2025 Annual Performance Report

Loyalist Township Stormwater Management System

Environmental Compliance Approval (158-S701)

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1. Introduction

Under Environmental Compliance Approval (158-S701) Loyalist Township is required to report annually on the requirements listed in *Section 5.2, Schedule* E. The report is organized into sections that correspond with the subsections of *Section 5.2, Schedule E* as indicated in the headings.

The report is to be made available to the public before or on June 1st of each reporting year, the report will be made available on the Loyalist Township website. A copy of the report can also be obtained, at no charge, from Loyalist Township office located at 263 Main Street, Odessa, ON, (613) 386-7351. Loyalist Township strives to provide information in a format accessible to all people. Please contact the Clerk's Division at 613-386-7351 ext. 7 between 8:30 am to 4:30 pm or email clerk@loyalist.ca. You may also complete a request form, available at the Municipal Office in Odessa or online at www.loyalist.ca to request an alternative format.

The Stormwater management system serving Loyalist Township is a separate system consisting of storm sewers, culverts, catch basins, maintenance holes, ditches, stormwater management facilities and outlets. The Township's SWM system, primarily covers three separate subsystems located in the hamlets of Amherstview, Bath, and Odessa. The stormwater system discharges it into local watercourses within the Cataraqui Region Conservation Authority (CRCA) watershed and ultimately into Lake Ontario.

2. Reporting – Annual Performance

2.1 Reporting Period (Sec. 5.2.1)

This report summarizes the performance and operations of the stormwater system for the period from **January 1st, 2025, to December 31st, 2025.**

2.2 System Condition, Monitoring Data & Trends (Sec. 5.2.2, 5.2.3)

The Authorized System performed according to its design specifications throughout the 2025 reporting period. In the absence of standardized water quality monitoring, system performance was verified through a consistent schedule of physical inspections and preventative maintenance designed to ensure the integrity of the stormwater treatment train. Quarterly inspections of all stormwater management ponds and transitional facilities confirmed that pond embankments, inlets/outlets, and control structures remained in good condition without evidence of structural failure or uncontrolled overflows. Field observations during these inspection cycles revealed no visual or olfactory indicators of adverse effects, such as abnormal turbidity or erosion, at any points of discharge to the natural environment. The Township conducted a comprehensive maintenance program for the entire inventory of oil and grit separators (OGS). Every unit was serviced using a hydro-vac to extract all accumulated

sediment and oil, followed by a thorough power washing of the internal components. This maintenance effectively restored the units to their full design capacity, ensuring the continued protection of downstream infrastructure and the ongoing efficiency of the treatment train.

In accordance with *Section 4.1, Schedule E* of the ECA, the development of a formal Stormwater Monitoring Plan is contingent upon the publication of the MECP's final *Stormwater Monitoring Guidance* document. As this guidance remains pending, a standardized monitoring program has not yet been initialized for the 2025 reporting cycle. Consequently, quantitative monitoring data and associated environmental trend analyses are currently unavailable.

2.3 Operating Problems & Corrective Actions (Sec. 5.2.4)

Table 1 below summarizes the operating problems encountered within the Authorized System during the 2025 reporting period. These entries identify instances where assets required intervention to maintain design performance, such as sediment accumulation beyond maintenance thresholds or abnormal SWMP levels. For each identified problem, the table outlines the corrective actions taken to ensure continued system functionality and regulatory compliance.

Table 1: Operating Problems & Corrective Actions

Asset	Asset ID	Operating Problem Identified	Corrective Action Taken	Status
Public Works Garage OGS	N/A	2nd treatment chamber was observed to have more surface oil than 1st treatment chamber	Sediment, oil and sludge removed. Unit cleaned and power washed. Inspection of pumped down unit was performed. No structural issues observed	Complete
		Unit not draining properly	Removed Ice/ Snow build up from outlet and swale	Complete
Bayshore OGS	8496	Inspection of OGS unit revealed sediment levels at 97% of the isolated sump capacity, exceeding the maintenance threshold of 75%	Unit cleanout was completed to restore water quality treatment function	Complete
Lakeside SWMP	3	Pond level higher than normal	Outlets and structures downstream inspected, no obstruction found. Reinspection performed, pond level returned to normal operating height, no action needed.	Complete
		Pond level was observed to be lower than normal	Obstruction of sediment and organic debris was removed from the inlet pipe during inspection	Complete

