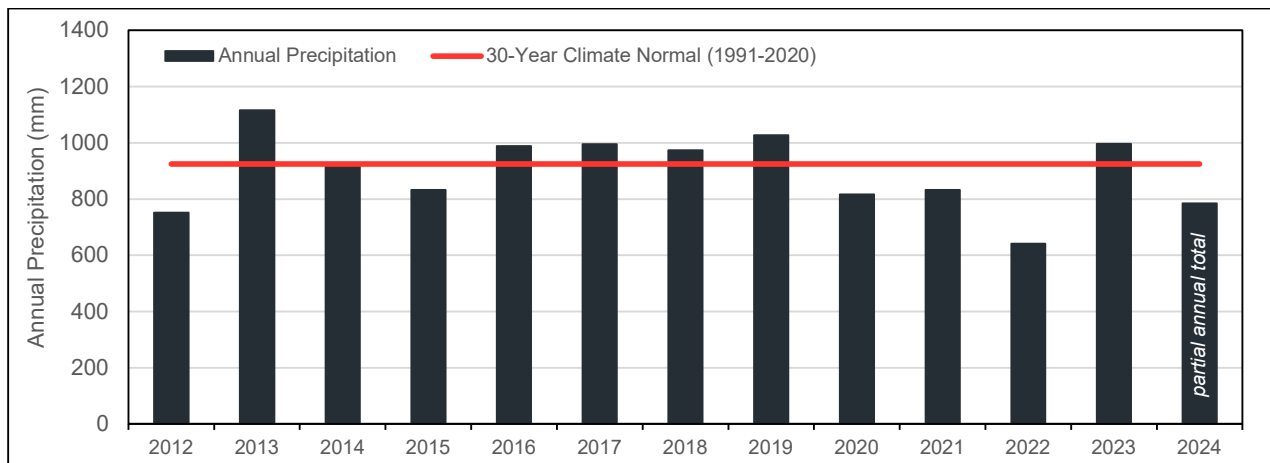


**Figure 6-2: Annual Precipitation (2012-2024)**

A total of 785 mm of precipitation was recorded at the climatological station in the months of January through October 2024, which is comparable to the monthly normal precipitation total for these months (783 mm). When compared to the 30-year climate normal amounts, July and August 2024 were notably wetter than normal and February, September and October 2024 were appreciably drier than normal (**Figure 6-1**).

Since 2012 (**Figure 6-2**), the years with the lowest total annual precipitation reported were 2012 (752 mm), 2015 (833 mm), 2020 (817 mm), 2021 (832 mm) and 2022 (641 mm). The years with the highest total annual precipitation were 2013 (1,115 mm) and 2019 (1,027 mm). The total annual precipitation received in the remaining years, since 2012, were similar to the 30-year average.

## 7.0 WATER QUALITY RESULTS

The 2024 sample results are presented in Table C-1 and Table C-2 (**Appendix C**), while the available historic water quality results (2013-2024) are presented in Table C-3 (**Appendix C**). The 2024 laboratory certificates of analysis are provided in **Appendix D**.

As shown in **Table C-3**, the 2024 water quality results were generally consistent with historical results, with the exceptions of the following:

- The March 2024 chloride (471 mg/L) and sodium (317 mg/L) concentrations were elevated above the historical ranges for each parameter. Analysis of chloride and sodium was added to the monitoring program in September 2019 and, therefore, the database of results is limited.
- The March 2024 copper concentration (0.009 mg/L) marginally exceeded the historical maximum copper concentration (0.008 mg/L).
- The September 2024 molybdenum concentration (0.003 mg/L) marginally exceeded the historical maximum molybdenum concentration (0.0016 mg/L). The September 2024 reported concentration was only slightly higher than the laboratory detection limit (0.002 mg/L). It is noted that the laboratory detection limit was 0.0005 mg/L in samples collected prior to 2019.
- The October 2024 concentration of total aluminum (0.025 mg/L) was marginally lower than the historical minimum (0.026 mg/L).

The Amended ECA does not specify Effluent Limits for the SWM pond. The sample results have been assessed using both surface water-related objectives and groundwater-related objectives in the following sections.

### 7.1 Surface Water Quality Objectives

The 2024 sample results presented in **Table C-1** have been assessed using the Provincial Water Quality Objectives (PWQO) (MECP 1994 and updates), which are the applicable objectives for surface water quality within Ontario. For parameters where a PWQO does not exist, the Canadian Environmental Quality Guidelines (CEQG) (Canadian Council of Ministers of the Environment, 1999) were used for assessment. The Grand River Conservation Authority (GRCA) uses the CEQG as targets for watershed management, and since the Site is located within the GRCA regulatory area, the CEQG are considered appropriate for use at the Site.

#### **General Chemistry**

Field pH and temperature were reported to be within the historic range in 2024. The June field pH value exceeded the PWQO range of 6.5 – 8.5 pH units, which is consistent with historical results.

TSS was reported below the CEQG concentration (25 mg/L) during each sampling event in 2024.

TKN concentrations were within the historic range in 2024. A PWQO or CEQG does not exist for TKN.

The concentration of chloride exceeded the CEQG (120 mg/L) during the March and June 2024 sampling events. Chloride concentrations have consistently exceeded the CEQG during the March and May/June sampling events since chloride was added to the parameters of analysis in mid-2019. Given the timing of the exceedances, the elevated chloride concentrations may be related to winter road salt application. Chloride analysis is not required by the Amended ECA.

### Metals

Concentrations of dissolved aluminum and total metals were below their respective PWQO in 2024, with three exceptions. The March 2024 concentrations of copper (0.009 mg/L), iron (0.713 mg/L) and zinc (0.054 mg/L) exceeded their respective PWQO (0.005 mg/L, 0.300 mg/L and 0.020 mg/L, respectively). As noted above, the March copper concentration marginally exceeded the historical maximum concentration; however, the March iron and zinc concentrations were within the historical range of concentrations. Elevated copper, iron and zinc concentrations have previously been observed in the SWM pond samples, on occasion.

### Organic Parameters

Concentrations of benzene, toluene, ethylbenzene and xylenes (BTEX) were consistently below the PWQO and laboratory detection limit during each sampling event in 2024, which is also consistent with historical results.

The PWQO for oil and grease is qualitative. The PWQO states that oil and grease should not be present in concentrations that are detectable by visual/olfactory methods, or that can form a deposit on shorelines and sediments. In 2024, low detections of oil and grease were reported in the June, September and October SWM pond samples, at concentrations of 0.92 mg/L, 0.51 mg/L and 1.06 mg/L, respectively. These low detections are consistent with historic results. The oil and grease concentration in March 2024 was below the laboratory detection limit of 0.5 mg/L.

### Microbiological Parameters

Elevated levels of E.coli and total coliforms were detected in the samples collected in 2024, which is consistent with historic results. PWQO or CEGQ do not exist for E.coli or total coliform.

### Summary

Overall, occasional minor PWQO/CEQG exceedances for field pH, chloride, copper, iron and zinc were reported in 2024. The chemical results from 2024 were generally consistent with historic results, with no discernible increasing or decreasing trends. Based on the 2024 chemical results, the SWM facility was operated in accordance with the Amended ECA.

## 7.2 Groundwater Quality Objectives

As recommended by the MECP in the attached comments, the effluent quality has also been compared to relevant groundwater quality standards, as the effluent is discharged to the subsurface via the infiltration gallery.

The 2024 sample results presented in Table C-2 have been assessed using the Ontario Drinking Water Quality Standards (ODWQS) (June 2006 and updates). For parameters where an ODWQS does not exist, the results were compared to the Table 2 Full Depth Generic Site Condition Standards for a Potable Ground Water Condition from *Soil, ground water and sediment standards for use under Part XV.1 of the Environmental Protection Act* (July 2011).

As shown in **Table C-2**, the following exceedances of the ODWQS occurred in 2024:

- Field pH in June;
- Chloride, iron and sodium in March; and
- E.coli and Total Coliforms during each sampling event.

Field pH, chloride, iron and sodium have non-health related ODWQS parameters. E.coli and total coliforms have health-related ODWQS parameters; however the concentrations were generally consistent with historical results from the SWM pond. Elevated bacterial concentrations are not unexpected given that the samples are

collected from surface water. As noted by the MECP reviewer (2020), dilution, dispersion and attenuation effects should reduce these concentrations in the subsurface. As such, the monitoring results indicate that the operation of the SWM pond are not likely to pose a threat to local groundwater resources.

## 8.0 PROPOSED MONITORING PROGRAM AMENDMENTS

As outlined in Section 7(6) of the Amended ECA, the County may request approval from the District Manager to modify the sampling frequency, sampling parameters and/or sampling locations after a minimum of five (5) years of monitoring results.

A reduced monitoring program was previously recommended by Stantec Consulting Ltd. in 2017 and has been supported by WSP since 2020. Based on the 2020 and 2023 MECP review comments (**Appendix B**), the MECP has agreed to the reduction in monitoring. The County is currently working with the MECP to include the amended monitoring program in the CLI ECA.

The following monitoring program changes were previously recommended and agreed to by the MECP:

- Reduce sampling frequency from quarterly (once every three months, i.e., winter, spring, summer, fall) to semi-annually (once every six months, i.e., spring, fall).
- Remove the following parameters from the sampling program:
  - E.coli and Total Coliform;
  - TKN;
  - Total Oil and Grease; and
  - Benzene, Ethylbenzene, Toluene and Xylene.
- If not already included in the Spill Contingency and Pollution Prevention Plan, implement a procedure of confirmatory grab sampling for total oil and grease and BTEX parameters, in the event a visible film, sheen or foam is observed in effluent. Sampling should be completed as soon as the visible film/sheen/foam is noticed and appropriate action taken to mitigate potential contaminant sources. Sampling should continue at one-month intervals to confirm concentrations return to historical normal.

## 9.0 CONCLUSIONS

Based on the results presented herein, the following conclusions are provided:

- Occasional minor PWQO/CEQG exceedances for field pH, chloride, copper, iron and zinc were reported in the SWM pond in 2024. The chemical results from 2024 were generally consistent with historic results, with no discernible increasing or decreasing trends. Based on the 2024 chemical results, the SWM facility was operated in accordance with the Amended ECA.

## Signature Page

**WSP Canada Inc.**



*Rebecca Warrack*

Rebecca Warrack, P.Eng.  
*Project Engineer*

A handwritten signature in blue ink, appearing to read "Albert Siertsema".

Albert Siertsema, P.Eng., PMP  
*Project Engineer*

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## 10.0 REFERENCES

Chapman, L.J. and Putnam, D.F., 1984; *The Physiography of Southern Ontario, Third Edition*. Ontario Geological Survey, Special Volume 2.

Ministry of the Environment and Energy, 1994; *Water Management: Policies Guidelines and Provincial Water Quality Objectives*.

Ontario Department of Mines and Northern Affairs, 1972. *Granular Deposits of the Brantford Area, Southern Ontario, Map 2241*, 1:63,360.

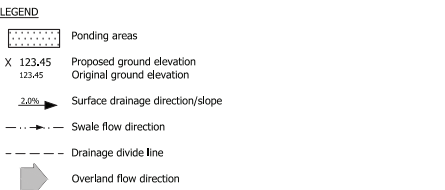
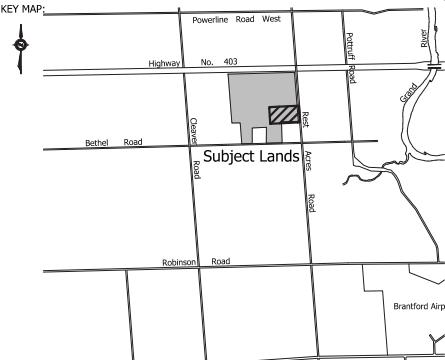
Ontario Geological Survey (OGS), 2010. *Surficial Geology of Southern Ontario, Miscellaneous Release-Data128-REV*.

Stantec Consulting Ltd., 2019; *2019 Environmental Monitoring and Reporting, Environmental Compliance Approval (ECA) No. 9772-8Y4KKJ, Brant 403 Business Park Stormwater Management Facility, County of Brant*; December 11, 2019.

WSP Canada Inc., 2023; *2023 Environmental Monitoring Report, Environmental Compliance Approval (ECA) No. 0737-AHFMC6, Brant 403 Business Park Stormwater Management Facility, County of Brant*; December 13, 2023.

**APPENDIX A**

**Site Plan**  
**(Meritech Engineering, 2011)**



Local reference elevation: Iron bar located at the northeast corner of Part 1 Plan 2R-1614, 148.15 metres north of Bethel Road and 202.72 metres west of the southwest corner of the MTO Yards located at the intersection of Rest Acres Road and Bethel Road.  
Elevation = 259.89 metres.

This drawing is to be read in conjunction with the standard notes, specifications and details shown on Meritech dwgs 4300-01 & 4300-26.

|     |                              |              |     |
|-----|------------------------------|--------------|-----|
|     |                              |              |     |
|     |                              |              |     |
| 5.  | Minor Edits                  | Apr 27, 2012 | JEL |
| 4.  | MOE Submission               | Mar 21, 2012 | JEL |
| 3.  | County Comments              | Feb 09, 2012 | JEL |
| 2.  | 3rd Engineering Submission   | Feb 02, 2012 | JEL |
| 1.  | 2nd Engineering Submission   | Nov 07, 2011 | JEL |
| 0.  | Issued for Review & Approval | Mar 24, 2011 | JEL |
| No. | REVISIONS                    | DATE         | BY  |

Information shown on this plan is compiled from various sources, and is believed to be true and accurate. Meritech Services Inc. has attempted to verify, where possible, all information. The Contractor is responsible for verifying all data and information relative to this project, and indicate any discrepancies to the Project Engineer prior to commencement of work. Failure to do so will rest sole responsibility of said discrepancies on the Contractor.

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OWNER:

County of Brant

LOCATION:

County of Brant

PROJECT:

**Brant 403 Business Park**  
Parts of Lots 9 and 10, Concession 2, 2R-6032

**DRAWING:**

## Stormwater Management Pond

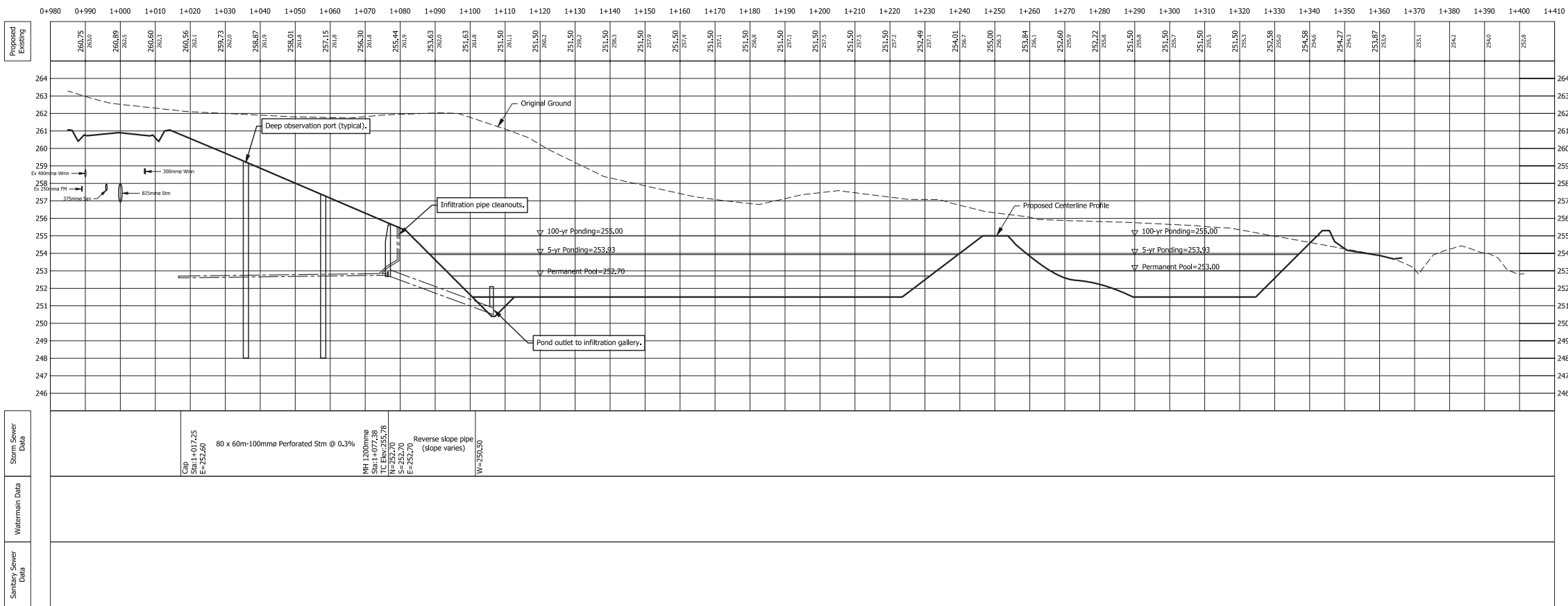
CONSULTANT:



1315 Bishop Street North, Suite 202 Cambridge  
T 519.623.1140 F 519.623.7334 [www.meritech.ca](http://www.meritech.ca)

|                           |                                                                                       |                                     |
|---------------------------|---------------------------------------------------------------------------------------|-------------------------------------|
| DESIGN BY: JEL            | CHECKED BY: ISR                                                                       | CONTRACT:                           |
| DRAWN BY: JEL             | DATE: Mar 24, 2011                                                                    | FILE NAME: 4300.dwg                 |
| SCALE: H 1:750<br>V 1:150 |  | DRAWING: 4300-25<br>SHEET: 25 of 28 |

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**APPENDIX B**

Amended ECA No. 0737-  
AHFMC6, CLI-ECA No. 062-S701  
& MECP Correspondence



**AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL**

NUMBER 0737-AHFMC6

Issue Date: January 17, 2017

The Corporation of the County of Brant  
26 Park Ave  
Post Office Box, No. 160  
Burford, Ontario  
N0E 1A0

Site Location: Brant 403 Business Park  
Lot 9,10, Concession 2  
County of Brant

*You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:*

An amendment to existing stormwater management works for the construction of wastewater infrastructure to service Phase 2 of the Brant 403 Business Park, located in the County of Brant, consisting of the following:

**Proposed Works:**

**storm sewers** on Adi Dassler Way from east of the northern terminus of Folsetter Drive at proposed MH6A to Folsetter Drive and on Folsetter Drive from proposed MH 16 to existing MH 20;

**sanitary sewers** on Adi Dassler Way from east of the northern terminus of Folsetter Drive at proposed MH S6 to Folsetter Drive at existing MH S5;

**Previous Works:**

internal sanitary sewers on Adi Dassler Way, Folsetter Drive and Bethel Road;

a sanitary sewage pumping station on Part 12, Plan 2R-7452, north of Bethel Road, east of Folsetter Drive, consisting of a wet well and connecting to an existing 250 mm diameter forcemain between Bethel Road and Powerline Road (Approval 5684-8C7R8J, issued December 18, 2010), complete with:

- one (1) 2.95 m by 3.888 m wet well having one inlet pipe,
- one (1) duty pump, one (1) standby pump each rated at 43 L/s for a total dynamic head of 30 m, and one (1) future pump rated at 105 L/s for a total dynamic head of 85 m,
- float control assembly for high/low pump control and alarms,
- one (1) building to house valves and appurtenances (control building),
- one (1) 300 kW pad mounted diesel stand-by generator (to be registered in the Environmental Activity and Sector Registry by the Owner),
- an alarmed sewage pumping station bypass overflow to automatically close two (2) actuated gate

valves on the discharge from the stormwater management pond, identified below, during a sewage pumping station bypass event, discharging overland to the stormwater management pond located to the north of the sanitary sewage pumping station, identified below,

- all other controls, electrical equipment, instrumentation, piping, plumbing, valves and appurtenances essential for the proper operation of the aforementioned sewage pumping station;

internal storm sewers on Adi Dassler Way and Folsetter Drive and an overland flow channel, discharging to a stormwater management wet pond, identified below;

stormwater management pond: - a wet pond with a bentonite clay liner and sediment forebay, having a permanent pool volume of 15,632 m<sup>3</sup> in the main cell and 3,124 m<sup>3</sup> in the sediment forebay, an extended detention volume of 5,927 m<sup>3</sup>, and a total storage volume of approximately 68,906 m<sup>3</sup>, including the permanent pool volumes, at a total depth of approximately 3.5 m, complete with:

- one (1) 3000 mm by 4000 mm concrete flow splitter manhole, with a 2400 mm diameter inlet pipe, a 1500 mm diameter outlet pipe and a concrete over flow weir set at an elevation of 255.16 m and placed approximately 500 mm in front of a 1650 mm diameter outlet pipe,
- one (1) 1650 mm diameter inlet pipe from the flow splitter manhole, identified above, with concrete headwall and rip-rap protection, discharging to the main cell,
- one (1) 1500 mm diameter inlet pipe from the flow splitter manhole, identified above, with concrete headwall and rip-rap protection, discharging to the sediment forebay,
- one (1) 600 mm diameter inlet pipe with concrete headwall and rip-rap protection, discharging to the main cell,
- two (2) 300 mm diameter reverse slope outlet pipes, each with a 300 mm diameter perforated Hickenbottom riser pipe installed in a rip-rap jacket in the main cell, discharging to two manholes, complete with 300 mm diameter actuated gate valves, alarmed to close in the event of a sewage pumping station bypass, or activated to close in the event of any spill within the Brant 403 Business Park that could adversely affect the quality of the effluent discharging from the stormwater management pond, discharging to an infiltration gallery, identified below,
- one (1) 45 m wide by 300 mm deep overflow weir, discharging across Rest Acres Road and overland to the Grand River, approximately 1.5 km distant;

infiltration gallery: - one (1) 80 m by 60 m infiltration gallery, complete with a 250 mm diameter perforated header pipe and eighty (80) lengths of 100 mm diameter perforated pipes placed in a 500 mm thick clearstone bedding with filter cloth covering and cleanouts;

including erosion/sedimentation control measures during construction and all other controls and appurtenances essential for the proper operation of the aforementioned Works;

all in accordance with the submitted application and supporting documents listed in Schedule "A" forming part of this Approval.

*For the purpose of this environmental compliance approval, the following definitions apply:*

"Approval" means this entire document including the application and any supporting documents listed in any schedules in this Approval;

"Director" means a person appointed by the Minister pursuant to section 5 of the Environmental Protection Act for the purposes of Part II.1 of the Environmental Protection Act;

"District Manager" means the District Manager of the Guelph District Office of the Ministry;

"Ministry" means the ministry of the government of Ontario responsible for the Environmental Protection Act and the Ontario Water Resources Act and includes all officials, employees or other persons acting on its behalf;

"Owner" means the Corporation of the County of Brant and includes its successors and assignees;

"Source Protection Plan" means a drinking water source protection plan prepared under the Clean Water Act, 2006; and

"Works" means the sewage works described in the Owner's application(s) and this Approval.

*You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:*

## TERMS AND CONDITIONS

### 1. GENERAL PROVISIONS

(1) The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Works is notified of this Approval and the Conditions herein and shall take all reasonable measures to ensure any such person complies with the same.

(2) Except as otherwise provided by these Conditions, the Owner shall design, build, install, operate and maintain the Works in accordance with the description given in this Approval, and the application for approval of the Works.

(3) Where there is a conflict between a provision of any submitted document referred to in this Approval and the Conditions of this Approval, the Conditions in this Approval shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.

(4) Where there is a conflict between the listed submitted documents, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.

(5) The Conditions of this Approval are severable. If any Condition of this Approval, or the application of any requirement of this Approval to any circumstance, is held invalid or unenforceable, the application of such Condition to other circumstances and the remainder of this Approval shall not be affected thereby.

(6) The issuance of, and compliance with the Conditions of this Approval does not:

(a) relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement, including, but not limited to, the obligation to obtain approval from the local conservation authority necessary to construct or operate the sewage Works; or

(b) limit in any way the authority of the Ministry to require certain steps be taken to require the Owner to furnish any further information related to compliance with this Approval.

### 2. EXPIRY OF APPROVAL

This Approval will cease to apply to those parts of the Works which have not been constructed within

**five (5) years** of the date of this Approval.

### 3. CHANGE OF OWNER

The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within **thirty (30) days** of the change occurring:

(a) change of Owner;

(b) change of address of the Owner;

(c) change of partners where the Owner is or at any time becomes a partnership, and a copy of the most recent declaration filed under the Business Names Act , R.S.O. 1990, c. B17 shall be included in the notification to the District Manager; and

(d) change of name of the corporation where the Owner is or at any time becomes a corporation, and a copy of the most current information filed under the Corporations Information Act , R.S.O. 1990, c. C39 shall be included in the notification to the District Manager.

### 4. TEMPORARY EROSION AND SEDIMENT CONTROL

4.1 The Owner shall install and maintain temporary sediment and erosion control measures during construction and conduct inspections once every two (2) weeks and after each significant storm event (a significant storm event is defined as a minimum of 25 mm of rain in any 24 hours period). The inspections and maintenance of the temporary sediment and erosion control measures shall continue until they are no longer required and at which time they shall be removed and all disturbed areas reinstated properly .

4.2 The Owner shall maintain records of inspections and maintenance which shall be made available for inspection by the Ministry, upon request. The record shall include the name of the inspector, date of inspection, and the remedial measures, if any, undertaken to maintain the temporary sediment and erosion control measures.

### 5. OPERATION AND MAINTENANCE

(1) Upon commencement of operation of the Works, the Owner shall ensure that a "Spill Contingency and Pollution Prevention Plan" and a "Sewage Pumping Station Bypass Contingency Plan" for the Works prepared in accordance with Conditions 7 and 8, respectively, is submitted to the District Manager for comment and concurrence.

(2) The Owner shall ensure that the design minimum liquid retention volume(s) is maintained at all times.

(3) The Owner shall inspect the Works at least **once a year** and, if necessary, clean and maintain the Works to prevent the excessive build-up of sediments and/or vegetation.

(4) The Owner shall maintain a logbook to record the results of these inspections and any cleaning and maintenance operations undertaken, and shall keep the logbook at the Owner's office for inspection by the Ministry. The logbook shall include the following:

(a) the name of the Works; and

(b) the date and results of each inspection, maintenance and cleaning, including an estimate of the quantity of any materials removed.

(5) The Owner shall place the two (2) actuated gate valves on a regular maintenance schedule to ensure proper operation of the valves in the event of a sewage pumping station bypass.

## 6. RECORD KEEPING

The Owner shall retain for a minimum of **five (5) years** from the date of their creation, all records and information related to or resulting from the operation and maintenance activities required by this Approval.

## 7. MONITORING AND REPORTING

The Owner shall establish and carry out, upon commencement of operation of the Works, the following effluent monitoring program:

(1) All samples and measurements taken for the purposes of this Approval are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.

(2) For the purposes of this Condition, the following definitions apply:

(a) **Quarterly** means once every three (3) months.

(3) Samples shall be collected at the sampling points identified in Table 1, at a frequency specified, by means of the specified sample type and analysed for each parameter listed and all results recorded:

| <b>Table 1 - Effluent Monitoring - One Sampling Point</b>                                                                                                             |                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. the main cell of the stormwater management pond near the two reverse slope outlet pipes prior to discharge to the infiltration gallery at the west end of the pond |                                                                                                                                                                                                                                                                                                                      |
| <b>Frequency</b>                                                                                                                                                      | <b>quarterly</b> (when wetland is discharging to the infiltration bed)                                                                                                                                                                                                                                               |
| <b>Sample Type</b>                                                                                                                                                    | Grab                                                                                                                                                                                                                                                                                                                 |
| <b>Parameters</b>                                                                                                                                                     | E coli, Total Coliform, Total Kjeldahl Nitrogen, Total Suspended Solids, Heavy Metals (aluminum, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, molybdenum, nickel, silver, thallium, vanadium and zinc), oil and grease, Volatile Organic Compounds (benzene, ethylbenzene, toluene, and xylenes) |

(4) The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following:

(a) the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)", as amended from time to time by more recently published editions;

(b) the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions;

(c) the publication "Standard Methods for the Examination of Water and Wastewater" (21st

edition), as amended from time to time by more recently published editions; and,

(d) for any parameters not mentioned in the documents referenced in (a) and (b), the written approval of the District Manager shall be obtained prior to sampling.

(5) The Owner shall submit a report on the results of the monitoring program by **December 31st** of each calendar year to the District Manager.

(6) After the Owner obtains a minimum of **five (5) years** of monitoring results, the monitoring frequency, monitoring parameters and/or sampling locations specified in subsection (3) may be modified by the District Manager upon written request.

(7) Notwithstanding any other Condition in this Approval, the Owner shall ensure that the wet pond does not contain oil or any other substance in amounts sufficient to create a visible film, sheen or foam. In the event that a visible film, sheen or foam is observed, the Owner will immediately initiate the Spill Contingency and Pollution Prevention Plan.

(8) The Owner shall conduct regular inspections to ensure that the infiltration of the effluent is occurring within the infiltration bed according to the design and that discharge water is not seeping out to the surrounding ground surface. If seepage or excessive emergency wet pond overflow occurs, contingency plans and procedures shall be implemented, and notification shall be provided to the District Manager within **ten (10) working days**.

#### 8. SPILL CONTINGENCY AND POLLUTION PREVENTION PLAN

(1) Upon commencement of operation of the Works, the Owner shall implement a Spill Contingency and Pollution Prevention Plan that outlines procedures as to how to mitigate the impacts of a spill within the area serviced by the Works and/or prevent pollution incidents. The said plan shall include as a minimum, but not limited to:

(a) the name, job title and 24-hour telephone number of the person(s) responsible for activating the Spill Contingency and Pollution Prevention Plan;

(b) a plan of the Brant 403 Business Park drawn to scale showing the types of businesses, streets, catchbasins & manholes, drainage patterns (including direction(s) of flow in storm sewers) and any features which need to be taken into account in terms of potential impacts on access and response (including physical obstructions and location of response and clean-up equipment);

(c) steps to be taken to report, contain, clean up and dispose of contaminants following a spill;

(d) the date on which the Spill Contingency and Pollution Prevention Plan was prepared and subsequently, amended.

#### 9. SEWAGE PUMPING STATION BYPASS CONTINGENCY PLAN

(1) Upon commencement of operation of the Works, the Owner shall implement a Sewage Pumping Station Bypass Contingency Plan that outlines procedures as to how to mitigate the impacts of a sewage bypass from the sanitary sewage pumping station located to the south of the stormwater management pond. The said plan shall include as a minimum, but not limited to:

(a) the name, job title and 24-hour telephone number of the person(s) responsible for activating the Sewage Pumping Station Bypass Contingency Plan;

(b) steps to be taken to report, contain, clean up and dispose of contaminants following a sewage pumping station bypass event;

(c) the date on which the Sewage Pumping Station Bypass Contingency Plan was prepared and subsequently, amended.

## 10. SOURCE PROTECTION

The Owner shall, within **sixty (60) calendar days** of the Minister of the Environment posting approval of a Source Protection Plan on the environmental registry established under the Environmental Bill of Rights, 1993 for the area in which this Approval is applicable, apply to the Director for an amendment to this Approval that includes the necessary measures to conform with all applicable policies in the approved Source Protection Plan.

### **Schedule "A"**

1. Application for Environmental Compliance Approval for Municipal and Private Sewage Works, dated August 26, 2016 and received on August 30, 2016, submitted by the Corporation of the County of Brant;
2. Letter from Chris Togeretz, Meritech Engineering, to the Ministry, dated August 17, 2016;
3. Pipe Data Form and design sheets prepared by Meritech Engineering; and
4. Engineering Drawings: Brant 403 Business Park- Phase 2, County of Brant, dated July 13, 2016.

*The reasons for the imposition of these terms and conditions are as follows:*

1. Condition 1 is imposed to ensure that the Works are built and operated in the manner in which they were described for review and upon which approval was granted. This Condition is also included to emphasize the precedence of Conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.
2. Condition 2 is included to ensure that, when the Works are constructed, the Works will meet the standards that apply at the time of construction to ensure the ongoing protection of the environment.
3. Condition 3 is included to ensure that the Ministry records are kept accurate and current with respect to approved Works and to ensure that any subsequent Owner of the Works is made aware of the Approval and continues to operate the Works in compliance with it.
4. Condition 4 is included as installation, regular inspection and maintenance of the temporary sediment and erosion control measures is required to mitigate the impact on the downstream receiving watercourse during construction, until they are no longer required.
5. Condition 5 is included to require that the Works be properly operated and maintained such that the environment is protected.
6. Condition 6 is included to require that all records are retained for a sufficient time period to adequately evaluate the long-term operation and maintenance of the Works.
7. Condition 7 is included to ensure that the effluent quality is monitored and the performance of the Works is evaluated, recorded and reported on an annual basis.

8. Condition 8 is included to ensure that the Ministry is immediately informed of the occurrence of an emergency or otherwise abnormal situation so that appropriate steps are taken to address the immediate concerns regarding the protection of public health and minimizing environmental damage and to be able to devise an overall abatement strategy to prevent long term degradation and the re-occurrence of the situation.

9. Condition 9 is included to ensure that the Ministry is immediately informed of the occurrence of a sewage pumping station bypass so that appropriate steps are taken to address the immediate concerns regarding the protection of public health from possible contamination of the drinking water supplies in the area in the event that the stormwater management pond should become contaminated by any sewage pumping station bypass.

10. Condition 10 is included to ensure that the works covered by this Approval will conform to the significant threat policies and designated Great Lakes policies in the Source Protection Plan.

**Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 9772-8Y4KKJ issued on November 29, 2012**

*In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:*

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.*

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary\*  
Environmental Review Tribunal  
655 Bay Street, Suite 1500  
Toronto, Ontario  
M5G 1E5

AND

The Director appointed for the purposes  
of Part II.1 of the Environmental  
Protection Act  
Ministry of the Environment and Climate  
Change  
135 St. Clair Avenue West, 1st Floor  
Toronto, Ontario  
M4V 1P5

**\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)**

*The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.*

DATED AT TORONTO this 17th day of January, 2017

Gregory Zimmer, P.Eng.

Director

appointed for the purposes of Part II.1 of  
the *Environmental Protection Act*

SS/

c: DWMD Supervisor, MOECC Guelph Office

Ian S. Robertson, P. Eng., Meritech Engineering

## ENVIRONMENTAL COMPLIANCE APPROVAL For a Municipal Stormwater Management System

**ECA Number: 062-S701**

**Issue Number: 1**

Pursuant to the *Environmental Protection Act*, R.S.O. 1990, c. E. 19 (EPA), and the regulations made thereunder and subject to the limitations thereof, this environmental compliance approval is issued under section 20.3 of Part II.1 of the EPA to:

**Brant, The Corporation of the County of**

**26 Park Ave P.O. Box 160  
Burford, ON N0E 1A0**

For the following Sewage Works:

### **County of Brant Municipal Stormwater Management System**

This Environmental Compliance Approval (ECA) includes the following:

| <b>Schedule</b> | <b>Description</b>                                                  |
|-----------------|---------------------------------------------------------------------|
| Schedule A      | System Information                                                  |
| Schedule B      | Municipal Stormwater Management System Description                  |
| Schedule C      | List of Notices of Amendment to this ECA: Additional Approved Works |
| Schedule D      | General                                                             |
| Schedule E      | Operating Conditions                                                |
| Schedule F      | Residue Management                                                  |
| Appendix A      | Stormwater Management Criteria                                      |

Except where specified otherwise, all prior ECAs, or portions thereof, issued by the Director for Sewage Works described in section 1 of Schedule B are revoked and replaced by this Approval.

DATED at TORONTO this 14th day of October, 2022

Signature



Aziz Ahmed, P.Eng.  
Director, Part II.1, *Environmental Protection Act*

## Schedule A: System Information

|                |                                                               |
|----------------|---------------------------------------------------------------|
| System Owner   | <b>Brant, The Corporation of the County of</b>                |
| ECA Number     | <b>062-S701</b>                                               |
| System Name    | <b>County of Brant Municipal Stormwater Management System</b> |
| ECA Issue Date | <b>October 14th, 2022</b>                                     |

### 1.0 ECA Information and Mandatory Review Date

|                                     |                    |
|-------------------------------------|--------------------|
| ECA Issue Date                      | October 14th, 2022 |
| Application for ECA Review Due Date | May 15, 2026       |

- 1.1 Pursuant to section 20.12 of the EPA, the Owner shall submit an application for review of the Approval no later than the Application for ECA Review Date indicated above.

### 2.0 Related Documents

#### 2.1 Other Documents

| Document Title                                                                                                                        | Version              |
|---------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Design Criteria for Sanitary Sewers, Storm Sewers, and Force mains for Alterations Authorized under Environmental Compliance Approval | v.1.1 (Jul 28, 2022) |

### 3.0 Stormwater Master Plan and Asset Management Plan

| Document Title                                    | Version           |
|---------------------------------------------------|-------------------|
| County of Brant Asset Management Plan August 2013 | v.1 (August 2013) |

### 4.0 Operating Authority

| System                                                 | Operating Authority                    |
|--------------------------------------------------------|----------------------------------------|
| County of Brant Municipal Stormwater Management System | The Corporation of the County of Brant |

## **Schedule B: Municipal Stormwater Management System Description**

|                |                                                               |
|----------------|---------------------------------------------------------------|
| System Owner   | <b>Brant, The Corporation of the County of</b>                |
| ECA Number     | <b>062-S701</b>                                               |
| System Name    | <b>County of Brant Municipal Stormwater Management System</b> |
| ECA Issue Date | <b>October 14th, 2022</b>                                     |

### **1.0 System Description**

- 1.1 The following is a summary description of the Sewage Works comprising the Municipal Stormwater Management System:

#### **Overview**

The Municipal Stormwater Management (SWM) System serving the County of Brant's drainage area, is a separate system for stormwater (i.e. designed not to convey sanitary sewage, combined sewage) within the Grand River watershed. The Municipal SWM System consists of storm sewers, culverts, ditches, Stormwater Management Facilities and outlets.

This ECA covers the entire Municipal SWM System owned and operated by the County of Brant. This ECA does not cover municipally or privately owned sewage works on industrial or commercial land.

#### **Sewage Collection System**

- 1.2 The Authorized System comprises:
- 1.2.1 The Sewage Works described and depicted in each document or file identified in column 1 of Table B1.

| <b>Table B1: Infrastructure Map</b> |                  |
|-------------------------------------|------------------|
| Column 1<br>Document or File Name   | Column 2<br>Date |
| Storm Map Series                    | 2021             |

- 1.2.2 Storm Sewers, Stormwater Management Facilities, stormwater pumping stations and Sewage Works associated with a Third Pipe Collection System that have been added, modified, replaced, or extended through authorization provided in a Schedule C Notice respecting this Approval, where Completion occurs on or after the

date identified in column 2 of Table B1 for each document or file identified in column 1.

- 1.2.3 Storm Sewers, Stormwater Management Facilities and Sewage Works associated with a Third Pipe Collection System that have been added, modified, replaced, or extended through authorization provided by Schedule D of this Approval, where Completion occurs on or after the date identified in column 2 of Table B1 for each document or file identified in column 1.

- 1.2.4 Any Sewage Works described in conditions 1.3 through 1.8 below.

