Ontario

ENVIRONMENTAL COMPLIANCE APPROVAL
For a Municipal Stormwater Management System

ECA Number: 324-S701
Issue Number: 2

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:

Caledon, The Corporation Of The Town Of

6311 Old Church Rd 0
Caledon, Ontario L7C 1J6

For the following Sewage Works:

Town of Caledon Municipal Stormwater Management System

This Environmental Compliance Approval (ECA) includes the following:

Schedule	Description
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 29th day of August, 2024

Signature

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

Schedule A: System Information

System Owner	**Caledon, The Corporation Of The Town Of**
ECA Number	**324-S701**
System Name	**Town of Caledon Municipal Stormwater Management System**
ECA Issue Date	**August 29, 2024**

1.0 ECA Information and Mandatory Review Date

ECA Issue Date	August 29, 2024
Application for ECA Review Due Date	August 15, 2027

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 Forcemains 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
Asset Management Plan Town of Caledon	v.1 (November 30th, 2021)
Town of Caledon Stormwater Management Master Plan	v.1 (June 2016)
Credit River Water Management Strategy	v.1 (2006)
Caledon Creek and Credit River Subwatershed Study (Subwatershed 16 & 18)	v.1 (December 2001)
East Credit Subwatershed Study (Subwatershed 13)	v.1 (December 2002)
Shaws Creek Subwatershed Study (Subwatershed 17)	v.1 (May 2017)
Headwaters Subwatershed Study (Subwatershed 19)	v.1 (June 2021)
Credit River Watershed Natural Heritage System	v.1 (2015)
Humber River Watershed Plan Pathways to a Healthy Humber	v.1 (June 2008)
Etobicoke Creek Watershed Plan	v.1 (Underway)

4.0 Operating Authority

System	Operating Authority
Town of Caledon Municipal Stormwater Management System	The Corporation of The Town of Caledon

Schedule B: Municipal Stormwater Management System Description

System Owner	**Caledon, The Corporation Of The Town Of**
ECA Number	**324-S701**
System Name	**Town of Caledon Municipal Stormwater Management System**
ECA Issue Date	**August 29, 2024**

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 Town of Caledon's 69,257 ha (692 km^2), is a separate system for stormwater (i.e. designed not to convey sanitary sewage, combined sewage) within the Credit River Watershed (30384 ha), Humber River Watershed (31309 ha), Etobicoke Creek (2852), Lake Simcoe Watershed (347 ha) and Nottawasaga Watershed (1361 ha). The Town of Caledon's Municipal SWM System consists of 243 km of storm sewers, 1090.3 km of ditches, 5487 culverts (including OSIM, non-OSIM, and driveway culverts within the public right-of-way), 126 stormwater management facilities, and 298 outlets.

This ECA covers the entire Municipal SWM System owned and operated by the Town of Caledon.

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.

Table B1: Infrastructure Map	
Column 1 Document or File Name	Column 2 Date
1. Caledon Wide Stormwater Infrastructure Map	October 5, 2022
2. Alton Stormwater Infrastructure Map	October 5, 2022

3. Caledon East Stormwater Infrastructure Map	October 5, 2022
4. Caledon Village Stormwater Infrastructure Map	October 5, 2022
5. Cheltenham Stormwater Infrastructure Map	October 5, 2022
6. Inglewood Stormwater Infrastructure Map	October 5, 2022
7. North Bolton Stormwater Infrastructure Map	October 5, 2022
8. South Bolton Stormwater Infrastructure Map	October 5, 2022
9. Palgrave Stormwater Infrastructure Map	October 5, 2022
10. Mayfield Stormwater Infrastructure Map	October 5, 2022
11. Development Restricted Areas	October 5, 2022
12. Watershed Map	October 5, 2022
13. SourceProtectionArea	October 5, 2022

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:

Table B2. Stormwater Collection System by Diameter

System Type	Pipe Diameter (mm)	Length (km)	System Totals (km)
Storm Sewers	Up to 250	27.1	
Storm Sewers	> 250 - 500	70.9	
Storm Sewers	> 500 - 1050	84	
Storm Sewers	> 1050	18.2	
Storm Sewers	Unknown size	42.8	
Total Storm Sewers		--	243
Ditches / Swales	NA	--	1090.3
Total System Length (km)		--	1,333.3