Asset	Asset ID	Operating Problem Identified	Corrective Action Taken	Status
Loyalist Estates Business Park LEBP South SWMP	2	High pond levels observed due to debris blockage at the orifice plate	Pond was routinely inspected; the orifice plate was cleared multiple times.	Complete
		Invasive and hazardous plant species observed surrounding SWM ponds	Scheduled to create an invasive and hazardous plant management plan in 2026 address issues between (2026-2028)	In progress
Loyalist Estates Business Park LEBP West SWMP	13			
CR6 SWMP	17			
Parkside SWMP	1	Excessive shoreline vegetation and reduced size of forebay and main bay	Scheduled cleanout for 2026	In Progress
Bayshore Enhanced Grass Swale	-	Sediment starting to obstruct inlet, vegetation becoming overgrown	Scheduled clean out in 2026	In Progress

2.4 Maintenance, Repairs & Inspections (Sec. 5.2.5)

Table 2 below summarizes the maintenance activities performed across the Authorized System during the 2025 reporting period. The table includes all routine and corrective maintenance as well as repairs that were performed.

Table 2: Maintenance Summary

Asset	Asset ID	Maintenance Type	Work Description	Date Completed
Academy St Depressions	7	Corrective	Sediment removed from ponds to restore design capacity, overgrown vegetation cleared.	Jun-Sep 2025
Public Works Garage OGS	N/A	Routine	Sediment, oil and sludge removed. Unit cleaned and power washed. Inspection of pumped down unit was performed. No structural issues observed	May 2025

Asset	Asset ID	Maintenance Type	Work Description	Date Completed
		Corrective	Outlet and swale cleared of snow/ ice.	Feb 2025
OGS-CDS	1695, 8496, 8535, 8564, 9055,8930	Routine	Contractor performed full service of all CDS units. 6.7 cubic meters of sediment removed. All units were cleaned and power washed.	May 2025
Lakeside SWM Pond	3	Corrective	Sediment and organic debris was cleared from inlet pipe, restoring water flow.	Dec 2025
		Routine	Trash removed	Jun 2025
CR6 SWM Pond	17	Routine	Organic debris removed from outlet	Jan 2025
		Routine	Pile of sand removed from bank	Sep 2025
LEBP South SWM Pond	2	Corrective	Orifice plate was cleared of organic debris multiple times.	Jan-Dec 2025
LEBP West SWM Pond	13	Corrective	Lock installed on access gate	Jan 2025
Parkside SWM Pond	1	Routine	Trash removed behind rodent grate of North inlet	Jan 2025
		Routine	Vegetation/ small trees removed from North and West inlet riprap	Jan 2025
		Corrective	Repaired SWMF warning sign	Jan 2025
Stormwater Collection System (Manholes)	7052, 7053, 7056, 7061, 7065, 7068, 7071, 7072, 7077, 7277, 7281, 7299, 7300, 7301, 8030	Repair	Manhole lids/frames, risers repaired/replaced /adjusted as part of a road resurfacing project. Manholes cleaned after construction.	May-Aug 2025
Stormwater Collection System (Catch basins)	7054, 7055, 7057, 7058, 7059, 7060, 7063, 7064, 7066, 7067, 7073, 7074, 7075, 7076, 7080, 7278, 7279, 7280, 7788, 7806, 7808, 7809, 7811, 7812, 7816, 7817, 8026, 8027, 8028, 8029, 8036	Repair	Catch basin lids/frames, risers repaired/replaced/ adjusted as part of a road resurfacing project. Catch basins were after construction.	May-Aug 2025

Asset	Asset ID	Maintenance Type	Work Description	Date Completed
	Various CB's in Zone 1, 3, 4, 5	Routine	Sediment/debris/trash removed from catch basins, cleaning approximately 1/3 of the system.	Jul 2025
Stormwater Collection System	-	Routine	Seasonal street sweeping (Spring/Fall) to remove winter sand/salt and organic debris from the collection system	April-Oct 2025

Table 3 provides a detailed log of the specific inspection activities conducted across the Authorized System during the 2025 reporting period. Table 4 compares the routine inspection frequencies established in the Township's Operations and Maintenance (O&M) manual against the total number of inspections performed. This summary demonstrates the Township's adherence to its defined service levels and confirms that all required monitoring cycles were completed for the reporting year.