### Stormwater Collection System

- 1.3 Categorization of the Authorized System at the date of issue of this Approval is as follows:

| <b>Table B2. Stormwater Collection System by Diameter</b> |                    |             |                    |
|-----------------------------------------------------------|--------------------|-------------|--------------------|
| System Type                                               | Pipe Diameter (mm) | Length (km) | System Totals (km) |
| Storm Sewers                                              | Up to 250          | 43.6        | --                 |
| Storm Sewers                                              | > 250 - 500        | 83.7        | --                 |
| Storm Sewers                                              | > 500 - 1050       | 44.9        | --                 |
| Storm Sewers                                              | > 1050             | 5.7         | --                 |
| Total Storm Sewers                                        | --                 | --          | 177.9              |
| Ditches / Swales                                          | --                 | --          | N/A                |
| Total System Length (km)                                  | --                 | --          | 177.9              |

| <b>Table B3. Summary of Stormwater Management Facilities by Type and Pumping Stations</b> |                                       |                                         |                                           |                                              |                       |                        |                            |
|-------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------|-------------------------------------------|----------------------------------------------|-----------------------|------------------------|----------------------------|
| Facility Type                                                                             | Basic Treatment for Suspended Solids* | Normal Treatment for Suspended Solids * | Enhanced Treatment for Suspended Solids * | Other Treatment Level for Suspended Solids** | Total Quality Control | Total Quantity Control | Total Number of Facilities |
| LID Facilities - Retention (infiltration, evapotranspiration, harvest)                    | 0                                     | 0                                       | 0                                         | 5                                            | 5                     | 5                      | 5                          |
| LID Facilities - Filtration                                                               | 0                                     | 0                                       | 0                                         | 0                                            | 0                     | 0                      | 0                          |
| Stormwater Management Ponds – Wet (includes wetlands, hybrids)                            | 0                                     | 3                                       | 2                                         | 5                                            | 10                    | 10                     | 10                         |
| Stormwater Management Ponds - Dry                                                         | 0                                     |                                         |                                           | 11                                           | 11                    | 11                     | 11                         |

|                               |   |   |   |    |    |    |    |
|-------------------------------|---|---|---|----|----|----|----|
| Super Pipe / Storage Facility | 0 | 0 | 0 | 0  | 0  | 0  | 0  |
| Filtration MTD - Filter Unit  | 0 | 0 | 0 | 0  | 0  |    | 0  |
| Sedimentation MTD - OGS       | 0 | 0 | 1 | 7  | 9  |    | 8  |
| Pumping Stations              |   |   |   |    |    |    |    |
| Other                         | 0 | 0 | 0 | 0  | 0  | 0  | 0  |
| Total Number of Facilities    | 0 | 3 | 3 | 28 | 34 | 26 | 34 |

\* Basic, normal, and enhanced treatment correspond to 60%, 70% and 80% suspended solids removal on an annual average long-term basis, respectively.

\*\* Treatment levels below 60% suspended solids removal on an annual average long-term basis.

**Table B4. Third Pipe Collection System**

| Description                                          | Pipe Diameter (mm) | Length (km) | Quantity | System Totals |
|------------------------------------------------------|--------------------|-------------|----------|---------------|
| Third Pipe Sewer                                     | Up to 250          | N/A         | N/A      | N/A           |
| Third Pipe Sewer                                     | > 250 - 500        |             | N/A      |               |
| Third Pipe Sewer                                     | > 500              |             | N/A      |               |
| Total                                                |                    |             |          |               |
| Other Infrastructure Components (e.g., storage tank) | N/A                |             |          |               |

**Table B5. Sewage Works on Private Land that are part of the Municipal Stormwater Treatment Train\***

| Description | Location | ECA # (if applicable) |
|-------------|----------|-----------------------|
| N/A         |          |                       |

\* Identifies privately owned Sewage Works that are not part of the Authorized System, but are part of a Stormwater Treatment Train

### Stormwater Management Facilities

1.4 The following are Stormwater Management Facilities in the Authorized System:

#### Fintas SWM Pond (Coates Drive)

|                                         |                                       |
|-----------------------------------------|---------------------------------------|
| Location                                | 43° 5' 50.217" N<br>80° 26' 22.942" W |
| Watershed/Subwatershed                  | Grand River/Whitemans Creek           |
| Receiver of discharge                   | Lewis Drain                           |
| Outlet location                         | 43° 5' 50.367" N<br>80° 26' 24.095" W |
| Catchment Area                          | N/A                                   |
| Level of Treatment for suspended solids | N/A                                   |
| Treatment for other                     | None                                  |

|                                                   |                |
|---------------------------------------------------|----------------|
| Contaminants, as required                         |                |
| Level of Volume control                           | N/A            |
| Design Storm                                      | N/A            |
| Reference ECA(s)                                  | No             |
| Reference Sewage Works as part of treatment train | N/A            |
| Brief Description                                 | Siltation Pond |
| Receive Emergency Sanitary Overflows              | No             |
| Notes                                             | Recharge Pond  |

**Fintas SWM Pond (Brian Drive)**

|                                                   |                                       |
|---------------------------------------------------|---------------------------------------|
| Location                                          | 43° 5' 44.336" N<br>80° 26' 20.233" W |
| Watershed/Subwatershed                            | Grand River/Whitemans Creek           |
| Receiver of discharge                             | Lewis Drain                           |
| Outlet location                                   | 43° 5' 42.772" N<br>80° 26' 23.535" W |
| Catchment Area                                    | N/A                                   |
| Level of Treatment for suspended solids           | N/A                                   |
| Treatment for other Contaminants, as required     | None                                  |
| Level of Volume control                           | Unknown                               |
| Design Storm                                      | 100 year storm                        |
| Reference ECA(s)                                  | No                                    |
| Reference Sewage Works as part of treatment train | N/A                                   |
| Brief Description                                 | Siltation Pond                        |
| Receive Emergency Sanitary Overflows              | No                                    |
| Notes                                             | Recharge Pond                         |

**Seitz SWM Pond**

|                                               |                                       |
|-----------------------------------------------|---------------------------------------|
| Location                                      | 43° 5' 40.884" N<br>80° 25' 49.568" W |
| Watershed/Subwatershed                        | Grand River                           |
| Receiver of discharge                         | Infiltration                          |
| Outlet location                               | N/A                                   |
| Catchment Area                                | N/A                                   |
| Level of Treatment for suspended solids       | N/A                                   |
| Treatment for other Contaminants, as required | None                                  |
| Level of Volume control                       | 3,700m3                               |
| Design Storm                                  | Unknown                               |
| Reference ECA(s)                              | 3-1343-78-796                         |

|                                                   |                                            |
|---------------------------------------------------|--------------------------------------------|
| Reference Sewage Works as part of treatment train | N/A                                        |
| Brief Description                                 | Groundwater recharge and infiltration pond |
| Receive Emergency Sanitary Overflows              | No                                         |
| Notes                                             | N/A                                        |

### Broadview SWM Pond

|                                                   |                                       |
|---------------------------------------------------|---------------------------------------|
| Location                                          | 43° 6' 22.632" N<br>80° 25' 23.687" W |
| Watershed/Subwatershed                            | Grand River                           |
| Receiver of discharge                             | Infiltration                          |
| Outlet location                                   | N/A                                   |
| Catchment Area                                    | Unknown                               |
| Level of Treatment for suspended solids           | Unknown                               |
| Treatment for other Contaminants, as required     | None                                  |
| Level of Volume control                           | Unknown                               |
| Design Storm                                      | Unknown                               |
| Reference ECA(s)                                  | Unknown                               |
| Reference Sewage Works as part of treatment train | N/A                                   |
| Brief Description                                 | SWM pond                              |
| Receive Emergency Sanitary Overflows              | No                                    |
| Notes                                             | N/A                                   |

### Gladstone SWM Pond

|                                                   |                                       |
|---------------------------------------------------|---------------------------------------|
| Location                                          | 43° 12' 10.403" N<br>80° 24' 0.301" W |
| Watershed/Subwatershed                            | Grand River                           |
| Receiver of discharge                             | Infiltration                          |
| Outlet location                                   | N/A                                   |
| Catchment Area                                    | Unknown                               |
| Level of Treatment for suspended solids           | Unknown                               |
| Treatment for other Contaminants, as required     | None                                  |
| Level of Volume control                           | Unknown                               |
| Design Storm                                      | Unknown                               |
| Reference ECA(s)                                  | No                                    |
| Reference Sewage Works as part of treatment train | N/A                                   |
| Brief Description                                 | SWM Pond                              |
| Receive Emergency Sanitary Overflows              | No                                    |

|       |     |
|-------|-----|
| Notes | N/A |
|-------|-----|

**Parisian Heights SWM Pond**

|                                                   |                                       |
|---------------------------------------------------|---------------------------------------|
| Location                                          | 43° 11' 6.675" N<br>80° 23' 10.591" W |
| Watershed/Subwatershed                            | Grand River                           |
| Receiver of discharge                             | Infiltration                          |
| Outlet location                                   | N/A                                   |
| Catchment Area                                    | Unknown                               |
| Level of Treatment for suspended solids           | Unknown                               |
| Treatment for other Contaminants, as required     | None                                  |
| Level of Volume control                           | Unknown                               |
| Design Storm                                      | 1:5 Year Storm 1:100 Year Storm       |
| Reference ECA(s)                                  | 3-0822-96-006                         |
| Reference Sewage Works as part of treatment train | N/A                                   |
| Brief Description                                 | SWM Pond                              |
| Receive Emergency Sanitary Overflows              | No                                    |
| Notes                                             | N/A                                   |

**Telferwood Estates SWM Pond**

|                                                   |                                               |
|---------------------------------------------------|-----------------------------------------------|
| Location                                          | 43° 12' 31.656" N<br>80° 22' 59.847" W        |
| Watershed/Subwatershed                            | Grand River                                   |
| Receiver of discharge                             | Gilbert Creek                                 |
| Outlet location                                   | 43° 12' 34.007" N<br>80° 22' 55.401" W        |
| Catchment Area                                    | Unknown                                       |
| Level of Treatment for suspended solids           | Enhanced (Level1)                             |
| Treatment for other Contaminants, as required     | None                                          |
| Level of Volume control                           | 5111m3                                        |
| Design Storm                                      | 1:5 Year Storm 1:100 Year Storm               |
| Reference ECA(s)                                  | 3-1257-99-006                                 |
| Reference Sewage Works as part of treatment train | N/A                                           |
| Brief Description                                 | Permanent pond volume of approximately 866m3. |
| Receive Emergency Sanitary Overflows              | No                                            |
| Notes                                             | N/A                                           |

**Charlton Park SWM Pond**

|          |                   |
|----------|-------------------|
| Location | 43° 12' 25.964" N |
|----------|-------------------|

|                                                   |                                 |
|---------------------------------------------------|---------------------------------|
|                                                   | 80° 23' 25.882" W               |
| Watershed/Subwatershed                            | Grand River                     |
| Receiver of discharge                             | Infiltration                    |
| Outlet location                                   | N/A                             |
| Catchment Area                                    | Unknown                         |
| Level of Treatment for suspended solids           | None                            |
| Treatment for other Contaminants, as required     | None                            |
| Level of Volume control                           | Unknown                         |
| Design Storm                                      | 1:5 Year Storm 1:100 Year Storm |
| Reference ECA(s)                                  | 3-1453-76-006                   |
| Reference Sewage Works as part of treatment train | N/A                             |
| Brief Description                                 |                                 |
| Receive Emergency Sanitary Overflows              | No                              |
| Notes                                             | N/A                             |

### Fairview Heights SWM Pond

|                                                   |                                        |
|---------------------------------------------------|----------------------------------------|
| Location                                          | 43° 12' 30.422" N<br>80° 24' 30.611" W |
| Watershed/Subwatershed                            | Grand River                            |
| Receiver of discharge                             | Charlie Creek                          |
| Outlet location                                   | Unknown                                |
| Catchment Area                                    | Unknown                                |
| Level of Treatment for suspended solids           | None                                   |
| Treatment for other Contaminants, as required     | None                                   |
| Level of Volume control                           | Unknown                                |
| Design Storm                                      | 1:5 Year Storm 1:100 Year Storm        |
| Reference ECA(s)                                  | No                                     |
| Reference Sewage Works as part of treatment train | N/A                                    |
| Brief Description                                 | Storm drainage and retention pond.     |
| Receive Emergency Sanitary Overflows              | No                                     |
| Notes                                             | N/A                                    |

### Paris Links Road SWM Pond

|                        |                                        |
|------------------------|----------------------------------------|
| Location               | 43° 12' 22.953" N<br>80° 22' 51.899" W |
| Watershed/Subwatershed | Grand River                            |
| Receiver of discharge  | Gilbert Creek                          |
| Outlet location        | 43° 12' 32.430" N<br>80° 22' 45.248" W |

|                                                   |                                                                   |
|---------------------------------------------------|-------------------------------------------------------------------|
| Catchment Area                                    | 40.29 ha                                                          |
| Level of Treatment for suspended solids           | Enhanced Level 1                                                  |
| Treatment for other Contaminants, as required     | None                                                              |
| Level of Volume control                           | Unknown                                                           |
| Design Storm                                      | 1:5 Year Storm 1:100 Year Storm                                   |
| Reference ECA(s)                                  | 1209-78QHHG                                                       |
| Reference Sewage Works as part of treatment train | N/A                                                               |
| Brief Description                                 |                                                                   |
| Receive Emergency Sanitary Overflows              | Yes – Discharge from the Paris Links Road Sewage Pumping Station. |
| Notes                                             | N/A                                                               |

### Highlands of the Nith SWM Pond

|                                                   |                                       |
|---------------------------------------------------|---------------------------------------|
| Location                                          | 43° 11' 9.264" N<br>80° 23' 43.678" W |
| Watershed/Subwatershed                            | Grand River                           |
| Receiver of discharge                             | Nith River                            |
| Outlet location                                   | 43° 11' 9.122" N<br>80° 23' 51.765" W |
| Catchment Area                                    | 10.22 ha                              |
| Level of Treatment for suspended solids           | Normal Level 2                        |
| Treatment for other Contaminants, as required     | None                                  |
| Level of Volume control                           | 4,420 cu.m                            |
| Design Storm                                      | 2 Year Storm to 100 Year Storm        |
| Reference ECA(s)                                  | 3652-5ZXR6V                           |
| Reference Sewage Works as part of treatment train | N/A                                   |
| Brief Description                                 |                                       |
| Receive Emergency Sanitary Overflows              | No                                    |
| Notes                                             | N/A                                   |

### Rest Acres Ridge SWM Pond

|                                         |                                       |
|-----------------------------------------|---------------------------------------|
| Location                                | 43° 10' 55.163" N<br>80° 23' 5.319" W |
| Watershed/Subwatershed                  | Grand River                           |
| Receiver of discharge                   | Nith River                            |
| Outlet location                         | 43° 10' 57.529" N<br>80° 23' 8.130" W |
| Catchment Area                          | 19.11 ha                              |
| Level of Treatment for suspended solids | Unknown                               |
| Treatment for other                     | None                                  |

|                                                   |                                |
|---------------------------------------------------|--------------------------------|
| Contaminants, as required                         |                                |
| Level of Volume control                           | 3,452 cu.m                     |
| Design Storm                                      | 2 Year Storm to 100 Year Storm |
| Reference ECA(s)                                  | 2961-5S7HMH                    |
| Reference Sewage Works as part of treatment train | N/A                            |
| Brief Description                                 |                                |
| Receive Emergency Sanitary Overflows              | No                             |
| Notes                                             | N/A                            |

**Grandville Phase 1 SWM Pond # 1**

|                                                   |                                                            |
|---------------------------------------------------|------------------------------------------------------------|
| Location                                          | 43° 10' 48.524" N<br>80° 23' 19.040" W                     |
| Watershed/Subwatershed                            | Grand River                                                |
| Receiver of discharge                             | Nith River                                                 |
| Outlet location                                   | 43° 10' 51.515" N<br>80° 23' 12.122" W                     |
| Catchment Area                                    | 19.11 ha                                                   |
| Level of Treatment for suspended solids           | Level 1                                                    |
| Treatment for other Contaminants, as required     | None                                                       |
| Level of Volume control                           | 26,713 cu.m                                                |
| Design Storm                                      | 1:5 Year Storm to 1:100 Year Storm                         |
| Reference ECA(s)                                  | 4138-5SCJC3                                                |
| Reference Sewage Works as part of treatment train | N/A                                                        |
| Brief Description                                 | Dry SWM Facility                                           |
| Receive Emergency Sanitary Overflows              | Yes, discharge from the Grandville Sewage Pumping Station. |
| Notes                                             | N/A                                                        |

**Curtis Ave North SWM Pond**

|                                               |                                        |
|-----------------------------------------------|----------------------------------------|
| Location                                      | 43° 11' 36.031" N<br>80° 22' 27.414" W |
| Watershed/Subwatershed                        | Grand River                            |
| Receiver of discharge                         | Infiltration                           |
| Outlet location                               | None                                   |
| Catchment Area                                | 19.77 ha                               |
| Level of Treatment for suspended solids       | None                                   |
| Treatment for other Contaminants, as required | None                                   |
| Level of Volume control                       | 5,164 cu.m                             |
| Design Storm                                  | 1:100 Year Storm                       |

|                                                   |                   |
|---------------------------------------------------|-------------------|
| Reference ECA(s)                                  | 1546-7ZLKD2       |
| Reference Sewage Works as part of treatment train | N/A               |
| Brief Description                                 | Dry SWM facility. |
| Receive Emergency Sanitary Overflows              | No                |
| Notes                                             | N/A               |

**Brant 403 Business Park SWM Pond**

|                                                   |                                                          |
|---------------------------------------------------|----------------------------------------------------------|
| Location                                          | 43° 9' 14.173" N<br>80° 22' 34.088" W                    |
| Watershed/Subwatershed                            | Grand River                                              |
| Receiver of discharge                             | Grand River                                              |
| Outlet location                                   | 43° 9' 15.598" N<br>80° 22' 27.630" W                    |
| Catchment Area                                    | 69.5 ha                                                  |
| Level of Treatment for suspended solids           | Enhanced                                                 |
| Treatment for other Contaminants, as required     | None                                                     |
| Level of Volume control                           | 68,906 cu.m                                              |
| Design Storm                                      | 1:100 Year Storm                                         |
| Reference ECA(s)                                  | 9772-8Y4KKJ                                              |
| Reference Sewage Works as part of treatment train | N/A                                                      |
| Brief Description                                 |                                                          |
| Receive Emergency Sanitary Overflows              | Yes, overland from the Brant 403 Sewage Pumping Station. |
| Notes                                             | N/A                                                      |

**Hampton Trails SWM Pond**

|                                                   |                                        |
|---------------------------------------------------|----------------------------------------|
| Location                                          | 43° 11' 54.523" N<br>80° 22' 44.130" W |
| Watershed/Subwatershed                            | Grand River                            |
| Receiver of discharge                             | Grand River                            |
| Outlet location                                   | 43° 11' 54.677" N<br>80° 22' 44.943" W |
| Catchment Area                                    | 3.48 ha                                |
| Level of Treatment for suspended solids           | None                                   |
| Treatment for other Contaminants, as required     | None                                   |
| Level of Volume control                           | 1,525 cu.m                             |
| Design Storm                                      | 1:100 Year Storm                       |
| Reference ECA(s)                                  | 4304-9R6TU6                            |
| Reference Sewage Works as part of treatment train | N/A                                    |
| Brief Description                                 |                                        |

|                                      |     |
|--------------------------------------|-----|
| Receive Emergency Sanitary Overflows | No  |
| Notes                                | N/A |

**Malcom Mill Estates SWM Pond**

|                                                   |                                      |
|---------------------------------------------------|--------------------------------------|
| Location                                          | 43° 1' 27.052" N<br>80° 20' 0.486" W |
| Watershed/Subwatershed                            | Grand River                          |
| Receiver of discharge                             |                                      |
| Outlet location                                   | Infiltration                         |
| Catchment Area                                    | 21.3 ha                              |
| Level of Treatment for suspended solids           | Normal Level 2                       |
| Treatment for other Contaminants, as required     | None                                 |
| Level of Volume control                           | 1140 cu.m                            |
| Design Storm                                      | 1:100 Year Storm                     |
| Reference ECA(s)                                  | 1147-4HWPGA                          |
| Reference Sewage Works as part of treatment train | N/A                                  |
| Brief Description                                 |                                      |
| Receive Emergency Sanitary Overflows              | No                                   |
| Notes                                             | N/A                                  |

**Royal Troon SWM Pond**

|                                                   |                                       |
|---------------------------------------------------|---------------------------------------|
| Location                                          | 43° 1' 17.200" N<br>80° 22' 32.941" W |
| Watershed/Subwatershed                            | Grand River                           |
| Receiver of discharge                             | McKenzie Creek to Vivians Pond        |
| Outlet location                                   | 43° 1' 17.140" N<br>80° 22' 31.800" W |
| Catchment Area                                    | 3.2 ha                                |
| Level of Treatment for suspended solids           | Normal Level 1                        |
| Treatment for other Contaminants, as required     | None                                  |
| Level of Volume control                           | 1140 cu.m                             |
| Design Storm                                      | 1:100 Year Storm                      |
| Reference ECA(s)                                  | 4698-6AANNA                           |
| Reference Sewage Works as part of treatment train | N/A                                   |
| Brief Description                                 |                                       |
| Receive Emergency Sanitary Overflows              | No                                    |
| Notes                                             | N/A                                   |

**Black Walnut East SWM Pond**

|                                                   |                                        |
|---------------------------------------------------|----------------------------------------|
| Location                                          | 43° 13' 56.761" N<br>80° 15' 41.034" W |
| Watershed/Subwatershed                            | Grand River                            |
| Receiver of discharge                             | Fairchilds Creek                       |
| Outlet location                                   |                                        |
| Catchment Area                                    | Unknown                                |
| Level of Treatment for suspended solids           | Unknown                                |
| Treatment for other Contaminants, as required     | None                                   |
| Level of Volume control                           | Unknown                                |
| Design Storm                                      | Unknown                                |
| Reference ECA(s)                                  | 3-0555-89-006                          |
| Reference Sewage Works as part of treatment train | N/A                                    |
| Brief Description                                 |                                        |
| Receive Emergency Sanitary Overflows              | No                                     |
| Notes                                             | N/A                                    |

**Black Walnut West SWM Pond**

|                                                   |                                        |
|---------------------------------------------------|----------------------------------------|
| Location                                          | 43° 13' 55.231" N<br>80° 15' 48.643" W |
| Watershed/Subwatershed                            | Grand River                            |
| Receiver of discharge                             | Fairchilds Creek                       |
| Outlet location                                   |                                        |
| Catchment Area                                    | Unknown                                |
| Level of Treatment for suspended solids           | Unknown                                |
| Treatment for other Contaminants, as required     | None                                   |
| Level of Volume control                           | Unknown                                |
| Design Storm                                      | Unknown                                |
| Reference ECA(s)                                  | 3-0555-89-006                          |
| Reference Sewage Works as part of treatment train | N/A                                    |
| Brief Description                                 |                                        |
| Receive Emergency Sanitary Overflows              | No                                     |
| Notes                                             | N/A                                    |

**Sugar Maple North SWM Pond**

|                        |                                        |
|------------------------|----------------------------------------|
| Location               | 43° 14' 12.281" N<br>80° 15' 49.983" W |
| Watershed/Subwatershed | Grand River                            |
| Receiver of discharge  | Fairchilds Creek                       |

|                                                   |               |
|---------------------------------------------------|---------------|
| Outlet location                                   |               |
| Catchment Area                                    | Unknown       |
| Level of Treatment for suspended solids           | Unknown       |
| Treatment for other Contaminants, as required     | None          |
| Level of Volume control                           | Unknown       |
| Design Storm                                      | Unknown       |
| Reference ECA(s)                                  | 3-0555-89-006 |
| Reference Sewage Works as part of treatment train | N/A           |
| Brief Description                                 |               |
| Receive Emergency Sanitary Overflows              | No            |
| Notes                                             | N/A           |

### Sugar Maple South SWM Pond

|                                                   |                                       |
|---------------------------------------------------|---------------------------------------|
| Location                                          | 43° 14' 9.399" N<br>80° 15' 46.276" W |
| Watershed/Subwatershed                            | Grand River                           |
| Receiver of discharge                             | Fairchilds Creek                      |
| Outlet location                                   |                                       |
| Catchment Area                                    | Unknown                               |
| Level of Treatment for suspended solids           | Unknown                               |
| Treatment for other Contaminants, as required     | None                                  |
| Level of Volume control                           | Unknown                               |
| Design Storm                                      | Unknown                               |
| Reference ECA(s)                                  | 3-0555-89-006                         |
| Reference Sewage Works as part of treatment train | N/A                                   |
| Brief Description                                 |                                       |
| Receive Emergency Sanitary Overflows              | No                                    |
| Notes                                             | N/A                                   |

### Westview Heights SWM Pond

|                                               |                                       |
|-----------------------------------------------|---------------------------------------|
| Location                                      | 43° 15' 1.339" N<br>80° 14' 58.426" W |
| Watershed/Subwatershed                        | Grand River                           |
| Receiver of discharge                         | Infiltration                          |
| Outlet location                               | No                                    |
| Catchment Area                                | Unknown                               |
| Level of Treatment for suspended solids       | Unknown                               |
| Treatment for other Contaminants, as required | None                                  |

|                                                   |               |
|---------------------------------------------------|---------------|
| Level of Volume control                           | Unknown       |
| Design Storm                                      | Unknown       |
| Reference ECA(s)                                  | 3-0539-90-006 |
| Reference Sewage Works as part of treatment train | N/A           |
| Brief Description                                 |               |
| Receive Emergency Sanitary Overflows              | No            |
| Notes                                             | N/A           |

**Northview Heights SWM Pond**

|                                                   |                                        |
|---------------------------------------------------|----------------------------------------|
| Location                                          | 43° 14' 58.636" N<br>80° 15' 36.428" W |
| Watershed/Subwatershed                            | Grand River                            |
| Receiver of discharge                             | Infiltration                           |
| Outlet location                                   | No                                     |
| Catchment Area                                    | Unknown                                |
| Level of Treatment for suspended solids           | Unknown                                |
| Treatment for other Contaminants, as required     | None                                   |
| Level of Volume control                           | 13,480                                 |
| Design Storm                                      | Unknown                                |
| Reference ECA(s)                                  | 3-1025-95-006                          |
| Reference Sewage Works as part of treatment train | N/A                                    |
| Brief Description                                 |                                        |
| Receive Emergency Sanitary Overflows              | No                                     |
| Notes                                             | N/A                                    |

**Scott Ave. OGS**

|                                               |                                                                   |
|-----------------------------------------------|-------------------------------------------------------------------|
| Location                                      | 43° 12' 48.564" N<br>80° 23' 19.222" W                            |
| Watershed/Subwatershed                        | Grand River                                                       |
| Receiver of discharge                         | Gilbert Creek                                                     |
| Outlet location                               | 43° 12' 48.588" N<br>80° 23' 19.117" W                            |
| Catchment Area                                | 0.267 ha                                                          |
| Level of Treatment for suspended solids       | Level 1, 80% suspended solids removal                             |
| Treatment for other contaminants, as required | None                                                              |
| Level of Volume control                       | 26 m3                                                             |
| Design Storm                                  | 103.2 to 235.6 L/sec respectively for a 2 through 100 year storm. |
| Reference ECA(s)                              | 2064-4R6RNM                                                       |
| Reference Works as part of                    |                                                                   |

|                                                             |                                                                                                                                             |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| treatment train                                             |                                                                                                                                             |
| Brief Description of each component of treatment train: OGS | StormceptorR model STC-750 Receives runoff generated from Scott Ave.                                                                        |
| Brief Description of each component of treatment train:     | Run off in excess of the 10 year storm event will bypass the infiltration basin and MH #5 and drain overland to the east, to Gilbert Creek. |
| Receive Emergency Sanitary Overflows                        | No                                                                                                                                          |
| Notes                                                       | N/A                                                                                                                                         |

**Grand River St. South OGS**

|                                                             |                                                                              |
|-------------------------------------------------------------|------------------------------------------------------------------------------|
| Location                                                    | 43° 11' 22.558" N<br>80° 22' 33.850"                                         |
| Watershed/Subwatershed                                      | Grand River                                                                  |
| Receiver of discharge                                       | Grand River                                                                  |
| Outlet location                                             | 43° 11' 22.442" N<br>80° 22' 32.662" W                                       |
| Catchment Area                                              | Unknown                                                                      |
| Level of Treatment for suspended solids                     | Unknown                                                                      |
| Treatment for other contaminants, as required               | None                                                                         |
| Level of Volume control                                     | Unknown                                                                      |
| Design Storm                                                | Unknown                                                                      |
| Reference ECA(s)                                            | 0589-5BYS2B                                                                  |
| Reference Works as part of treatment train                  |                                                                              |
| Brief Description of each component of treatment train: OGS | Stormceptor model 2000 Receives runoff generated from Grand River St. South. |
| Brief Description of each component of treatment train:     | Unknown                                                                      |
| Receive Emergency Sanitary Overflows                        | No                                                                           |
| Notes                                                       | N/A                                                                          |

**Heather Meadows OGS**

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Location                                | 43° 10' 58.789" N<br>80° 23' 12.886" W |
| Watershed/Subwatershed                  | Grand River                            |
| Receiver of discharge                   | Nith River                             |
| Outlet location                         | 43° 10' 58.879" N<br>80° 23' 12.708" W |
| Catchment Area                          | Unknown                                |
| Level of Treatment for suspended solids | Unknown                                |
| Treatment for other                     | None                                   |

|                                                             |                                                                                                                                                                                                                                    |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| contaminants, as required                                   |                                                                                                                                                                                                                                    |
| Level of Volume control                                     |                                                                                                                                                                                                                                    |
| Design Storm                                                | 30 L/s                                                                                                                                                                                                                             |
| Reference ECA(s)                                            | 7451-5W5NSM                                                                                                                                                                                                                        |
| Reference Works as part of treatment train                  |                                                                                                                                                                                                                                    |
| Brief Description of each component of treatment train: OGS | Stormceptor model STC 2000                                                                                                                                                                                                         |
| Brief Description of each component of treatment train:     | Stormceptor model STC 2000<br>A manhole stormwater interceptor rated at 30 L/s with a sediment capacity of 6,150 litres, an oil capacity of 2,945 litres and_ a total holding capacity of 10,925 litres discharging to manhole STI |
| Receive Emergency Sanitary Overflows                        | No                                                                                                                                                                                                                                 |
| Notes                                                       | N/A                                                                                                                                                                                                                                |

### Sunnyside Phase 1 OGS

|                                                             |                                        |
|-------------------------------------------------------------|----------------------------------------|
| Location                                                    | 43° 14' 48.770<br>80° 15' 13.291" W    |
| Watershed/Subwatershed                                      | Grand River                            |
| Receiver of discharge                                       | Fairchilds Creek                       |
| Outlet location                                             | 43° 14' 48.632" N<br>80° 15' 13.966" W |
| Catchment Area                                              | Unknown                                |
| Level of Treatment for suspended solids                     | Enhanced                               |
| Treatment for other contaminants, as required               | Unknown                                |
| Level of Volume control                                     | Total storage volume of 15,195 L       |
| Design Storm                                                | 30 L/s                                 |
| Reference ECA(s)                                            | 7451-5W5NSM                            |
| Reference Works as part of treatment train                  | Unknown                                |
| Brief Description of each component of treatment train: OGS | Stormceptor 3000                       |
| Brief Description of each component of treatment train:     | Unknown                                |
| Receive Emergency Sanitary Overflows                        | No                                     |
| Notes                                                       | N/A                                    |

### Curtis Ave North -South OGS

|                        |                                        |
|------------------------|----------------------------------------|
| Location               | 43° 11' 37.353" N<br>80° 22' 23.724" W |
| Watershed/Subwatershed | Grand River                            |

|                                                             |                                         |
|-------------------------------------------------------------|-----------------------------------------|
| Receiver of discharge                                       | Curtis Ave North SWM Infiltration Basin |
| Outlet location                                             | 43° 11' 37.241" N<br>80° 22' 23.946" W  |
| Catchment Area                                              | 19.77 ha                                |
| Level of Treatment for suspended solids                     | 50%TSS                                  |
| Treatment for other contaminants, as required               | Unknown                                 |
| Level of Volume control                                     | Unknown                                 |
| Design Storm                                                | 1:100 year storm                        |
| Reference ECA(s)                                            | 1546-7ZLKD2<br>6697-8JHMD5              |
| Reference Works as part of treatment train                  | Unknown                                 |
| Brief Description of each component of treatment train: OGS | Stormsepor STC-2000                     |
| Brief Description of each component of treatment train:     | Unknown                                 |
| Receive Emergency Sanitary Overflows                        | No                                      |
| Notes                                                       | N/A                                     |

**Curtis Ave North - North OGS**

|                                                             |                                         |
|-------------------------------------------------------------|-----------------------------------------|
| Location                                                    | 43° 11' 37.433" N<br>80° 22' 23.808" W  |
| Watershed/Subwatershed                                      | Grand River                             |
| Receiver of discharge                                       | Curtis Ave North SWM Infiltration Basin |
| Outlet location                                             | 43° 11' 37.276" N<br>80° 22' 23.980" W  |
| Catchment Area                                              | 19.77 ha                                |
| Level of Treatment for suspended solids                     | 50%TSS                                  |
| Treatment for other contaminants, as required               | Unknown                                 |
| Level of Volume control                                     | Unknown                                 |
| Design Storm                                                | 1:100-year storm                        |
| Reference ECA(s)                                            | 1546-7ZLKD2<br>6697-8JHMD5              |
| Reference Works as part of treatment train                  | Unknown                                 |
| Brief Description of each component of treatment train: OGS | Stormsepor STC-2000                     |
| Brief Description of each component of treatment train:     | Unknown                                 |
| Receive Emergency Sanitary Overflows                        | No                                      |
| Notes                                                       | N/A                                     |

**Powerline Road West OGS**

|                                                             |                                                                                                                                                                                                                                |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Location                                                    | 43° 10' 7.665" N<br>80° 23' 3.763" W                                                                                                                                                                                           |
| Watershed/Subwatershed                                      | Grand River                                                                                                                                                                                                                    |
| Receiver of discharge                                       | Existing wetland south of Powerline Road West.                                                                                                                                                                                 |
| Outlet location                                             | 43° 10' 7.484" N<br>80° 23' 3.712" W                                                                                                                                                                                           |
| Catchment Area                                              | 2.95 ha                                                                                                                                                                                                                        |
| Level of Treatment for suspended solids                     | Enhanced                                                                                                                                                                                                                       |
| Treatment for other contaminants, as required               | No                                                                                                                                                                                                                             |
| Level of Volume control                                     | 19,850                                                                                                                                                                                                                         |
| Design Storm                                                | 1:100-year storm                                                                                                                                                                                                               |
| Reference ECA(s)                                            | 0409-BD4PW2                                                                                                                                                                                                                    |
| Reference Works as part of treatment train                  | No                                                                                                                                                                                                                             |
| Brief Description of each component of treatment train: OGS | STC-4000                                                                                                                                                                                                                       |
| Brief Description of each component of treatment train:     | Located within a stormwater manhole (STC3) on Powerline Road West, discharging via a 600 millimetre diameter outlet pipe, a headwall (HW1) and a rip rap spreader to an existing wetland located south of Powerline Road West. |
| Receive Emergency Sanitary Overflows                        | No                                                                                                                                                                                                                             |
| Notes                                                       | A sediment storage capacity of 16,490 litres, an oil storage capacity of 3,360 litres and a maximum treatment flow rate of 100 litres per second.                                                                              |

**Powerline Road Mile Hill Road OGS**

|                                               |                                                                                |
|-----------------------------------------------|--------------------------------------------------------------------------------|
| Location                                      | 43° 10' 14.234" N<br>80° 22' 25.483" W                                         |
| Watershed/Subwatershed                        | Grand River                                                                    |
| Receiver of discharge                         | A storm sewer on Powerline Road that discharges to the Gurney Drainage Outlet. |
| Outlet location                               | 43° 10' 14.297" N<br>80° 22' 24.973" W                                         |
| Catchment Area                                | 2.75 ha                                                                        |
| Level of Treatment for suspended solids       | Enhanced (80% TSS)                                                             |
| Treatment for other contaminants, as required | No                                                                             |
| Level of Volume control                       | 31,285                                                                         |
| Design Storm                                  | 1:100 year storm                                                               |

|                                                             |                                                                                                                                                     |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Reference ECA(s)                                            | 3849-AUUJYX                                                                                                                                         |
| Reference Works as part of treatment train                  | No                                                                                                                                                  |
| Brief Description of each component of treatment train: OGS | STC-6000                                                                                                                                            |
| Brief Description of each component of treatment train:     | Located within a stormwater manhole Powerline Road West at Mile Hile Road, discharging via a 750 millimetre diameter storm sewer on Powerline Road. |
| Receive Emergency Sanitary Overflows                        | No                                                                                                                                                  |
| Notes                                                       | A sediment capacity of 4,693 litres, an oil capacity of 3,390 litres and a maximum treatment flow rate of 70 litres per second.                     |

### Stormwater Pumping Stations

1.5 The following are identified Stormwater pumping stations in the Authorized System:

#### [Stormwater Pumping Station Name]

|                                                  |     |
|--------------------------------------------------|-----|
| Asset ID and Name                                | N/A |
| Site Location                                    |     |
| Watershed/Subwatershed                           |     |
| Latitude and Longitude                           |     |
| Coordinates (optional)                           |     |
| Description                                      |     |
| Pumping Station Capacity                         |     |
| Equipment                                        |     |
| Emergency Storage                                |     |
| Equipment: Associated controls and Appurtenances |     |
| Overflow                                         |     |
| Standby Power                                    |     |
| Notes                                            |     |

### Third Pipe Collection System

1.6 The following are identified third pipe systems in the Authorized System.

#### [\*Asset ID\* (e.g., Third Pipe 10)]

|                                 |     |
|---------------------------------|-----|
| Asset ID and Name               | N/A |
| Location                        |     |
| Watershed/Subwatershed          |     |
| Receiver of discharge           |     |
| Outlet location                 |     |
| Catchment Area                  |     |
| Treatment, if applicable        |     |
| Reference ECA(s), if applicable |     |
| Brief Description               |     |
| Notes                           |     |

**Other Works:**

1.7 The following works are part of Authorized System:

| Table B6: Other Works          |                                                     |                       |                         |
|--------------------------------|-----------------------------------------------------|-----------------------|-------------------------|
| Column 1<br>Asset ID /<br>Name | Column 2<br>Site Location<br>(Latitude & Longitude) | Column 3<br>Component | Column 4<br>Description |
| N/A                            |                                                     |                       |                         |

**Developer-Operated Facilities:**

1.8 The following facilities are part of the Authorized System, have been constructed, and are being operated by the developer under the authority of an agreement entered into with the Owner of the system.

| Table B7: Developer-Operated Facilities |                  |          |                |
|-----------------------------------------|------------------|----------|----------------|
| Asset ID                                | Type of Facility | Location | Developer Name |
| N/A                                     |                  |          |                |

1.9 The Owner shall notify the Director, using the Director Notification Form, within thirty (30) days where the operation of any Facility identified in Table B7 has been:

- 1.9.1 Incorporated into the overall Stormwater Management System and assumed by an Operating Authority identified in Schedule B of this Approval.
- 1.9.2 Has been transferred from the developer identified in Table B7 to another party.