Table B3. Summary of Stormwater Management Facilities by Type and Pumping Stations							
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)	2		3		5	5	5
LID Facilities - Filtration	7				7		7
Stormwater Management Ponds – Wet (includes wetlands, hybrids)	9	1	40	3	53	44	53
Stormwater Management Ponds - Dry	15				15	15	15
Super Pipe / Storage Facility							
Filtration MTD - Filter Unit				1			1
Sedimentation MTD - OGS				11			11
Pumping Stations							
Other							
Total Number of Facilities							92

* 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 Pip e Sewer	Up to 250	--	N/A	--
Third Pipe Sewer	> 250 - 500	--	N/A	--
Third Pipe Sewer	> 500	--	N/A	--
Total				Km
Other Infrastructure Components (e.g., storage tank)	N/A	N/A		

Table B5. Sewage Works on Private Land that are part of the Municipal Stormwater Treatment Train*			
Description	Location	ECA # (if applicable)	
Bolton_OGS_54 (Outlets to a stormwater management pond on private property)	Bolton, Latitude:43.882837, Longitude: -79.718506	7775-C5LS5B	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:

Alton_Dry Pond1_Pt Lot 22 Conc 4 WHS

Location	Alton, Latitude:43.857077, Longitude:-80.065875
Watershed/Subwatershed	Credit River
Receiver of discharge	Surface outlets to Shaws Creek
Outlet location	Alton, Latitude:43.859521, Longitude:-80.062843
Catchment Area	21.23 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Peak flow control for the 2- through 100-year event
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	Dry pond designed in 1984 and constructed in 1990 to provide quantity control for 21.23 ha Alton Estates Subdivision. The storm sewers and swales servicing the subdivision converge at a low point on Agnes Street, approximable 200 m east of McClellan Road. Runoff is piped from the low point through a 900 mm diametre storm sewer through a 5 m easement. The pond is designed to have a total storage capacity of 550 cu.m for the 2-year event and 1000 cu.m for the 100-year event.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	N/A

Tullamore_Wet Pond2_Pt Lot 18 Conc 6 EHS

Location	Mayfield Road and Airport Road, Tullamore, Latitude:43.79002, Longitude:-79.76282
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to Salt Creek

Outlet location	Tullamore, Latitude:43.789338, Longitude:-79.763162
Catchment Area	29.71 ha (includes 9.2 ha of external drainage)
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Attentuate post-development peak flows to pre-development levels for all storm events up to and including the 100 year return storm
Reference ECA(s)	1269-5T2SCD
Reference Works as part of treatment train	None
Brief Description	Stormwater management wet pond with a catchment area of 29.71 ha within an industrial subdivision including 9.2 ha from the north, will provide quality and quantity control with an total storage volume of 11900 cu m, consisting of a 5022 cu m permanent pool, 4201 cu m extended storage and a 10970 cu m of flood storage, one forbay, equipped with one 400mm diamteter hickenbottom outlet within a 1500 diameter CSP riser manhole connected to a 375mm outlet pipe via a 1200 mm diameter manole control structure, including an emerygency overlow weir. Outlets discharge into a wetland overflow channel and into the existing watercourse on mayfield road.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	N/A

Tullamore_Wet Pond3_Pt Lot 2 Conc 1 Albion

Location	780m southeast of Airport Road, Tullamore, Latitude:43.800719, Longitude:-79.758408
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to Salt Creek
Outlet location	Tullamore, Latitude:43.801553, Longitude:-79.756978
Catchment Area	39 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Attentuate post-development peak flows to pre-development levels for the 2-year through the 100-year return events
Reference ECA(s)	4077-6JCSBL
Reference Works as part of treatment train	None
Brief Description	A Stormwater management pond located approximately 780m southeast of Airport Road; having a-permanent storage volume

	of 12,546 cu m, an extended detention storage volume of 10,208 cum and a total active storage volume of 36,387 cum. The Ponds has 2 inlet structures: (1) a 1,500 mm diameter inflow pipe, headwall and rip rap splash pad; and (2) includes a 900 mm diameter inflow pipe, headwall and rip rap splash pad. As well, the pond includes 2 sediment forebays, 2 sediment forebay berms, a 5 m wide access road, two 2 sediment drying/storage areas, a 16 m wide emergency overflow weir and one (1) outlet structure consisting of a 375 mm diameter reverse slope outlet pipe discharging to a 1,800 mm diameter control manhole equipped with a 760 mm wide by 1,220 mm high opening and a 675 mm diameter control/outlet pipe, together allowing a maximum discharge of 1.2 m/s (100-year storm event) to Salt Creek.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	N/A