Table 3: Inspection Log

Facility	Date	Description
SWM Ponds	January 3, 2025	Quarterly inspection of all SWM ponds.
Transitional SWM	April 8, 2025	Quarterly inspection of all Transitional SWM ponds.
SWM & Transitional Ponds	March 5, 2025	All SWM ponds and Transitional facilities inspected. Triggered by significant weather event.
Transitional SWM Ponds	April 8, 2025	Quarterly inspection of all Transitional SWM ponds.
SWM ponds	April 9, 2025	Quarterly inspection of all SWM ponds.
OGS-CDS Units	May 15, 2025	All CDS units were inspected before and after the units were cleaned and power washed.
SWM ponds	August 26, 2025	Quarterly inspection of all SWM ponds.
Transitional SWM Ponds	August 28, 2025	Quarterly inspection of all Transitional SWM ponds.
SWM & Transitional Ponds	October 31, 2025	All SWM ponds and Transitional facilities inspected. Triggered by significant weather event.
OGS-CDS Units	November 12, 2025	All CDS units were inspected.
SWM Ponds	December 1, 2025	Quarterly inspection of all SWM ponds.
Transitional SWM Ponds	December 11, 2025	Quarterly inspection of all Transitional SWM ponds.

Facility	Date	Description
CR6 Garage OGS	Monthly/Weekly	Inspections completed throughout the year. Frequency dictated by season
Catch Basin Cleanout and Flushing	June - September	1/3 township catch basins were cleaned out and inspected as part of the Annual cleanout and inspection program.

Table 4: Inspection Frequency & Completed Inspections

Asset	GIS ID	Routine Inspection Frequency	Inspections Conducted
Stormwater Collection System (Sewer Pipes & Manholes)	Various	Every 15-20 years, or as required, either as part of Loyalist Township's CCTV inspection and flushing program or initiated in advance of capital projects.	653m
Stormwater Collection System (Catch basins)	Various	Every 3 years	1/3 of system
Grass swales and enhanced grass swales	7, 73	Inspected at the same frequency as the SWMF system (e.g., Wet Ponds, Dry Ponds, or OGS) that they form part of.	2
Parkside SWMP	1	Quarterly inspections, including at the beginning and end of the rainfall season with additional inspections triggered by significant rainfall events.	4
Lakeside SWMP	3		4
LEBP (South) SWMP	2		4
LEBP (West) SWMP	13		4
LEBP (North) SWMP	14		4
Public Works Garage SWMP	17		4
Public Works Garage OGS	N/A	monthly inspections from April to October, and weekly inspections from November to March	27
Amherstview Fire Hall OGS	1695	Twice per year for CDS units	2
Bayshore Drive OGS	8496		2
Jordyn's Court OGS	8535		2
Simurda Court OGS	8564		2
Davy Street OGS	9055		2
Amy Lynn Drive OGS	8930		2
Outlets	Various	once every 4 years	0
Transitional Facilities			
Odessa West SWMP	12	Quarterly inspections, additional inspections triggered by significant rainfall events. During the 1-year maintenance period, newly assumed ponds are inspected after every moderate and significant rainfall event.	4
Lakeside Ponds SWMP	N/A		4
Loyalist Shores SWMP	10		4
Aura by the Lake SWMP	11		4
Loyalist Estates SWMP	6		4

2.5 Monitoring Equipment (Sec. 5.2.6)

As the Township does not currently utilize monitoring equipment for the Authorized System, there were no requirements for equipment calibration during the 2025 reporting period. All system performance data was derived from physical inspections and manual measurements. When the MECP

releases its final Stormwater Monitoring Guidance, the Township will evaluate the equipment requirements and establish a formal calibration and maintenance program as part of the future Monitoring Plan.

2.6 Inquiry Summary (Sec. 5.2.7)

Table 5 below summarizes stormwater related service requests received by the Township during the 2025 reporting period. This log includes the service request number, the associated asset, the reported issue, and the corresponding action taken. All documented issues have been successfully resolved or are currently in the process of being addressed.

Please note that the Township also responds to various inquiries regarding rural culverts, roadside ditches, and infrastructure owned by the County or Province. Furthermore, staff frequently investigate drainage concerns on private property that are unrelated to the municipal stormwater system. As these matters involve assets or lands that are not part of the Authorized System defined under the CLI-ECA, they are excluded from this report.