**Transitional – Facilities with Individual ECAs**

- 1.10 The following Facilities are connected to the Authorized System, but ownership has not been assumed by the Owner. These Sewage Works are not part of the Authorized System and will continue to have separate ECAs until the Facilities are assumed by the Owner.

| <b>Table B8: Facilities with Individual ECAs</b> |                                                       |                      |             |                                          |
|--------------------------------------------------|-------------------------------------------------------|----------------------|-------------|------------------------------------------|
| Asset ID                                         | Type of Facility                                      | Location             | ECA Number  | Developer Name                           |
| NA                                               | SWM Facility(Wet Pond)                                | Paris                | 3985-C7XH7Y | Grandville Inc.                          |
| NA                                               | SWM Facility (Rear/Front Yard Infiltration Galleries) | Airport              | 4679-BYJT4P | 2500113 Ontario Inc.                     |
| NA                                               | SWM Facility (Wet Pond)                               | Paris                | 0720-ASWNEV | Mile Hill Developments Inc.              |
| NA                                               | SWM Facility (Wet Pond)                               | Paris                | 0720-ASWNEV | Mile Hill Developments Inc.              |
| NA                                               | SWM Facility (Wet Pond)                               | Paris                | 0011-BR3T8X | Kingwood Paris Meadows Ltd.              |
| NA                                               | SWM Facility (2 Wetland)                              | Paris                | 4301-BWXHML | Paris Grand Estates Inc                  |
| NA                                               | SWM Facility (Wet Pond)                               | Paris                | 7941-ATJMBE | Brookfield Residential (Ontario) Limited |
| NA                                               | SWM Facility (Wet Pond)                               | Paris                | 3639-B64PTA | Brookfield Residential (Ontario) Limited |
| NA                                               | SWM Facility (Wet Pond)                               | 1067 Rest Acres Road | 2054-BW5SKA | Losani Homes (Paris) Ltd                 |
| NA                                               | OGS                                                   | 24 Powerline Road    | 0409-BD4PW2 | LIV Developments Ltd.                    |

- 1.11 The Owner shall notify the Director, using the Director Notification Form, within thirty (30) days where the ownership of any Facility identified in Table B8 has been assumed by the Owner.

- 1.12 The Director Notification required in condition 1.11 shall include:

- 1.12.1 A request from the developer to revoke the ECA identified in Table B8; or
- 1.12.2 A copy of an agreement or other documentation that demonstrates that the municipality has assumed ownership of the Facility and that the ECA identified in Table B8 should be revoked.

**Schedule C: List of Notices of Amendment to this ECA:  
Additional Approved Sewage Works**

|                |                                                                   |
|----------------|-------------------------------------------------------------------|
| System Owner   | <b>Brant, The Corporation of the County of</b>                    |
| ECA Number     | <b>062-S701</b>                                                   |
| System Name    | <b>County of Brant Municipal Stormwater<br/>Management System</b> |
| ECA Issue Date | <b>October 14th, 2022</b>                                         |

**1.0 General**

- 1.1 Table C1 provides a list of all notices of amendment to this Approval that have been issued pursuant to clause 20.3(1) of the EPA that impose terms and conditions in respect of the Authorized System after consideration of an application by the Director (Schedule C Notices).

| <b>Table C1: Schedule C Notices</b> |                        |                         |                    |                 |
|-------------------------------------|------------------------|-------------------------|--------------------|-----------------|
| Column 1<br>Issue #                 | Column 2<br>Issue Date | Column 3<br>Description | Column 4<br>Status | Column 5<br>DN# |
| N/A                                 | N/A                    | N/A                     | N/A                | N/A             |

## Schedule D: General

|                |                                                        |
|----------------|--------------------------------------------------------|
| System Owner   | Brant, The Corporation of the County of                |
| ECA Number     | 062-S701                                               |
| System Name    | County of Brant Municipal Stormwater Management System |
| ECA Issue Date | October 14th, 2022                                     |

### 1.0 Definitions

1.1 For the purpose of this Approval, the following definitions apply:

**“Adverse Effect(s)”** has the same meaning as defined in section 1 of the EPA.

**“Alteration(s)”** includes the following, in respect of the Authorized System, but does not include repairs to the system:

- a) An extension of the system,
- b) A replacement or retirement of part of the system, or
- c) A modification of, addition to, or enlargement of the system.

**“Appendix A”** means Appendix A of this Approval.

**“Approval”** means this Environmental Compliance Approval including any Schedules attached to it.

**“Appurtenance(s)”** has the same meaning as defined in O. Reg. 525/98 (Approval Exemptions) made under the OWRA.

**“Authorized System”** means the Sewage Works comprising the Municipal Stormwater Management System authorized under this Approval”.

**“Class Environmental Assessment Project”** means an Undertaking that does not require any further approval under the EAA if the proponent complies with the process set out in the Municipal Engineers Association Class Environmental Assessment document, (Municipal Class Environmental Assessment approved by the Lieutenant Governor in Council on October 4, 2000 under Order in Council 1923/2000), as amended from time to time.

**“Combined Sewer(s)”** means pipes that collect and transmit both sanitary Sewage and other Sewage from residential, commercial, institutional, and

industrial buildings and facilities and Stormwater through a single-pipe system, but does not include Nominally Separate Sewers.

**“Completion”** means substantial performance as described in s.2 (1) of the *Construction Act*, R.S.O. 1990, c. C.30.

**“Compound of Concern”** means a Contaminant that is discharged from the Facility in an amount that is not negligible.

**“Contaminant”** has the same meaning as defined in section 1 of the EPA.

**“CSO”** means a combined sewer overflow which is a discharge to the environment at designated location(s) from a Combined Sewer or Partially Separated Sewer that usually occurs as a result of precipitation when the capacity of the Sewer is exceeded. An intervening time of twelve hours or greater separating a CSO from the last prior CSO at the same location is considered to separate one overflow Event from another.

**“CWA”** means the *Clean Water Act*, R.S.O. 2006, c.22.

**“Design Criteria”** means the design criteria set out in the Ministry’s publication “Design Criteria for Sanitary Sewers, Storm Sewers and Force mains for Alterations Authorized under Environmental Compliance Approval”, (as amended from time to time).

**“Design Guidelines for Sewage Works”** means the Ministry document titled “Design Guidelines for Sewage Works”, 2008 (as amended from time to time).

**“Director”** means a person appointed by the Minister pursuant to section 5 of the EPA for the purposes of Part II.1 of EPA (Environmental Compliance Approvals).

**“Director Notification Form”** means the most recent version of the Ministry form titled Director Notification – Alterations to a Municipal Stormwater Management System, as obtained directly from the Ministry or from the Ministry’s website.

**“District Manager”** means the district manager or a designated representative of the Local Ministry Office.

**“EAA”** means the *Environmental Assessment Act*, R.S.O. 1990, c. E.18.

**“EPA”** means the *Environmental Protection Act*, R.S.O. 1990, c.E.19.

**“ESC”** means erosion and sediment control.

**“Facility”** means the entire operation located on the property where the Sewage Works or equipment is located.

**“Form SW1”** means the most recent version of the Ministry form titled Record of Future Alteration Authorized for Storm Sewers/Ditches/Culverts as obtained directly from the Ministry or from the Ministry’s website.

**“Form SW2”** means the most recent version of the Ministry form titled Record of Future Alteration Authorized for Stormwater Management Facilities as obtained directly from the Ministry or from the Ministry’s website.

**“Form SW3”** means the most recent version of the Ministry form titled Record of Future Alteration Authorized for Third Pipe Collection Systems as obtained directly from the Ministry or from the Ministry’s website.

**“Licensed Engineering Practitioner”** means a person who holds a licence, limited licence, or temporary licence under the *Ontario Professional Engineers Act* R.S.O. 1990, c. P.28.

**“LID”** means “low impact development” a Stormwater management strategy that seeks to mitigate the impacts of increased runoff and Stormwater pollution by managing runoff as close to its source as possible. LID comprises a set of site design strategies that minimize runoff and distributed, small scale structural practices that mimic natural or predevelopment hydrology through the processes of infiltration, evapotranspiration, harvesting, filtration, and detention of Stormwater.

**“Local Ministry Office”** means the local office of the Ministry responsible for the geographic area where the Authorized System is located.

**“Minister”** means the Minister of the Ministry or such other member of the Executive Council as may be assigned the administration of the EPA and OWRA under the *Executive Council Act*, R.S.O. 1990, c. E.25.

**“Ministry”** means the Ministry of the Minister and includes all employees or other persons acting on its behalf.

**“Monitoring Plan”** means the monitoring plan prepared and maintained by the Owner under condition 4.1 in Schedule E of this Approval.

**“MTD”** means manufactured treatment device.

**“Municipal Drain”** has the same meaning as drainage works as defined in section 1 of the *Drainage Act* R.S.O. 1990, c. D.17.

**“Municipal Drainage Engineer’s Report”** means a report signed by a drainage engineer employed or contracted by a municipality and approved in writing by municipal council or equivalent.

**“Municipal Sewage Collection System”** means all Sewage Works, located in the geographical area of a municipality, that collect and transmit sanitary Sewage and are owned, or may be owned pursuant to an agreement with a municipality entered into under the *Planning Act* or *Development Charges Act*, 1997, by:

- a) A municipality, a municipal service board established under the *Municipal Act*, 2001 or a city board established under the *City of Toronto Act*, 2006; or
- b) A corporation established under sections 9, 10, and 11 of the *Municipal Act*, 2001 in accordance with section 203 of that Act or under sections 7 and 8 of the *City of Toronto Act*, 2006 in accordance with sections 148 and 154 of that Act.

**“Municipal Stormwater Management System”** means all Sewage Works, located in the geographical area of a municipality, that collect, transmit, or treat Stormwater and are owned, or may be owned pursuant to an agreement entered into under the *Planning Act* or *Development Charges Act*, 1997, by:

- a) A municipality, a municipal service board established under the *Municipal Act*, 2001 or a city board established under the *City of Toronto Act*, 2006; or
- b) A corporation established under sections 9, 10, and 11 of the *Municipal Act*, 2001 in accordance with section 203 of that Act or under sections 7 and 8 of the *City of Toronto Act*, 2006 in accordance with sections 148 and 154 of that Act.

**“Natural Environment”** has the same meaning as defined in section 1 of the EPA.

**“Nominally Separate Sewer(s)”** mean Separate Sewers that also have connections from roof leaders and foundation drains, and are not considered to be Combined Sewers.

**“OGS”** means Oil and Grit Separator(s);

**“Operating Authority”** means, in respect of the Authorized System, the person, entity, or assignee that is given responsibility by the Owner for the operation, management, maintenance, or Alteration of the Authorized System, or a portion of the Authorized System.

**"Owner"** for the purposes of this Approval means The Corporation of the County of Brant, and includes its successors and assigns.

**"OWRA"** means the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40.

**"O&M Manual"** means the operation and maintenance manual prepared and maintained by the Owner under condition 3.2 in Schedule E of this Approval.

**"Partially Separated Sewer(s)"** means Combined Sewers that have been retrofitted to transmit sanitary Sewage but in which roof leaders or foundation drains still contribute Stormwater inflow to the Partially Separated Sewer.

**"Pre-development"** means the more stringent of a site's:

- a) Existing condition prior to proposed development or construction activities; or
- b) Condition as defined by the local municipality.

**"Prescribed Person"** means a person prescribed in O. Reg. 208/19 (Environmental Compliance Approval in Respect of Sewage Works) for the purpose of ss. 20.6 (1) of the EPA, and where the alteration, extension, enlargement, or replacement is carried out under an agreement with the Owner.

**"Privately Owned Stormwater Works"** means Stormwater Sewage Works on private land that are privately owned and, while not part of the Authorized System, are considered part of a Stormwater Treatment Train.

**"Qualified Person (QP)"** means persons who have obtained the relevant education and training and have demonstrated experience and expertise in the areas relating to the work required to be carried out by this Approval.

**"Schedule C Notice(s)"** means a notice(s) of amendment to this Approval issued pursuant to clause 20.3(1) of the EPA that imposes terms and conditions in respect of the Authorized System after consideration of an application by the Director.

**"Separate Sewer(s)"** means pipes that collect and transmit sanitary Sewage and other Sewage from residential, commercial, institutional, and industrial buildings.

**"Sewage"** has the same meaning as defined in section 1 of the OWRA.

**"Sewage Works"** has the same meaning as defined in section 1 of the OWRA.

**“Sewer”** has the same meaning as defined in section 1 of O. Reg. 525/98 under the OWRA.

**“Significant Drinking Water Threat”** has the same meaning as defined in section 2 of the CWA.

**“Significant Snowmelt Event(s)”** means the melting of snow at a rate which adversely affects the performance and function of the Authorized System and/or the Sewage Treatment Plant(s) identified in Schedule A of this Approval.

**“Significant Storm Event(s)”** means a minimum of 25 mm of rain in any 24 hours period.

**“Source Protection Authority”** has the same meaning as defined in section 2 of the CWA.

**“Source Protection Plan”** means a drinking water source protection plan prepared under the CWA.

**“SSO”** means a sanitary sewer overflow which is a discharge of Sewage from a Separate Sewer or Nominally Separate Sewer to the environment from designated location(s) in the Authorized System.

**“Standard Operating Policy for Sewage Works”** means the standard operating policy developed by the Ministry to assist in the implementation of Source Protection Plan policies related to Sewage Works and providing minimum design and operational standards and considerations to mitigate risks to sources of drinking water, as amended from time to time.

**“Storm Sewer”** means Sewers that collect and transmit, but not exfiltrate or lose by design, Stormwater resulting from precipitation and snowmelt.

**“Stormwater”** means rainwater runoff, water runoff from roofs, snowmelt, and surface runoff.

**“Stormwater Management Facility(ies)”** means a Facility for the treatment, retention, infiltration, or control of Stormwater.

**“Stormwater Management Planning and Design Manual”** means the Ministry document titled “Stormwater Management Planning and Design Manual”, 2003 (as amended from time to time).

**“Stormwater Treatment Train”** means a series of Stormwater Management Facilities designed to meet Stormwater management objectives (e.g., Appendix A) for a given area, and can consist of a combination of MTDs, LIDs and end-of-pipe controls.

**"TRCA"** means the Toronto Region Conservation Authority.

**"Third Pipe Collection System"** means Sewage Works designed to collect and transmit foundation drainage and/or groundwater to a receiving surface water or dry well;

**"Undertaking"** has the same meaning as in the EAA.

**"Vulnerable Area(s)"** has the same meaning as in the CWA.

## **2.0 General Conditions**

- 2.1 The works comprising the Authorized System shall be constructed, installed, used, operated, maintained, replaced, or retired in accordance with the conditions of this Approval, which includes the following Schedules:

Schedule A – System Information

Schedule B – Municipal Stormwater Management System Description

Schedule C – List of Notices of Amendment to this ECA

Schedule D – General

Schedule E – Operating Conditions

Schedule F – Residue Management

Appendix A – Stormwater Management Criteria

- 2.2 The issuance of this Approval does not negate the requirements of other regulatory bodies, which includes but is not limited to, the Ministry of Northern Development, Mines, Natural Resources and Forestry and the local Conservation Authority.
- 2.3 Where there is a conflict between a provision of any document referred to in this Approval and the conditions of this Approval, the conditions in this Approval shall take precedence. Where there is a conflict between the information in a Schedule C Notice and another section of this Approval, the document bearing the most recent date shall prevail.
- 2.4 The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Authorized System is provided with a print or electronic copy of this Approval and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
- 2.5 The conditions of this Approval are severable. If any condition of this Approval, or the application of any requirement of this Approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.

**3.0 Alterations to the Municipal Stormwater Management System**

- 3.1 For greater certainty, the Alterations authorized under this Approval are limited to Sewage Works comprising the Authorized System which does not include municipally or Privately Owned Stormwater Works:
  - 3.1.1 On industrial, commercial, or institutional land;
  - 3.1.2 Serving a single parcel of land, unless the stormwater management facility is located on a municipally owned park or community center;
  - 3.1.3 That are operated as waste disposal sites defined under the EPA or snow dump / melt facilities; or,
  - 3.1.4 That propose to collect, store, treat, or discharge stormwater containing substances or pollutants (other than Total Suspended Solids, or oil and grease) detrimental to the environment or human health.
- 3.2 Any Schedule C Notice shall provide authority to alter the Authorized System in accordance with the conditions of this Approval.
- 3.3 All Schedule C Notices issued by the Director for the Municipal Stormwater Management System shall form part of this Approval.
- 3.4 The Owner and a Prescribed Person shall ensure that the documentation required through conditions in this Approval and the documentation required in the Design Criteria are prepared for any Alteration of the Authorized System.
- 3.5 The Owner shall notify the Director within thirty (30) calendar days of placing into service or Completion of any Alteration of the Authorized System which had been authorized:
  - 3.5.1 Under Schedule D to this Approval where the Alteration results in a change to Sewage Works specifically described in Schedule B of this Approval;
  - 3.5.2 Through a Schedule C Notice respecting Sewage Works other than Storm Sewers; or
  - 3.5.3 Through another approval that was issued under the EPA prior to the issue date of this Approval.
- 3.6 The notification requirements set out in condition 3.5 do not apply to any Alteration in respect of the Authorized System which:
  - 3.6.1 Is exempt under section 53(6) of the OWRA or by O. Reg. 525/98;

- 3.6.2 Constitutes maintenance or repair of the Authorized System; or
- 3.6.3 Is a Storm Sewer, ditch, or culvert authorized by condition 4.1 of Schedule D of this Approval.
- 3.7 The Owner shall notify the Director within ninety (90) calendar days of:
  - 3.7.1 The discovery of existing Sewage Works not described or depicted in Schedule B, or
  - 3.7.2 Additional or revised information becoming available for any Sewage Works described in Schedule B of this Approval.
- 3.8 The notifications required in condition 3.5 and 3.7 shall be submitted to the Director using the Director Notification Form.
- 3.9 The Owner shall ensure that any chemicals, coagulants, or polymers used in the stormwater management system have obtained written approval from the Director prior to use, unless required for spill control or spill clean-up.
- 3.10 The Owner shall ensure that an ESC plan is prepared, and temporary ESC measures are installed in advance of and maintained during any construction activity on the Authorized System, subject to the following conditions:
  - 3.10.1 Inspections of ESC measures are to be conducted at a frequency specified per the ESC plan, for dry weather periods (active and inactive construction phases), after Significant Storm Events and Significant Snowmelt Events, and after any extreme weather events.
  - 3.10.2 Any deficiencies shall be addressed, and any required maintenance actions(s) shall be undertaken as soon as practicable once they have been identified.
  - 3.10.3 Inspections and maintenance of the temporary ESC measures shall continue until they are no longer required.
- 3.11 The Owner shall ensure that records of inspections required by this Approval during any construction activity, including those required under condition 3.10:
  - 3.11.1 Include the name of the inspector, date of inspection, visual observations, and the remedial measures, if any, undertaken to maintain the temporary ESC measures.

- 3.11.2 Be retained with records relating to the Alteration that the construction relates to, such as the form required in conditions 4.4.1, 5.5.1, and 6.2.1 of Schedule D, or the Schedule C Notice.
- 3.11.3 Be retrievable and made available to the Ministry upon request.
- 3.12 The document(s) or file(s) referenced in Table B1 of Schedule B of this Approval shall:
  - 3.12.1 Be retained by the Owner;
  - 3.12.2 Include at a minimum:
    - a) Identification of Storm Sewers, which shall include the following information:
      - i Location relative to street names or easements; and
      - ii Sewer diameters.
    - b) Identification of existing municipally owned Stormwater Sewage Works, including but not limited to ditches, swales, culverts, outlets, Stormwater Management Facilities, sedimentation MTD (for example oil grit separators), filtration MTD, LID, end of pipe controls, Third Pipe Collection Systems, and pumping stations, including any applicable Asset IDs.
    - c) Identification of the main tributaries and receiving water bodies to that the Sewage Works discharge to.
    - d) Delineation of municipal, watershed, and subwatershed boundaries, as available.
    - e) Identification of the storm sewersheds for each outlet.
    - f) Identification of any source protection Vulnerable Areas.
    - g) Identification of any Sewage Works that receive SSOs or CSOs.
  - 3.12.3 Be updated to include:
    - a) Alterations authorized under Schedule D of this Approval or through a Schedule C Notice within twelve (12) months of the Alteration being placed into service.
    - b) Updates to information contained in the document(s) or files(s) not associated with an Alteration within twelve (12) months of becoming aware of the updated information.

- 3.13 An Alteration is not authorized under Schedule D of this ECA for projects that impact Indigenous treaty rights or asserted rights where:
- 3.13.1 The project is on Crown land or would alter access to Crown land;
  - 3.13.2 The project is in an open or forested area where hunting, trapping or plant gathering occur;
  - 3.13.3 The project involves the clearing of forested land unless the clearing has been authorized by relevant municipal, provincial, or federal authorities, where applicable;
  - 3.13.4 The project alters access to a water body;
  - 3.13.5 The proponent is aware of any concerns from Indigenous communities about the proposed project and these concerns have not been resolved; or,
  - 3.13.6 Conditions respecting Indigenous consultation in relation to the project were placed in another permit or approval and have not been met.
- 3.14 No less than 60 days prior to construction associated with an Alteration the Director may notify the Owner in writing that a project is not authorized through Schedule D of this ECA where:
- 3.14.1 Concerns regarding treaty rights or asserted rights have been raised by one or more Indigenous communities that may be impacted by the Alteration; or
  - 3.14.2 The Director believes that it is in the public interest due to site specific, system specific, or project specific considerations.
- 3.15 Where an Alteration is not authorized under condition 3.13 or 3.14 above:
- 3.15.1 An application respecting the Alteration shall be submitted to the Ministry; and,
  - 3.15.2 The Alteration shall not proceed unless:
    - a) Approval for the Alteration is granted by the Ministry (i.e., a Schedule C Notice); or,
    - b) The Director provides written notice that the Alteration may proceed in accordance with conditions in Schedule D of this ECA.

**4.0 Authorizations of Future Alterations to Storm Sewers, Ditches, or Culverts - Additions, Modifications, Replacements and Extensions**

4.1 The Owner or a Prescribed Person may alter the Authorized System by adding, modifying, replacing, or extending a Storm Sewer, ditch, or culvert within the Authorized System subject to the following conditions and conditions 4.2 and 4.3 below:

4.1.1 The design of the addition, modification, replacement, or extension:

- a) Has been prepared by a Licensed Engineering Practitioner;
- b) Has been designed only to collect and transmit Stormwater;
- c) Has not been designed to collect or treat any sanitary Sewage;
- d) Has not been designed to collect, store, treat, control, or manage groundwater, unless for the purpose of foundation drains, road subdrains, or LIDs;
- e) Satisfies the Design Criteria or any municipal criteria that have been established that exceed the minimum requirements set out in the Design Criteria;
- f) Satisfies the standards set out in Ontario Provincial Standard Specifications (OPSS) and Ontario Provincial Standard Drawings (OPSD), as applicable to ditches and culverts;
- g) Is consistent with or otherwise addresses the design objectives contained within the Design Guidelines for Sewage Works;
- h) Is planned, designed, and built to be consistent with the Stormwater Management Planning and Design Guidance Manual. If there is a conflict with Appendix A of this Approval, then Appendix A shall prevail; and
- i) Includes design considerations to protect sources of drinking water, including those set out in the Standard Operating Policy for Sewage Works, and any applicable local Source Protection Plan policies.

4.1.2 The addition, modification, replacement, or extension shall be designed so that it will:

- a) Not adversely affect the ability to maintain a gravity flow in the Authorized System without overflowing or increase surcharging any maintenance holes as per design; and
  - b) Provide smooth flow transition to existing gravity Storm Sewers;
- 4.1.3 The Alteration shall not result in:
  - a) Adverse Effects; or
  - b) A deterioration of the approved effluent quality or quantity of downstream Stormwater Management Facilities which results in not being able to achieve the overall Stormwater performance criteria per Appendix A.
- 4.1.4 The Storm Sewer, ditch or culvert addition, modification, replacement, or extension is wholly located within the municipal boundary over which the Owner has jurisdiction or there is a written agreement in place with the adjacent property owner respecting the Alteration and resulting Sewage Works.
- 4.1.5 The Owner consents in writing to the addition, modification, replacement, or extension.
- 4.1.6 A Licensed Engineering Practitioner has verified in writing that the addition, modification, replacement, or extension meets the requirements of conditions 4.1.1 a) to h), 4.3.9, and 4.3.10.
- 4.1.7 The Owner has verified in writing that the addition, modification, replacement, or extension has complied with inspection and testing requirements in the Design Criteria.
- 4.1.8 The Owner has verified in writing that the addition, modification, replacement, or extension meets the requirements of conditions 4.1.1 i), 4.1.2 to 4.1.6, 4.3.7, and 7.2.
- 4.2 The addition of Storm Sewers or ditches can be constructed but not operated until the Stormwater Management Facilities required to service the new Storm Sewers or ditches are in operation.
- 4.3 The Owner or a Prescribed Person is not authorized to undertake an Alteration described above in condition 4.1 where the Alteration relates to the addition, modification, replacement, or extension of a Storm Sewer that:
  - 4.3.1 Passes under or through a body of surface water, unless trenchless construction methods are used or the local Conservation Authority has authorized an alternative construction method.

- 4.3.2 Has a nominal diameter greater than 2,400 mm, or equivalent sizing.
- 4.3.3 Is a Combined Sewer.
- 4.3.4 Is a concrete channel.
- 4.3.5 Is designed to, at any time, transmit, store, or control sanitary Sewage.
- 4.3.6 Converts rural road cross section ditches to curb, gutter, and Storm Sewers if the Stormwater volume and/or peak flow is increased and no water quality treatment is planned or demonstrated to be achieved, in accordance with this Approval and Appendix A, to offset the increase in Stormwater.
- 4.3.7 Results in new discharges or increased discharges to a Municipal Drain without written approval by the Owner and a signed Municipal Drainage Engineer's Report in accordance with the *Drainage Act* R.S.O. 1990, c. D.17.
- 4.3.8 Establishes a new outlet with direct discharge into the Natural Environment without monitoring in accordance with this Approval and without achieving the requirements set in Appendix A.
- 4.3.9 Increases Stormwater flow of an existing Storm Sewer or ditch without achieving water quality criteria set in Appendix A in accordance with this Approval unless the existing downstream Municipal Stormwater Management System has sufficient residual transmission and treatment capacity to accommodate the additional Stormwater.
- 4.3.10 Increases local hydraulic capacity of an existing Storm Sewer or ditch to accommodate new Stormwater flows unless the existing downstream Municipal Stormwater Management System has sufficient residual hydraulic capacity to accommodate the additional Stormwater.
- 4.3.11 Connects to another Municipal Stormwater Management System, unless:
  - a) Prior to construction, the Owner of the Authorized System obtains written consent from the Owner or Owner's delegate of the Municipal Stormwater System being connected to; and
  - b) The Owner of the Authorized System retains a copy of the written consent from the Owner or Owner's delegate of the Municipal Stormwater Management System being connected

to as part of the record that is recorded and retained under condition 4.4.

4.3.12 Is part of an Undertaking in respect of which:

- a) A request under s.16(6) of the EAA has been made, namely a request that the Minister make an order under s.16;
- b) The Minister has made an order under s.16; or
- c) The Director under that EAA has given notice under s.16.1 (2) that the Minister is considering making an order under s.16.

4.4 The consents and verifications required in conditions 4.1 and 4.3, if applicable, shall be:

4.4.1 Recorded on SW1, prior to the Storm Sewer, ditch, or culvert addition, modification, replacement, or extension being placed into service; and

4.4.2 Retained for a period of at least ten (10) years by the Owner.

4.5 For greater certainty, the verification requirements set out in condition 4.4 do not apply to any Alteration in respect of the Authorized System which:

4.5.1 Is exempt under section 53(6) of the OWRA or by O. Reg. 525/98; or

4.5.2 Constitutes maintenance or repair of the Authorized System.

## **5.0 Authorizations of Future Alterations to Stormwater Management Facilities - Additions, Modifications, Replacement, and Extensions**

5.1 Subject to conditions 5.2 and 5.3, the Owner or a Prescribed Person may alter the Stormwater Management Facilities in the Authorized System by adding, modifying, replacing, or extending the following components:

5.1.1 Rooftop storage

5.1.2 Parking lot storage

5.1.3 Superpipe storage

5.1.4 Reduced lot grading

5.1.5 Roof leader to ponding area

- 5.1.6 Roof leader to soakaway pit
- 5.1.7 Infiltration trench
- 5.1.8 Engineered grassed swales / bioswale
- 5.1.9 Pervious pipes
- 5.1.10 Pervious catchbasins
- 5.1.11 Vegetated filter strips
- 5.1.12 Natural buffer strips
- 5.1.13 Green roofs/Rooftop gardens
- 5.1.14 Wet pond
- 5.1.15 Engineered wetland
- 5.1.16 Dry pond
- 5.1.17 Hybrid Facility
- 5.1.18 Infiltration basin
- 5.1.19 Filtration MTD
- 5.1.20 Sedimentation MTD - OGS
- 5.1.21 LID that relies on one or more of the following mechanisms to achieve treatment and control:
  - a) Evapotranspiration;
  - b) Infiltration into the ground; or
  - c) Filtration.
- 5.1.22 Any other Stormwater Management Facilities where the Director has provided authorization in writing to proceed with the Alteration.
- 5.2 Any Alteration to the Authorized System authorized under condition 5.1 is subject to the following conditions:
  - 5.2.1 The design of the Alteration shall:
    - a) Be prepared by a Licensed Engineering Practitioner;

- b) Be designed only to collect, receive, treat, or control only Stormwater and has not been designed to collect, receive, treat, or control sanitary Sewage;
- c) Is planned, designed, and built to be consistent with the Stormwater Management Planning and Design Guidance Manual. If there is a conflict with Appendix A of this Approval, then Appendix A shall prevail;
- d) Satisfy the Design Criteria or any municipal criteria that have been established that exceed the minimum requirements set out in the Design Criteria;
- e) Be part of a Stormwater Treatment Train approach that satisfies the requirements outlined in Appendix A, or transmits Stormwater to a Stormwater Management Facility that satisfies the requirements outlined in Appendix A;
- f) Includes an outlet or an emergency overflow for the Sewage Works, with the verification of the location, route, and capacity of the receiving major system to accommodate overflows; and
- g) Include design considerations to protect sources of drinking water, including those set out in the Standard Operating Policy for Sewage Works and any applicable local Source Protection Plan policies.

5.2.2 The Alteration shall not result in:

- a) Adverse Effects; or
- b) A deterioration on the approved effluent quality or quantity of downstream Stormwater Management Facilities which results in not being able to achieve the overall Stormwater performance criteria per Appendix A.

5.2.3 The Alteration may incorporate co-benefits, but in doing so shall not diminish functionality or efficiency of any Stormwater Management Facility(ies) that may be impacted by the Alteration.

5.2.4 Any new sedimentation MTD that is part of the Alteration shall meet the following requirements:

- a) Tested in accordance with the TRCA protocol Procedure for Laboratory Testing of OGSs and testing data verified in accordance with the ISO 14034 Environmental Technology Verification (ETV) protocol. The suspended solids removal claimed for the sedimentation MTD in achieving the water

quality criteria in Appendix A, and the sizing methodology used to determine the appropriate sedimentation MTD dimensions for the particular site, shall be based on the verified removal efficiency for all particle size fractions comprising the particle size distribution specified within the testing protocol or a particle size distribution approved by the Director.

- b) Using the verified sediment removal efficiencies for the respective surface loading rates specified in the testing protocol, the sedimentation MTD sizing methodology shall use linear interpolation to calculate sediment removal efficiencies for surface loading rates that lie between the specified surface loading rates. For surface loading rates less than the lowest specified and tested surface loading rate, the sediment removal efficiency shall be assumed to be identical to the verified removal efficiency for the lowest specified and tested surface loading rate. Where available, 15 min rainfall stations shall be used for sizing the sedimentation MTD.
- c) When two or more sedimentation MTD are installed in series, no additional sediment removal credit shall be applied beyond the sediment removal credit of the largest device in the series.
- d) The sediment removal rate at the specified surface loading rates determined for the tested full scale, commercially available MTD may be applied to similar MTDs of smaller or larger size by proper scaling. Scaling the performance results of the tested MTD to other model sizes without completing additional testing is acceptable provided that:
  - i The claimed sediment removal efficiencies for the similar MTD are the same or lower than the tested MTD at identical surface loading rates; and
  - ii The similar MTD is scaled geometrically proportional to the tested unit in all inside dimensions of length and width and a minimum of 85% proportional in depth.
- e) The units must be installed in an off-line configuration if the unit had an effluent concentration greater than 25 mg/L at any of the surface loading rates conducted during the sediment scour and resuspension test as part of the ISO 14034 verification.

- f) The sedimentation MTD should be sized for the highest suspended solids percent removal physically and economically practicable, and used as a pre-treatment device in a treatment train designed to achieve the water quality criteria in Appendix A.
- 5.2.5 Any new filtration MTD that is part of the Alteration shall meet the following requirements:
- a) Field tested and verified in accordance with a minimum of one of the following protocols:
    - i Washington State Technology Assessment Protocol - Ecology (TAPE) General Use Level Designation (GULD); and
      - 1. Has ISO 14034 ETV verification to satisfy ETV Canada requirements;
      - 2. The field monitoring data set used to obtain GULD certification should include a minimum of three (3) events that exceed 75th percentile rainfall event with at least one hour with an intensity of 6 mm/h or greater.
    - ii Another testing and verification method, where the Director has communicated acceptability in writing.
  - b) Where available, 15 min rainfall stations shall be used for sizing the filtration MTD using the rainfall intensity corresponding to 90% of annual runoff volume;
  - c) The SS removal rate determined for the tested full scale, commercially available filtration MTD, or single full-scale commercially available cartridge or filtration module, may be applied to other model sizes of that filtration MTD provided that appropriate scaling principles are applied. Scaling the tested filtration MTD or single full-scale commercially available cartridge or filtration module, to determine other model sizes and performance without completing additional testing is acceptable provided that:
    - i Depth of media, composition of media, and gradation of media remain constant.

- ii The ratio of the maximum treatment flow rate to effective filtration treatment area (filter surface area) is the same or less than the tested filtration MTD;
  - iii The ratio of effective sedimentation treatment area to effective filtration treatment area is the same or greater than the tested filtration MTD; and
  - iv The ratio of wet volume to effective filtration treatment area is the same or greater than the tested filtration MTD.
- 5.2.6 When it is necessary to use Privately Owned Stormwater Works in the Stormwater Treatment Train to achieve Appendix A criteria as part of or as a result of an Alteration, the following conditions apply:
  - a) The Owner shall, through legal instruments or binding agreements, obtain the right to access, operate, and maintain the Privately Owned Sewage Works;
  - b) The Owner shall ensure that the right to access, operate and maintain the Privately Owned Sewage Works described in condition 5.2.6 a) above is maintained at all times that the works are in service and used to achieve Appendix A criteria.
  - c) The Owner shall ensure on-going operation and maintenance of the Privately Owned Stormwater Works; and,
  - d) The Owner shall ensure that the Privately Owned Stormwater Works have obtained separate approval(s) under the EPA, as required.
- 5.2.7 The Alteration is wholly located within the municipal boundary over which the Owner has jurisdiction or there is a written agreement in place with the adjacent municipality respecting the Alteration and resulting Sewage Works.
- 5.2.8 The Owner consents in writing to the Alteration authorized under condition 5.1.
- 5.2.9 A Licensed Engineering Practitioner has verified in writing that the Alteration authorized under condition 5.1 meets the design requirements of conditions 5.2.1 a) to f), 5.2.4 and 5.2.5.
- 5.2.10 The Owner has verified in writing that the Alteration authorized under condition 5.1 meets the requirements of conditions 5.2.1 g), 5.2.2, 5.2.6 to 5.2.9, 5.3, 5.4, and 7.2.

- 5.3 The authorization in condition 5.1 does not apply:
- 5.3.1 To the establishment of a regional end-of-pipe flood control Facility;
  - 5.3.2 Where the Alteration will result in new or increased discharges to a Municipal Drain without written approval by the Owner and a signed Municipal Drainage Engineer's Report in accordance with the *Drainage Act* R.S.O. 1990, c. D.17;
  - 5.3.3 To the establishment of a new outlet with direct discharge into the Natural Environment without treatment and monitoring in accordance with this Approval;
  - 5.3.4 Where the Alteration will service a drainage area greater than 65 ha;
  - 5.3.5 Where the Alteration will result in conversion of an existing Stormwater Management Facility into another type of Stormwater Management Facility;
- 5.4 Any Alteration to LID or end-of-pipe Stormwater Management Facilities shall be inspected before operation of the Alteration to confirm construction as per specifications (including depth, as applicable).
- 5.5 The consents and verifications required in conditions 5.2.8 to 5.2.10 if applicable, shall be:
- 5.5.1 Recorded on Form SW2, prior to undertaking the Alteration; and
  - 5.5.2 Retained for a period of at least ten (10) years by the Owner.
- 5.6 For greater certainty, the verification requirements set out in condition 5.5 do not apply to any Alteration in respect of the Authorized System which:
- 5.6.1 Is exempt under section 53(6) of the OWRA or by O. Reg. 525/98; or
  - 5.6.2 Constitutes maintenance or repair of the Authorized System.

## **6.0 Authorizations of Future Alterations for Third Pipe Collection System Additions, Modifications, Replacements and Extensions**

- 6.1 The Owner or a Prescribed Person may alter the Authorized System by adding, modifying, replacing, or extending, and operating works

comprising a municipal Third Pipe Collection System to collect foundation drainage and groundwater where:

- 6.1.1 The design of the Alteration:
- a) Has been prepared by a Licensed Engineering Practitioner;
  - b) Is limited to collection, transmission, reuse and/or treatment of only foundation drainage and groundwater, and is not designed to collect or treat sanitary Sewage;
  - c) Satisfies the Design Criteria or any municipal criteria that have been established that exceed the minimum requirements set out in the Design Criteria; and
  - d) Is scoped so that the resulting Sewage Works are intended to:
    - i Primarily function for the non-potable reuse, as deemed acceptable by the Owner and the local health unit, of foundation drainage and/or groundwater, and no discharge to a Storm Sewer or Separate Sewer if there is excess volume that cannot be reused; and/or
    - ii Provide wetland recharge, in which case, collection of rooftop runoff will also be acceptable.
- 6.1.2 The Alteration is not located on a contaminated site, or where natural occurring conditions result in contaminated discharge, or where the site receives contaminated groundwater or foundation drainage from another site, unless the discharge being received has been remediated or treated prior to acceptance by the Third Pipe Collection System.
- 6.1.3 The Owner has undertaken a site assessment for water quantity, water quality, and hydrogeological site conditions regarding the Alteration.
- 6.1.4 The Alteration will not result in Adverse Effects.
- 6.1.5 The Alteration is wholly located within the municipal boundary over which the Owner has jurisdiction or there is a written agreement in place with the adjacent property owner respecting the Alteration and resulting Sewage Works.
- 6.1.6 The Owner consents in writing to the Alteration.