Bolton_Constructed Wetland4_Plan 43M-1264 Blk 76

Location	Bolton, Latitude:43.893754, Longitude:-79.744873
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to Cold Creek
Outlet location	Bolton, Latitude:43.892096, Longitude:-79.74392
Catchment Area	203 ha
Level of Treatment for suspended solids	80% TSS Removal for 42 ha of residential development
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Attenuate post-development peak flows to pre-development levels for all storm events from the 2-year up to and including the 100-year return storm event. As well as erosion control for the 25 mm event.
Reference ECA(s)	6896-BRKPD4
Reference Works as part of treatment train	Yes
Brief Description	Retrofit of a previously constructed online dry pond to an online constructed wetland with sediment forebay. The constructed wetland provides Enhanced Level quality control for 42 hectares of developed residential area and quantity control for 203 hectares of total catchment area, having a permanent pool of approximately 2,840 cubic metres at a depth of 0.3 metres in the wetland main cell and a depth of 1.8 metres in the forebay, an extended detention volume of approximately 6,000 cubic metres and a storage volume of approximately 27,843 cubic metres including the permanent pool at a depth of 2.34 metres in the main cell for the 100-year storm, comprised of one (1)

	existing 1,950 millimetre diameter west inlet discharging into the sediment forebay and one (1) existing 600 millimetre diameter east inlet discharging into the main cell, one (1) perforated riser outlet structure consisting of a 300 millimetre orifice plate, discharging via a 375 millimetre. diameter outlet pipe and existing 2,500 millimetre diameter culvert to Cold
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond5_Plan 43M-1599 Blk 150

Location	Bolton, Latitude:43.870493, Longitude:-79.766733
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to West Humber
Outlet location	Bolton, Latitude:43.869827, Longitude:-79.766554
Catchment Area	8.364 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Attenuate post-development peak flows to pre-development levels for all storm events up to and including the 100-year storm event
Reference ECA(s)	9272-5TLK7Y
Reference Works as part of treatment train	
Brief Description	A constructed wetland pond with a permanent pool volume of 245 cubic metres (at elevation 260.3 metres) and an extended detention storage of 320 cubic metres (at elevation of 260.8 metres), including sediment forebay, three (3) wetland pocket areas, with discharge, to the existing culvert under the existing CPR railway tracks, controlled by a 300 millimetre diameter corrugated metal culvert (with inlet invert elevation at 260.3 metres) and an overflow spillway (with an invert elevation of 260.7 metres). The Facility provides Enhanced water quality protection and attenuates post-development peak flows to pre-development levels for all storm events up to and including the 100-year return storm.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond6_Plan 43M-1374 Blk 219

Location	Bolton, Latitude:43.883282, Longitude:-79.752463
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to an outlet channel and to the Humber River
Outlet location	Bolton, Latitude:43.882293, Longitude:-79.751878
Catchment Area	15.46 ha (13.5 ha of residential development, plus 1.95 ha pond block)
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Provide quality/erosion control by detaining the runoff from the 25 mm - 4 hour design storm event and overcntrolling the runoff from the 2 year design storm event to discharge over 63 hours period. Runoff from events up to the 10 year design storm will be collected in the minor system and discharged to an open channel and conveyed to the stormwater management facility inlet. The facility will receive up to a 2 year event. The by-pass channel will convey all events in excess of the 2 year event to the outlet channel.
Reference ECA(s)	3-1226-98-006
Reference Works as part of treatment train	
Brief Description	A stormwater management facility located southwest of England Rose Lane and northeast of the Humber River, consisting of a stormwater detention weltand pond designed to provide erosion and quality control functions. The stormwater management facility has combined available storage volume of approximately 6680 m^3 including 5640 m^3 of extended detention (active) storage and 840 m^3 of permanent pool storage. An inlet forebay, outlet micropool and vegetative lining are provided to enhance sediment removal. Discharge control downstream of the wetland cell is provided via a reverse slope drawdown pipe designed to provide quality/erosion control by detaining the runoff from the 2 year design storm event prior to discharge over a 63 hour period, to an onsite drainage swale which outlets to the Humber River and including inlet and outlet structures and overflow weir and spillway, inlet channel, bypass channel and outfall channel.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond7_Plan 43M-1372 Blk 272