Table 5: Summary of Complaints and Current Status

Service Request	Asset	Asset ID	Issue	Action	Status
SR-25659	Stormwater Collection System	-	Driveway culvert damaged	Added to repair queue	In progress
SR-24980	Stormwater Collection System	7636	Ditch inlet obstructed by vegetation	Obstruction Cleared	Resolved
SR-24204	Stormwater Collection System	7637, 7647	Catch basins not draining	Obstruction Cleared	Resolved
SR-22951	Stormwater Collection System	-	Driveway culvert not draining	Culvert flushed and obstruction cleared	Resolved
SR-22870	Transitional Facility – Loyalist Shores SWM Pond	11	Concern about fencing	SWM pond is developer owned and fencing is not part of the original design	Resolved
SR-22393	Transitional Facility	10	Erosion and drainage concern	Work has been repaired and is under maintenance by the Developer.	Resolved
SR-22116	Stormwater Collection System	-	Ditches on Harvard Pl backing up, causing flooding	Ditches and culverts cleared	Resolved

2.7 Alterations to the Authorized System (Sec. 5.2.8)

Table 6 below summarizes the alterations made to the Authorized System during the 2025 reporting period. This includes new infrastructure additions and modifications to existing assets, with the applicable MECP Approval Forms.

An assessment of the proposed works has been completed to determine if the works pose a significant drinking water threat. While specific assets are situated within an Intake Protection Zones (IPZ), all associated vulnerability scores were recorded at 6.3 or lower. Based on the results of these assessments, none of the works pose a threat to sources of drinking water

Table 6: Alterations to the Authorized System

Location	Description	Form	Source Protection Zone	Vulnerability Score	Significant Threat
Odessa – Road Reconstruction Project	Reconstruction and replacement of existing storm sewers and extensions to the existing system on Main St, Creighton Dr, South St	SW1	N/A*	-	No
Amherstview - Lakeside Subdivision Phase 2 Stage 4	New storm sewer from Pratt Dr discharging to existing stormwater system	SW1	N/A*	-	No
Bath - Legacy Estates Subdivision	New storm sewers discharging to an OGS.	SW1	IPZ-2	6.3	No
Odessa - Drainage Improvements Project	New OGS unit along Bridge St	SW2	N/A*	-	No
Bath - Legacy Estates Subdivision	New OGS discharging to existing storm sewers	SW2	IPZ-2	6.3	No

* *Asset is located outside of all mapped Intake Protection Zones (IPZs) and Wellhead Protection Areas (WHPAs)*

2.8 Spills and Abnormal Discharge Events (Sec. 5.2.9)

During the 2025 reporting period, there were no recorded spills or abnormal discharge events within the Authorized System. Furthermore, visual inspections of SWM pond outlets and OGS units confirmed that no unauthorized substances reached the natural environment.

2.9 Summary of Actions Taken and System Improvement Plan (Sec. 5.2.10)

During the 2025 reporting period, the Township performed several key actions to improve and correct the performance of the Authorized System. These efforts ensured that all infrastructure operated within its design parameters and that potential failures were mitigated through proactive monitoring. While a comprehensive record of all actions taken is provided in Section 2.3 and Section 2.4, the following key actions represent the most significant improvements to system performance.

- **OGS Servicing:** Completed the full hydro-vac cleanout and power washing of OGS units within the Authorized System. Notably, during routine inspections, one unit was identified as being significantly beyond its recommended maintenance capacity; immediate corrective action was taken to clean the unit and restore its full treatment functionality, preventing the potential bypass of pollutants.

- **Academy St. Depression Rehabilitation**: Conducted an extensive cleanout of the Academy St. depressions, removing accumulated sediment and overgrown vegetation that had begun to impede hydraulic performance and capacity.

- **Integrated Infrastructure Repairs**: In coordination with a scheduled road resurfacing project, the Township completed the structural repair and adjustment of multiple stormwater catch basin and manhole lids, frames, and risers. This integrated approach allowed for the efficient restoration of the conveyance network's structural integrity.

The 2026 system improvement plan prioritizes the restoration of design capacity and the modernization of asset tracking. Physical improvements focus on sediment remediation at the Parkside SWM pond, a flow control retrofit at the LEBP South SWM pond and restoring the Bayshore enhanced grass swale to its original design specifications. Simultaneously, the Township will digitize its SWMF inspections into GIS. Citywide software will be utilized to trigger inspection and maintenance items.