- 6.1.7 A Licensed Engineering Practitioner has verified in writing that the Alteration meets the requirements of condition 6.1.1.
- 6.1.8 The Owner has verified in writing that the Alteration meets the requirements of conditions 6.1.2 to 6.1.7.
- 6.2 The consents, verifications and documentation required in conditions 6.1.7 and 6.1.8 shall be:
  - 6.2.1 Recorded on Form SW3 prior to undertaking the Alteration; and
  - 6.2.2 Retained for a period of at least ten (10) years by the Owner.
- 6.3 For greater certainty, the verification requirements set out in condition 6.2 do not apply to any Alteration in respect of the Authorized System which:
  - 6.3.1 Is exempt under section 53(6) of the OWRA or by O. Reg. 525/98; or
  - 6.3.2 Constitutes maintenance or repair of the Authorized System, including changes to software for an existing SCADA system resulting from Alterations authorized in condition 6.1.
- 6.4 The Owner shall update, within twelve (12) months of the Alteration of the Sewage Works being placed into service, any drawings maintained for the Municipal Stormwater Management System to reflect the Alterations of the Sewage Works, where applicable.

## **7.0 Outlets**

- 7.1 Any outlet established or altered as part of an Alteration authorized through conditions 4, 5, or 6 of Schedule D in this Approval shall have regard to the 2012 TRCA Stormwater Management Criteria document, Appendix E, for outlets.
- 7.2 Any outlet established as part of an Alteration authorized through conditions 4, 5, or 6 of Schedule D in this Approval shall not:
  - 7.2.1 Increase discharge or create a new point source discharge to privately owned land unless there is express written consent of the owner(s) of such private land(s).
  - 7.2.2 Result in Adverse Effects.

## **8.0 Previously Approved Sewage Works**

8.1 If approval for an Alteration to the Authorized System was issued under the EPA and is revoked by this Approval, the Owner may make the Alteration in accordance with:

8.1.1 The terms of this Approval; or

8.1.2 The terms and conditions of the revoked approval as of the date this approval was issued, provided that the Alteration is commenced within five (5) years of the date that the revoked approval was issued.

## 9.0 Transition

9.1 An Alteration of the Authorized System is exempt from the requirements in clause (e) of condition 4.1.1, clause (d) of condition 5.2.1, and clause (c) of condition 6.1.1 where:

9.1.1 Effort to undertake the Alteration, such as tendering or commencement of construction of the Sewage Works associated with the Alteration, begins on or before May 19, 2023.

9.1.2 The design of the Alteration conforms to the Stormwater Management Planning and Design Manual, and where applicable, Design Guidelines for Sewage Works;

9.1.3 The design of the Alteration was completed on or before the issue date of this Approval or a Class Environmental Assessment was completed for the Alteration and changes to the design result in significant cost increase or significant project delays; and

9.1.4 The Alteration would be otherwise authorized under this Approval.

## **Schedule E: Operating Conditions**

|                |                                                               |
|----------------|---------------------------------------------------------------|
| System Owner   | <b>Brant, The Corporation of the County of</b>                |
| ECA Number     | <b>062-S701</b>                                               |
| System Name    | <b>County of Brant Municipal Stormwater Management System</b> |
| ECA Issue Date | <b>October 14th, 2022</b>                                     |

### **1.0 General Operations**

- 1.1 The Owner shall ensure that, at all times, the Sewage Works comprising the Authorized System and the related equipment and Appurtenances used to achieve compliance with this Approval are properly operated and maintained.
- 1.2 Prescribed Persons and Operating Authorities shall ensure that, at all times, the Sewage Works under their care and control and the related equipment and Appurtenances used to achieve compliance with this Approval are properly operated and maintained.
- 1.3 In conditions 1.1 and 1.2 “properly operated and maintained” includes effective performance, adequate funding, adequate operator staffing and training, including training in applicable procedures and other requirements of this Approval and the EPA, OWRA, CWA, and regulations, adequate laboratory services, process controls and alarms and the use of process chemicals and other substances used in the Authorized System.
- 1.4 The Owner ensure that Sewage Works are operated with the objective that the effluent from the Sewage Works is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film, sheen, foam, or discoloration on the receiving waters, and shall evaluate the need for maintenance if the objective is not being met.
- 1.5 The Owner shall ensure that any Storm Sewers or ditches authorized under Schedule D of this approval are not placed into operation until the associated Stormwater Management Facilities to provide treatment are constructed and operated.

### **2.0 Duties of Owners and Operating Authorities**

- 2.1 The Owner, Prescribed Persons, and any Operating Authority shall ensure the following:

- 2.1.1 At all times that the Sewage Works within the Authorized System are in service, the Sewage Works are:
  - a) Operated in accordance with the requirements under the EPA and OWRA, and
  - b) Maintained in a state of good repair.
- 2.1.2 The Authorized System is operated by persons that are familiar with the requirements of this Approval.
- 2.1.3 All sampling, testing, monitoring, and reporting requirements under the EPA and this Approval that relate to the Authorized System are complied with.
- 2.1.4 All necessary steps are taken to ensure that operations of the Sewage Works and any associated physical structures do not constitute a safety or health hazard to the general public.
- 2.1.5 Where a Stormwater Management Facility ceases to function as a Stormwater Management Facility, whether by intent, accident, or otherwise (e.g., a CSO or an SSO), a workplan shall be developed that includes local community notification, plans for rehabilitating the Stormwater Management Facility to proper function in a reasonable time, identification of actions that will be taken to prevent reoccurrences, and timelines for implementing the workplan.
- 2.1.6 That operations and maintenance activities are undertaken at the frequency and in conformance with the procedures set out in the O&M Manual.
  - a) A Prescribed Person or Operating Authority shall only undertake operations and maintenance activities where they have been delegated the authority to undertake such activities by the Owner or the Owner has expressly approved the activity(ies).
- 2.2 For clarity, the requirements outlined in the above conditions 2.1 for Prescribed Persons and any Operating Authority only apply to Sewage Works within the Authorized System where they are responsible for the operation.
- 2.3 The Owner, Prescribed Persons, and Operating Authority shall take all reasonable steps to minimize and ameliorate any Adverse Effect on the Natural Environment or impairment of the quality of water of any waters resulting from the operation of the Authorized System, including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.

### 3.0 Operations and Maintenance

#### 3.1 Inspection

- 3.1.1 The Owner shall ensure that all Sewage Works within the Authorized System are inspected at the frequency and in accordance with procedures set out in their O&M Manual.
- 3.1.2 The owner shall ensure that:
  - a) Any Stormwater Management Facilities, pumping stations, and any outlets that discharge to a receiver, are inspected at least once before December 31, 2026, if these have not been inspected since January 1, 2018 and thereafter as required by the O&M Manual; and
  - b) Any Stormwater Management Facilities, pumping stations, and any outlets that discharge to a receiver, established, or replaced within the Authorized System after the date of issuance of this Approval, are inspected within one year of being placed into service and thereafter as required by the O&M Manual.
- 3.1.3 The Owner shall clean and maintain Sewage Works within the Authorized System to ensure the Sewage Works perform as designed.
- 3.1.4 The Owner shall inspect the Stormwater Management Facilities in the Authorized System after significant flooding events as defined in, and in accordance with procedures documented in, the O&M Manual.
- 3.1.5 The Owner shall maintain records of the results of the inspections required in condition 3.1.1, 3.1.2 and 3.1.4 and any cleaning and maintenance operations undertaken, and shall make available the records for inspection by the Ministry upon request. The records shall include the following:
  - a) Asset ID and name of the Sewage Works;
  - b) Date and results of each inspection, maintenance, or cleaning;
  - c) Name of person who conducted the inspection, maintenance, or the name of the inspecting official, where applicable, and

- d) As applicable to the type of works, observations resulting from the inspection including, at a minimum:
  - i Hydraulic operation of the works (e.g., length of occurrence since the last rainfall event, evidence or occurrence of overflows).
  - ii Condition of vegetation in and around the works.
  - iii Occurrence of obstructions at the inlet and outlet of the works.
  - iv Evidence of spills and/or oil/grease contamination.
  - v Presence of trash build-up, and
  - vi Measurements of other parameters as required in the Monitoring Plan.

### 3.2 Operations & Maintenance (O&M) Manual

3.2.1 The Owner shall prepare and implement an operations and maintenance manual for Sewage Works within the Authorized System on or before May 19, 2024, that includes or references, but is not necessarily limited to, the following information:

- a) Procedures for the routine operation of the Sewage Works;
- b) Inspection programs, including the frequency of inspection, and the methods or tests employed to detect when maintenance is necessary, including:
  - i Presence of algae and/or invasive species impairing the Works (e.g., phragmites, goldfish);
  - ii Measurements of sediment depth, manual water levels (staff gauge) and/or visual observations, as appropriate to the Stormwater Management Facilities.
- c) Maintenance and repair programs, including:
  - i The frequency of maintenance and repair for the Sewage Works;
  - ii Stormwater pond sediment cleanout, dewatering, and management;

- iii                      Excavation, modification, replacement of LID soil/media/aggregate/geotextile, such as bioretention cells, green roof, permeable pavement; and
    - iv                      The frequency of maintenance for any other Stormwater Management Facilities identified in Schedule B that collect sediment.
  - d)    Operational and maintenance requirements to protect sources of drinking water, such as those included in the Standard Operating Policy for Sewage Works, and any applicable local Source Protection Plan policies;
  - e)    Procedures for routine physical inspection and calibration of monitoring equipment or components in accordance with the Monitoring Plan;
  - f)    Emergency Response, Spill Reporting and Contingency Plans and Procedures for dealing with Equipment breakdowns, potential spills, and any other abnormal situations, including notification to the Spills Action Centre, the Medical Officer of Health, and the District Manager, as applicable;
  - g)    Procedures for receiving, responding, and recording public complaints, including recording any follow-up actions taken; and
  - h)    As-built drawings or record drawings of the Sewage Works for stormwater works constructed after 2010 and where available, for stormwater works constructed before 2010.
- 3.2.2    The Owner shall review and update the O&M Manual and ensure that access to a copy is readily available for each Stormwater Management Facility for the operational life of the works.
- 3.2.3    The Owner shall provide a copy of the O&M Manual to Ministry staff, upon request.
- 3.2.4    The Owner shall revise the O&M Manual to include procedures necessary for the operation and maintenance of any Sewage Works within the Authorized System that are established, altered, extended, replaced, or enlarged after the date of issuance of this approval prior to placing into service those Sewage Works.
- 3.2.5    For greater certainty, the O&M Manual may be a single document or a collection of documents that, when considered together, apply to all parts of the Authorized System.

- 3.3 On or before May 19, 2025, the Owner shall establish signage to notify the public at any Stormwater Management Facility identified in Schedule B that is a wet pond, dry pond, hybrid Facility, or engineered wetland. The signage shall include the following minimum information:
- 3.3.1 Identification that the site contains a Stormwater Management Facility;
  - 3.3.2 Identification of potential hazards and limitations of water use, as applicable;
  - 3.3.3 Identification of the purpose of the Facility;
  - 3.3.4 ECA approval number and/or asset ID; and
  - 3.3.5 Owner's contact information.
- 3.4 Prior to any maintenance of Sewage Works comprising the Authorized System, the Owner shall ensure that all applicable permits or authorizations have been obtained from Federal or Provincial agencies having legislative mandates relating to species at risk or water resources.

#### **4.0 Monitoring Plan**

- 4.1 On or before May 19, 2024 or within twenty-four (24) months of the date of the publication of the Ministry's monitoring guidance, whichever is later, the Owner shall develop and implement a monitoring plan for the Authorized System. The monitoring plan shall be:
- 4.1.1 Signed and approved by management with the authority delegated by the Owner to do so;
  - 4.1.2 Peer-reviewed by a third-party Qualified Person (QP), external to the development of the Monitoring Plan, to verify the adequacy of the Monitoring Plan in complying with conditions 4.4 and 4.5 of Schedule E. The results of the peer review shall include:
    - a) Written confirmation from the QP that they have the experience and qualifications to carry out the work; and
    - b) Written confirmation from the QP of the adequacy of the Monitoring Plan.
- 4.2 The Owner, or a QP designated by the Owner, may jointly develop the Monitoring Plan in partnership with Owner(s) of other Municipal Stormwater Management Systems as long as the Municipal Stormwater Management Systems are within the same watershed.

- 4.3 The Owner shall ensure the Monitoring Plan is implemented and any resulting monitoring data is recorded in an electronic database.
- 4.4 The Monitoring Plan shall include:
- 4.4.1 Procedures to verify that the operational performance of the Authorized System is as designed/planned;
  - 4.4.2 Procedures to assess the environmental impact of the Municipal Stormwater Management System; and
  - 4.4.3 Procedures for any corrective action that may be required to address any performance deficiencies or environmental impacts identified from above conditions 4.4.1 or 4.4.2.
- 4.5 The Monitoring Plan shall also include, but not be limited to:
- 4.5.1 Identification of the Sewage Works to be monitored, including outlets and any works that provide quality and/or quantity control;
  - 4.5.2 Identification of the key receivers to be monitored within the Owner's municipal boundaries and the monitoring locations;
  - 4.5.3 Consideration of relevant municipal land use and environmental planning documents (e.g., Stormwater Management Master Plan, Class Environmental Assessment Project, asset management plan, subwatershed studies, and planned development);
  - 4.5.4 Characterization of water quality and quantity conditions and identification of water users to be protected, based on conditions 4.5.2 and 4.5.3;
  - 4.5.5 Identification of water quality and quantity goals, as it relates to Stormwater management, using the information collected in condition 4.5.4;
  - 4.5.6 Identification of locations of rainfall gauges to be used;
  - 4.5.7 Identification of inspections, measurements, sampling, analysis and/or other monitoring activities that were used as the basis for or will inform future updates to the procedures identified in condition 4.4.
  - 4.5.8 Details respecting a monitoring program for the works and the receivers, that includes, at a minimum:

- a) Hydrological, chemical, physical, and biological parameters, as appropriate, in alignment with the goals;
- b) Ensures water level of the Stormwater Measurement Facilities, excluding MTDs, are measured at regular intervals with a water level gauge;
- c) Monitoring methodology, including the frequency and protocols for sampling, analysis, and recording, with consideration of dry and wet weather events and timing of sampling during wet weather events.
- d) Ensures that the time of all samples or measurements are recorded.

4.5.9 An implementation plan for the monitoring program that identifies timelines and, if the monitoring occurs on a rotational basis, provides a description of the rotational schedule and associated works.

4.5.10 Includes a summary of all 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, and

4.5.11 Consideration of adaptive management practices (e.g., evidence-based decision making).

4.6 The Owner shall ensure that the Monitoring Plan is updated where necessary within twelve (12) months of any Alteration to the Authorized System, or more frequently as required by the Monitoring Plan.

4.7 The Owner shall, on request and without charge, provide a copy of the Monitoring Plan and any resulting monitoring data to members of the public.

## **5.0 Reporting**

5.1 The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.

5.2 The Owner shall prepare an annual performance report for the Authorized System that:

5.2.1 Is submitted to the Director on or before April 30<sup>th</sup> of each year and covers the period from January 1<sup>st</sup> to December 31<sup>st</sup> of the preceding calendar year.

- a) For clarity, the first report shall cover the period of January 1, 2023 to December 31st, 2023 and be submitted to the Director on or before April 30<sup>th</sup>, 2024.
- 5.2.2 Includes a summary of all 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;
- 5.2.3 Includes a summary and interpretation of environmental trends based on all monitoring information and data for the previous five (5) years;
- 5.2.4 Includes a summary of any operating problems encountered and corrective actions taken;
- 5.2.5 Includes a summary of all inspections, maintenance, and repairs carried out on any major structure, equipment, apparatus, mechanism, or thing forming part of the Authorized System;
- 5.2.6 Includes a summary of the calibration and maintenance carried out on all monitoring equipment;
- 5.2.7 Includes a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints;
- 5.2.8 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;
- 5.2.9 Includes a summary of all spills or abnormal discharge events;
- 5.2.10 Includes a summary of actions taken, including timelines, to improve or correct performance of any aspect of the Authorized System; and
- 5.2.11 Includes a summary of the status of actions for the previous reporting year.
- 5.3 The report described in condition 5.2 shall be:
  - 5.3.1 Made available, on request and without charge, to members of the public who are served by the Authorized System; and

- 5.3.2 Made available, by June 1<sup>st</sup> 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.

## **6.0 Record Keeping**

- 6.1 The Owner shall retain for a minimum of ten (10) years from the date of their creation:
- 6.1.1 All records, reports and information required by this Approval and related to or resulting Alterations to the Authorized System, and
- 6.1.2 All records, report and information related to the operation, maintenance and monitoring activities required by this Approval.
- 6.2 The Owner shall update, within twelve (12) months of any Alteration to the Authorized System being placed into service, any drawings maintained for the Municipal Stormwater Management System to reflect the Alteration of the Sewage Works, where applicable.

## **7.0 Review of this Approval**

- 7.1 No later than the date specified in Condition 1 of Schedule A of this Approval, the Owner shall submit to the Director an application to have the Approval reviewed. The application shall, at minimum:
- 7.1.1 Include an updated description of the Sewage Works within the Authorized System, including any Alterations to the Sewage Works that were made since the Approval was last issued; and
- 7.1.2 Be submitted in the manner specified by Director and include any other information requested by the Director.

## **8.0 Source Water Protection**

- 8.1 The Owner shall ensure that any Alteration in the Authorized System is designed, constructed, and operated in such a way as to be protective of sources of drinking water in Vulnerable Areas as identified in the Source Protection Plan, if available.
- 8.2 The Owner shall prepare a "Significant Drinking Water Threat Assessment Report for Proposed Alterations" for the Authorized System on or before October 19, 2023 that includes, but is not necessarily limited to:
- 8.2.1 An outline of the circumstances under which proposed Alterations could pose a Significant Drinking Water Threat based on the Director's Technical Rules established under the CWA.

- 8.2.2 An outline of how the Owner assesses the proposed Alterations to identify drinking water threats under the CWA.
- 8.2.3 For any proposed Alteration a list of components, equipment, or Sewage Works that are being altered and have been identified as a Significant Drinking Water Threat.
- 8.2.4 A summary of design considerations and other measures that have been put into place to mitigate risks resulting from construction or operation of the components, equipment, or Sewage Works identified in condition 8.2.3, such as those included in the Standard Operating Policy for Sewage Works.
- 8.3 The Owner shall make any necessary updates to the report required in condition 8.2 at least once every twelve (12) months.
- 8.4 Any components, equipment, or Sewage Works added to the report required in condition 8.2 shall be include in the report for the operational life of the Sewage Works.
- 8.5 Upon request, the Owner shall make a copy of the report required in condition 8.2 available to the Ministry or Source Protection Authority staff.

## 9.0 Storm Sewer Catchment Asset Inventory

- 9.1 The Owner shall prepare and submit to the Director an inventory of the storm sewersheds and classify in accordance with Tables E1 and E2, on or before May 19, 2025. Minimum classification of the level of Stormwater management is as follows:
- 9.1.1 Level A – Stormwater receives treatment for water quality and quantity prior to discharge to the environment;
- 9.1.2 Level B – Stormwater receives treatment for water quality but no water quantity prior to discharge to the environment; and
- 9.1.3 Level C – Stormwater receives no treatment for water quality prior to discharge to the environment.

| Table E1. Storm Sewershed and Associated Treatment |                               |                       |                         |                                         |                                                          |
|----------------------------------------------------|-------------------------------|-----------------------|-------------------------|-----------------------------------------|----------------------------------------------------------|
| Outlet Asset ID                                    | Sewershed Catchment Area (ha) | Tributary or Receiver | Subwatershed/ Watershed | Stormwater Management Level (A, B or C) | Treatment provided by other municipality (if applicable) |
|                                                    |                               |                       |                         |                                         |                                                          |

| <b>Table E2. Summary of Storm Sewersheds</b> |                                        |                                     |
|----------------------------------------------|----------------------------------------|-------------------------------------|
| Stormwater Management Level                  | Total Number of Outlets to Environment | Total Sewershed Catchment Area (ha) |
| Level A                                      |                                        |                                     |
| Level B                                      |                                        |                                     |
| Level C                                      |                                        |                                     |

- 9.2            Within 12 (twelve) months of the date that the inventory required in condition 9.1 is submitted to the Director, the document(s) or file(s) referenced in Table B1 of Schedule B of this Approval shall be updated to identify the storm sewersheds for each outlet and their level of Stormwater management.

## **Schedule F: Residue Management**

|                |                                                                   |
|----------------|-------------------------------------------------------------------|
| System Owner   | <b>Brant, The Corporation of the County of</b>                    |
| ECA Number     | <b>062-S701</b>                                                   |
| System Name    | <b>County of Brant Municipal Stormwater<br/>Management System</b> |
| ECA Issue Date | <b>October 14th, 2022</b>                                         |

### **1.0 Residue Management System**

1.1 Not Applicable.

Appendix A – Stormwater Management Criteria

1.0 Applicability of Criteria

- 1.1 The criteria listed under Table A1 of this Appendix applies to all drainage areas greater than 0.1 ha, with the construction erosion and sediment control criteria applying also to sites <0.1 ha;
- 1.2 Despite condition 1.1 of Appendix A, if some or all of the criteria listed under Table A1 of this Appendix have been assessed for and addressed in other adjacent developed lands to the project site through a subwatershed plan or equivalent study, then those criteria may not be applicable to the project site.

Table A1. Performance Criteria

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water Balance <sup>[1]</sup> | <p><b>FOR DEVELOPMENT SCENARIOS <sup>[2]</sup></b></p> <p><b>Assessment Studies:</b></p> <div>i) Control <sup>[3]</sup> as per the criteria identified in the water balance assessment completed in one or more of the following studies <sup>[15]</sup>, if undertaken: a watershed/subwatershed plan; Source Protection Plan (Assessment Report component); Master Stormwater Management Plan, Master Environmental Servicing Plan; Class EA, or similar approach that transparently considers social, environmental and financial impacts; or local site study including natural heritage, Ecologically significant Groundwater Recharge Areas (EGRA), inflow and infiltration strategies. The assessment should include sufficient detail to be used at a local site level and consistent with the various level of studies; OR</div> <p><b>IF Assessment Studies in i) NOT completed:</b></p> <div>ii) Control <sup>[3]</sup> the recharge <sup>[4]</sup> to meet Pre-development <sup>[5]</sup> conditions on property; <b>OR</b></div> <div>iii) Control <sup>[3]</sup> the runoff from the 90<sup>th</sup> percentile storm event.</div> <p><b>Lake Simcoe Watershed Municipalities:</b></p> <div>iv) Control <sup>[3]</sup> as per the evaluation of anticipated changes in water balance between Pre-development and post-development assessed through a Stormwater management plan in support of an application for Major Development <sup>[6]</sup>. The assessment should include sufficient detail to be used at a local site level. If it is demonstrated, using the approved water balance estimation methods <sup>[7]</sup>, that the site’s post to Pre-development water balance cannot be met, and Maximum Extent Possible <sup>[8]</sup> has been attained, the proponent may use Lake Simcoe and Region Conservation Authority’s (LSRCA) Recharge Compensation Program <sup>[9]</sup>.</div> <p><b>FOR RETROFIT SCENARIOS <sup>[10]</sup></b></p> <p><b>Assessment Studies:</b></p> <div>i) Control as per criteria identified in the water balance assessment completed in one or more of the following studies: a watershed/subwatershed plan, Source Protection Plan (Assessment Report component), Master Stormwater Management Plan, Master Environmental Servicing Plan,</div> |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | <p>Class EA, or local site study including natural heritage, EGRA, inflow and infiltration strategies, if undertaken. The assessment should include sufficient detail to be used at a local site level and consistent with the various level of studies; <b>OR</b></p> <p>ii) If constraints <sup>[11]</sup> identified in i), then control <sup>[3]</sup> as per Maximum Extent Possible <sup>[8]</sup> based on environmental site feasibility studies or address local needs<sup>[14]</sup>.</p> <p><b>IF Assessment Studies in i) NOT completed:</b></p> <p>iii) Control <sup>[3]</sup> the recharge <sup>[4]</sup> to meet Pre-development <sup>[5]</sup> conditions on property; <b>OR</b></p> <p>iv) Control <sup>[3]</sup> the runoff from the 90<sup>th</sup> percentile storm event.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Water Quality</b> <sup>[1]</sup> | <p><b>FOR DEVELOPMENT SCENARIOS</b> <sup>[2]</sup></p> <p>All of the following criteria must be met for development scenarios:</p> <p><b>General:</b></p> <p>i) Characterize the water quality to be protected and Stormwater Contaminants (e.g., suspended solids, nutrients, bacteria, water temperature) for potential impact on the Natural Environment, and control as necessary, <b>OR</b></p> <p>ii) As per the watershed/subwatershed plan, similar area-wide Stormwater study, or Stormwater management plan to minimize, or where possible, prevent increases in Contaminant loads and impacts to receiving waters.</p> <p><b>Suspended Solids:</b></p> <p>i) Control <sup>[3]</sup> 90<sup>th</sup> percentile storm event and if conventional methods are necessary, then enhanced, normal, or basic levels of protection (80%, 70%, or 60% respectively) for suspended solids removal (based on the receiver).</p> <p><b>Phosphorus:</b></p> <p>i) Minimize existing phosphorus loadings to Lake Erie and its tributaries, as compared to 2018 or conditions prior to the proposed development, <b>OR</b></p> <p>ii) Minimize phosphorus loadings to Lake Simcoe and its tributaries. Proponents with development sites located in the Lake Simcoe watershed shall evaluate anticipated changes in phosphorus loadings between Pre-development and post-development through a Stormwater management plan in support of an application for Major Development <sup>[6]</sup>. The assessment should include sufficient detail to be used at a local site level. If, using the approved phosphorus budget tool <sup>[12]</sup>, it is demonstrated that the site's post to Pre-development phosphorus budget cannot be met, and Maximum Extent Possible <sup>[8]</sup> has been attained, the proponent may use LSRCA's Phosphorus Offsetting Policy <sup>[9]</sup>.</p> <p><b>FOR RETROFIT SCENARIOS</b> <sup>[10]</sup></p> <p>i) Improve the level of water quality control currently provided on site; <b>AND</b></p> <p>ii) As per the 'Development' criteria for Suspended Solids, <b>OR</b></p> <p>iii) <b>If 'Development' criteria for Suspended Solids cannot be met</b>, Works are designed as a multi-year retrofit project, in accordance with a rehabilitation study or similar area-wide Stormwater study, such that the completed treatment train will achieve the 'Development' criteria for Suspended Solids or local needs<sup>[14]</sup>, within ten (10) years; <b>OR</b></p> |

|                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| <b>Erosion Control<br/>(Watershed) <sup>[1]</sup></b>             | <p>iv) If constraints <sup>[11]</sup> identified in ii) and iii), then control <sup>[3]</sup> as per Maximum Extent Possible <sup>[8]</sup> based on environmental site feasibility studies.</p> <p><b>FOR DEVELOPMENT SCENARIOS <sup>[8]</sup></b></p> <p>i) As per erosion assessment completed in watershed/subwatershed plan, Master Stormwater Management Plan, Master Environmental Servicing Plan, Drainage Plan, Class EA, local site study, geomorphologic study, or erosion analysis; <b>OR</b></p> <p>ii) As per the Detailed Design Approach or Simplified Design Approach methods described in the Stormwater Management Planning and Design Manual:</p> <p>a. The Detailed Design Approach may be selected by the proponent for any development regardless of size and location within the watershed provided technical specialists are available for the completion of the technical assessments; or considered more appropriate than the simplified approach given the size and location of the development within the watershed and the sensitivity of the receiving waters in terms of morphology and habitat function.</p> <p>b. The Simplified Design Approach may be adopted for watersheds whose development area is generally less than twenty hectares AND either one of the following two conditions apply:</p> <p>1) The catchment area of the receiving channel at the point-of-entry of Stormwater drainage from the development is equal to or greater than twenty-five square kilometres; or</p> <p>2) Meets the following conditions:</p> <ul style="list-style-type: none"> <li>• The channel bankfull depth is less than three quarters of a metre;</li> <li>• The channel is a headwater stream;</li> <li>• The receiving channel is not designated as an Environmentally Sensitive Area (ESA) or Area of Natural or Scientific Interest (ANSI) and does not provide habitat for a sensitive aquatic species;</li> <li>• The channel is stable to transitional; and</li> <li>• The channel is slightly entrenched; <b>OR</b></li> </ul> <p>iii) In the absence of a guiding study, detain at minimum, the runoff volume generated from a 25 mm storm event over 24 to 48 hours.</p> <p><b>FOR RETROFIT SCENARIOS <sup>[10]</sup></b></p> <p>i) If approaches i-iii) under 'Development Scenarios' are not feasible as per identified constraints <sup>[11]</sup>, then improve the level of erosion control <sup>[3]</sup> currently provided on site to Maximum Extent Possible <sup>[8]</sup> based on environmental site feasibility studies or address local needs<sup>[14]</sup>.</p> |
| <b>Water Quantity<br/>(Minor and Major System) <sup>[1]</sup></b> | <p>i) As per municipal standards, Master Stormwater Management Plan, Class EA, Individual EA and/or ECA, as appropriate for the type of project <sup>[13]</sup></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Flood Control<br/>(Watershed Hydrology) <sup>[1]</sup></b>     | <p><b>FOR DEVELOPMENT SCENARIOS <sup>[2]</sup></b></p> <p>i) Manage peak flow control as per watershed/subwatershed plans, municipal criteria being a minimum 100 year return storm (except for site-specific considerations and proximity to receiving water bodies), municipal guidelines and standards, Individual/Class EA, ECA, Master Plan, as appropriate for the type of project <sup>[13]</sup>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                         | <p><b>FOR RETROFIT SCENARIOS</b> <sup>[10]</sup></p> <p>i) If approaches i) under ‘Development Scenarios’ are not feasible as per identified constraints <sup>[11]</sup>, then improve the level of flood control <sup>[3]</sup> currently provided on site to Maximum Extent Possible <sup>[8]</sup> based on environmental site feasibility studies.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p><b>Construction Erosion and Sediment Control</b></p> | <p>i) Manage construction erosion and sediment control through development and implementation of an erosion and sediment control (ESC) plan. The ESC plan shall:</p> <p>a. Have regard to Canadian Standards Association (CSA) W202 Erosion and Sediment Control Inspection and Monitoring Standard (as amended); OR</p> <p>b. Have regard to Erosion and Sediment Control Guideline for Urban Construction 2019 by TRCA (as amended).</p> <p>ii) Be prepared by a QP for sites with drainage areas greater than 5 ha or if specified by the Owner for a drainage lower than 5 ha.</p> <p>iii) Installation and maintenance of the ESC measures specified in the ESC plan shall have regard to CSA W208:20 Erosion and Sediment Control Installation and Maintenance (as amended).</p> <p>iv) For sites with drainage areas greater than 5 ha, a QP shall inspect the construction ESC measures, as specified in the ESC plan.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p><b>Footnote</b></p>                                  | <p>1. Where the opportunity exists on your project site or the same subwatershed, reallocation of development elements may be optimal for management as described in footnote <sup>[3]</sup>.</p> <p>2. Development includes new development, redevelopment, infill development, or conversion of a rural cross-section into an urban cross-section.</p> <p>3. Stormwater volumes generated from the geographically specific 90th percentile rainfall event on an annual average basis from all surfaces on the entire site are targeted for control. Control is in the following hierarchical order, with each step exhausted before proceeding to the next: 1) retention (infiltration, reuse, or evapotranspiration), 2) LID filtration, and 3) conventional Stormwater management. Step 3, conventional Stormwater management, should proceed only once Maximum Extent Possible <sup>[8]</sup> has been attained for Steps 1 and 2 for retention and filtration.</p> <p>4. Recharge is the infiltration and movement of surface water into the soil, past the vegetation root zone, to the zone of saturation, or water table.</p> <p>5. Pre-development is defined as the more stringent of the two following scenarios: 1) a site’s existing condition, or 2) as defined by the local municipality.</p> <p>6. Major Development has the same meaning as in the Lake Simcoe Protection Plan, 2009.</p> <p>7. Currently, the approved tool by LSRCA for calculating the water balance is the Thornthwaite-Mather Method. Other tools agreed upon by relevant approval agencies (e.g., LSRCA, municipality, or Ministry) may also be acceptable, subject to written acceptance by the Director.</p> <p>8. Maximum Extent Possible means maximum achievable Stormwater volume control through retention and LID filtration engineered/landscaped/technical Stormwater practices, given the site constraints <sup>[11]</sup>.</p> <p>9. Information pertaining to LSRCA’s Recharge Compensation Program and Phosphorus Offsetting Policy is available on LSRCA’s website (lsrca.on.ca), or in “Water Balance Recharge Policy for the Lake Simcoe Protection Plan”, dated July 2021, and prepared by Lake Simcoe Region Conservation Authority and “Phosphorus Offsetting Policy”, dated July 2021, and prepared by Lake Simcoe Region Conservation Authority.</p> |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <div>10. Retrofit means: 1) a modification to the management of the existing infrastructure, 2) changes to major and minor systems, or 3) adding Stormwater infrastructure, in an existing area on municipal right-of-way, municipal block, or easement. It does not include conversion of a rural cross-section into an urban cross-section.</div> <div>11. Site constraints must be documented. A list of site constraints can be found in Table A2.</div> <div>12. Tools for calculating phosphorus budgets may include the Ministry’s Phosphorus Tool, the Low Impact Development Treatment Train Tool developed in partnership by TRCA, LSRCA, and Credit Valley Conservation (CVC), or other tools agreed upon by the LSRCA and other relevant approval agencies including the municipality.</div> <div>13. Possible to look at combined grey infrastructure and LID system capacity jointly.</div> <div>14. Local needs include requirements for water quality, erosion, and/or water balance retrofits identified by the owner through ongoing operation and maintenance of the stormwater system, including inspection of local receiving systems and the characterization of issues requiring remediation through retrofit controls.</div> <div>15. All studies shall conform with Ministry policies. If any conclusions in the studies negate policy, then the project will require a direct submission to the Ministry for review through an application pertaining to a Schedule C Notice.</div> |
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Table A2. Stormwater Management Practices Site Constraints

| Site Constraints |                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a)               | Shallow bedrock <sup>[1]</sup> , areas of blasted bedrock <sup>[2]</sup> , and Karst;                                                                                                                                                                                                                                                                                                                     |
| b)               | High groundwater <sup>[1]</sup> or areas where increased infiltration will result in elevated groundwater levels which can be shown through an appropriate area specific study to impact critical utilities or property (e.g., susceptible to flooding);                                                                                                                                                  |
| c)               | Swelling clays <sup>[3]</sup> or unstable sub-soils;                                                                                                                                                                                                                                                                                                                                                      |
| d)               | Contaminated soils (e.g., brownfields);                                                                                                                                                                                                                                                                                                                                                                   |
| e)               | High Risk Site Activities including spill prone areas;                                                                                                                                                                                                                                                                                                                                                    |
| f)               | Prohibitions and or restrictions per the approved Source Protection Plans and where impacts to private drinking water wells and /or Vulnerable Domestic Well Supply Areas cannot be appropriately mitigated;                                                                                                                                                                                              |
| g)               | Flood risk prone areas or structures and/ or areas of high inflow and infiltration (I/I) where wastewater systems (storm and sanitary) have been shown through technical studies to be sensitive to groundwater conditions that contribute to extraneous flow rates that cause property flooding / Sewer back-ups;                                                                                        |
| h)               | For existing municipal rights-of-way infrastructure (e.g., roads, sidewalks, utility corridor, Sewers, LID, and trails) where reconstruction is proposed and where surface and subsurface areas are not available based on a site-specific assessment completed by a QP;                                                                                                                                  |
| i)               | For developments within partially separated wastewater systems where reconstruction is proposed and where, based on a site-specific assessment completed by a QP, can be shown to: <div><div>i</div>Increase private property flood risk liabilities that cannot be mitigated through design;</div> <div><div>ii</div>Impact pumping and treatment cost that cannot be mitigated through design; or</div> |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| iii                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Increase risks of structural collapse of Sewer and ground systems due to infiltration and the loss of pipe and/or pavement support that cannot be mitigated through design.                                                                                                                                                                                                                                                                                                                                                                        |
| j)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Surface water dominated or dependent features including but not limited to marshes and/or riparian forest wetlands which derive all or a majority of their water from surface water, including streams, runoff, and overbank flooding. Surface water dominated or dependent features which are identified through approved site specific hydrologic or hydrogeologic studies, and/or Environmental Impact Statements (EIS) may be considered for a reduced volume control target. Pre-consultation with the MECP and local agencies is encouraged; |
| k)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Existing urban areas where risk to water distribution systems has been identified through assessments to meet applicable drinking water requirements, including Procedures F-6 and F-6-1, and substantiated by a QP through an appropriate area specific study and where the risk cannot be reasonably mitigated per the relevant design guidelines;                                                                                                                                                                                               |
| l)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Existing urban areas where risk to life, human health, property, or infrastructure has been is identified and substantiated by a QP through an appropriate area specific study and where the risk cannot be reasonably mitigated per the relevant design guidelines;                                                                                                                                                                                                                                                                               |
| m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Water reuse feasibility study has been completed to determine non-potable reuse of Stormwater for onsite or shared use;                                                                                                                                                                                                                                                                                                                                                                                                                            |
| n)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Economic considerations set by infrastructure feasibility and prioritization studies undertaken at either the local/site or municipal/system level <sup>[4]</sup> .                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Footnote:</b> <ol style="list-style-type: none"><li>1. May limit infiltration capabilities if bedrock and groundwater is within 1m of the proposed Facility invert per Table 3.4.1 of the LID Stormwater Planning and Design Guide (2010, V1.0 or most recent by TRCA/CVC). Detailed assessment or studies are required to demonstrate infiltration effects and results may permit relaxation of the minimum 1m offset.</li><li>2. Where blasting is more localized, this constraint may not be an issue elsewhere on the property. While infiltration-based practices may be limited in blasted rock areas, other forms of LID, such as filtration, evapotranspiration, etc., are still viable options that should be pursued.</li><li>3. Swelling clays are clay soils that is prone to large volume changes (swelling and shrinking) that are directly related to changes in water content.</li><li>4. Infrastructure feasibility and prioritization studies should comprehensively assess Stormwater site opportunities and constraints to improve cost effectiveness, environmental performance, and overall benefit to the receivers and the community. The studies include assessing and prioritizing municipal infrastructure for upgrades in a prudent and economically feasible manner.</li></ol> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

**Ministry of the Environment,  
Conservation and Parks**  
Drinking Water and Environmental  
Compliance Division  
West Central Region

119 King Street West, 12<sup>th</sup> Floor  
Hamilton, Ontario L8P 4Y7  
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**Ministère de l'Environnement de la  
Protection de la nature et des Parcs**  
Division de la conformité en matière  
d'eau potable et d'environnement  
Direction régionale du Centre-Ouest

119 rue King Ouest, 12<sup>e</sup> étage  
Hamilton (Ontario) L8P 4Y7  
Tél.: 905 521-7640  
Télééc.: 905 521-7820



February 05, 2020

## MEMORANDUM

**To:** Kevin Noll  
Senior Environmental Officer  
Guelph District Office

**From:** Maria Lucchese  
Surface Water Specialist  
Technical Support Section

**RE:** 2019 Environmental Monitoring Report  
Brant 403 Business Park Stormwater Management Facility  
IDS Task No. (SW) 7574-BL4LP6 (TSS Document: 6357-BL4LCA).  
WCR File No. BR PA-09-03

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As requested, I have reviewed the following document and provided surface water comments with respect to the environmental monitoring activities at Brant 403 Business Park:

- “2019 Environmental Monitoring and Reporting, Environmental Compliance Approval (ECA) No. 9772-8Y4KKJ, Brant 403 Business Park Stormwater Management Facility, County of Brant”. Stantec, December 11, 2019.