Location	Bolton, Latitude:43.898313, Longitude:-79.731047
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to tributary of Cold Creek
Outlet location	Bolton, Latitude:43.897878, Longitude:-79.729616
Catchment Area	19 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Water quantity control for the 1:2 year and upt to and including the 1:100 year design storm rainfall event. Permanent pool volume of 1677 m3 and extended detention storage volume of 2630 m3 for quantity and quality control.
Reference ECA(s)	3-1213-99-006
Reference Works as part of treatment train	
Brief Description	Interconnected catchbasins and manholes for collection of stormwater from the site prior to discharge of stormwater to the stormwater detention pond via a bypass manhole; one (1) bypass manhole at the entrance of the extended detention pond to divert the flows in excess of the "first flush" directly into the extended detention pond bypassing the sediment forebay; one (1) stormwater extended detention pond at the southeast corner of the site with a 48 metre long, 6 metre wide sediment forebay near the inlet end, having a permanent pool volume of 1,644 cubic metres and extended detention storage volume of 2,630 cubic metres for quantity and quality control of the storm water runoff from the site; one (1) extended detention outflow structure complete with two Hickenbottom risers, one equipped with a 250 millimetre diameter orifice and the other equipped with a 130 millimetre diameter orifice, both enclosed in a perforated CMP riser and a gravel jacket to provide 50 hours of detention time for the stormwater discharge into Cold Creek and then into the West Humber River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_DryPond110_Plan 43M-1372 Blk 279

Location	Bolton, Latitude:43.90107, Longitude:-79.73519
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to tributary of Cold Creek
Outlet location	Bolton, Latitude:43.90103, Longitude:-79.73477
Catchment Area	5.62 ha

Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Water quantity control for the 1:2 year and up to and including the 1:100 year design storm rainfall event.
Reference ECA(s)	3-1213-99-006
Reference Works as part of treatment train	
Brief Description	Interconnected catchbasins and manholes for collection of stormwater from the site prior to discharge of stormwater to the stormwater detention pond with a volumetric capacity of 803 cu.m at the northeast corner of the site complete with a 150 mm diameter hickenbottom riser equipped with a 60 mm diameter orifice to provide 24 hours of detention time for the stormwater discharge into adjacent swales.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond8_Plan 43M-1586 Blk 145

Location	Bolton, Latitude:43.88941, Longitude:-79.731085
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to tributary of Cold Creek
Outlet location	Bolton, Latitude:43.88967, Longitude:-79.730505
Catchment Area	10.1 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Peak flow and quality control for events 2 through 100 year event
Reference ECA(s)	9080-5GZUB7
Reference Works as part of treatment train	
Brief Description	Stormwater management system collecting up to the 100-year storm event runoff from the development of a 10.1 ha parcel of land, consisting of lot level controls, and conveyed to the stormwater management pond by a system of storm sewers, the road network, and grassed swales, with the minor storm inlet to the pond from a 1050 millimetre diameter storm pipe, with the pond having a permanent storage volume of 864 cubic metres; and a maximum-active pond volume of 4,311 cubie metres, complete with one inlet structure, an inlet and outlet micropool, a wet pond, emergency spillway and an outlet structure, with eventual discharge to a tributary of Cold Creek.

Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond9_Plan 43M-1324 Blk 307

Location	Bolton, Latitude:43.870508, Longitude:-79.752078
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to Jaffreys Creek
Outlet location	Bolton, Latitude:43.871692, Longitude:-79.750263
Catchment Area	108.33 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Water quality (Level 1), erosion control (48 hr detention of the 25 mm event), and quantity control up to the 1:100 year event.
Reference ECA(s)	3-0578-98-006
Reference Works as part of treatment train	
Brief Description	Stormwater from the storm sewers of the subdivision will enter the facility at the northwest corner of the site. The facility has a sediment forebay and a storage capacity of 75,000 cubic metres at elevation 254.7 metres including extended detention storage of up to 17,000 cubic metres at elevation 250.7 metres. Up to Elevation 252.40 metres outflows will be through a seepage outlet system consisting of a stone encased 1500mm vertical perforated drain. Stormwater would percolate through the vertical drain into a 375mm connection then to the pond outlet control chamber. Above elevation 252.40 metres stormwater outflows through a 900mm sewer connection to the pond outlet control chamber. From the Pond Outlet Control Chamber the combined stormwater flows then discharges through a connection to an existing 1500mm culvert of Coleraine Drive.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond10_Plan 43M-1287 Blk 83