Table 7: System Improvement Plan

Proposed Action / Improvement	Target Asset	Estimated Timeline	Objective
SWMP Sediment Remediation	Parkside SWMF	Q3	Verify storage volumes and restore design specifications to ensure optimal facility performance.
Integrate SWMF Inspections with GIS	SWM Ponds & Outlets	Q4	To transition from paper-based records to a centralized digital inventory, ensuring real-time data accuracy, georeferenced inspection photos, and streamlined annual reporting compliance.
Automate Inspection Triggers via Citywide	SWM Ponds & OGS/CDS units	Q2	Ensure accountability through a closed-loop system of automated notifications and formal supervisor approval.
Develop an Invasive & Hazardous plant Management Plan	SWM Ponds	Q1-4	Establish standardized protocols for the identification, treatment, and removal of hazardous and invasive plant species.
Replace orifice plate	LEBP South SWM Pond	Q2-3	Retrofit flow control structure with a serviceable orifice plate to mitigate debris accumulation and streamline routine maintenance.
Rehabilitate Swale	Bayshore Enhanced Grass Swale	Q2-3	To restore hydraulic capacity and ensure optimal TSS removal by returning the swale to its original design cross-section
Inspect All Outlets	Outlets	Q1-4	To meet requirements of *Section 3.1.1, Schedule E* of ECA 158-S701
Storm Sewer Catchment Asset Inventory	Authorized System	Q2	Prepare and submit to the Director an inventory of the storm sewer sheds and classify in accordance with Tables E1 and E2 in Section 9, Schedule E of ECA 158-S701

2.10 Status of Actions for the Previous Reporting Year (Sec. 5.2.11)

Table 8: Status of Previous Actions

Year	Proposed Action / Improvement	Target Asset	Description of Action	Status
2024	Rehabilitate facility to design hydraulic capacity	Academy St Depressions	Restored the facility to its original design specifications through the removal of accumulated sediment and overgrown vegetation, effectively re-establishing the storage volumes.	Complete

3. Conclusion

The 2025 Annual Report demonstrates that the Township's Authorized System was operated and maintained in accordance with the requirements of the ECA through a comprehensive program of routine inspections and targeted corrective maintenance. The Township successfully mitigated flooding risks and ensured optimal water quality treatment.

4. Definitions and Terms

"Authorized System" means the Sewage Works comprising the Municipal Stormwater Management System authorized under the ECA 158-S701.

"CCTV" means a closed-circuit television video, in relation to the process of using a camera to see inside of stormwater pipes.

"CDS" means a type of manufactured treatment device.

"CRCA" means Cataraqui Region Conservation Authority

"ECA" means Environmental Compliance Approval.

"Enhanced Grass Swale" means a vegetated open channel designed to convey and treat stormwater runoff. Unlike a standard ditch, it is engineered with a wide, flat bottom, gentle side slopes, and specific vegetation to slow water velocity, promote sedimentation, and achieve high levels of pollutant removal through filtration and infiltration.

"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.

"DNF" means Director Notification Form.

"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.

"Intake Protection Zone" means designated area of land and water surrounding a municipal surface-water intake where protective measures are implemented to prevent contaminants from reaching the

drinking water source. These zones are delineated based on the time it would take for a spill to reach the intake (e.g., IPZ-1 is the immediate area, while IPZ-2 is based on a two-hour response time).

"MECP" means the Ministry of Environment, Climate, and Parks.

"Monitoring Plan" means the monitoring plan prepared and maintained by the Owner under Section 4.1, Schedule E of ECA 158-S701.

"MTD" means manufactured treatment device.

"O&M Manual" means the operation and maintenance manual prepared and maintained by the Owner under condition 3.2 in Schedule E of ECA 158-S701.

"OGS" means Oil and Grit Separator(s).

"Separate System" means not designed to convey sanitary sewage or combined sewage.

"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.

"Spill(s)" has the same meaning as defined in subsection 91(1) of the EPA.

"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) (SWMF)" means a Facility for the treatment, retention, infiltration, or control of Stormwater.

"Stormwater Treatment Train" means a series of Stormwater Management Facilities designed to meet Stormwater management objective for a given area, and can consist of a combination of MTDs, LIDs and end-of-pipe controls.

"SWMF" means Stormwater Management Facility.

"SWMP" means Stormwater Management Pond

"Transitional Facility(ies)" means Stormwater Management Facilities 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.

5. Regulatory Framework and Legislative Compliance

Loyalist Townships Stormwater Management System is operated and maintained in accordance with the terms and conditions of the CLI-ECA. All operational activities are conducted to ensure the

protection of the natural environment and public health, adhering to the requirements of the following regulatory bodies and provincial acts:

- ***Clean Water Act*** **(CWA)**
- ***Drainage Act***
- ***Environmental Protection Act*** **(EPA)**
- ***Ontario Water Resources Act*** **(OWRA)**
- **Ministry of the Environment, Conservation and Parks (MECP)**
- **Canadian Water and Wastewater Association (CWWA)**

6. Key Contacts

For further information on this report or a related topic or if there are any questions regarding the information contained in this report, please contact:

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