## Background

The County of Brant owns a stormwater management (SWM) facility at the Brant 403 Business Park site, located on Lot 9 and 10, Concession 2, County of Brant, and regulated under MECP’s ECA No. 9772-8Y4KKJ issued on November 29, 2012. The site is a 69.5 ha light industrial complex located west of Rest Acres Road between Highway 403 and Bethel Road, south of Paris, Ontario.

The site has a SWM facility that was required to provide “Enhanced” Level (long-term 80% TSS removal) water quality control, erosion protection and attenuation of post-development peak flow rates to pre-development levels for storm events up to and including the 100-year storm event. It is a designed wet pond that receives runoff from storm sewer and overland flow on Adi Dassler Way and Folsetter Drive. The pond is lined with bentonite clay and has a total storage volume of ~ 68,906 m<sup>3</sup>, with a main cell in the

south and a sediment forebay in the north. To the west is a 60 m by 80 m infiltration gallery that consists of perforated pipes in a clearstone bedding. An overflow weir at the east end of the pond discharges water during major storm events across Rest Acres Road. Overflow discharge flows overland to the Grand River, ~ 1.5 km to the east. A tributary of Whitemans Creek flows east of Rest Acres Road and crosses Bethel Road ~ 1 km from the site, joining the main branch of the creek which flows into the Grand River 350 m downstream

Condition 6 of the ECA specifies monitoring and reporting requirements for the facility. Condition 6(2) and 6(3) require the County to collect grab samples of the effluent from the SWM facility quarterly in the main cell of the SWM pond near the outlet pipes prior to discharge to the infiltration gallery. Samples are required to be analysed for: *E. coli*, Total Coliform, TKN, TSS, Total Metals, Aluminum (dissolved), Total Oil and Grease and BTEX parameters. Field pH and temperature are also collected at the time of sampling. Effluent limits or objectives have not been imposed in the ECA.

### **Comments and Recommendations**

Your request for a surface water review specifically required a review of the report to determine if MECP would be agreeable to the proposed monitoring program amendments noted in Section 5.0. of the report. Based on a review of the report and monitoring results I have the following comments:

1. The report indicates that there are no surface water receivers in the vicinity of the SWM system. Overflow discharge occurs during major storm events, but the report indicates that the nearest receptor is the Grand River, ~ 1.5 to the east of the SWM facility and that discharge to surface water does not occur during normal operating conditions. Overflow discharge from stormwater management systems during major storm events is a common part of the engineered design for these types of systems. Under normal conditions, the SWM pond discharges to an infiltration gallery consisting of perforated pipes and as such, groundwater is the primary receiver of effluent from the pond discharge.
2. With respect to the monitoring results, some of the monitoring parameters do not have surface water guidelines available for comparison (TKN, Total Coliform, Total Oil and Grease). For the parameters that do have surface water criteria (applicable PWQO or CCME guideline), significant concerns have not been identified with respect to the quality of the discharge. The PWQO for *E. coli* is 100 count/ 100 mL and was not used in the report for assessment of the data but no PWQO exceedances are noted for the data provided. BTEX parameters do not appear to be a concern from a surface water perspective as no exceedances are noted. Effluent pH was above the PWQO range (maximum of 8.5) on 11 occasions during the monitoring period, and above a pH value of 9.5 three times. If this discharge was directed to a surface water course, the reported pH concentrations would be of concern and would warrant further investigation. That being said, it is not expected that the discharge from the SWM system to the nearest surface water receiver (> 1 km away) would result in unacceptable impacts. Over the entire monitoring period, exceedances were noted for some metals (aluminum, iron and on a couple of occasions for copper and zinc). In general, I tend to agree with the consultant that exceedances of PWQO criteria for selected metals (aluminum, iron, zinc) are not unexpected with effluent from SWM discharges.

3. The required monitoring only specifies effluent monitoring and therefore no influent monitoring data is available for review so the long-term 80% TSS removal design criteria for the SWM facility cannot be verified with the data provided. However, it is unlikely that the intent of the required environmental monitoring was to validate this design criteria as this is not a requirement normally imposed on ECAs. TSS effluent concentrations do not pose a concern to surface water as levels are below 10 mg/L on most sampling events. Isolated concentrations above 25 mg/L were noted on three occasions but do not appear to represent a concern with respect to the long-term TSS concentrations in the effluent discharging from the SWM system.
4. Condition 6(6) allows for a review of the monitoring program once 5 years of data have been collected. The Town has collected 7 years of environmental monitoring data and submitted this under the above-mentioned report (along with a data excel spreadsheet). From a surface water perspective, based on the nature of the SWM system and the distance to the nearest surface water receiver, the risk for surface water impact is low and as such, I would not have any concerns with the requested modifications to the effluent monitoring program proposed in Section 5 of the report. However, the decision to accept or not accept the requested modifications should be made by the Technical Support Section Groundwater Unit since the SWM system discharges to an infiltration gallery and groundwater is the primary receptor. As such, the report should also be reviewed by a Technical Support Section Hydrogeologist

I trust that these comments are sufficient for your purposes. Should you have any questions or require additional information, please feel free to contact me at (905) 521-7625 or [maria.lucchese@ontario.ca](mailto:maria.lucchese@ontario.ca).

[original signed by]

---

Maria Lucchese, M.Sc.  
Surface Water Specialist

cc: Belinda Koblik, Supervisor, Water Resources Unit  
Michael Spencer, Surface Water Group Leader

### **Limitations**

*The purpose of the preceding review is to provide advice to the Ministry of the Environment Conservation and Parks regarding surface water conditions based on a review of the information provided in the above referenced documents. The conclusions, opinions and recommendations of the reviewer are based on information provided by others, except where otherwise specifically noted. The Ministry cannot guarantee that the information that is provided by others is accurate or complete. A lack of specific comment by the reviewer is not to be construed as endorsing the content or views expressed in the reviewed material.*

## ***Memorandum***

Date: February 14, 2020

To: Kevin Noll, Senior Environmental Officer  
West Central Region, Guelph District Office

From: Nadia Marengo, Regional Hydrogeologist  
Water Unit, Technical Support Section, West Central Region

**Re: 2019 Environmental Monitoring and Reporting, Environmental Compliance Approval (ECA) No. 9772-8Y4KKJ, Brant 403 Business Park Stormwater Management Facility, County of Brant.**

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I've reviewed the following report and provided comments and recommendations from a groundwater perspective:

1. Stantec Consulting Ltd., December 11, 2019. 2019 Environmental Monitoring and Reporting, Environmental Compliance Approval (ECA) No. 9772-8Y4KKJ, Brant 403 Business Park Stormwater Management Facility, County of Brant.

I have been involved with this site in the past and previously provided comments and recommendations from a groundwater perspective on the following report in a memo dated January 24, 2012. That was my last involvement with this site until now.

2. LVM Inc., April 1, 2011. Brant Business Park, Rest Acres Road, County of Brant, Ontario, Scoped Hydrogeology Study Report.

## **Background**

This section includes information summarized from the above reports, as well as information from our own Ministry's sources with respect to the local physical and geological setting, land uses, natural features and groundwater uses in the vicinity of the site.

The Corporation of the County of Brant owns a stormwater management (SWM) facility at the Brant 403 Business Park (UTMs 550449mE 4778317mN), a 69.5ha light industrial complex located west of Rest Acres Road between Highway 403 and Bethel Road, south of Paris. The facility is approved under Environmental Compliance Approval (ECA) No. 9772-8Y4KKJ dated November 2012. Condition 6 of the ECA requires monitoring and reporting of the facility, which must be

completed by the County. Stantec was retained by the County to complete the above annual report in accordance with Condition 6(5) of the ECA.

The onsite facility collects, treats, and disposes of stormwater runoff and provides an enhanced level of water quality control with a long-term average removal of 80% total suspended solids (TSS), erosion protection, and attenuation of post-development peak flow rates to pre-development levels for storm events up to and including the 100-year storm event. It is a designed wet pond that receives runoff from storm sewer and overland flow on Adi Dassler Way and Folsetter Drive. The pond is lined with bentonite clay and has a total storage volume of 68,906m<sup>3</sup>. West of the pond is a subsurface infiltration gallery. Under normal operating conditions, the pond discharges to the infiltration gallery with an estimated infiltration rate into the subsurface of 100mm/hour. An overflow weir at the east end of the pond discharges water during major storm events across Rest Acres Road which ultimately flows overland to the Grand River, approximately (c.) 1.5km to the east. As per Conditions 6(2) and 6(3) of the ECA, the County is required to obtain a grab sample of the surface water effluent from the facility's main cell, prior to discharge to the infiltration gallery every 3 months (i.e., quarterly) for E.coli, total coliform, total kjeldahl nitrogen (TKN), TSS, total metals (aluminum, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, molybdenum, nickel, silver, thallium, vanadium and zinc), dissolved metals (aluminum), total oil and grease, as well as benzene, ethylbenzene, toluene and total xylenes (BTEX). In 2019, this sampling was conducted in March, June, September, and October. This monitoring has been ongoing since 2013.

Surrounding land uses are mixed agricultural, residential, and industrial/commercial. The Reid Pit is located to the south of the site. According to the Ontario Geological Survey (OGS) maps MRD126 and MRD128-REV, the surficial and bedrock geology at locations immediately beneath and around the site consist of low to medium permeability glacial deposits of stony silty sand till, with higher permeability deposits of sand and gravelly sand to the southwest above dolostone bedrock of the Salina Formation. According to the 2011 report, slug tests that were conducted at monitoring wells screened in the saturated sand deposits between c. 2 and 12mbgs indicated hydraulic conductivities of 10<sup>-6</sup> to 10<sup>-4</sup>m/sec. Our Ministry's Water Well Information System (WWIS) indicates that there are several water well records (WWRs) within an c. 500m radius of the site, most of which appear to be used for domestic and municipal water supply purposes, or observation purposes (monitoring wells, test holes). There are also a large number that have been abandoned. These WWRs generally corroborate the OGS mapping. The WWRs indicate that the depth to bedrock appears to be over c. 40mbgs in the general area.

An overburden groundwater source appears to be the main source of domestic and municipal water in the vicinity of the site. According to our WWIS, the large majority of domestic water supply wells mapped in the surrounding area appear to be cased between 6 and 40mbgs in a saturated sand or sand and gravel unit. According to the groundwater elevations at the time of well completion, the overburden aquifer appears to be under unconfined or confined conditions depending on the location. In other words, the confining layer, wherever present, doesn't appear to be consistent or continuous in the vicinity of the site. The shallow groundwater flow direction beneath the property was previously assessed as easterly, towards the Grand River, which mimics the local topography. The vast majority of local domestic water supply wells in and around the site appear to be located upgradient of the SWM facility. There appear to be no domestic water supply wells in the inferred

direction of groundwater flow immediately downgradient from the facility. According to our Environmental Atlas, the closest domestic water supply well (i.e., A170000) appears to be located c. 150m to the southwest of the facility, in the opposite direction of the inferred direction of groundwater flow and is cased over 17mbgs.

According to our Environmental Atlas, the facility is located in the wellhead protection area B (WHPA-B) of the County's 4 municipal water supply wells P51 to P54, meaning a pollutant released in this area could reach the municipal wells within two years under normal pumping conditions. The wells are over c. 200m to the south of the facility, in a cross-gradient direction to the inferred direction of groundwater flow. These wells appear to be cased over c. 20mbgs. Condition 9 of the ECA is in place to ensure that the works will conform to the significant threat policies in the Source Protection Plan.

Condition 6(6) allows for a review of the monitoring program after 5 years of data has been collected. Stantec's proposed revisions to the ECA include the following:

- a. a reduction in the sampling frequency from quarterly to semi-annually (in the spring and fall); and the
- b. removal of the following parameters from the sampling program, i.e., E.coli, total coliform, TKN, total oil and grease, BTEX.

In addition to the above, they've proposed the implementation of immediate confirmatory grab sampling for total oil and grease and BTEX parameters in the event of a visible film, sheen or foam is observed in the effluent, and continued sampling at 1-month intervals thereafter. According to Stantec, this recommendation was included given that it wasn't clear if this was already included in the Spill Contingency and Pollution Prevention Plan.

Under normal circumstances, the main point of comparison in assessing potential impacts to groundwater from infiltration facilities is Guideline B-7 ("Reasonable Use") and Procedure B-7-1. The determination of reasonable use criteria requires the use of the ODWS (revised June 2006). The ODWS for the parameters prescribed in the ECA are as follows: E.coli (maximum acceptable concentration (MAC) of not detectable), total coliform (MAC of not detectable), total kjeldahl nitrogen (TKN) (no value), total suspended solids (TSS) (no value), total aluminum (no value), dissolved aluminum (operational guideline (OG) of 0.1mg/L), beryllium (no value), boron (MAC of 5.0mg/L), cadmium (MAC of 0.005mg/L), chromium (MAC of 0.05mg/L), cobalt (no value), copper (aesthetic objective (AO) of 1.0mg/L), iron (AO of 0.3mg/L), lead (MAC of 0.01mg/L), molybdenum (no value), nickel (no value), silver (no value), thallium (no value), vanadium (no value), zinc (AO of 5.0mg/L), total oil and grease (no value), benzene (MAC of 0.005mg/L), ethylbenzene (AO of 0.0024mg/L), toluene (AO of 0.024mg/L) and xylenes (AO of 0.3mg/L).

## Comments and Recommendations

Please note that this review doesn't include an exhaustive auditing of the accuracy of the reported data presented in the above report, nor does it include an assessment with respect to compliance with the ECA. You've requested a review of the monitoring report to evaluate the appropriateness of the proposed monitoring program amendments. Other than describing the nature of the geological setting in and around the site in very general terms, the subject report provides no groundwater data or information for my review. Nevertheless, in light of the proposed ECA amendments, and to respond to your review request, I've reviewed the effluent water quality results to ascertain if the proposed amendments could have a negative impact to the water supply aquifer and local groundwater users in the vicinity of the site. Any issues related to surface water impacts or source water protection and its policies are beyond the scope of my review. This section presents a list of groundwater-related comments and concerns outlined during this review. A list of recommendations, when applicable, is also provided.

1. Based on the report, the site-specific groundwater monitoring wells that were once in place onsite to estimate groundwater elevations and saturated hydraulic conductivities, were not used from 2013 to 2019 for groundwater quality sampling purposes to assess the potential for unacceptable impacts to the groundwater water supply aquifer via discharge to the subsurface infiltration gallery, or via potential leakage from the pond (not that the report indicates that the pond is leaking or the bentonite clay liner's integrity has been compromised in some way) despite discharge to the subsurface. This type of sampling was not required by the ECA. It isn't clear if these monitoring wells still exist or if they've been abandoned in accordance with O. Reg. 903 (as amended). Any groundwater monitoring wells that are in a state of disrepair or are no longer in use, and intend not to be used in the future, should be appropriately decommissioned in accordance with O. Reg. 903 (as amended).
2. The ECA doesn't set any standards, limits or objectives, groundwater-related or otherwise, with which to compare against the facility's effluent quality, nor does it set groundwater monitoring and sampling requirements, despite effluent infiltration into the subsurface. In 2019, as in previous years from 2013 to 2018, effluent samples were collected for effluent quality analyses prior to discharge to the infiltration gallery as required by the ECA. The sample results were compared to PWQOs and Canadian Environmental Quality Guidelines (CEQGs). Given that the effluent is discharged to the subsurface via the infiltration gallery, a comparison of the effluent quality should have been done against relevant groundwater quality standards, limits or objectives. As stated above, under normal circumstances, the main point of comparison in assessing potential impacts to groundwater from infiltration facilities is Guideline B-7 ("Reasonable Use") and Procedure B-7-1. In the absence of these criteria, the effluent quality should have been compared to ODWS (revised June 2006). As documented above in the Background section of this memo, a number of the parameters sampled in the effluent in accordance with the requirements of the ECA have no ODWS. That said, there are relevant GW1 Table 2 standards based on the potential exposure pathway due to the ingestion of potable groundwater for most of those parameters without relevant ODWS (e.g., beryllium, cobalt, molybdenum, nickel, *silver (GW3)*, thallium and vanadium). For those parameters, the quality

of the effluent should have been compared against these Table 2 standards in coarse textured soils.

3. For those effluent parameters with ODWS or relevant Table 2 standards, the 2019 effluent quality results, as was the case for the historical results from 2013 to 2018, were fairly innocuous. With exception of the March 2019 effluent sample that had an ODWS exceedance of total coliform (11 cfu/100mL) only (not E.coli, 0 cfu/100mL), the remaining June, September and October 2019 effluent samples had ODWS exceedances of both total coliform (5000, 6200, and 2400 cfu/100mL) and E.coli (2, 2, and 46 cfu/100mL). These are health-related parameters in groundwater. In addition, the June 2019 effluent sample had a low-level concentration exceedance of total iron (0.33 mg/L). Iron is not a health-related parameter. A review of the historical data between 2013 and 2018 indicates that there were previous ODWS exceedances on a consistent basis for iron, E.coli and total coliforms, but no other parameter exceedances of either ODWS or the GW1 (*GW3 in the case of silver*) Table 2 standards. With exception of the September 2019 total coliform sample concentration, the remaining total coliform sample concentrations from 2013 to 2019 were equal to or less than the background total coliform sample concentration. It isn't clear where this background sample was obtained. Representative background concentrations were not provided for any of the other parameters. Given the surface nature of these samples, these slightly higher bacterial concentrations aren't unexpected. That said, dilution, dispersion and attenuation effects should further reduce these concentrations in the subsurface. Given that the measured effluent quality results have been generally innocuous over the last 7 years, they aren't likely to present a significant threat to the local water supply aquifer, any downgradient groundwater users, of which there appear to be none present, or the municipal wells, which are over 200m from the infiltration pond, in a cross-gradient direction.
4. As for the proposed modifications to the monitoring and sampling program, the recommended changes are not groundwater related and are therefore out of scope. But in my opinion, given that TKN and oil and grease have no ODWS or relevant Table 2 standards, E.coli and BTEX concentrations have been low (ranging between 0 and 140 cfu/100mL) and non-detect from 2013 to 2019, respectively, and the total coliform concentrations have generally been less than the measured background concentrations, the proposal to exclude these parameters doesn't appear to be unreasonable from a potential groundwater impact perspective. The reduction in sampling frequency doesn't appear to be unreasonable given the results observed to date and the low potential for impact to groundwater. And finally, the recommendation to grab immediate confirmatory samples for total oil and grease and BTEX parameters in the event of a visible film, sheen or foam is observed in the effluent, and continue this sampling at 1-month intervals thereafter, is also not unreasonable.

Should you have any further questions or comments, please feel free to contact me at 905.521.7640 or Nadia.Marenco@ontario.ca



Nadia Marenco

cc: B. Koblik

***Limitations:***

*The purpose of the preceding review is to provide advice to the Ministry regarding subsurface conditions based on a review of the information provided in the above referenced document(s). The conclusions, opinions and recommendations of the reviewer are based on information provided by others. The Ministry cannot guarantee that the information that has been provided by others is accurate or complete. A lack of specific comment by the reviewer is not to be construed as endorsing the content or views expressed in the reviewed material.*

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July 29, 2023

## MEMORANDUM

To: Kevin Knoll  
Environmental Officer  
Guelph District Office

From: Maisa Fumagalli  
Surface Water Specialist  
Technical Support Section

RE: Surface Water Review- Brant 403 Business Park Stormwater Management Facility  
Request Reference Number: 1-146487775

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In preparation of this memorandum, I have reviewed the following reports:

1. Report dated December 11, 2019, "2022 Environmental Monitoring Report, Environmental Compliance Approval (ECA) No. 9772-8Y4KKJ, Brant 403 Business Park Stormwater Management Facility, County of Brant", signed by Rebecca Warrack, P.Eng. Project Engineer, Earth & Environment, WSP Canada Inc.
2. MECP groundwater review, dated February 14, 2020, by Nadia Marengo, Regional Hydrogeologist, Technical Support Section, West Central Region.

## Background

The Corporation of the County of Brant owns a stormwater management (SWM) facility at the Brant 403 Business Park (UTMs 550449 E 4778317 N), a 69.5ha light industrial complex located west of Rest Acres Road between Highway 403 and Bethel Road, south of Paris.

The site is in the Lower Grand River watershed. Overland flow and shallow groundwater flow follow local topography and flow easterly, towards the Grand River. Surrounding land uses are mixed agricultural, residential, and industrial/commercial.

The facility is approved under Environmental Compliance Approval (ECA) No. 9772-8Y4KKJ dated November 2012. Condition 6 of the ECA requires monitoring and reporting of the facility, which must be completed by the County. Stantec was retained by the County to complete the above annual report in accordance with Condition 6(5) of the ECA.

The onsite facility collects, treats, and disposes of stormwater runoff and provides an enhanced level of water quality control with a long-term average removal of 80% total suspended solids (TSS), erosion protection, and attenuation of post-development peak flow rates to pre-development levels for storm events up to and including the 100-year storm event. It is a designed wet pond that receives runoff from storm sewer and overland flow on Adi Dassler Way and Folsetter Drive. The pond is lined with bentonite clay and has a total storage volume of 68,906m<sup>3</sup>. West of the pond is a subsurface infiltration gallery. Under normal operating conditions, the pond discharges to the infiltration gallery with an estimated infiltration rate into the subsurface of 100mm/hour. An overflow weir at the east end of the pond discharges water during major storm events across Rest Acres Road which ultimately flows overland to the Grand River, approximately 1.5 km to the east.

Per Conditions 6(2) and 6(3) of the ECA, the County is required to obtain a quarterly surface water effluent grab sample from the facility's main cell, prior to discharge to the infiltration gallery for E.coli, total coliform, total kjeldahl nitrogen (TKN), TSS, total metals (aluminum, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, molybdenum, nickel, silver, thallium, vanadium and zinc), dissolved metals (aluminum), total oil and grease, as well as benzene, ethylbenzene, toluene and total xylenes (BTEX). This monitoring has been ongoing since 2013. Since mid-2019, sampling also includes sodium and chloride, though not required by the ECA. In 2022, Samples were collected on March 22, June 10, September 21, and November 2, 2022.

### **Results and Requested Changes:**

In 2022, there were 3 sample results above detection limits for oil and grease (of 0.67 mg/L, 0.57 mg/L and 1.5 mg/L for March, June, November, respectively). These were not noted to exceed the PWQO's qualitative visual/olfactory limits. Iron exceeded the PWQO in March (0.349 mg/l over PWQO of 0.300 mg/L). Field pH values exceeded the PWQO range in March and June (8.74 and 9.87, respectively) and were explained as potentially due to drier than normal conditions in 2020-2022. Chloride exceeded the CEQG but is noted to be likely caused by road salt and is not a required ECA parameter. The 2022 water quality was reportedly generally consistent with historical results.

Condition 6(6) allows for a review of the monitoring program after 5 years of data has been collected. The proposed revisions include:

1. Reduce the sampling frequency from quarterly to semi-annually (in the spring and fall)
2. The removal of the following parameters from the sampling program; E. coli, total coliform, TKN, total oil and grease, BTEX
3. If not already included in the Spill Contingency and Pollution Prevention Plan, implementing a procedure of an immediate confirmatory grab sample for total oil and

grease and BTEX parameters in the event of a visible film, sheen or foam is observed in the effluent, and continued sampling at 1-month intervals thereafter to confirm concentrations return to historical normals

### **Surface Water Comments and Recommendations:**

1. Summary: Overall, occasional minor PWQO/CEQG exceedances for field pH, chloride and iron were reported in 2022. Overall, sampling results from 2022 were generally consistent with historic results, with no discernable increasing or decreasing trends.
2. From a surface water perspective, given the historic data, it is reasonable to proceed with amending the ECA and monitoring program with the 3 proposed changes above. This review also relies on the ministry's groundwater review, dated February 14, 2020, by Nadia Marenco, Regional Hydrogeologist, Technical Support Section, West Central Region. The review was based on the 2019 Environmental Monitoring and Reporting results which also included the same request to reduce monitoring. The MECP review noted potential data gaps as there is minimal groundwater monitoring despite the effluent infiltrating into the subsurface. However, it concluded based on the available data results did not appear to be unreasonable. I defer to the groundwater group for additional comment.

I have no further surface water concerns with the monitoring results and the proposed changes. A copy of this memo should be included in any ECA amendment application.

Should you have any questions, comments, or require additional information, please do not hesitate to contact me at [maisa.fumagalli@ontario.ca](mailto:maisa.fumagalli@ontario.ca).

Regards,



Maisa Fumagalli  
Surface Water Specialist  
Technical Support Section

cc: Hugh Geurts, Surface Water Group Leader  
Sarah Day, TSS Supervisor

*Limitations: The purpose of the preceding review is to provide advice to the Ministry of the Environment, Conservation and Parks regarding surface water impacts based on a review of the information provided in the above referenced documents. The conclusions, opinions and recommendations of the reviewer are based on information provided by others, except where otherwise noted. The Ministry cannot guarantee that the information that is provided by others is accurate or complete. A lack of specific comment by the reviewer is not to be construed as endorsing the content or views expressed in the reviewed material.*

**APPENDIX C**

**2024 and Historical Analytical  
Results**

**Table C-1: Summary of 2024 Analytical Results - Surface Water Quality Objectives  
Brant 403 Business Park**

| Parameter                | Units     | Surface<br>Water<br>Criterion | Criterion<br>Source | SWM_Pond  |          |           |           |
|--------------------------|-----------|-------------------------------|---------------------|-----------|----------|-----------|-----------|
|                          |           |                               |                     | 14-Mar-24 | 6-Jun-24 | 16-Sep-24 | 31-Oct-24 |
| Field Parameters         |           |                               |                     |           |          |           |           |
| pH                       | pH units  | 6.5 - 8.5                     | PWQO                | 8.33      | 8.56     | 7.74      | 8.02      |
| Electrical Conductivity  | µS/cm     | nc                            |                     | 1381      | 686      | 439       | 527       |
| Temperature              | °C        | nc                            |                     | 8.6       | 23.5     | 21.9      | 14.0      |
| General Chemistry        |           |                               |                     |           |          |           |           |
| Chloride                 | mg/L      | 120                           | CEQG                | 471       | 204      | 88.0      | 105       |
| Total Suspended Solids   | mg/L      | 25                            | CEQG <sup>A</sup>   | 12        | <10      | <10       | <10       |
| Total Kjeldahl Nitrogen  | mg/L      | nc                            |                     | 0.38      | <0.10    | <0.10     | <0.10     |
| Metals                   |           |                               |                     |           |          |           |           |
| Dissolved Aluminum       | mg/L      | 0.075 <sup>B</sup>            | PWQO*               | 0.012     | 0.012    | 0.010     | 0.004     |
| Aluminum                 | mg/L      | nc                            |                     | 0.235     | 0.099    | 0.068     | 0.025     |
| Beryllium                | mg/L      | 1.1 <sup>C</sup>              | PWQO                | <0.001    | <0.001   | <0.001    | <0.001    |
| Boron                    | mg/L      | 0.2                           | PWQO*               | 0.015     | 0.018    | 0.023     | 0.017     |
| Cadmium                  | mg/L      | 0.0002                        | PWQO                | <0.0001   | <0.0001  | <0.0001   | <0.0001   |
| Chromium                 | mg/L      | 0.0089 <sup>D</sup>           | PWQO                | <0.003    | <0.003   | <0.003    | <0.003    |
| Cobalt                   | mg/L      | 0.0009                        | PWQO*               | <0.0005   | <0.0005  | <0.0005   | <0.0005   |
| Copper                   | mg/L      | 0.005                         | PWQO                | 0.009     | <0.002   | <0.002    | <0.002    |
| Iron                     | mg/L      | 0.300                         | PWQO                | 0.713     | 0.230    | 0.213     | 0.064     |
| Lead                     | mg/L      | 0.005 <sup>E</sup>            | PWQO*               | 0.0018    | <0.0005  | <0.0005   | <0.0005   |
| Molybdenum               | mg/L      | 0.040                         | PWQO*               | <0.002    | <0.002   | 0.003     | <0.002    |
| Nickel                   | mg/L      | 0.025                         | PWQO                | <0.003    | <0.003   | <0.003    | <0.003    |
| Silver                   | mg/L      | 0.0001                        | PWQO                | <0.0001   | <0.0001  | <0.0001   | <0.0001   |
| Sodium                   | mg/L      | nc                            |                     | 317       | 137      | 68.0      | 62.4      |
| Thallium                 | mg/L      | 0.0003                        | PWQO*               | <0.0003   | <0.0003  | <0.0003   | <0.0003   |
| Vanadium                 | mg/L      | 0.006                         | PWQO*               | <0.002    | <0.002   | <0.002    | <0.002    |
| Zinc                     | mg/L      | 0.020                         | PWQO*               | 0.054     | <0.020   | <0.020    | <0.020    |
| Organic Parameters       |           |                               |                     |           |          |           |           |
| Benzene                  | µg/L      | 100                           | PWQO*               | <0.20     | <0.20    | <0.20     | <0.20     |
| Toluene                  | µg/L      | 0.8                           | PWQO*               | <0.20     | <0.20    | <0.20     | <0.20     |
| Ethylbenzene             | µg/L      | 8                             | PWQO*               | <0.10     | <0.10    | <0.10     | <0.10     |
| Xylenes, m & p-          | µg/L      | 32                            | PWQO*               | <0.20     | <0.20    | <0.20     | <0.20     |
| Xylenes, o-              | µg/L      | 40                            | PWQO*               | <0.10     | <0.10    | <0.10     | <0.10     |
| Xylenes, Total           | µg/L      | nc                            |                     | <0.20     | <0.20    | <0.20     | <0.20     |
| Total Oil and Grease     | mg/L      | **                            | PWQO                | <0.5      | 0.92     | 0.51      | 1.06      |
| Microbiological Analysis |           |                               |                     |           |          |           |           |
| E. Coli                  | CFU/100mL | nc                            |                     | 4         | 600      | 43        | 122       |
| Background Colony Count  | CFU/100mL | nc                            |                     | 26,000    | 46,000   | 47,000    | 4,900     |
| Total Coliforms          | CFU/100mL | nc                            |                     | 2,000     | 7,000    | 20,000    | 19,900    |

**Notes:**

- PWQO - Provincial Water Quality Objectives (July 1994 with updates).
- CEQG - Canadian Environmental Quality Guidelines - Water Quality for the Protection of Aquatic Life, Freshwater, Long Term.
- Bold and shading indicates an exceedance of the PWQO/CEQG criterion.
- nc - no PWQO/CEQG criterion available.
- \* indicates an interim PWQO.
- \*\* Oil and grease should not be present in concentrations that are detectable by visual/olfactory methods, or can form a deposit on shorelines
- <sup>A</sup> For "Clear Flow" - Maximum increase of 25 mg/L from background levels for short-term exposure; Maximum average increase of 5 mg/L for
- <sup>B</sup> PWQO for aluminum is dependent on pH. For pH >6.5 to 9.0, the interim PWQO is 0.075 mg/L based on total aluminum measured in clay-free san
- <sup>C</sup> PWQO for beryllium is dependent on hardness. For hardness >75 mg/L, PWQO is 1.1 mg/L.
- <sup>D</sup> PWQO for trivalent chromium shown. The PWQO for hexavalent chromium is 0.001 mg/L.
- <sup>E</sup> PWQO for lead is dependent on hardness. For hardness >80 mg/L, the interim PWQO is 0.005 mg/L.

**Table C-2: Summary of 2024 Analytical Results - Groundwater Quality Objectives  
Brant 403 Business Park**

| Parameter                | Units     | Groundwater<br>Criterion | Criterion<br>Source | SWM_Pond  |          |           |           |
|--------------------------|-----------|--------------------------|---------------------|-----------|----------|-----------|-----------|
|                          |           |                          |                     | 14-Mar-24 | 6-Jun-24 | 16-Sep-24 | 31-Oct-24 |
| Field Parameters         |           |                          |                     |           |          |           |           |
| pH                       | pH units  | 6.5 - 8.5 OG             | ODWQS               | 8.33      | 8.56     | 7.74      | 8.02      |
| Electrical Conductivity  | µS/cm     | nc                       |                     | 1381      | 686      | 439       | 527       |
| Temperature              | °C        | nc                       |                     | 8.6       | 23.5     | 21.9      | 14.0      |
| General Chemistry        |           |                          |                     |           |          |           |           |
| Chloride                 | mg/L      | 250 AO                   | ODWQS               | 471       | 204      | 88.0      | 105       |
| Total Suspended Solids   | mg/L      | nc                       |                     | 12        | <10      | <10       | <10       |
| Total Kjeldahl Nitrogen  | mg/L      | nc                       |                     | 0.38      | <0.10    | <0.10     | <0.10     |
| Metals                   |           |                          |                     |           |          |           |           |
| Dissolved Aluminum       | mg/L      | 0.1 OG                   | ODWQS               | 0.012     | 0.012    | 0.010     | 0.004     |
| Aluminum                 | mg/L      | nc                       |                     | 0.235     | 0.099    | 0.068     | 0.025     |
| Beryllium                | mg/L      | 0.004                    | Table 2             | <0.001    | <0.001   | <0.001    | <0.001    |
| Boron                    | mg/L      | 5.0 MAC                  | ODWQS <sup>A</sup>  | 0.015     | 0.018    | 0.023     | 0.017     |
| Cadmium                  | mg/L      | 0.005 MAC                | ODWQS <sup>A</sup>  | <0.0001   | <0.0001  | <0.0001   | <0.0001   |
| Chromium                 | mg/L      | 0.05 MAC                 | ODWQS <sup>A</sup>  | <0.003    | <0.003   | <0.003    | <0.003    |
| Cobalt                   | mg/L      | 0.0038                   | Table 2             | <0.0005   | <0.0005  | <0.0005   | <0.0005   |
| Copper                   | mg/L      | 1.0 AO                   | ODWQS               | 0.009     | <0.002   | <0.002    | <0.002    |
| Iron                     | mg/L      | 0.3 AO                   | ODWQS               | 0.713     | 0.230    | 0.213     | 0.064     |
| Lead                     | mg/L      | 0.01 MAC                 | ODWQS               | 0.0018    | <0.0005  | <0.0005   | <0.0005   |
| Molybdenum               | mg/L      | 0.070                    | Table 2             | <0.002    | <0.002   | 0.003     | <0.002    |
| Nickel                   | mg/L      | 0.100                    | Table 2             | <0.003    | <0.003   | <0.003    | <0.003    |
| Silver                   | mg/L      | 0.0015                   | Table 2             | <0.0001   | <0.0001  | <0.0001   | <0.0001   |
| Sodium                   | mg/L      | 200 AO                   | ODWQS               | 317       | 137      | 68.0      | 62.4      |
| Thallium                 | mg/L      | 0.002                    | Table 2             | <0.0003   | <0.0003  | <0.0003   | <0.0003   |
| Vanadium                 | mg/L      | 0.0062                   | Table 2             | <0.002    | <0.002   | <0.002    | <0.002    |
| Zinc                     | mg/L      | 5.0 AO                   | ODWQS               | 0.054     | <0.020   | <0.020    | <0.020    |
| Organic Parameters       |           |                          |                     |           |          |           |           |
| Benzene                  | µg/L      | 1 MAC                    | ODWQS               | <0.20     | <0.20    | <0.20     | <0.20     |
| Toluene                  | µg/L      | 2.4 AO / 60 MAC          | ODWQS               | <0.20     | <0.20    | <0.20     | <0.20     |
| Ethylbenzene             | µg/L      | 1.6 AO / 140 MAC         | ODWQS               | <0.10     | <0.10    | <0.10     | <0.10     |
| Xylenes, m & p-          | µg/L      | nc                       |                     | <0.20     | <0.20    | <0.20     | <0.20     |
| Xylenes, o-              | µg/L      | nc                       |                     | <0.10     | <0.10    | <0.10     | <0.10     |
| Xylenes, Total           | µg/L      | 20 AO / 90 MAC           | ODWQS               | <0.20     | <0.20    | <0.20     | <0.20     |
| Total Oil and Grease     | mg/L      | nc                       |                     | <0.5      | 0.92     | 0.51      | 1.06      |
| Microbiological Analysis |           |                          |                     |           |          |           |           |
| E. Coli                  | CFU/100mL | ND MAC                   | ODWQS               | 4         | 600      | 43        | 122       |
| Background Colony Count  | CFU/100mL |                          |                     | 26,000    | 46,000   | 47,000    | 4,900     |
| Total Coliforms          | CFU/100mL | ND MAC                   | ODWQS               | 2,000     | 7,000    | 20,000    | 19,900    |

**Notes:**

- ODWQS - Ontario Drinking Water Quality Standards (June 2006).
- Table 2 - Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, from *Soil, ground water and sediment standards for use under Part XV.1 of the Environmental Protection Act*, July 2011
- Bold and shading indicates an exceedance of the ODWQS/Table 2 criterion.
- nc - no ODWQS/Table 2 criterion available.
- ND - not detectable
- MAC - Maximum Acceptable Concentration, AO - Aesthetic Objective, OG - Operational Guideline

**Table C-3: Historic Analytical Results**  
**Brant 403 Business Park**

| Sample Location | Sample Date | Parameter: | Field Parameters |                         |                      |             | General Chemistry |                        |                         | Metals             |          |           |        |         |
|-----------------|-------------|------------|------------------|-------------------------|----------------------|-------------|-------------------|------------------------|-------------------------|--------------------|----------|-----------|--------|---------|
|                 |             |            | pH               | Electrical Conductivity | Specific Conductance | Temperature | Chloride          | Total Suspended Solids | Total Kjeldahl Nitrogen | Dissolved Aluminum | Aluminum | Beryllium | Boron  | Cadmium |
|                 |             | Units:     | SU               | µS/cm                   | µS/cm                | °C          | mg/L              | mg/L                   | mg/L                    | mg/L               | mg/L     | mg/L      | mg/L   | mg/L    |
| SWM_Pond        | 8-Mar-13    |            |                  |                         |                      |             |                   | <10                    | 1.4                     |                    | 0.91     | <0.0005   | <0.01  | <0.0001 |
|                 | 6-Jun-13    |            |                  |                         |                      |             |                   | 16                     | 1.1                     |                    | 0.74     | <0.0005   | 0.014  | <0.0001 |
|                 | 5-Sep-13    |            |                  |                         |                      |             |                   | <10                    | 0.69                    |                    | 0.13     | <0.0005   | 0.016  | <0.0001 |
|                 | 21-Nov-13   |            |                  |                         |                      |             |                   | 41                     | 1.4                     |                    | 2.5      | <0.0005   | <0.01  | <0.0001 |
|                 | 18-Mar-14   |            | 7.76             |                         | 338                  | 2.0         |                   | 17                     | 0.92                    |                    | 0.86     | <0.0005   | <0.01  | <0.0001 |
|                 | 13-Jun-14   |            | 9.49             |                         | 168                  | 22.8        |                   | 11                     | 1                       |                    | 0.19     | <0.0005   | 0.011  | <0.0001 |
|                 | 25-Aug-14   |            | 8.64             | 187.6                   | 186.3                | 25.4        |                   | 12                     | 1.8                     |                    | 0.18     | <0.0005   | 0.024  | <0.0001 |
|                 | 7-Nov-14    |            |                  |                         | 256                  | 7.2         |                   | <10                    | 1.2                     |                    | 0.23     | <0.0005   | 0.036  | <0.0001 |
|                 | 05-Feb-15   |            | 8.07             |                         | 809                  | 0.0         |                   | <10                    | 1.9                     | 0.012              | 0.059    | <0.0005   | 0.018  | <0.0001 |
|                 | 06-May-15   |            | 7.87             |                         | 867                  | 17.5        |                   | 64                     | 0.5                     | 0.032              | 1.4      | <0.0005   | 0.013  | <0.0001 |
|                 | 05-Aug-15   |            | 9.54             |                         | 430                  | 24.9        |                   | 18                     | <0.5                    | <0.005             | 0.33     | <0.0005   | <0.01  | <0.0001 |
|                 | 04-Nov-15   |            | 7.54             |                         | 302                  | 11.3        |                   | <10                    | 0.26                    | 0.008              | 0.082    | <0.0005   | 0.011  | <0.0001 |
|                 | 03-Feb-16   |            | 8.44             |                         | 6600                 | 14.0        |                   | <10                    | 0.25                    | <0.005             | 0.065    | <0.0005   | <0.01  | <0.0001 |
|                 | 04-May-16   |            | 9.28             |                         | 655                  | 14.8        |                   | <10                    | 0.28                    | 0.027              | 0.093    | <0.0005   | 0.011  | <0.0001 |
|                 | 04-Aug-16   |            | 9.56             |                         | 1000                 | 28.4        |                   | 52                     | 0.42                    | 0.013              | 0.086    | <0.0005   | 0.012  | <0.0001 |
|                 | 09-Nov-16   |            | 9.51             |                         | 356                  | 9.6         |                   | <10                    | 0.17                    | 0.014              | 0.029    | <0.0005   | <0.01  | 0.00022 |
|                 | 27-Feb-17   |            | 7.85             |                         |                      | 4.9         |                   | 16                     | 0.2                     | <0.005             | 1.3      | <0.0005   | <0.01  | <0.0001 |
|                 | 19-May-17   |            | 8.03             |                         |                      | 18.7        |                   | <10                    | 0.29                    | 0.016              | 0.12     | <0.0005   | <0.01  | <0.0001 |
|                 | 15-Sep-17   |            | 9.10             |                         |                      | 20.0        |                   | <10                    | 0.26                    | 0.017              | 0.075    | <0.0005   | <0.01  | <0.0001 |
|                 | 24-Nov-17   |            | 8.42             |                         |                      | 4.3         |                   | <10                    | 0.19                    | 0.007              | 0.15     | <0.0005   | <0.01  | <0.0001 |
|                 | 28-Feb-18   |            | 9.19             |                         |                      | 4.1         |                   | <10                    | 0.17                    | 0.011              | 0.83     | <0.0005   | <0.01  | <0.0001 |
|                 | 30-May-18   |            | 8.89             |                         |                      | 23.4        |                   | <10                    | 0.21                    | 0.02               | 0.12     | <0.0005   | 0.011  | <0.0001 |
|                 | 19-Sep-18   |            | 7.99             |                         |                      | 20.4        |                   | <10                    | 0.26                    | 0.009              | 0.034    | <0.0005   | <0.01  | <0.0001 |
|                 | 01-Nov-18   |            | 8.72             |                         |                      | 7.3         |                   | <10                    | 0.22                    | 0.011              | 0.14     | <0.0005   | <0.01  | <0.0001 |
|                 | 19-Mar-19   |            | 9.23             |                         |                      | 0.7         |                   | <10                    | 0.37                    | 0.018              | 0.11     | <0.0005   | <0.01  | <0.0001 |
|                 | 05-Jun-19   |            | 8.21             |                         |                      | 18.6        |                   | <10                    | 0.24                    | 0.013              | 0.11     | <0.0005   | 0.017  | <0.0001 |
|                 | 20-Sep-19   |            | 8.14             |                         |                      | 18.6        | 57                | <10                    | 0.23                    | 0.007              | 0.026    | <0.0005   | 0.012  | <0.0001 |
|                 | 30-Oct-19   |            |                  |                         |                      |             | 63                | <10                    | 0.14                    | 0.01               | 0.087    | <0.0005   | <0.01  | <0.0001 |
|                 | 18-Mar-20   |            | 8.26             |                         |                      | 3.3         | 288               | <10                    | 0.28                    | 0.007              | 0.118    | <0.0005   | 0.017  | 0.0001  |
|                 | 19-May-20   |            | 8.10             |                         |                      | 12.1        | 140               | <10                    | 0.35                    | 0.014              | 0.459    | <0.001    | <0.010 | <0.0001 |
|                 | 16-Sep-20   |            | 8.56             |                         |                      | 18.1        | 62.0              | <10                    | 0.52                    | 0.012              | 0.03     | <0.001    | 0.186  | <0.0001 |
|                 | 22-Oct-20   |            | 7.55             |                         |                      | 10.9        | 44.3              | <10                    | 0.41                    | 0.005              | 0.103    | <0.001    | 0.024  | <0.0001 |
|                 | 25-Mar-21   |            | 9.63             |                         |                      | 11.9        | 371               | <10                    | 0.40                    | 0.014              | 0.052    | <0.001    | 0.016  | <0.0001 |
|                 | 9-Jun-21    |            | 10.12            |                         |                      | 26.5        | 202               | <10                    | 0.55                    | 0.026              | 0.100    | <0.001    | 0.021  | 0.0023  |
|                 | 17-Sep-21   |            | 7.66             |                         |                      | 21.4        | 41.5              | 79                     | 0.39                    | 0.025              | 0.119    | <0.001    | 0.025  | <0.0001 |
|                 | 2-Nov-21    |            | 7.48             |                         |                      | 8.2         | 32.3              | <10                    | 0.52                    | 0.010              | 0.055    | <0.001    | 0.011  | <0.0001 |
|                 | 22-Mar-22   |            | 8.74             | 934                     |                      | 6.6         | 254               | <10                    | 0.21                    | 0.007              | 0.280    | <0.001    | 0.014  | <0.0001 |
|                 | 10-Jun-22   |            | 9.87             | 931                     |                      | 21.2        | 184               | <10                    | 0.44                    | 0.009              | 0.047    | <0.001    | 0.016  | <0.0001 |
|                 | 21-Sep-22   |            | 8.37             | 386                     |                      | 21.4        | 71.1              | <10                    | 0.51                    | 0.052              | 0.036    | <0.001    | 0.011  | <0.0001 |
|                 | 2-Nov-22    |            | 7.74             | 488                     |                      | 14.7        | 89.1              | 18                     | 0.60                    | 0.011              | 0.116    | <0.001    | <0.010 | <0.0001 |
|                 | 22-Mar-23   |            | 7.64             | 1485                    |                      | 15.2        | 448               | 10                     | 0.32                    | 0.010              | 0.206    | <0.001    | 0.017  | <0.0001 |
|                 | 30-May-23   |            | 9.40             | 853                     |                      | 23.2        | 228               | <10                    | 0.34                    | 0.027              | 0.050    | <0.001    | 0.014  | 0.0006  |
|                 | 20-Sep-23   |            | 7.92             | 503                     |                      | 17.3        | 105               | <10                    | 0.37                    | 0.011              | 0.056    | <0.001    | 0.016  | <0.0001 |
|                 | 6-Nov-23    |            | 8.11             | 503                     |                      | 9.4         | 101               | <10                    | 0.27                    | <0.004             | 0.086    | <0.001    | 0.017  | <0.0001 |
|                 | 14-Mar-24   |            | 8.33             | 1381                    |                      | 8.6         | 471               | 12                     | 0.38                    | 0.012              | 0.235    | <0.001    | 0.015  | <0.0001 |
|                 | 6-Jun-24    |            | 8.56             | 686                     |                      | 23.5        | 204               | <10                    | <0.10                   | 0.012              | 0.099    | <0.001    | 0.018  | <0.0001 |
|                 | 16-Sep-24   |            | 7.74             | 439                     |                      | 21.9        | 88.0              | <10                    | <0.10                   | 0.010              | 0.068    | <0.001    | 0.023  | <0.0001 |
|                 | 31-Oct-24   |            | 8.02             | 527                     |                      | 14.0        | 105               | <10                    | <0.10                   | 0.004              | 0.025    | <0.001    | 0.017  | <0.0001 |

Notes: • blank indicates parameter not analyzed during sampling event

**Table C-3: Historic Analytical Results**  
**Brant 403 Business Park**

| Sample Location | Sample Date | Parameter: | Metals   |         |        |       |         |            |        |         |        |          |          |        |
|-----------------|-------------|------------|----------|---------|--------|-------|---------|------------|--------|---------|--------|----------|----------|--------|
|                 |             |            | Chromium | Cobalt  | Copper | Iron  | Lead    | Molybdenum | Nickel | Silver  | Sodium | Thallium | Vanadium | Zinc   |
|                 |             | Units:     | mg/L     | mg/L    | mg/L   | mg/L  | mg/L    | mg/L       | mg/L   | mg/L    | mg/L   | mg/L     | mg/L     | mg/L   |
| SWM_Pond        | 8-Mar-13    |            | <0.005   | <0.0005 | 0.0033 | 1.1   | 0.0016  | 0.00082    | 0.0012 | <0.0001 |        | <0.00005 | 0.0023   | 0.012  |
|                 | 6-Jun-13    |            | <0.005   | <0.0005 | 0.0037 | 0.95  | 0.00081 | 0.001      | 0.0013 | <0.0001 |        | <0.00005 | 0.0034   | 0.0068 |
|                 | 5-Sep-13    |            | <0.005   | <0.0005 | 0.0027 | 0.13  | <0.0005 | 0.0016     | 0.0013 | <0.0001 |        | <0.00005 | 0.0014   | 0.0089 |
|                 | 21-Nov-13   |            | <0.005   | 0.0015  | 0.008  | 4.2   | 0.0035  | 0.0011     | 0.0035 | <0.0001 |        | <0.00005 | 0.0056   | 0.024  |
|                 | 18-Mar-14   |            | <0.005   | <0.0005 | 0.0026 | 0.81  | 0.00073 | 0.00073    | <0.001 | <0.0001 |        | <0.00005 | 0.0021   | 0.056  |
|                 | 13-Jun-14   |            | <0.005   | <0.0005 | 0.0017 | 0.19  | <0.0005 | 0.0012     | <0.001 | <0.0001 |        | <0.00005 | 0.00069  | 0.0068 |
|                 | 25-Aug-14   |            | <0.005   | <0.0005 | 0.0016 | 0.44  | <0.0005 | 0.00095    | <0.001 | <0.0001 |        | <0.00005 | 0.0007   | <0.005 |
|                 | 7-Nov-14    |            | <0.005   | <0.0005 | 0.002  | 0.24  | <0.0005 | 0.00094    | <0.001 | <0.0001 |        | <0.00005 | 0.0009   | <0.005 |
|                 | 05-Feb-15   |            | <0.005   | <0.0005 | 0.0024 | 0.12  | <0.0005 | 0.001      | <0.001 | <0.0001 |        | <0.00005 | 0.00052  | 0.0073 |
|                 | 06-May-15   |            | <0.005   | 0.001   | 0.0044 | 2     | 0.0024  | 0.00096    | 0.0031 | <0.0001 |        | <0.00005 | 0.0039   | 0.0096 |
|                 | 05-Aug-15   |            | <0.005   | <0.0005 | 0.0018 | 0.52  | 0.00069 | 0.00081    | <0.001 | <0.0001 |        | <0.00005 | 0.0022   | <0.005 |
|                 | 04-Nov-15   |            | <0.005   | <0.0005 | 0.0015 | 0.2   | <0.0005 | <0.0005    | <0.001 | <0.0001 |        | <0.00005 | 0.00052  | <0.005 |
|                 | 03-Feb-16   |            | <0.005   | <0.0005 | <0.001 | <0.1  | <0.0005 | <0.0005    | <0.001 | <0.0001 |        | <0.00005 | <0.0005  | <0.005 |
|                 | 04-May-16   |            | <0.005   | <0.0005 | 0.0011 | 0.13  | <0.0005 | 0.00056    | <0.001 | <0.0001 |        | <0.00005 | 0.00066  | <0.005 |
|                 | 04-Aug-16   |            | <0.005   | <0.0005 | <0.001 | 0.17  | <0.0005 | 0.00084    | <0.001 | <0.0001 |        | <0.00005 | 0.0015   | <0.005 |
|                 | 09-Nov-16   |            | <0.005   | <0.0005 | <0.001 | <0.1  | <0.0005 | 0.00057    | <0.001 | <0.0001 |        | <0.00005 | <0.0005  | <0.005 |
|                 | 27-Feb-17   |            | <0.005   | <0.0005 | 0.0025 | 1.4   | 0.00094 | 0.00062    | 0.0012 | <0.0001 |        | <0.00005 | 0.0028   | 0.0089 |
|                 | 19-May-17   |            | <0.005   | <0.0005 | 0.0012 | 0.19  | <0.0005 | 0.00065    | <0.001 | <0.0001 |        | <0.00005 | 0.00078  | <0.005 |
|                 | 15-Sep-17   |            | <0.005   | <0.0005 | <0.001 | 0.16  | <0.0005 | 0.00061    | <0.001 | <0.0001 |        | <0.00005 | <0.0005  | <0.005 |
|                 | 24-Nov-17   |            | <0.005   | <0.0005 | 0.001  | 0.19  | <0.0005 | 0.00057    | <0.001 | <0.0001 |        | <0.00005 | 0.00076  | 0.0067 |
|                 | 28-Feb-18   |            | <0.005   | <0.0005 | 0.0031 | 1.2   | 0.0011  | <0.0005    | 0.0022 | <0.0001 |        | <0.00005 | 0.002    | 0.014  |
|                 | 30-May-18   |            | <0.005   | <0.0005 | 0.0018 | 0.42  | <0.0005 | 0.00063    | <0.001 | <0.0001 |        | <0.00005 | 0.00071  | 0.0068 |
|                 | 19-Sep-18   |            | <0.005   | <0.0005 | <0.001 | 0.1   | <0.0005 | 0.00058    | <0.001 | <0.0001 |        | <0.00005 | <0.0005  | <0.005 |
|                 | 01-Nov-18   |            | <0.005   | <0.0005 | <0.001 | 0.18  | <0.0005 | 0.00096    | <0.001 | <0.0001 |        | <0.00005 | 0.00061  | <0.005 |
|                 | 19-Mar-19   |            | <0.005   | <0.0005 | 0.0015 | 0.15  | <0.0005 | 0.00079    | 0.0013 | <0.0001 |        | <0.00005 | 0.00094  | 0.0055 |
|                 | 05-Jun-19   |            | <0.005   | <0.0005 | 0.0011 | 0.33  | <0.0005 | 0.00057    | <0.001 | <0.0001 |        | <0.00005 | <0.0005  | <0.005 |
|                 | 20-Sep-19   |            | <0.005   | <0.0005 | <0.001 | 0.11  | <0.0005 | 0.00058    | <0.001 | <0.0001 | 30     | <0.00005 | 0.00055  | <0.005 |
|                 | 30-Oct-19   |            | <0.005   | <0.0005 | <0.001 | 0.15  | <0.0005 | 0.00058    | <0.001 | <0.0001 | 32     | <0.00005 | <0.0005  | <0.005 |
|                 | 18-Mar-20   |            | <0.003   | <0.0005 | 0.001  | 0.237 | <0.001  | <0.002     | <0.003 | <0.0001 | 157.15 | <0.0003  | <0.002   | 0.008  |
|                 | 19-May-20   |            | <0.003   | <0.0005 | <0.002 | 0.5   | <0.001  | <0.002     | 0.008  | <0.0001 | 77.4   | <0.0003  | <0.002   | 0.006  |
|                 | 16-Sep-20   |            | <0.003   | <0.0005 | <0.002 | 0.171 | <0.001  | <0.002     | <0.003 | <0.0001 | 37.2   | <0.0003  | <0.002   | <0.005 |
|                 | 22-Oct-20   |            | <0.003   | <0.0005 | <0.002 | 0.138 | <0.001  | <0.002     | <0.003 | <0.0001 | 23.99  | <0.0003  | <0.002   | 0.006  |
|                 | 25-Mar-21   |            | <0.003   | <0.0005 | <0.002 | 0.104 | <0.001  | <0.002     | <0.003 | <0.0001 | 235    | <0.0003  | <0.002   | <0.005 |
|                 | 9-Jun-21    |            | <0.003   | <0.0005 | <0.002 | 0.259 | <0.001  | <0.002     | <0.003 | 0.0001  | 124    | <0.0003  | <0.002   | <0.005 |
|                 | 17-Sep-21   |            | <0.003   | <0.0005 | <0.002 | 0.196 | <0.001  | <0.002     | <0.003 | <0.0001 | 24.1   | <0.0003  | <0.002   | <0.005 |
|                 | 2-Nov-21    |            | <0.003   | <0.0005 | <0.002 | 0.159 | <0.001  | <0.002     | <0.003 | <0.0001 | 17.9   | <0.0003  | <0.002   | <0.020 |
|                 | 22-Mar-22   |            | <0.003   | <0.0005 | <0.002 | 0.349 | <0.001  | <0.002     | <0.003 | <0.0001 | 163    | <0.0003  | <0.002   | <0.020 |
|                 | 10-Jun-22   |            | <0.003   | <0.0005 | <0.002 | 0.208 | <0.001  | <0.002     | <0.003 | <0.0001 | 114    | <0.0003  | <0.002   | <0.020 |
|                 | 21-Sep-22   |            | <0.003   | <0.0005 | <0.002 | 0.058 | <0.001  | <0.002     | <0.003 | <0.0001 | 49.5   | <0.0003  | <0.002   | <0.020 |
|                 | 2-Nov-22    |            | <0.003   | <0.0005 | <0.002 | 0.254 | <0.001  | <0.002     | <0.003 | <0.0001 | 57.5   | <0.0003  | <0.002   | <0.020 |
|                 | 22-Mar-23   |            | <0.003   | 0.0005  | <0.002 | 0.311 | <0.001  | <0.002     | <0.003 | <0.0001 | 276    | <0.0003  | <0.002   | <0.020 |
|                 | 30-May-23   |            | <0.003   | <0.0005 | <0.002 | 0.202 | <0.001  | <0.002     | <0.003 | <0.0001 | 134    | <0.0003  | <0.002   | <0.020 |
|                 | 20-Sep-23   |            | <0.003   | <0.0005 | <0.002 | 0.199 | <0.001  | <0.002     | <0.003 | <0.0001 | 65.9   | <0.0003  | <0.002   | <0.020 |
|                 | 6-Nov-23    |            | <0.003   | <0.0005 | <0.002 | 0.081 | <0.001  | <0.002     | <0.003 | <0.0001 | 48.3   | 0.0004   | <0.002   | <0.020 |
|                 | 14-Mar-24   |            | <0.003   | <0.0005 | 0.009  | 0.713 | 0.0018  | <0.002     | <0.003 | <0.0001 | 317    | <0.0003  | <0.002   | 0.054  |
|                 | 6-Jun-24    |            | <0.003   | <0.0005 | <0.002 | 0.230 | <0.0005 | <0.002     | <0.003 | <0.0001 | 137    | <0.0003  | <0.002   | <0.020 |
|                 | 16-Sep-24   |            | <0.003   | <0.0005 | <0.002 | 0.213 | <0.0005 | 0.003      | <0.003 | <0.0001 | 68.0   | <0.0003  | <0.002   | <0.020 |
|                 | 31-Oct-24   |            | <0.003   | <0.0005 | <0.002 | 0.064 | <0.0005 | <0.002     | <0.003 | <0.0001 | 62.4   | <0.0003  | <0.002   | <0.020 |

Notes: • blank indicates parameter not analyzed during sampling event

**Table C-3: Historic Analytical Results**  
**Brant 403 Business Park**

| Sample Location | Sample Date | Parameter: | Organic Parameters |         |              |            |          |               | Microbiology       |                           |            |                         |                 |
|-----------------|-------------|------------|--------------------|---------|--------------|------------|----------|---------------|--------------------|---------------------------|------------|-------------------------|-----------------|
|                 |             |            | Benzene            | Toluene | Ethylbenzene | m&p-Xylene | o-Xylene | Total Xylenes | Total Oil & Grease | E. coli / Fecal Coliforms | E. coli    | Background Colony Count | Total Coliforms |
|                 |             | Units:     | µg/L               | µg/L    | µg/L         | µg/L       | µg/L     | µg/L          | mg/L               | cfu/100 mL                | cfu/100 mL | cfu/100 mL              | cfu/100 mL      |
| SWM_Pond        | 8-Mar-13    |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | <0.5               |                           | 12         | >2,000                  | >2,000          |
|                 | 6-Jun-13    |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | 0.7                |                           | 16         | >2,000                  | >2,000          |
|                 | 5-Sep-13    |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | <0.5               |                           | 18         | >2,000                  | >2,000          |
|                 | 21-Nov-13   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | <0.5               |                           | 38         | >2,000                  | >2,000          |
|                 | 18-Mar-14   |            | <0.2               | <0.4    | <0.2         | <0.2       | <0.2     | <0.2          | <0.5               |                           | 1          | >2,000                  | 170             |
|                 | 13-Jun-14   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | 0.9                |                           | 12         | 1,900                   | 62              |
|                 | 25-Aug-14   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | <0.5               |                           | 54         | >2,000                  | >2,000          |
|                 | 7-Nov-14    |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | <0.5               |                           | 54         | >2,000                  | >2,000          |
|                 | 05-Feb-15   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | 0.9                |                           | 0          | 36                      | 4               |
|                 | 06-May-15   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | 1.6                |                           | 0          | 480                     | 210             |
|                 | 05-Aug-15   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | <0.5               |                           | NDOGT      | NDOGT                   | NDOGT           |
|                 | 04-Nov-15   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | <0.5               |                           | NDOGT      | NDOGT                   | NDOGT           |
|                 | 03-Feb-16   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | <0.5               | NDOGT                     |            | NDOGT                   | NDOGT           |
|                 | 04-May-16   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | 1.6                | NDOGT                     |            | NDOGT                   | NDOGT           |
|                 | 04-Aug-16   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | <0.5               | NDOGT                     |            | NDOGT                   | NDOGT           |
|                 | 09-Nov-16   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | 0.7                | NDOGT                     |            | NDOGT                   | NDOGT           |
|                 | 27-Feb-17   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | 0.6                | NDOGT                     |            | NDOGT                   | NDOGT           |
|                 | 19-May-17   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | 1.3                | NDOGT                     |            | NDOGT                   | NDOGT           |
|                 | 15-Sep-17   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | 1.4                | NDOGT                     |            | NDOGT                   | NDOGT           |
|                 | 24-Nov-17   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | <0.5               | <10                       |            | 4,600                   | 430             |
|                 | 28-Feb-18   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | <0.5               | 0                         |            | 2,100                   | 360             |
|                 | 30-May-18   |            | <0.25              | <0.5    | <0.25        | <0.25      | <0.25    | <0.25         | 1.2                | 140                       |            | 140,000                 | 340             |
|                 | 19-Sep-18   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | <0.5               | 26                        |            | 23,000                  | 230             |
|                 | 01-Nov-18   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | <0.5               | <10                       |            | 5,300                   | 240             |
|                 | 19-Mar-19   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | <0.5               | 0                         |            | 63                      | 11              |
|                 | 05-Jun-19   |            | <0.5               | <1      | <0.5         | <0.5       | <0.5     | <0.5          | <0.5               | 2                         |            | 6,000                   | 5,000           |
|                 | 20-Sep-19   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | <0.5               | 2                         |            | 4,400                   | 6,200           |
|                 | 30-Oct-19   |            | <0.1               | <0.2    | <0.1         | <0.1       | <0.1     | <0.1          | 2.1                | 46                        |            | 12,000                  | 2,400           |
|                 | 18-Mar-20   |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | <0.5               |                           | 122        | 239                     | 18              |
|                 | 19-May-20   |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | 0.7                |                           | 15         | 2,200                   | 22,100          |
|                 | 16-Sep-20   |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | <0.5               |                           | 14         | 9,200                   | 500             |
|                 | 22-Oct-20   |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | 0.7                |                           | 27         | 8,500                   | 600             |
|                 | 25-Mar-21   |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | <0.5               |                           | 1          | 80                      | 55              |
|                 | 9-Jun-21    |            | <0.4               | <0.4    | <0.2         | <0.4       | <0.2     | <0.4          | 1.19               |                           | 100        | 1,800                   | 200             |
|                 | 17-Sep-21   |            | <0.40              | <0.40   | <0.20        | <0.40      | <0.20    | <0.20         | <0.5               |                           | 33         | 28,000                  | 800             |
|                 | 2-Nov-21    |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | <0.5               |                           | 14         | 400                     | 21              |
|                 | 22-Mar-22   |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | 0.67               |                           | 0          | 400                     | 10              |
|                 | 10-Jun-22   |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | 0.57               |                           | 28         | 700                     | 58              |
|                 | 21-Sep-22   |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | <0.5               |                           | 400        | 3,200                   | 1,000           |
|                 | 2-Nov-22    |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | 1.5                |                           | 79         | 125,000                 | 5,000           |
|                 | 22-Mar-23   |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | <0.5               |                           | 2          | 4,200                   | 200             |
|                 | 30-May-23   |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | 1.80               |                           | 100        | 57,000                  | 2,000           |
|                 | 20-Sep-23   |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | 0.95               |                           | 100        | 17,500                  | 300             |
|                 | 6-Nov-23    |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | 1.16               |                           | 6          | 7,500                   | 200             |
|                 | 14-Mar-24   |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | <0.5               |                           | 4          | 26,000                  | 2,000           |
|                 | 6-Jun-24    |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | 0.92               |                           | 600        | 46,000                  | 7,000           |
|                 | 16-Sep-24   |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | 0.51               |                           | 43         | 47,000                  | 20,000          |
|                 | 31-Oct-24   |            | <0.20              | <0.20   | <0.10        | <0.20      | <0.10    | <0.20         | 1.06               |                           | 122        | 4,900                   | 19,900          |

Notes: • blank indicates parameter not analyzed during sampling event

• NDOGT - "No Data: Overgrown with Target"

**APPENDIX D**

**2024 Laboratory Certificates of  
Analysis**

**CLIENT NAME: COUNTY OF BRANT**  
**26 PARK AVENUE P O BOX 160**  
**BURFORD, ON N0E 1A0**  
**519-449-2451**

**ATTENTION TO: MATT FREE**

**PROJECT: 403 BP Stormwater**

**AGAT WORK ORDER: 24T129765**

**MICROBIOLOGY ANALYSIS REVIEWED BY: Nivine Basily, Inorganic Team Lead**

**TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist**

**WATER ANALYSIS REVIEWED BY: Yris Verastegui, Inorganic Team Lead**

**DATE REPORTED: Mar 25, 2024**

**PAGES (INCLUDING COVER): 12**

**VERSION\*: 1**

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

\*Notes

**Disclaimer:**

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.
- For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.

# Certificate of Analysis

AGAT WORK ORDER: 24T129765

PROJECT: 403 BP Stormwater

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1Y2  
TEL (905)712-5100  
FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: BRANT BP SWM POND

ATTENTION TO: MATT FREE

SAMPLED BY: IAN LAWRENCE

**Total Coliforms & E.Coli and BCC (Using DC Agar)**

DATE RECEIVED: 2024-03-14

DATE REPORTED: 2024-03-25

SAMPLE DESCRIPTION: SW-1  
SAMPLE TYPE: Water  
DATE SAMPLED: 2024-03-14  
09:45  
5728354

| Parameter                         | Unit      | G / S | RDL   |
|-----------------------------------|-----------|-------|-------|
| Escherichia coli - DC Agar        | CFU/100mL | 100   | 4     |
| Total Coliforms - DC Agar         | CFU/100mL |       | 2000  |
| Background Colony Count - DC Agar | CFU/100mL |       | 26000 |

**Comments:** RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to PWQO \* Variable - refer to guideline reference document  
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

**5728354** Escherichia coli RDL = 1 CFU/100mL, Total Coliforms and Background Colony Count RDL = 1000 CFU/100mL.

RDL > 1 indicates dilutions of the sample.

Analysis performed at AGAT Toronto (unless marked by \*)

Certified By:





**AGAT** Laboratories

## Certificate of Analysis

AGAT WORK ORDER: 24T129765

PROJECT: 403 BP Stormwater

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1Y2  
TEL (905)712-5100  
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<http://www.agatlabs.com>

CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: BRANT BP SWM POND

ATTENTION TO: MATT FREE

SAMPLED BY: IAN LAWRENCE

### BTEX - Water - mg/L (P & T - GC/MS)

DATE RECEIVED: 2024-03-14

DATE REPORTED: 2024-03-25

|                      |      |                     |        |                     |
|----------------------|------|---------------------|--------|---------------------|
|                      |      | SAMPLE DESCRIPTION: |        | SW-1                |
|                      |      | SAMPLE TYPE:        |        | Water               |
|                      |      | DATE SAMPLED:       |        | 2024-03-14<br>09:45 |
| Parameter            | Unit | G / S               | RDL    | 5728354             |
| Benzene              | mg/L | 0.1                 | 0.0002 | <0.0002             |
| Toluene              | mg/L | 0.0008              | 0.0002 | <0.0002             |
| Ethylbenzene         | mg/L | 0.008               | 0.0001 | <0.0001             |
| m & p-Xylene         | mg/L | 0.032               | 0.0002 | <0.0002             |
| o-Xylene             | mg/L | 0.040               | 0.0001 | <0.0001             |
| Total Xylenes        | mg/L |                     | 0.0002 | <0.0002             |
| Surrogate            | Unit | Acceptable Limits   |        |                     |
| Toluene-d8           | %    | 50-140              |        | 101                 |
| 4-Bromofluorobenzene | %    | 50-140              |        | 83.0                |

**Comments:** RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to PWQO \* Variable - refer to guideline reference document  
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

**5728354** Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.  
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by \*)

Certified By:



**AGAT** Laboratories

## Certificate of Analysis

AGAT WORK ORDER: 24T129765

PROJECT: 403 BP Stormwater

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
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TEL (905)712-5100  
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<http://www.agatlabs.com>

CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: BRANT BP SWM POND

ATTENTION TO: MATT FREE

SAMPLED BY: IAN LAWRENCE

### Oil and Grease (Total) in Water

DATE RECEIVED: 2024-03-14

DATE REPORTED: 2024-03-25

SAMPLE DESCRIPTION: SW-1  
SAMPLE TYPE: Water  
DATE SAMPLED: 2024-03-14  
09:45  
5728354

| Parameter                     | Unit | G / S | RDL  |
|-------------------------------|------|-------|------|
| Total Oil and Grease in water | mg/L | 0.5   | <0.5 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Toronto (unless marked by \*)

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 24T129765

PROJECT: 403 BP Stormwater

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
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TEL (905)712-5100  
FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: BRANT BP SWM POND

ATTENTION TO: MATT FREE

SAMPLED BY: IAN LAWRENCE

### 403- BP Stormwater inorganics

DATE RECEIVED: 2024-03-14

DATE REPORTED: 2024-03-25

| SAMPLE DESCRIPTION: SW-1       |          |         |        |              |
|--------------------------------|----------|---------|--------|--------------|
| SAMPLE TYPE: Water             |          |         |        |              |
| DATE SAMPLED: 2024-03-14 09:45 |          |         |        |              |
| Parameter                      | Unit     | G / S   | RDL    | 5728354      |
| Chloride                       | mg/L     |         | 0.24   | 471          |
| Total Kjeldahl Nitrogen        | mg/L     |         | 0.10   | 0.38         |
| Total Suspended Solids         | mg/L     |         | 10     | 12           |
| Total Sodium                   | mg/L     |         | 0.10   | 317          |
| Aluminum-dissolved             | mg/L     | *       | 0.004  | 0.012        |
| Total Aluminum                 | mg/L     |         | 0.010  | 0.235        |
| Total Beryllium                | mg/L     | *       | 0.001  | <0.001       |
| Total Boron                    | mg/L     | 0.2     | 0.010  | 0.015        |
| Total Cadmium                  | mg/L     | 0.0002  | 0.0001 | <0.0001      |
| Total Chromium                 | mg/L     |         | 0.003  | <0.003       |
| Total Cobalt                   | mg/L     | 0.0009  | 0.0005 | <0.0005      |
| Total Copper                   | mg/L     | 0.005   | 0.002  | <b>0.009</b> |
| Total Iron                     | mg/L     | 0.3     | 0.050  | <b>0.713</b> |
| Total Lead                     | mg/L     | *       | 0.0005 | 0.0018       |
| Total Molybdenum               | mg/L     | 0.040   | 0.002  | <0.002       |
| Total Nickel                   | mg/L     | 0.025   | 0.003  | <0.003       |
| Total Silver                   | mg/L     | 0.0001  | 0.0001 | <0.0001      |
| Total Thallium                 | mg/L     | 0.0003  | 0.0003 | <0.0003      |
| Total Vanadium                 | mg/L     | 0.006   | 0.002  | <0.002       |
| Total Zinc                     | mg/L     | 0.030   | 0.020  | <b>0.054</b> |
| Digestion                      |          |         |        | Y            |
| Field Temperature              | Deg C    |         |        | 8.6          |
| Field pH                       | pH Units | 6.5-8.5 | NA     | 8.33         |
| Lab Filtration Performed       |          |         |        | 2024/03/21   |

**Comments:** RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to PWQO \* Variable - refer to guideline reference document  
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

**5728354** Dilution required, RDL has been increased accordingly.

Analysis performed at AGAT Toronto (unless marked by \*)

Certified By:

*Iris Veraistegui*



**AGAT** Laboratories

## Exceedance Summary

AGAT WORK ORDER: 24T129765

PROJECT: 403 BP Stormwater

5835 COOPERS AVENUE  
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<http://www.agatlabs.com>

CLIENT NAME: COUNTY OF BRANT

ATTENTION TO: MATT FREE

| SAMPLEID | SAMPLE TITLE | GUIDELINE | ANALYSIS PACKAGE              | PARAMETER    | UNIT | GUIDEVALUE | RESULT |
|----------|--------------|-----------|-------------------------------|--------------|------|------------|--------|
| 5728354  | SW-1         | ON PWQO   | 403- BP Stormwater inorganics | Total Copper | mg/L | 0.005      | 0.009  |
| 5728354  | SW-1         | ON PWQO   | 403- BP Stormwater inorganics | Total Iron   | mg/L | 0.3        | 0.713  |
| 5728354  | SW-1         | ON PWQO   | 403- BP Stormwater inorganics | Total Zinc   | mg/L | 0.030      | 0.054  |

## Quality Assurance

CLIENT NAME: COUNTY OF BRANT

AGAT WORK ORDER: 24T129765

PROJECT: 403 BP Stormwater

ATTENTION TO: MATT FREE

SAMPLING SITE: BRANT BP SWM POND

SAMPLED BY: IAN LAWRENCE

### Microbiology Analysis

| RPT Date: Mar 25, 2024 |       |           | DUPLICATE |        |     | Method Blank | REFERENCE MATERIAL |                   | METHOD BLANK SPIKE |          |                   | MATRIX SPIKE |          |                   |       |
|------------------------|-------|-----------|-----------|--------|-----|--------------|--------------------|-------------------|--------------------|----------|-------------------|--------------|----------|-------------------|-------|
| PARAMETER              | Batch | Sample Id | Dup #1    | Dup #2 | RPD |              | Measured Value     | Acceptable Limits |                    | Recovery | Acceptable Limits |              | Recovery | Acceptable Limits |       |
|                        |       |           |           |        |     |              |                    | Lower             | Upper              |          | Lower             | Upper        |          | Lower             | Upper |

**Total Coliforms & E.Coli and BCC (Using DC Agar)**

|                                   |         |         |       |       |      |
|-----------------------------------|---------|---------|-------|-------|------|
| Escherichia coli - DC Agar        | 5728354 | 5728354 | 4     | 4     | 0.0% |
| Total Coliforms - DC Agar         | 5728354 | 5728354 | 2000  | 2000  | 0.0% |
| Background Colony Count - DC Agar | 5728354 | 5728354 | 26000 | 25000 | 3.9% |

Comments: NA - % RPD Not Applicable

Certified By:



## Quality Assurance

CLIENT NAME: COUNTY OF BRANT

AGAT WORK ORDER: 24T129765

PROJECT: 403 BP Stormwater

ATTENTION TO: MATT FREE

SAMPLING SITE: BRANT BP SWM POND

SAMPLED BY: IAN LAWRENCE

### Trace Organics Analysis

| RPT Date: Mar 25, 2024 |       |           | DUPLICATE |        |     | Method Blank | REFERENCE MATERIAL |                   | METHOD BLANK SPIKE |          |                   | MATRIX SPIKE |          |                   |       |
|------------------------|-------|-----------|-----------|--------|-----|--------------|--------------------|-------------------|--------------------|----------|-------------------|--------------|----------|-------------------|-------|
| PARAMETER              | Batch | Sample Id | Dup #1    | Dup #2 | RPD |              | Measured Value     | Acceptable Limits |                    | Recovery | Acceptable Limits |              | Recovery | Acceptable Limits |       |
|                        |       |           |           |        |     |              |                    | Lower             | Upper              |          | Lower             | Upper        |          | Lower             | Upper |

#### Oil and Grease (Total) in Water

|                               |         |       |       |      |       |     |     |      |     |     |      |     |     |      |
|-------------------------------|---------|-------|-------|------|-------|-----|-----|------|-----|-----|------|-----|-----|------|
| Total Oil and Grease in water | 1572053 | < 0.5 | < 0.5 | 0.0% | < 0.5 | 97% | 70% | 130% | 96% | 70% | 130% | 92% | 70% | 130% |
|-------------------------------|---------|-------|-------|------|-------|-----|-----|------|-----|-----|------|-----|-----|------|

#### BTEX - Water - mg/L (P & T - GC/MS)

|              |         |         |         |    |          |      |     |      |      |     |      |      |     |      |
|--------------|---------|---------|---------|----|----------|------|-----|------|------|-----|------|------|-----|------|
| Benzene      | 5725519 | <0.0002 | <0.0002 | NA | < 0.0002 | 105% | 50% | 140% | 110% | 60% | 130% | 114% | 50% | 140% |
| Toluene      | 5725519 | <0.0002 | <0.0002 | NA | < 0.0002 | 85%  | 50% | 140% | 86%  | 60% | 130% | 92%  | 50% | 140% |
| Ethylbenzene | 5725519 | <0.0001 | <0.0001 | NA | < 0.0001 | 81%  | 50% | 140% | 82%  | 60% | 130% | 85%  | 50% | 140% |
| m & p-Xylene | 5725519 | <0.0002 | <0.0002 | NA | < 0.0002 | 87%  | 50% | 140% | 91%  | 60% | 130% | 93%  | 50% | 140% |
| o-Xylene     | 5725519 | <0.0001 | <0.0001 | NA | < 0.0001 | 86%  | 50% | 140% | 91%  | 60% | 130% | 94%  | 50% | 140% |

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By:



## Quality Assurance

CLIENT NAME: COUNTY OF BRANT

AGAT WORK ORDER: 24T129765

PROJECT: 403 BP Stormwater

ATTENTION TO: MATT FREE

SAMPLING SITE: BRANT BP SWM POND

SAMPLED BY: IAN LAWRENCE

| Water Analysis                |         |           |           |         |      |              |                    |                   |       |                    |                   |       |              |                   |       |
|-------------------------------|---------|-----------|-----------|---------|------|--------------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------|-------------------|-------|
| RPT Date: Mar 25, 2024        |         |           | DUPLICATE |         |      | Method Blank | REFERENCE MATERIAL |                   |       | METHOD BLANK SPIKE |                   |       | MATRIX SPIKE |                   |       |
| PARAMETER                     | Batch   | Sample Id | Dup #1    | Dup #2  | RPD  |              | Measured Value     | Acceptable Limits |       | Recovery           | Acceptable Limits |       | Recovery     | Acceptable Limits |       |
|                               |         |           |           |         |      |              |                    | Lower             | Upper |                    | Lower             | Upper |              | Lower             | Upper |
| 403- BP Stormwater inorganics |         |           |           |         |      |              |                    |                   |       |                    |                   |       |              |                   |       |
| Chloride                      | 5718363 |           | 153       | 152     | 0.7% | < 0.10       | 96%                | 70%               | 130%  | 91%                | 80%               | 120%  | NA           | 70%               | 130%  |
| Total Kjeldahl Nitrogen       | 5725329 |           | 0.37      | 0.36    | NA   | < 0.10       | 100%               | 70%               | 130%  | 100%               | 80%               | 120%  | 91%          | 70%               | 130%  |
| Total Suspended Solids        | 5729920 |           | <10       | <10     | NA   | < 10         | 92%                | 80%               | 120%  |                    |                   |       |              |                   |       |
| Total Sodium                  | 5724836 |           | 858       | 817     | 4.9% | < 0.10       | 114%               | 70%               | 130%  | 108%               | 80%               | 120%  | NA           | 70%               | 130%  |
| Aluminum-dissolved            | 5730624 |           | <0.004    | <0.004  | NA   | < 0.004      | 93%                | 70%               | 130%  | 97%                | 80%               | 120%  | 98%          | 70%               | 130%  |
| Total Aluminum                | 5724836 |           | 2.52      | 2.42    | 4.0% | < 0.010      | 97%                | 70%               | 130%  | 111%               | 80%               | 120%  | 78%          | 70%               | 130%  |
| Total Beryllium               | 5724836 |           | <0.001    | <0.001  | NA   | < 0.001      | 104%               | 70%               | 130%  | 115%               | 80%               | 120%  | 94%          | 70%               | 130%  |
| Total Boron                   | 5724836 |           | 0.072     | 0.076   | 5.4% | < 0.010      | 101%               | 70%               | 130%  | 112%               | 80%               | 120%  | 93%          | 70%               | 130%  |
| Total Cadmium                 | 5724836 |           | 0.0002    | 0.0002  | NA   | < 0.0001     | 102%               | 70%               | 130%  | 106%               | 80%               | 120%  | 98%          | 70%               | 130%  |
| Total Chromium                | 5724836 |           | 0.005     | 0.005   | NA   | < 0.003      | 100%               | 70%               | 130%  | 106%               | 80%               | 120%  | 105%         | 70%               | 130%  |
| Total Cobalt                  | 5724836 |           | 0.0013    | 0.0015  | NA   | < 0.0005     | 101%               | 70%               | 130%  | 104%               | 80%               | 120%  | 103%         | 70%               | 130%  |
| Total Copper                  | 5724836 |           | 0.026     | 0.026   | 0.0% | < 0.002      | 99%                | 70%               | 130%  | 106%               | 80%               | 120%  | 98%          | 70%               | 130%  |
| Total Iron                    | 5724836 |           | 1.68      | 1.67    | 0.6% | < 0.050      | 102%               | 70%               | 130%  | 112%               | 80%               | 120%  | 108%         | 70%               | 130%  |
| Total Lead                    | 5724836 |           | 0.0079    | 0.0081  | 2.5% | < 0.0005     | 101%               | 70%               | 130%  | 98%                | 80%               | 120%  | 89%          | 70%               | 130%  |
| Total Molybdenum              | 5724836 |           | 0.009     | 0.010   | NA   | < 0.002      | 106%               | 70%               | 130%  | 91%                | 80%               | 120%  | 116%         | 70%               | 130%  |
| Total Nickel                  | 5724836 |           | 0.030     | 0.028   | 6.9% | < 0.003      | 102%               | 70%               | 130%  | 105%               | 80%               | 120%  | 101%         | 70%               | 130%  |
| Total Silver                  | 5724836 |           | 0.0001    | <0.0001 | NA   | < 0.0001     | 103%               | 70%               | 130%  | 110%               | 80%               | 120%  | 96%          | 70%               | 130%  |
| Total Thallium                | 5724836 |           | <0.0003   | <0.0003 | NA   | < 0.0003     | 92%                | 70%               | 130%  | 105%               | 80%               | 120%  | 94%          | 70%               | 130%  |
| Total Vanadium                | 5724836 |           | 0.003     | 0.002   | NA   | < 0.002      | 103%               | 70%               | 130%  | 110%               | 80%               | 120%  | 111%         | 70%               | 130%  |
| Total Zinc                    | 5724836 |           | 0.119     | 0.125   | 4.9% | < 0.020      | 100%               | 70%               | 130%  | 105%               | 80%               | 120%  | 93%          | 70%               | 130%  |

Comments: NA signifies Not Applicable.

Duplicate NA: results are under 5X the RDL and will not be calculated.

Matrix spike NA: Spike level &lt; native concentration. Matrix spike acceptance limits do not apply and are not calculated.

Certified By:



## Method Summary

CLIENT NAME: COUNTY OF BRANT

PROJECT: 403 BP Stormwater

SAMPLING SITE: BRANT BP SWM POND

AGAT WORK ORDER: 24T129765

ATTENTION TO: MATT FREE

SAMPLED BY: IAN LAWRENCE

| PARAMETER                         | AGAT S.O.P  | LITERATURE REFERENCE                   | ANALYTICAL TECHNIQUE |
|-----------------------------------|-------------|----------------------------------------|----------------------|
| <b>Microbiology Analysis</b>      |             |                                        |                      |
| Escherichia coli - DC Agar        | MIC-93-7010 | MOE Method E3407                       | MF/INCUBATOR         |
| Total Coliforms - DC Agar         | MIC-93-7010 | EPA 1604                               | MF/INCUBATOR         |
| Background Colony Count - DC Agar | MIC-93-7010 | MOE Method E3407                       | MF-Incubator         |
| <b>Trace Organics Analysis</b>    |             |                                        |                      |
| Benzene                           | VOL-91-5001 | modified from EPA 5030B & EPA 8260D    | (P&T)GC/MS           |
| Toluene                           | VOL-91-5001 | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| Ethylbenzene                      | VOL-91-5001 | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| m & p-Xylene                      | VOL-91-5001 | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| o-Xylene                          | VOL-91-5001 | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| Total Xylenes                     | VOL-91-5001 | modified from EPA 5030B & EPA 8260D    | CALCULATION          |
| Toluene-d8                        | VOL-91-5001 | modified from EPA 5030B & EPA 8260D    | (P&T)GC/MS           |
| 4-Bromofluorobenzene              | VOL-91-5001 | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| Total Oil and Grease in water     | VOL-91-5011 | SM 5520 & EPA SW846 3510C & EPA 1664   | BALANCE              |

## Method Summary

**CLIENT NAME: COUNTY OF BRANT**
**PROJECT: 403 BP Stormwater**
**SAMPLING SITE:BRANT BP SWM POND**
**AGAT WORK ORDER: 24T129765**
**ATTENTION TO: MATT FREE**
**SAMPLED BY:IAN LAWRENCE**

| PARAMETER                | AGAT S.O.P   | LITERATURE REFERENCE                             | ANALYTICAL TECHNIQUE |
|--------------------------|--------------|--------------------------------------------------|----------------------|
| <b>Water Analysis</b>    |              |                                                  |                      |
| Chloride                 | INOR-93-6004 | modified from SM 4110 B                          | ION CHROMATOGRAPH    |
| Total Kjeldahl Nitrogen  | INOR-93-6048 | modified from EPA 351.2 and SM 4500-NORG D       | LACHAT FIA           |
| Total Suspended Solids   | INOR-93-6028 | modified from EPA 1684,ON MOECC E3139,SM 2540C,D | BALANCE              |
| Total Sodium             | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP/MS               |
| Aluminum-dissolved       | MET-93-6103  | modified from EPA 200.8 and EPA 3005A            | ICP-MS               |
| Total Aluminum           | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP-MS               |
| Total Beryllium          | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP-MS               |
| Total Boron              | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP-MS               |
| Total Cadmium            | MET -93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP-MS               |
| Total Chromium           | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP-MS               |
| Total Cobalt             | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP-MS               |
| Total Copper             | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP-MS               |
| Total Iron               | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP-MS               |
| Total Lead               | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP-MS               |
| Total Molybdenum         | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP-MS               |
| Total Nickel             | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP-MS               |
| Total Silver             | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP-MS               |
| Total Thallium           | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP-MS               |
| Total Vanadium           | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP-MS               |
| Total Zinc               | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B    | ICP-MS               |
| Digestion                | MET-93-6103  | EPA SW-846 3010A                                 | N/A                  |
| Field Temperature        |              |                                                  | N/A                  |
| Field pH                 |              |                                                  | N/A                  |
| Lab Filtration Performed |              |                                                  | FILTRATION           |



CLIENT NAME: COUNTY OF BRANT  
26 PARK AVENUE P O BOX 160  
BURFORD, ON N0E 1A0  
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ATTENTION TO: MATT FREE

PROJECT: 403 BP Stormwater

AGAT WORK ORDER: 24T159280

MICROBIOLOGY ANALYSIS REVIEWED BY: Yris Verastegui, Inorganic Team Lead

TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor

WATER ANALYSIS REVIEWED BY: Yris Verastegui, Inorganic Team Lead

DATE REPORTED: Jun 18, 2024

PAGES (INCLUDING COVER): 12

VERSION\*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

\*Notes

**Disclaimer:**

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
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- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.
- For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.



**AGAT** Laboratories

## Certificate of Analysis

AGAT WORK ORDER: 24T159280

PROJECT: 403 BP Stormwater

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<http://www.agatlabs.com>

CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: BRANT BP SWM POND

ATTENTION TO: MATT FREE

SAMPLED BY: IAN LAWRENCE

### Total Coliforms & E.Coli and BCC (Using DC Agar)

DATE RECEIVED: 2024-06-06

DATE REPORTED: 2024-06-18

SAMPLE DESCRIPTION: SW-1  
SAMPLE TYPE: Water  
DATE SAMPLED: 2024-06-06  
09:35  
5913123

| Parameter                         | Unit      | G / S | RDL | 5913123 |
|-----------------------------------|-----------|-------|-----|---------|
| Escherichia coli - DC Agar        | CFU/100mL | 100   |     | 600     |
| Total Coliforms - DC Agar         | CFU/100mL |       |     | 7000    |
| Background Colony Count - DC Agar | CFU/100mL |       |     | 46000   |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to PWQO \* Variable - refer to guideline reference document  
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.  
5913123 Escherichia coli RDL = 1 CFU/100mL, Total Coliforms and Background Colony Count RDL = 1000 CFU/100mL.

RDL > 1 indicates dilutions of the sample.

Analysis performed at AGAT Toronto (unless marked by \*)

Certified By:

*Iris Veraistegui*



## Certificate of Analysis

AGAT WORK ORDER: 24T159280

PROJECT: 403 BP Stormwater

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CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: BRANT BP SWM POND

ATTENTION TO: MATT FREE

SAMPLED BY: IAN LAWRENCE

### O. Reg. 153(511) - BTEX (Water)

DATE RECEIVED: 2024-06-06

DATE REPORTED: 2024-06-18

|                      |            |                     |      |                     |
|----------------------|------------|---------------------|------|---------------------|
|                      |            | SAMPLE DESCRIPTION: |      | SW-1                |
|                      |            | SAMPLE TYPE:        |      | Water               |
|                      |            | DATE SAMPLED:       |      | 2024-06-06<br>09:35 |
| Parameter            | Unit       | G / S               | RDL  | 5913123             |
| Benzene              | µg/L       | 100                 | 0.20 | <0.20               |
| Toluene              | µg/L       | 0.8                 | 0.20 | <0.20               |
| Ethylbenzene         | µg/L       | 8                   | 0.10 | <0.10               |
| m & p-Xylene         | µg/L       | 32                  | 0.20 | <0.20               |
| o-Xylene             | µg/L       | 40                  | 0.10 | <0.10               |
| Xylenes (Total)      | µg/L       | 72                  | 0.20 | <0.20               |
| Surrogate            | Unit       | Acceptable Limits   |      |                     |
| Toluene-d8           | % Recovery | 50-140              |      | 104                 |
| 4-Bromofluorobenzene | % Recovery | 50-140              |      | 83                  |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to PWQO \* Variable - refer to guideline reference document

Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5913123 Results relate only to the items tested.

Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by \*)

Certified By:



**AGAT** Laboratories

## Certificate of Analysis

AGAT WORK ORDER: 24T159280

PROJECT: 403 BP Stormwater

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CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: BRANT BP SWM POND

ATTENTION TO: MATT FREE

SAMPLED BY: IAN LAWRENCE

### Oil and Grease (Total) in Water

DATE RECEIVED: 2024-06-06

DATE REPORTED: 2024-06-18

SAMPLE DESCRIPTION: SW-1  
SAMPLE TYPE: Water  
DATE SAMPLED: 2024-06-06  
09:35  
5913123

| Parameter                     | Unit | G / S | RDL |      |
|-------------------------------|------|-------|-----|------|
| Total Oil and Grease in water | mg/L |       | 0.5 | 0.92 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Toronto (unless marked by \*)

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 24T159280

PROJECT: 403 BP Stormwater

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CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: BRANT BP SWM POND

ATTENTION TO: MATT FREE

SAMPLED BY: IAN LAWRENCE

### 403 BP - Stormwater - Inorganics

DATE RECEIVED: 2024-06-06

DATE REPORTED: 2024-06-18

SAMPLE DESCRIPTION: SW-1  
SAMPLE TYPE: Water  
DATE SAMPLED: 2024-06-06  
09:35  
5913123

| Parameter               | Unit     | G / S | RDL            |
|-------------------------|----------|-------|----------------|
| Chloride                | mg/L     |       | 0.12 204       |
| Total Kjeldahl Nitrogen | mg/L     |       | 0.10 <0.10     |
| Total Suspended Solids  | mg/L     |       | 10 <10         |
| Total Sodium            | mg/L     |       | 0.10 137       |
| Aluminum (dissolved)    | mg/L     |       | 0.004 0.012    |
| Total Aluminum          | mg/L     |       | 0.010 0.099    |
| Total Beryllium         | mg/L     |       | 0.001 <0.001   |
| Total Boron             | mg/L     |       | 0.010 0.018    |
| Total Cadmium           | mg/L     |       | 0.0001 <0.0001 |
| Total Chromium          | mg/L     |       | 0.003 <0.003   |
| Total Cobalt            | mg/L     |       | 0.0005 <0.0005 |
| Total Copper            | mg/L     |       | 0.002 <0.002   |
| Total Iron              | mg/L     |       | 0.050 0.230    |
| Total Lead              | mg/L     |       | 0.0005 <0.0005 |
| Total Molybdenum        | mg/L     |       | 0.002 <0.002   |
| Total Nickel            | mg/L     |       | 0.003 <0.003   |
| Total Silver            | mg/L     |       | 0.0001 <0.0001 |
| Total Thallium          | mg/L     |       | 0.0003 <0.0003 |
| Total Vanadium          | mg/L     |       | 0.002 <0.002   |
| Total Zinc              | mg/L     |       | 0.020 <0.020   |
| Field Temperature       | Deg C    |       | 23.5           |
| Field pH                | pH Units |       | NA 8.56        |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5913123 Dilution required, RDL has been increased accordingly.

Analysis performed at AGAT Toronto (unless marked by \*)

Certified By:

*Iris Veraístequi*



## Exceedance Summary

AGAT WORK ORDER: 24T159280

PROJECT: 403 BP Stormwater

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1Y2  
TEL (905)712-5100  
FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: COUNTY OF BRANT

ATTENTION TO: MATT FREE

| SAMPLEID | SAMPLE TITLE | GUIDELINE | ANALYSIS PACKAGE                                 | PARAMETER                  | UNIT      | GUIDEVALUE | RESULT |
|----------|--------------|-----------|--------------------------------------------------|----------------------------|-----------|------------|--------|
| 5913123  | SW-1         | ON PWQO   | Total Coliforms & E.Coli and BCC (Using DC Agar) | Escherichia coli - DC Agar | CFU/100mL | 100        | 600    |

## Quality Assurance

CLIENT NAME: COUNTY OF BRANT

AGAT WORK ORDER: 24T159280

PROJECT: 403 BP Stormwater

ATTENTION TO: MATT FREE

SAMPLING SITE: BRANT BP SWM POND

SAMPLED BY: IAN LAWRENCE

### Microbiology Analysis

| RPT Date: Jun 18, 2024 |       |           | DUPLICATE |        |     | Method Blank | REFERENCE MATERIAL |                   | METHOD BLANK SPIKE |          | MATRIX SPIKE      |       |
|------------------------|-------|-----------|-----------|--------|-----|--------------|--------------------|-------------------|--------------------|----------|-------------------|-------|
| PARAMETER              | Batch | Sample Id | Dup #1    | Dup #2 | RPD |              | Measured Value     | Acceptable Limits |                    | Recovery | Acceptable Limits |       |
|                        |       |           |           |        |     |              |                    | Lower             | Upper              |          | Lower             | Upper |

Total Coliforms &amp; E.Coli and BCC (Using DC Agar)

Escherichia coli - DC Agar 5912542 0 0 NA

Total Coliforms - DC Agar 5912542 0 0 NA

Background Colony Count - DC Agar 5912542 0 0 NA

Comments: NA - % RPD Not Applicable

Certified By:





## Quality Assurance

CLIENT NAME: COUNTY OF BRANT

AGAT WORK ORDER: 24T159280

PROJECT: 403 BP Stormwater

ATTENTION TO: MATT FREE

SAMPLING SITE: BRANT BP SWM POND

SAMPLED BY: IAN LAWRENCE

### Trace Organics Analysis

RPT Date: Jun 18, 2024

| RPT Date: Jun 18, 2024 |       |           | DUPLICATE |        |     | Method Blank | REFERENCE MATERIAL |                   | METHOD BLANK SPIKE |          | MATRIX SPIKE      |       |
|------------------------|-------|-----------|-----------|--------|-----|--------------|--------------------|-------------------|--------------------|----------|-------------------|-------|
| PARAMETER              | Batch | Sample Id | Dup #1    | Dup #2 | RPD |              | Measured Value     | Acceptable Limits |                    | Recovery | Acceptable Limits |       |
|                        |       |           |           |        |     |              |                    | Lower             | Upper              |          | Lower             | Upper |

#### O. Reg. 153(511) - BTEX (Water)

|              |         |  |       |       |    |        |      |     |      |     |     |      |     |     |      |
|--------------|---------|--|-------|-------|----|--------|------|-----|------|-----|-----|------|-----|-----|------|
| Benzene      | 5920295 |  | <0.20 | <0.20 | NA | < 0.20 | 103% | 50% | 140% | 88% | 60% | 130% | 77% | 50% | 140% |
| Toluene      | 5920295 |  | <0.20 | <0.20 | NA | < 0.20 | 110% | 50% | 140% | 86% | 60% | 130% | 76% | 50% | 140% |
| Ethylbenzene | 5920295 |  | <0.10 | <0.10 | NA | < 0.10 | 117% | 50% | 140% | 88% | 60% | 130% | 76% | 50% | 140% |
| m & p-Xylene | 5920295 |  | <0.20 | <0.20 | NA | < 0.20 | 113% | 50% | 140% | 89% | 60% | 130% | 80% | 50% | 140% |
| o-Xylene     | 5920295 |  | <0.10 | <0.10 | NA | < 0.10 | 107% | 50% | 140% | 91% | 60% | 130% | 81% | 50% | 140% |

#### Oil and Grease (Total) in Water

|                               |         |  |       |       |    |       |     |     |      |     |     |      |     |     |      |
|-------------------------------|---------|--|-------|-------|----|-------|-----|-----|------|-----|-----|------|-----|-----|------|
| Total Oil and Grease in water | 5909014 |  | < 0.5 | < 0.5 | NA | < 0.5 | 92% | 70% | 130% | 97% | 70% | 130% | 97% | 70% | 130% |
|-------------------------------|---------|--|-------|-------|----|-------|-----|-----|------|-----|-----|------|-----|-----|------|

Certified By:

## Quality Assurance

CLIENT NAME: COUNTY OF BRANT

PROJECT: 403 BP Stormwater

SAMPLING SITE: BRANT BP SWM POND

AGAT WORK ORDER: 24T159280

ATTENTION TO: MATT FREE

SAMPLED BY: IAN LAWRENCE

| Water Analysis                   |         |           |           |         |      |              |                    |                   |       |                    |                   |       |              |                   |       |
|----------------------------------|---------|-----------|-----------|---------|------|--------------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------|-------------------|-------|
| RPT Date: Jun 18, 2024           |         |           | DUPLICATE |         |      | Method Blank | REFERENCE MATERIAL |                   |       | METHOD BLANK SPIKE |                   |       | MATRIX SPIKE |                   |       |
| PARAMETER                        | Batch   | Sample Id | Dup #1    | Dup #2  | RPD  |              | Measured Value     | Acceptable Limits |       | Recovery           | Acceptable Limits |       | Recovery     | Acceptable Limits |       |
|                                  |         |           |           |         |      |              |                    | Lower             | Upper |                    | Lower             | Upper |              | Lower             | Upper |
| 403 BP - Stormwater - Inorganics |         |           |           |         |      |              |                    |                   |       |                    |                   |       |              |                   |       |
| Chloride                         | 5921546 |           | 193       | 193     | 0.0% | < 0.10       | 95%                | 70%               | 130%  | 105%               | 80%               | 120%  | 103%         | 70%               | 130%  |
| Total Kjeldahl Nitrogen          | 5909743 |           | 0.37      | 0.36    | NA   | < 0.10       | 100%               | 70%               | 130%  | 98%                | 80%               | 120%  | 73%          | 70%               | 130%  |
| Total Suspended Solids           | 5913244 |           | 15        | 20      | NA   | < 10         | 90%                | 80%               | 120%  |                    |                   |       |              |                   |       |
| Total Sodium                     | 5915252 |           | 300       | 311     | 3.6% | < 0.10       | 104%               | 70%               | 130%  | 99%                | 80%               | 120%  | 112%         | 70%               | 130%  |
| Aluminum (dissolved)             | 5913123 | 5913123   | 0.012     | 0.012   | NA   | < 0.004      | 90%                | 70%               | 130%  | 81%                | 80%               | 120%  | 92%          | 70%               | 130%  |
| Total Aluminum                   | 5915252 |           | 0.142     | 0.156   | 9.4% | < 0.010      | 96%                | 70%               | 130%  | 100%               | 80%               | 120%  | 94%          | 70%               | 130%  |
| Total Beryllium                  | 5915252 |           | <0.001    | <0.001  | NA   | < 0.001      | 99%                | 70%               | 130%  | 100%               | 80%               | 120%  | 100%         | 70%               | 130%  |
| Total Boron                      | 5915252 |           | 0.078     | 0.080   | 2.5% | < 0.010      | 100%               | 70%               | 130%  | 103%               | 80%               | 120%  | 101%         | 70%               | 130%  |
| Total Cadmium                    | 5915252 |           | <0.0001   | <0.0001 | NA   | < 0.0001     | 100%               | 70%               | 130%  | 100%               | 80%               | 120%  | 99%          | 70%               | 130%  |
| Total Chromium                   | 5915252 |           | <0.003    | <0.003  | NA   | < 0.003      | 99%                | 70%               | 130%  | 97%                | 80%               | 120%  | 94%          | 70%               | 130%  |
| Total Cobalt                     | 5915252 |           | 0.0012    | 0.0009  | NA   | < 0.0005     | 96%                | 70%               | 130%  | 100%               | 80%               | 120%  | 95%          | 70%               | 130%  |
| Total Copper                     | 5915252 |           | 0.003     | <0.002  | NA   | < 0.002      | 100%               | 70%               | 130%  | 100%               | 80%               | 120%  | 93%          | 70%               | 130%  |
| Total Iron                       | 5915252 |           | <0.050    | <0.050  | NA   | < 0.050      | 98%                | 70%               | 130%  | 101%               | 80%               | 120%  | 94%          | 70%               | 130%  |
| Total Lead                       | 5915252 |           | <0.0005   | <0.0005 | NA   | < 0.0005     | 94%                | 70%               | 130%  | 91%                | 80%               | 120%  | 93%          | 70%               | 130%  |
| Total Molybdenum                 | 5915252 |           | 0.008     | 0.007   | NA   | < 0.002      | 101%               | 70%               | 130%  | 104%               | 80%               | 120%  | 102%         | 70%               | 130%  |
| Total Nickel                     | 5915252 |           | 0.005     | 0.004   | NA   | < 0.003      | 99%                | 70%               | 130%  | 101%               | 80%               | 120%  | 94%          | 70%               | 130%  |
| Total Silver                     | 5915252 |           | <0.0001   | <0.0001 | NA   | < 0.0001     | 102%               | 70%               | 130%  | 104%               | 80%               | 120%  | 96%          | 70%               | 130%  |
| Total Thallium                   | 5915252 |           | <0.0003   | <0.0003 | NA   | < 0.0003     | 85%                | 70%               | 130%  | 86%                | 80%               | 120%  | 88%          | 70%               | 130%  |
| Total Vanadium                   | 5915252 |           | 0.007     | 0.009   | NA   | < 0.002      | 96%                | 70%               | 130%  | 105%               | 80%               | 120%  | 97%          | 70%               | 130%  |
| Total Zinc                       | 5915252 |           | <0.020    | <0.020  | NA   | < 0.020      | 101%               | 70%               | 130%  | 99%                | 80%               | 120%  | 85%          | 70%               | 130%  |

Comments: NA signifies Not Applicable.

Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:



## Method Summary

CLIENT NAME: COUNTY OF BRANT

AGAT WORK ORDER: 24T159280

PROJECT: 403 BP Stormwater

ATTENTION TO: MATT FREE

SAMPLING SITE: BRANT BP SWM POND

SAMPLED BY: IAN LAWRENCE

| PARAMETER                         | AGAT S.O.P   | LITERATURE REFERENCE                   | ANALYTICAL TECHNIQUE |
|-----------------------------------|--------------|----------------------------------------|----------------------|
| Microbiology Analysis             |              |                                        |                      |
| Escherichia coli - DC Agar        | MIC-93-7010  | MOE Method E3407                       | MF/INCUBATOR         |
| Total Coliforms - DC Agar         | MIC-93-7010  | EPA 1604                               | MF/INCUBATOR         |
| Background Colony Count - DC Agar | MIC-93-7010  | MOE Method E3407                       | MF-Incubator         |
| Trace Organics Analysis           |              |                                        |                      |
| Benzene                           | VOL-91-5001  | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| Toluene                           | VOL-91-5001  | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| Ethylbenzene                      | VOL-91-5001  | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| m & p-Xylene                      | VOL-91-5001  | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| o-Xylene                          | VOL-91-5001  | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| Xylenes (Total)                   | VOL-91-5001  | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| Toluene-d8                        | VOL-91-5001  | modified from EPA 5030B & EPA 8260D    | (P&T)GC/MS           |
| 4-Bromofluorobenzene              | VOL-91- 5001 | modified from EPA 5030B & EPA 8260D    | (P&T)GC/MS           |
| Total Oil and Grease in water     | VOL-91-5011  | SM 5520 & EPA SW846 3510C & EPA 1664   | BALANCE              |

## Method Summary

CLIENT NAME: COUNTY OF BRANT

AGAT WORK ORDER: 24T159280

PROJECT: 403 BP Stormwater

ATTENTION TO: MATT FREE

SAMPLING SITE: BRANT BP SWM POND

SAMPLED BY: IAN LAWRENCE

| PARAMETER               | AGAT S.O.P   | LITERATURE REFERENCE                               | ANALYTICAL TECHNIQUE |
|-------------------------|--------------|----------------------------------------------------|----------------------|
| Water Analysis          |              |                                                    |                      |
| Chloride                | INOR-93-6004 | modified from SM 4110 B                            | ION CHROMATOGRAPH    |
| Total Kjeldahl Nitrogen | INOR-93-6048 | modified from EPA 351.2 and SM 4500-NORG D         | LACHAT FIA           |
| Total Suspended Solids  | INOR-93-6028 | modified from EPA 1684, ON MOECC E3139, SM 2540C,D | BALANCE              |
| Total Sodium            | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP/MS               |
| Aluminum (dissolved)    | MET-93-6103  | modified from EPA 200.8 and EPA 3005A              | ICP-MS               |
| Total Aluminum          | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Beryllium         | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Boron             | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Cadmium           | MET -93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Chromium          | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Cobalt            | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Copper            | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Iron              | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Lead              | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Molybdenum        | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Nickel            | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Silver            | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Thallium          | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Vanadium          | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Zinc              | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Field Temperature       |              |                                                    | N/A                  |
| Field pH                |              |                                                    | N/A                  |



## Laboratory Use Only

Work Order #: 247159280

Cooler Quantity: 1 Medium

Arrival Temperatures: 4.4 14.7 15.0

Custody Seal Intact: ☐ Yes ☐ No ☒ N/A

Notes: Free Ice

## Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

### Report Information:

Company: County of Brant

Contact: Matthew Free

Address: 26 Park Avenue  
Bufford, ON N0E 1A0

Phone: (519)442-7268 ext. 2258 Fax: \_\_\_\_\_

Reports to be sent to: matt.free@brant.ca; matt.dhondt@brant.ca; ian.lawrence@brant.ca

1. Email: \_\_\_\_\_

2. Email: rebecca.warrack@wsp.com

### Regulatory Requirements:

(Please check all applicable boxes)

- ☐ Regulation 153/04 ☐ Regulation 406
- Table Indicate One Table Indicate One
- ☐ Ind/Com ☐ Sanitary ☐ Storm
- ☐ Res/Park ☐ Agriculture ☒ Prov. Water Quality Objectives (PWQO)
- Soil Texture (Check One) ☐ CCME ☐ Other
- ☐ Coarse ☐ Fine Indicate One

### Is this submission for a Record of Site Condition?

☐ Yes ☒ No

### Report Guideline on Certificate of Analysis

☒ Yes ☐ No

### Project Information:

Project: 403 BP Stormwater

Site Location: Brant BP SWM Pond

Sampled By: Ian Lawrence

AGAT Quote #: 18170887179 PO: \_\_\_\_\_

Please note: If quotation number is not provided, client will be billed full price for analysis.

### Invoice Information:

Bill To Same: Yes ☒ No ☐

Company: County of Brant

Contact: Matthew Free

Address: 26 Park Avenue, Bufford, ON, N0E 1A0

Email: matt.free@brant.ca; matt.dhondt@brant.ca; operations@brant.ca

### Sample Matrix Legend

GW Ground Water  
O Oil  
P Paint  
S Soil  
SD Sediment  
SW Surface Water

| Sample Identification | Date Sampled     | Time Sampled   | # of Containers | Sample Matrix | Comments/<br>Special Instructions            | Y/N      | Field Filtered - Metals, Hg, CrVI, DOC | Metals & Inorganics | Metals - CrVI, Hg, HWSB | BTEX, F1-F4 PHCs | VOC | PAHs | PCBs | PCBs: Aroclors | Landfill Disposal Characterization TCLP: <input type="checkbox"/> M&I <input type="checkbox"/> VOCs <input type="checkbox"/> ABNs <input type="checkbox"/> B(a)P <input type="checkbox"/> PCBs | Regulation 406 SPLP Rainwater Leach SPLP: <input type="checkbox"/> Metals <input type="checkbox"/> VOCs <input type="checkbox"/> SVOCs | Regulation 406 Characterization Package pH, IC PMS Metals, BTEX, F1-F4 | Corrosivity: <input type="checkbox"/> Moisture <input type="checkbox"/> Sulphide | 93264 (403 BP Package)              | 93194 (MIBI)                        | 93192 (BCC)                         | 91250 (Oil & Grease)                | 91138 (BTEX)                        | Potentially Hazardous or High Concentration (Y/N) |
|-----------------------|------------------|----------------|-----------------|---------------|----------------------------------------------|----------|----------------------------------------|---------------------|-------------------------|------------------|-----|------|------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------------------|
| 1. <u>SW-1</u>        | <u>JUNE 6/24</u> | <u>0935</u> AM | 12              | SW            | Field Temp <u>23.5</u> Field pH: <u>8.56</u> | <u>N</u> |                                        |                     |                         |                  |     |      |      |                |                                                                                                                                                                                                |                                                                                                                                        |                                                                        |                                                                                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                                   |
| 2.                    |                  | AM             |                 |               |                                              |          |                                        |                     |                         |                  |     |      |      |                |                                                                                                                                                                                                |                                                                                                                                        |                                                                        |                                                                                  |                                     |                                     |                                     |                                     |                                     |                                                   |
| 3.                    |                  | AM             |                 |               | Lab filter: Total Metals                     |          |                                        |                     |                         |                  |     |      |      |                |                                                                                                                                                                                                |                                                                                                                                        |                                                                        |                                                                                  |                                     |                                     |                                     |                                     |                                     |                                                   |
| 4.                    |                  | AM             |                 |               | & Diss. Metals                               |          |                                        |                     |                         |                  |     |      |      |                |                                                                                                                                                                                                |                                                                                                                                        |                                                                        |                                                                                  |                                     |                                     |                                     |                                     |                                     |                                                   |
| 5.                    |                  | AM             |                 |               |                                              |          |                                        |                     |                         |                  |     |      |      |                |                                                                                                                                                                                                |                                                                                                                                        |                                                                        |                                                                                  |                                     |                                     |                                     |                                     |                                     |                                                   |
| 6.                    |                  | AM             |                 |               |                                              |          |                                        |                     |                         |                  |     |      |      |                |                                                                                                                                                                                                |                                                                                                                                        |                                                                        |                                                                                  |                                     |                                     |                                     |                                     |                                     |                                                   |
| 7.                    |                  | AM             |                 |               |                                              |          |                                        |                     |                         |                  |     |      |      |                |                                                                                                                                                                                                |                                                                                                                                        |                                                                        |                                                                                  |                                     |                                     |                                     |                                     |                                     |                                                   |
| 8.                    |                  | AM             |                 |               |                                              |          |                                        |                     |                         |                  |     |      |      |                |                                                                                                                                                                                                |                                                                                                                                        |                                                                        |                                                                                  |                                     |                                     |                                     |                                     |                                     |                                                   |
| 9.                    |                  | AM             |                 |               |                                              |          |                                        |                     |                         |                  |     |      |      |                |                                                                                                                                                                                                |                                                                                                                                        |                                                                        |                                                                                  |                                     |                                     |                                     |                                     |                                     |                                                   |
| 10.                   |                  | AM             |                 |               |                                              |          |                                        |                     |                         |                  |     |      |      |                |                                                                                                                                                                                                |                                                                                                                                        |                                                                        |                                                                                  |                                     |                                     |                                     |                                     |                                     |                                                   |
| 11.                   |                  | AM             |                 |               |                                              |          |                                        |                     |                         |                  |     |      |      |                |                                                                                                                                                                                                |                                                                                                                                        |                                                                        |                                                                                  |                                     |                                     |                                     |                                     |                                     |                                                   |

|                                                                    |                        |                   |                                                        |                     |                     |
|--------------------------------------------------------------------|------------------------|-------------------|--------------------------------------------------------|---------------------|---------------------|
| Samples Relinquished By (Print Name and Sign): <u>IAN LAWRENCE</u> | Date: <u>JUNE 6/24</u> | Time: <u>1120</u> | Samples Received By (Print Name and Sign): <u>Tiff</u> | Date: <u>JUNE 6</u> | Time: <u>3:20pm</u> |
| Samples Relinquished By (Print Name and Sign): _____               | Date: _____            | Time: _____       | Samples Received By (Print Name and Sign): _____       | Date: _____         | Time: _____         |
| Samples Relinquished By (Print Name and Sign): _____               | Date: _____            | Time: _____       | Samples Received By (Print Name and Sign): _____       | Date: _____         | Time: _____         |

Page 1 of 1

CLIENT NAME: COUNTY OF BRANT  
26 PARK AVENUE P O BOX 160  
BURFORD, ON N0E 1A0  
519-449-2451

ATTENTION TO: MATT FREE

PROJECT: 403 BP Stormwater

AGAT WORK ORDER: 24T197326

MICROBIOLOGY ANALYSIS REVIEWED BY: Nivine Basily, Inorganic Team Lead

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

WATER ANALYSIS REVIEWED BY: Nivine Basily, Inorganic Team Lead

DATE REPORTED: Sep 20, 2024

PAGES (INCLUDING COVER): 11

VERSION\*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

\*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information is available on request from AGAT Laboratories, in accordance with ISO/IEC 17025:2017, ISO/IEC 17025:2005 (Quebec), DR-12-PALA and/or NELAP Standards.
- This document is signed by an authorized signatory who meets the requirements of the MELCCFP, CALA, CCN and NELAP.
- For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.



**AGAT** Laboratories

## Certificate of Analysis

AGAT WORK ORDER: 24T197326

PROJECT: 403 BP Stormwater

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1Y2  
TEL (905)712-5100  
FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: Brant BP SWM Pond

ATTENTION TO: MATT FREE

SAMPLED BY: Ian Lawrence

### Total Coliforms & E.Coli and BCC (Using DC Agar)

DATE RECEIVED: 2024-09-16

DATE REPORTED: 2024-09-20

SAMPLE DESCRIPTION: SW-1  
SAMPLE TYPE: Water  
DATE SAMPLED: 2024-09-16  
09:30  
6146181

| Parameter                         | Unit      | G / S | RDL   |
|-----------------------------------|-----------|-------|-------|
| Escherichia coli - DC Agar        | CFU/100mL | 100   | 43    |
| Total Coliforms - DC Agar         | CFU/100mL |       | 47000 |
| Background Colony Count - DC Agar | CFU/100mL |       | 20000 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to PWQO \* Variable - refer to guideline reference document  
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

6146181 Escherichia coli RDL = 1 CFU/100mL.  
Total Coliforms and Background Colony Count RDL = 1000 CFU/100mL.  
RDL > 1 indicates dilutions of the sample.

Analysis performed at AGAT Toronto (unless marked by \*)

Certified By:



*Nivine Basly*



**AGAT** Laboratories

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CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: Brant BP SWM Pond

ATTENTION TO: MATT FREE

SAMPLED BY: Ian Lawrence

### BTEX - Water - mg/L (P & T - GC/MS)

DATE RECEIVED: 2024-09-16

DATE REPORTED: 2024-09-20

|                      |      |                     |        |                     |
|----------------------|------|---------------------|--------|---------------------|
|                      |      | SAMPLE DESCRIPTION: |        | SW-1                |
|                      |      | SAMPLE TYPE:        |        | Water               |
|                      |      | DATE SAMPLED:       |        | 2024-09-16<br>09:30 |
| Parameter            | Unit | G / S               | RDL    | 6146181             |
| Benzene              | mg/L | 0.1                 | 0.0002 | <0.0002             |
| Toluene              | mg/L | 0.0008              | 0.0002 | <0.0002             |
| Ethylbenzene         | mg/L | 0.008               | 0.0001 | <0.0001             |
| m & p-Xylene         | mg/L | 0.032               | 0.0002 | <0.0002             |
| o-Xylene             | mg/L | 0.040               | 0.0001 | <0.0001             |
| Total Xylenes        | mg/L |                     | 0.0002 | <0.0002             |
| Surrogate            | Unit | Acceptable Limits   |        |                     |
| Toluene-d8           | %    | 50-140              |        | 104                 |
| 4-Bromofluorobenzene | %    | 50-140              |        | 97.5                |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to PWQO \* Variable - refer to guideline reference document  
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.  
6146181 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.  
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by \*)

Certified By:



**AGAT** Laboratories

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CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: Brant BP SWM Pond

ATTENTION TO: MATT FREE

SAMPLED BY: Ian Lawrence

### Oil and Grease (Total) in Water

DATE RECEIVED: 2024-09-16

DATE REPORTED: 2024-09-20

SAMPLE DESCRIPTION: SW-1  
SAMPLE TYPE: Water  
DATE SAMPLED: 2024-09-16  
09:30

| Parameter                     | Unit | G / S | RDL |      |
|-------------------------------|------|-------|-----|------|
| Total Oil and Grease in water | mg/L |       | 0.5 | 0.51 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Toronto (unless marked by \*)

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## Certificate of Analysis

AGAT WORK ORDER: 24T197326

PROJECT: 403 BP Stormwater

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<http://www.agatlabs.com>

CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: Brant BP SWM Pond

ATTENTION TO: MATT FREE

SAMPLED BY: Ian Lawrence

### 403 BP - Stormwater - Inorganics

DATE RECEIVED: 2024-09-16

DATE REPORTED: 2024-09-20

| SAMPLE DESCRIPTION: SW-1          |          |         |        |         |
|-----------------------------------|----------|---------|--------|---------|
| SAMPLE TYPE: Water                |          |         |        |         |
| DATE SAMPLED: 2024-09-16 09:30    |          |         |        |         |
| Parameter                         | Unit     | G / S   | RDL    | 6146181 |
| Chloride                          | mg/L     |         | 0.10   | 88.0    |
| Total Kjeldahl Nitrogen           | mg/L     |         | 0.10   | <0.10   |
| Total Suspended Solids            | mg/L     |         | 10     | <10     |
| Total Sodium                      | mg/L     |         | 0.10   | 68.0    |
| Aluminum (dissolved)              | mg/L     | *       | 0.004  | 0.010   |
| Total Aluminum                    | mg/L     |         | 0.010  | 0.068   |
| Total Beryllium                   | mg/L     | *       | 0.001  | <0.001  |
| Total Boron                       | mg/L     | 0.2     | 0.010  | 0.023   |
| Total Cadmium                     | mg/L     | 0.0002  | 0.0001 | <0.0001 |
| Total Chromium                    | mg/L     |         | 0.003  | <0.003  |
| Total Cobalt                      | mg/L     | 0.0009  | 0.0005 | <0.0005 |
| Total Copper                      | mg/L     | 0.005   | 0.002  | <0.002  |
| Total Iron                        | mg/L     | 0.3     | 0.050  | 0.213   |
| Total Lead                        | mg/L     | *       | 0.0005 | <0.0005 |
| Total Molybdenum                  | mg/L     | 0.040   | 0.002  | 0.003   |
| Total Nickel                      | mg/L     | 0.025   | 0.003  | <0.003  |
| Total Silver                      | mg/L     | 0.0001  | 0.0001 | <0.0001 |
| Total Thallium                    | mg/L     | 0.0003  | 0.0003 | <0.0003 |
| Total Vanadium                    | mg/L     | 0.006   | 0.002  | <0.002  |
| Total Zinc                        | mg/L     | 0.030   | 0.020  | <0.020  |
| Field Temperature                 | Deg C    |         |        | 21.9    |
| Field pH                          | pH Units | 6.5-8.5 | NA     | 7.74    |
| Lab Filtration Aluminum Dissolved |          |         |        | 1       |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to PWQO \* Variable - refer to guideline reference document

Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Toronto (unless marked by \*)

Certified By:



*Nivine Basly*

## Quality Assurance

CLIENT NAME: COUNTY OF BRANT

PROJECT: 403 BP Stormwater

SAMPLING SITE: Brant BP SWM Pond

AGAT WORK ORDER: 24T197326

ATTENTION TO: MATT FREE

SAMPLED BY: Ian Lawrence

### Microbiology Analysis

| RPT Date: Sep 20, 2024 |       |           | DUPLICATE |        |     | Method Blank | REFERENCE MATERIAL |                   | METHOD BLANK SPIKE |          | MATRIX SPIKE      |       |
|------------------------|-------|-----------|-----------|--------|-----|--------------|--------------------|-------------------|--------------------|----------|-------------------|-------|
| PARAMETER              | Batch | Sample Id | Dup #1    | Dup #2 | RPD |              | Measured Value     | Acceptable Limits |                    | Recovery | Acceptable Limits |       |
|                        |       |           |           |        |     |              |                    | Lower             | Upper              |          | Lower             | Upper |

Total Coliforms &amp; E.Coli and BCC (Using DC Agar)

Escherichia coli - DC Agar 6146181 6146181 43 40 7.2%

Total Coliforms - DC Agar 6146181 6146181 47000 44000 6.6%

Background Colony Count - DC Agar 6146181 6146181 20000 20000 0.0%

Certified By:


*Nivine Basily*



## Quality Assurance

CLIENT NAME: COUNTY OF BRANT

PROJECT: 403 BP Stormwater

SAMPLING SITE: Brant BP SWM Pond

AGAT WORK ORDER: 24T197326

ATTENTION TO: MATT FREE

SAMPLED BY: Ian Lawrence

### Trace Organics Analysis

RPT Date: Sep 20, 2024

| RPT Date: Sep 20, 2024 |       |              | DUPLICATE |        |     | Method<br>Blank | REFERENCE MATERIAL |                      | METHOD BLANK SPIKE |          | MATRIX SPIKE         |       |
|------------------------|-------|--------------|-----------|--------|-----|-----------------|--------------------|----------------------|--------------------|----------|----------------------|-------|
| PARAMETER              | Batch | Sample<br>Id | Dup #1    | Dup #2 | RPD |                 | Measured<br>Value  | Acceptable<br>Limits |                    | Recovery | Acceptable<br>Limits |       |
|                        |       |              |           |        |     |                 |                    | Lower                | Upper              |          | Lower                | Upper |

#### BTEX - Water - mg/L (P & T - GC/MS)

|              |         |  |         |         |    |          |     |     |      |      |     |      |     |     |      |
|--------------|---------|--|---------|---------|----|----------|-----|-----|------|------|-----|------|-----|-----|------|
| Benzene      | 6138930 |  | <0.0002 | <0.0002 | NA | < 0.0002 | 63% | 50% | 140% | 84%  | 60% | 130% | 64% | 50% | 140% |
| Toluene      | 6138930 |  | <0.0002 | <0.0002 | NA | < 0.0002 | 78% | 50% | 140% | 103% | 60% | 130% | 71% | 50% | 140% |
| Ethylbenzene | 6138930 |  | <0.0001 | <0.0001 | NA | < 0.0001 | 82% | 50% | 140% | 113% | 60% | 130% | 73% | 50% | 140% |
| m & p-Xylene | 6138930 |  | <0.0002 | <0.0002 | NA | < 0.0002 | 89% | 50% | 140% | 111% | 60% | 130% | 80% | 50% | 140% |
| o-Xylene     | 6138930 |  | <0.0001 | <0.0001 | NA | < 0.0001 | 95% | 50% | 140% | 118% | 60% | 130% | 83% | 50% | 140% |

#### Oil and Grease (Total) in Water

|                               |         |  |       |       |    |       |     |     |      |     |     |      |      |     |      |
|-------------------------------|---------|--|-------|-------|----|-------|-----|-----|------|-----|-----|------|------|-----|------|
| Total Oil and Grease in water | 6116773 |  | < 0.5 | < 0.5 | NA | < 0.5 | 98% | 70% | 130% | 85% | 70% | 130% | 110% | 70% | 130% |
|-------------------------------|---------|--|-------|-------|----|-------|-----|-----|------|-----|-----|------|------|-----|------|

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By:

## Quality Assurance

CLIENT NAME: COUNTY OF BRANT

PROJECT: 403 BP Stormwater

SAMPLING SITE: Brant BP SWM Pond

AGAT WORK ORDER: 24T197326

ATTENTION TO: MATT FREE

SAMPLED BY: Ian Lawrence

| Water Analysis                   |         |           |           |         |      |              |                    |                   |       |                    |                   |       |              |                   |       |
|----------------------------------|---------|-----------|-----------|---------|------|--------------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------|-------------------|-------|
| RPT Date: Sep 20, 2024           |         |           | DUPLICATE |         |      | Method Blank | REFERENCE MATERIAL |                   |       | METHOD BLANK SPIKE |                   |       | MATRIX SPIKE |                   |       |
| PARAMETER                        | Batch   | Sample Id | Dup #1    | Dup #2  | RPD  |              | Measured Value     | Acceptable Limits |       | Recovery           | Acceptable Limits |       | Recovery     | Acceptable Limits |       |
|                                  |         |           |           |         |      |              |                    | Lower             | Upper |                    | Lower             | Upper |              | Lower             | Upper |
| 403 BP - Stormwater - Inorganics |         |           |           |         |      |              |                    |                   |       |                    |                   |       |              |                   |       |
| Chloride                         | 6142791 |           | 9.20      | 9.38    | 1.9% | < 0.10       | 94%                | 70%               | 130%  | 100%               | 80%               | 120%  | 101%         | 70%               | 130%  |
| Total Kjeldahl Nitrogen          | 6142978 |           | 94.0      | 95.5    | 1.6% | < 0.10       | 102%               | 70%               | 130%  | 102%               | 80%               | 120%  | 123%         | 70%               | 130%  |
| Total Suspended Solids           | 6144536 |           | <10       | <10     | NA   | < 10         | 92%                | 80%               | 120%  |                    |                   |       |              |                   |       |
| Total Sodium                     | 6146382 |           | 15.3      | 16.7    | 8.7% | < 0.10       | 119%               | 70%               | 130%  | 100%               | 80%               | 120%  | 116%         | 70%               | 130%  |
| Aluminum (dissolved)             | 6137707 |           | <0.004    | <0.004  | NA   | < 0.004      | 99%                | 70%               | 130%  | 109%               | 80%               | 120%  | 110%         | 70%               | 130%  |
| Total Aluminum                   | 6146382 |           | 0.025     | 0.028   | NA   | < 0.010      | 96%                | 70%               | 130%  | 111%               | 80%               | 120%  | 116%         | 70%               | 130%  |
| Total Beryllium                  | 6146382 |           | <0.001    | <0.001  | NA   | < 0.001      | 94%                | 70%               | 130%  | 111%               | 80%               | 120%  | 116%         | 70%               | 130%  |
| Total Boron                      | 6146382 |           | 0.032     | 0.032   | NA   | 0.011        | 95%                | 70%               | 130%  | 114%               | 80%               | 120%  | 117%         | 70%               | 130%  |
| Total Cadmium                    | 6146382 |           | <0.0001   | <0.0001 | NA   | < 0.0001     | 98%                | 70%               | 130%  | 101%               | 80%               | 120%  | 100%         | 70%               | 130%  |
| Total Chromium                   | 6146382 |           | <0.003    | <0.003  | NA   | < 0.003      | 102%               | 70%               | 130%  | 105%               | 80%               | 120%  | 106%         | 70%               | 130%  |
| Total Cobalt                     | 6146382 |           | <0.0005   | <0.0005 | NA   | < 0.0005     | 101%               | 70%               | 130%  | 108%               | 80%               | 120%  | 105%         | 70%               | 130%  |
| Total Copper                     | 6146382 |           | 0.009     | 0.009   | NA   | < 0.002      | 100%               | 70%               | 130%  | 104%               | 80%               | 120%  | 100%         | 70%               | 130%  |
| Total Iron                       | 6146382 |           | 0.091     | 0.086   | NA   | < 0.050      | 92%                | 70%               | 130%  | 104%               | 80%               | 120%  | 101%         | 70%               | 130%  |
| Total Lead                       | 6146382 |           | <0.0005   | <0.0005 | NA   | < 0.0005     | 97%                | 70%               | 130%  | 101%               | 80%               | 120%  | 101%         | 70%               | 130%  |
| Total Molybdenum                 | 6146382 |           | <0.002    | <0.002  | NA   | < 0.002      | 104%               | 70%               | 130%  | 97%                | 80%               | 120%  | 111%         | 70%               | 130%  |
| Total Nickel                     | 6146382 |           | <0.003    | <0.003  | NA   | < 0.003      | 99%                | 70%               | 130%  | 106%               | 80%               | 120%  | 107%         | 70%               | 130%  |
| Total Silver                     | 6146382 |           | <0.0001   | <0.0001 | NA   | < 0.0001     | 111%               | 70%               | 130%  | 95%                | 80%               | 120%  | 105%         | 70%               | 130%  |
| Total Thallium                   | 6146382 |           | <0.0003   | <0.0003 | NA   | < 0.0003     | 95%                | 70%               | 130%  | 102%               | 80%               | 120%  | 99%          | 70%               | 130%  |
| Total Vanadium                   | 6146382 |           | <0.002    | <0.002  | NA   | < 0.002      | 96%                | 70%               | 130%  | 110%               | 80%               | 120%  | 114%         | 70%               | 130%  |
| Total Zinc                       | 6146382 |           | <0.020    | <0.020  | NA   | < 0.020      | 102%               | 70%               | 130%  | 106%               | 80%               | 120%  | 106%         | 70%               | 130%  |

Comments: NA signifies Not Applicable.

Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:


*Nivine Basily*



## Method Summary

CLIENT NAME: COUNTY OF BRANT

AGAT WORK ORDER: 24T197326

PROJECT: 403 BP Stormwater

ATTENTION TO: MATT FREE

SAMPLING SITE: Brant BP SWM Pond

SAMPLED BY: Ian Lawrence

| PARAMETER                         | AGAT S.O.P  | LITERATURE REFERENCE                   | ANALYTICAL TECHNIQUE |
|-----------------------------------|-------------|----------------------------------------|----------------------|
| Microbiology Analysis             |             |                                        |                      |
| Escherichia coli - DC Agar        | MIC-93-7010 | MOE Method E3407                       | MF/INCUBATOR         |
| Total Coliforms - DC Agar         | MIC-93-7010 | EPA 1604                               | MF/INCUBATOR         |
| Background Colony Count - DC Agar | MIC-93-7010 | MOE Method E3407                       | MF-Incubator         |
| Trace Organics Analysis           |             |                                        |                      |
| Benzene                           | VOL-91-5001 | modified from EPA 5030B & EPA 8260D    | (P&T)GC/MS           |
| Toluene                           | VOL-91-5001 | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| Ethylbenzene                      | VOL-91-5001 | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| m & p-Xylene                      | VOL-91-5001 | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| o-Xylene                          | VOL-91-5001 | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| Total Xylenes                     | VOL-91-5001 | modified from EPA 5030B & EPA 8260D    | CALCULATION          |
| Toluene-d8                        | VOL-91-5001 | modified from EPA 5030B & EPA 8260D    | (P&T)GC/MS           |
| 4-Bromofluorobenzene              | VOL-91-5001 | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| Total Oil and Grease in water     | VOL-91-5011 | SM 5520 & EPA SW846 3510C & EPA 1664   | BALANCE              |

## Method Summary

CLIENT NAME: COUNTY OF BRANT

AGAT WORK ORDER: 24T197326

PROJECT: 403 BP Stormwater

ATTENTION TO: MATT FREE

SAMPLING SITE: Brant BP SWM Pond

SAMPLED BY: Ian Lawrence

| PARAMETER                         | AGAT S.O.P   | LITERATURE REFERENCE                               | ANALYTICAL TECHNIQUE |
|-----------------------------------|--------------|----------------------------------------------------|----------------------|
| Water Analysis                    |              |                                                    |                      |
| Chloride                          | INOR-93-6004 | modified from SM 4110 B                            | ION CHROMATOGRAPH    |
| Total Kjeldahl Nitrogen           | INOR-93-6048 | modified from EPA 351.2 and SM 4500-NORG D         | LACHAT FIA           |
| Total Suspended Solids            | INOR-93-6028 | modified from EPA 1684, ON MOECC E3139, SM 2540C,D | BALANCE              |
| Total Sodium                      | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP/MS               |
| Aluminum (dissolved)              | MET-93-6103  | modified from EPA 200.8 and EPA 3005A              | ICP-MS               |
| Total Aluminum                    | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Beryllium                   | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Boron                       | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Cadmium                     | MET -93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Chromium                    | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Cobalt                      | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Copper                      | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Iron                        | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Lead                        | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Molybdenum                  | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Nickel                      | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Silver                      | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Thallium                    | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Vanadium                    | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Zinc                        | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Field Temperature                 |              |                                                    | N/A                  |
| Field pH                          |              |                                                    | N/A                  |
| Lab Filtration Aluminum Dissolved | SR-78-9001   |                                                    | FILTRATION           |



CLIENT NAME: COUNTY OF BRANT  
26 PARK AVENUE P O BOX 160  
BURFORD, ON N0E 1A0  
519-449-2451

ATTENTION TO: MATT FREE

PROJECT: 403 BP Stormwater

AGAT WORK ORDER: 24T215727

MICROBIOLOGY ANALYSIS REVIEWED BY: Sheetal Koul, Laboratory Team Lead

TRACE ORGANICS REVIEWED BY: Radhika Chakraborty, Trace Organics Lab Manager

WATER ANALYSIS REVIEWED BY: Yris Verastegui, Inorganic Team Lead

DATE REPORTED: Nov 11, 2024

PAGES (INCLUDING COVER): 11

VERSION\*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

\*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
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- The test results reported herewith relate only to the samples as received by the laboratory.
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- All reportable information is available on request from AGAT Laboratories, in accordance with ISO/IEC 17025:2017, ISO/IEC 17025:2005 (Quebec), DR-12-PALA and/or NELAP Standards.
- This document is signed by an authorized signatory who meets the requirements of the MELCCFP, CALA, CCN and NELAP.
- For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.



**AGAT** Laboratories

## Certificate of Analysis

AGAT WORK ORDER: 24T215727

PROJECT: 403 BP Stormwater

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
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FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: Brant BP SWM Pond

ATTENTION TO: MATT FREE

SAMPLED BY: Ian Lawrence

### Total Coliforms & E.Coli and BCC (Using DC Agar)

DATE RECEIVED: 2024-10-31

DATE REPORTED: 2024-11-11

SAMPLE DESCRIPTION: SW-1  
SAMPLE TYPE: Water  
DATE SAMPLED: 2024-10-31  
11:30  
G / S RDL 6279123

| Parameter                         | Unit      | G / S | RDL   |
|-----------------------------------|-----------|-------|-------|
| Escherichia coli - DC Agar        | CFU/100mL |       | 122   |
| Total Coliforms - DC Agar         | CFU/100mL |       | 4900  |
| Background Colony Count - DC Agar | CFU/100mL |       | 19900 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard  
6279123 Escherichia coli RDL = 2 CFU/100mL  
Total Coliforms and Background Colony Count RDL = 100 CFU/100mL.  
RDL > 1 indicates dilutions of the sample.

Analysis performed at AGAT Toronto (unless marked by \*)

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 24T215727

PROJECT: 403 BP Stormwater

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1Y2  
TEL (905)712-5100  
FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: Brant BP SWM Pond

ATTENTION TO: MATT FREE

SAMPLED BY: Ian Lawrence

### BTEX (Water)

DATE RECEIVED: 2024-10-31

DATE REPORTED: 2024-11-11

|                      |            |                     |      |                     |
|----------------------|------------|---------------------|------|---------------------|
|                      |            | SAMPLE DESCRIPTION: |      | SW-1                |
|                      |            | SAMPLE TYPE:        |      | Water               |
|                      |            | DATE SAMPLED:       |      | 2024-10-31<br>11:30 |
| Parameter            | Unit       | G / S               | RDL  | 6279123             |
| Benzene              | µg/L       | 100                 | 0.20 | <0.20               |
| Toluene              | µg/L       | 0.8                 | 0.20 | <0.20               |
| Ethylbenzene         | µg/L       | 8                   | 0.10 | <0.10               |
| m & p-Xylene         | µg/L       | 32                  | 0.20 | <0.20               |
| o-Xylene             | µg/L       | 40                  | 0.10 | <0.10               |
| Xylenes (Total)      | µg/L       | 72                  | 0.20 | <0.20               |
| Surrogate            | Unit       | Acceptable Limits   |      |                     |
| Toluene-d8           | % Recovery | 50-140              | 110  |                     |
| 4-Bromofluorobenzene | % Recovery | 50-140              | 90   |                     |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to PWQO \* Variable - refer to guideline reference document

Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

6279123 Results relate only to the items tested.

Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by \*)

Certified By:

R. Chakraborty



**AGAT** Laboratories

## Certificate of Analysis

AGAT WORK ORDER: 24T215727

PROJECT: 403 BP Stormwater

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CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: Brant BP SWM Pond

ATTENTION TO: MATT FREE

SAMPLED BY: Ian Lawrence

### Oil and Grease (Total) in Water

DATE RECEIVED: 2024-10-31

DATE REPORTED: 2024-11-11

SAMPLE DESCRIPTION: SW-1  
SAMPLE TYPE: Water  
DATE SAMPLED: 2024-10-31  
11:30

| Parameter                     | Unit | G / S | RDL | 6279123 |
|-------------------------------|------|-------|-----|---------|
| Total Oil and Grease in water | mg/L |       | 0.5 | 1.06    |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Toronto (unless marked by \*)

Certified By:

R. Chakraborty



## Certificate of Analysis

AGAT WORK ORDER: 24T215727

PROJECT: 403 BP Stormwater

5835 COOPERS AVENUE  
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TEL (905)712-5100  
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<http://www.agatlabs.com>

CLIENT NAME: COUNTY OF BRANT

SAMPLING SITE: Brant BP SWM Pond

ATTENTION TO: MATT FREE

SAMPLED BY: Ian Lawrence

### 403 BP - Stormwater - Inorganics

DATE RECEIVED: 2024-10-31

DATE REPORTED: 2024-11-11

| SAMPLE DESCRIPTION: SW-1          |          |         |        |           |
|-----------------------------------|----------|---------|--------|-----------|
| SAMPLE TYPE: Water                |          |         |        |           |
| DATE SAMPLED: 2024-10-31 11:30    |          |         |        |           |
| Parameter                         | Unit     | G / S   | RDL    | 6279123   |
| Chloride                          | mg/L     |         | 0.10   | 105       |
| Total Kjeldahl Nitrogen           | mg/L     |         | 0.10   | <0.10     |
| Total Suspended Solids            | mg/L     |         | 10     | <10       |
| Total Sodium                      | mg/L     |         | 0.10   | 62.4      |
| Aluminum (dissolved)              | mg/L     | *       | 0.004  | 0.004     |
| Total Aluminum                    | mg/L     |         | 0.010  | 0.025     |
| Total Beryllium                   | mg/L     | *       | 0.001  | <0.001    |
| Total Boron                       | mg/L     | 0.2     | 0.010  | 0.017     |
| Total Cadmium                     | mg/L     | 0.0002  | 0.0001 | <0.0001   |
| Total Chromium                    | mg/L     |         | 0.003  | <0.003    |
| Total Cobalt                      | mg/L     | 0.0009  | 0.0005 | <0.0005   |
| Total Copper                      | mg/L     | 0.005   | 0.002  | <0.002    |
| Total Iron                        | mg/L     | 0.3     | 0.050  | 0.064     |
| Total Lead                        | mg/L     | *       | 0.0005 | <0.0005   |
| Total Molybdenum                  | mg/L     | 0.040   | 0.002  | <0.002    |
| Total Nickel                      | mg/L     | 0.025   | 0.003  | <0.003    |
| Total Silver                      | mg/L     | 0.0001  | 0.0001 | <0.0001   |
| Total Thallium                    | mg/L     | 0.0003  | 0.0003 | <0.0003   |
| Total Vanadium                    | mg/L     | 0.006   | 0.002  | <0.002    |
| Total Zinc                        | mg/L     | 0.030   | 0.020  | <0.020    |
| Field Temperature                 | Deg C    |         |        | 14.0      |
| Field pH                          | pH Units | 6.5-8.5 | NA     | 8.02      |
| Lab Filtration Aluminum Dissolved |          |         |        | 11/6/2024 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to PWQO \* Variable - refer to guideline reference document

Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Toronto (unless marked by \*)

Certified By:

*Iris Veraistegui*



## Quality Assurance

CLIENT NAME: COUNTY OF BRANT

PROJECT: 403 BP Stormwater

SAMPLING SITE: Brant BP SWM Pond

AGAT WORK ORDER: 24T215727

ATTENTION TO: MATT FREE

SAMPLED BY: Ian Lawrence

### Microbiology Analysis

| RPT Date: Nov 11, 2024 |       |           | DUPLICATE |        |     | Method Blank | REFERENCE MATERIAL |                   | METHOD BLANK SPIKE |          | MATRIX SPIKE      |       |
|------------------------|-------|-----------|-----------|--------|-----|--------------|--------------------|-------------------|--------------------|----------|-------------------|-------|
| PARAMETER              | Batch | Sample Id | Dup #1    | Dup #2 | RPD |              | Measured Value     | Acceptable Limits |                    | Recovery | Acceptable Limits |       |
|                        |       |           |           |        |     |              |                    | Lower             | Upper              |          | Lower             | Upper |

Total Coliforms & E.Coli and BCC (Using DC Agar)

|                            |         |         |    |    |      |
|----------------------------|---------|---------|----|----|------|
| Escherichia coli - DC Agar | 6279123 | 6279123 | 59 | 61 | 3.3% |
|----------------------------|---------|---------|----|----|------|

|                           |         |         |    |    |      |
|---------------------------|---------|---------|----|----|------|
| Total Coliforms - DC Agar | 6279123 | 6279123 | 49 | 49 | 0.0% |
|---------------------------|---------|---------|----|----|------|

|                                   |         |         |     |     |      |
|-----------------------------------|---------|---------|-----|-----|------|
| Background Colony Count - DC Agar | 6279123 | 6279123 | 199 | 198 | 0.5% |
|-----------------------------------|---------|---------|-----|-----|------|

Certified By:



## Quality Assurance

CLIENT NAME: COUNTY OF BRANT

PROJECT: 403 BP Stormwater

SAMPLING SITE: Brant BP SWM Pond

AGAT WORK ORDER: 24T215727

ATTENTION TO: MATT FREE

SAMPLED BY: Ian Lawrence

### Trace Organics Analysis

RPT Date: Nov 11, 2024

| RPT Date: Nov 11, 2024 |       |           | DUPLICATE |        |     | Method Blank | REFERENCE MATERIAL |                   | METHOD BLANK SPIKE |          | MATRIX SPIKE      |       |
|------------------------|-------|-----------|-----------|--------|-----|--------------|--------------------|-------------------|--------------------|----------|-------------------|-------|
| PARAMETER              | Batch | Sample Id | Dup #1    | Dup #2 | RPD |              | Measured Value     | Acceptable Limits |                    | Recovery | Acceptable Limits |       |
|                        |       |           |           |        |     |              |                    | Lower             | Upper              |          | Lower             | Upper |

#### BTEX (Water)

|              |         |  |       |       |    |        |      |     |      |      |     |      |      |     |      |
|--------------|---------|--|-------|-------|----|--------|------|-----|------|------|-----|------|------|-----|------|
| Benzene      | 6279634 |  | <0.20 | <0.20 | NA | < 0.20 | 108% | 50% | 140% | 112% | 60% | 130% | 109% | 50% | 140% |
| Toluene      | 6279634 |  | <0.20 | <0.20 | NA | < 0.20 | 109% | 50% | 140% | 119% | 60% | 130% | 81%  | 50% | 140% |
| Ethylbenzene | 6279634 |  | <0.10 | <0.10 | NA | < 0.10 | 97%  | 50% | 140% | 106% | 60% | 130% | 68%  | 50% | 140% |
| m & p-Xylene | 6279634 |  | <0.20 | <0.20 | NA | < 0.20 | 107% | 50% | 140% | 114% | 60% | 130% | 84%  | 50% | 140% |
| o-Xylene     | 6279634 |  | <0.10 | <0.10 | NA | < 0.10 | 108% | 50% | 140% | 114% | 60% | 130% | 76%  | 50% | 140% |

#### Oil and Grease (Total) in Water

|                               |         |  |       |       |    |       |     |     |      |     |     |      |     |     |      |
|-------------------------------|---------|--|-------|-------|----|-------|-----|-----|------|-----|-----|------|-----|-----|------|
| Total Oil and Grease in water | 6273906 |  | < 0.5 | < 0.5 | NA | < 0.5 | 93% | 70% | 130% | 99% | 70% | 130% | 97% | 70% | 130% |
|-------------------------------|---------|--|-------|-------|----|-------|-----|-----|------|-----|-----|------|-----|-----|------|

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By:

R. Chakraborty

## Quality Assurance

CLIENT NAME: COUNTY OF BRANT

PROJECT: 403 BP Stormwater

SAMPLING SITE: Brant BP SWM Pond

AGAT WORK ORDER: 24T215727

ATTENTION TO: MATT FREE

SAMPLED BY: Ian Lawrence

| Water Analysis                   |         |           |           |         |       |              |                    |                   |       |                    |                   |       |              |                   |       |
|----------------------------------|---------|-----------|-----------|---------|-------|--------------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------|-------------------|-------|
| RPT Date: Nov 11, 2024           |         |           | DUPLICATE |         |       | Method Blank | REFERENCE MATERIAL |                   |       | METHOD BLANK SPIKE |                   |       | MATRIX SPIKE |                   |       |
| PARAMETER                        | Batch   | Sample Id | Dup #1    | Dup #2  | RPD   |              | Measured Value     | Acceptable Limits |       | Recovery           | Acceptable Limits |       | Recovery     | Acceptable Limits |       |
|                                  |         |           |           |         |       |              |                    | Lower             | Upper |                    | Lower             | Upper |              | Lower             | Upper |
| 403 BP - Stormwater - Inorganics |         |           |           |         |       |              |                    |                   |       |                    |                   |       |              |                   |       |
| Chloride                         | 6281589 |           | <0.49     | <0.49   | NA    | < 0.10       | 99%                | 70%               | 130%  | 100%               | 80%               | 120%  | 99%          | 70%               | 130%  |
| Total Kjeldahl Nitrogen          | 6279558 |           | 108       | 108     | 0.0%  | < 0.10       | 109%               | 70%               | 130%  | 103%               | 80%               | 120%  | NA           | 70%               | 130%  |
| Total Suspended Solids           | 6282349 |           | <10       | <10     | NA    | < 10         | 102%               | 80%               | 120%  |                    |                   |       |              |                   |       |
| Total Sodium                     | 6289541 |           | 104       | 111     | 6.5%  | < 0.10       | 92%                | 70%               | 130%  | 94%                | 80%               | 120%  | 98%          | 70%               | 130%  |
| Aluminum (dissolved)             | 6282583 |           | 0.007     | 0.006   | NA    | < 0.004      | 89%                | 70%               | 130%  | 101%               | 80%               | 120%  | 101%         | 70%               | 130%  |
| Total Aluminum                   | 6289541 |           | 0.402     | 0.394   | 2.0%  | < 0.010      | 90%                | 70%               | 130%  | 102%               | 80%               | 120%  | 107%         | 70%               | 130%  |
| Total Beryllium                  | 6289541 |           | <0.001    | <0.001  | NA    | < 0.001      | 103%               | 70%               | 130%  | 108%               | 80%               | 120%  | 104%         | 70%               | 130%  |
| Total Boron                      | 6289541 |           | 0.141     | 0.141   | 0.0%  | < 0.010      | 102%               | 70%               | 130%  | 112%               | 80%               | 120%  | 107%         | 70%               | 130%  |
| Total Cadmium                    | 6289541 |           | <0.0001   | <0.0001 | NA    | < 0.0001     | 95%                | 70%               | 130%  | 93%                | 80%               | 120%  | 90%          | 70%               | 130%  |
| Total Chromium                   | 6289541 |           | 0.005     | 0.004   | NA    | < 0.003      | 99%                | 70%               | 130%  | 99%                | 80%               | 120%  | 101%         | 70%               | 130%  |
| Total Cobalt                     | 6289541 |           | 0.0055    | 0.0050  | 9.5%  | < 0.0005     | 96%                | 70%               | 130%  | 98%                | 80%               | 120%  | 99%          | 70%               | 130%  |
| Total Copper                     | 6289541 |           | 0.007     | 0.007   | NA    | < 0.002      | 101%               | 70%               | 130%  | 95%                | 80%               | 120%  | 97%          | 70%               | 130%  |
| Total Iron                       | 6289541 |           | 0.823     | 0.747   | 9.7%  | < 0.050      | 94%                | 70%               | 130%  | 102%               | 80%               | 120%  | 93%          | 70%               | 130%  |
| Total Lead                       | 6289541 |           | 0.0012    | 0.0014  | NA    | < 0.0005     | 96%                | 70%               | 130%  | 93%                | 80%               | 120%  | 93%          | 70%               | 130%  |
| Total Molybdenum                 | 6289541 |           | 0.018     | 0.018   | 0.0%  | < 0.002      | 105%               | 70%               | 130%  | 107%               | 80%               | 120%  | 115%         | 70%               | 130%  |
| Total Nickel                     | 6289541 |           | 0.049     | 0.046   | 6.3%  | < 0.003      | 96%                | 70%               | 130%  | 96%                | 80%               | 120%  | 96%          | 70%               | 130%  |
| Total Silver                     | 6289541 |           | <0.0001   | <0.0001 | NA    | < 0.0001     | 103%               | 70%               | 130%  | 101%               | 80%               | 120%  | 101%         | 70%               | 130%  |
| Total Thallium                   | 6289541 |           | <0.0003   | <0.0003 | NA    | < 0.0003     | 99%                | 70%               | 130%  | 97%                | 80%               | 120%  | 88%          | 70%               | 130%  |
| Total Vanadium                   | 6289541 |           | 0.002     | 0.002   | NA    | < 0.002      | 96%                | 70%               | 130%  | 100%               | 80%               | 120%  | 105%         | 70%               | 130%  |
| Total Zinc                       | 6289541 |           | 0.275     | 0.247   | 10.7% | < 0.020      | 97%                | 70%               | 130%  | 98%                | 80%               | 120%  | 85%          | 70%               | 130%  |

Comments: NA signifies Not Applicable.

Duplicate NA: results are under 5X the RDL and will not be calculated.

Matrix spike NA: Spike level &lt; native concentration. Matrix spike acceptance limits do not apply and are not calculated.

Certified By:



## Method Summary

CLIENT NAME: COUNTY OF BRANT

AGAT WORK ORDER: 24T215727

PROJECT: 403 BP Stormwater

ATTENTION TO: MATT FREE

SAMPLING SITE: Brant BP SWM Pond

SAMPLED BY: Ian Lawrence

| PARAMETER                         | AGAT S.O.P   | LITERATURE REFERENCE                   | ANALYTICAL TECHNIQUE |
|-----------------------------------|--------------|----------------------------------------|----------------------|
| Microbiology Analysis             |              |                                        |                      |
| Escherichia coli - DC Agar        | MIC-93-7010  | MOE Method E3407                       | MF/INCUBATOR         |
| Total Coliforms - DC Agar         | MIC-93-7010  | EPA 1604                               | MF/INCUBATOR         |
| Background Colony Count - DC Agar | MIC-93-7010  | MOE Method E3407                       | MF-Incubator         |
| Trace Organics Analysis           |              |                                        |                      |
| Benzene                           | VOL-91-5001  | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| Toluene                           | VOL-91-5001  | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| Ethylbenzene                      | VOL-91-5001  | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| m & p-Xylene                      | VOL-91-5001  | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| o-Xylene                          | VOL-91-5001  | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| Xylenes (Total)                   | VOL-91-5001  | modified from EPA SW-846 5030C & 8260D | (P&T)GC/MS           |
| Toluene-d8                        | VOL-91-5001  | modified from EPA 5030B & EPA 8260D    | (P&T)GC/MS           |
| 4-Bromofluorobenzene              | VOL-91- 5001 | modified from EPA 5030B & EPA 8260D    | (P&T)GC/MS           |
| Total Oil and Grease in water     | VOL-91-5011  | SM 5520 & EPA SW846 3510C & EPA 1664   | BALANCE              |

## Method Summary

CLIENT NAME: COUNTY OF BRANT

PROJECT: 403 BP Stormwater

SAMPLING SITE: Brant BP SWM Pond

AGAT WORK ORDER: 24T215727

ATTENTION TO: MATT FREE

SAMPLED BY: Ian Lawrence

| PARAMETER                         | AGAT S.O.P   | LITERATURE REFERENCE                               | ANALYTICAL TECHNIQUE |
|-----------------------------------|--------------|----------------------------------------------------|----------------------|
| Water Analysis                    |              |                                                    |                      |
| Chloride                          | INOR-93-6004 | modified from SM 4110 B                            | ION CHROMATOGRAPH    |
| Total Kjeldahl Nitrogen           | INOR-93-6048 | modified from EPA 351.2 and SM 4500-NORG D         | LACHAT FIA           |
| Total Suspended Solids            | INOR-93-6028 | modified from EPA 1684, ON MOECC E3139, SM 2540C,D | BALANCE              |
| Total Sodium                      | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP/MS               |
| Aluminum (dissolved)              | MET-93-6103  | modified from EPA 200.8 and EPA 3005A              | ICP-MS               |
| Total Aluminum                    | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Beryllium                   | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Boron                       | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Cadmium                     | MET -93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Chromium                    | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Cobalt                      | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Copper                      | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Iron                        | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Lead                        | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Molybdenum                  | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Nickel                      | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Silver                      | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Thallium                    | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Vanadium                    | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Total Zinc                        | MET-93-6103  | modified from EPA 200.8, 3005A, 3010A & 6020B      | ICP-MS               |
| Field Temperature                 |              |                                                    | N/A                  |
| Field pH                          |              |                                                    | N/A                  |
| Lab Filtration Aluminum Dissolved | SR-78-9001   |                                                    | FILTRATION           |





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