Location	Bolton, Latitude:43.873437, Longitude:-79.745875
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets through a 1650 mm diametre storm sewer to the Humber River
Outlet location	Bolton, Latitude:43.878124, Longitude:-79.748086
Catchment Area	50.5 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Water quality (80%), erosion control (25 mm over 24 hours), and quantity control up to 1:100 year event
Reference ECA(s)	3-1717-97-006
Reference Works as part of treatment train	Bolton_Wet Pond10_Plan 43M-1287 Blk 83
Brief Description	Up to elevation 234.0 metres, the pond has a permanent stormwater pool. Above elevation 234.0 metres stormwater flows through a 200 mm reverse sloped outlet sewer pipe into the outflow control structure located at the southwest corner of King Street and Station Road. The stormwater management pond has a storage capactiy of 9108 cu.m at elevation of 236.0 metres. Above elevation 235.15 metres stormwater flows through a 1500 mm wide by 1200 mm long sloped grate atop the outflow control structure. The outflow control structure will restrict, to a maximum of 3.90 cu.m per second, the combined outflows to an existing 1350 mm storm downstream sewer to the Humber River. The pond includes a Hickenbottom structure with a Maintenance Valve Gate that functions to de-water the pond when needed to for maintenance works.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond11_Pt W Lot 8 Conc 6 Albion

Location	Bolton, Latitude:43.872949, Longitude:-79.744589
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets into Pond 10
Outlet location	Bolton, Latitude:43.878124, Longitude:-79.748086
Catchment Area	12 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None

Level of Volume control	None
Design Storm	25 mm rainfall (first flush)
Reference ECA(s)	3-1469-95-966
Reference Works as part of treatment train	Bolton_Wet Pond10_Plan 43M-1287 Blk 83
Brief Description	Two Pre-treatment sediment forebay and march land that then outlets to Bolton_Wet Pond10_Plan 43M-1287 Blk 83. Stormwater from the storm sewer network of the subdivision initially enters a sediment cell which has a storage capacity of 1000 cu.m. Stormwater then flows northwesterly over a spillway set at elevation 237.7 metres into a second forebay cell which has a permanent stormwater pool up to elevation of 238.0 metres and a spillway at elevation of 239.0 metres. Above 238.0 metres stormwater from the second forebay cell flows through an existing 900 mm reverse sloped sewer pipe into an existing structure thence through an existing pipe into Bolton_Wet Pond10_Plan 43M-1287 Blk 83.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond12_East Pt Lot 7 Conc 7 Albio

Location	Bolton, Latitude:43.883002, Longitude:-79.727925
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to Humber River
Outlet location	Bolton, Latitude:43.88348, Longitude:-79.727169
Catchment Area	50 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Post- to pre- peak flow for the 2- and 5-year event. 25 mm detention over 24 hours.
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	Located within the floodplain of the Humber River. Includes a berm along the east side of the pond to an elevation of 212.5 mertres. Under Regional storm conditions, the pond will be completely submerged. The pond has been designed to: (1) reduce peak flows to existing levels for storms up to the 5-year event; (2) safely convey flows in escess of the 5 year event; (3) Provide water quality control

	through the use of extended detention. The lower reaches of the pond will accommodate approximately 2,400 cu.m based on the first flush runoff volume of 125 cu.m/imprev. ha (provided by a 150 mm diameter orifice enclosed within a the Hickenbottom riser pipe); (4) a 150-300 mm deep marsh is located on the lower stage of the pond as a permanent water quality fixture. The outlet is a concrete chamber equpied with a Hickenbottom riser and low flow orifice, and a 0.25 cu.m rectangular orifice. The spillway and outside slope of the pond has been reinformed since the water velocity down the slope will exceed 11m/s.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Dry pond13_Plan 43M-1210 Blk 62

Location	Bolton, Latitude:43.873331, Longitude:-79.715035
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets through culvert to Pond 14
Outlet location	Bolton, Latitude:43.873434, Longitude:-79.709771
Catchment Area	88.49 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Quantity control is provided by reducing inflow peak by approximately 50% for all design storm events
Reference ECA(s)	3-0473-96-006
Reference Works as part of treatment train	Bolton_Wet Pond14_Pt Lot 5 Conc 7 Albion
Brief Description	Online facility designed to provide quantity control function (storage volume 19476 cu.m) with a sediment forebay, sediment spreading area, outlet micropool and orifice discharge control outletting to pond Bolton_Wet Pond14_Pt Lot 5 Conc 7 Albion. This includes inlet/outlet piping, outlet piping/control structure, low flow channel and spillway. Designed to convey Regional Storm through to Pond 14 through a 1650 mm diametre cross connection. Regional high water level is 246.0 metres.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond14_Pt Lot 5 Conc 7 Albion

Location	Bolton, Latitude:43.873099, Longitude:-79.712489
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets through culvert to Humber River
Outlet location	Bolton, Latitude:43.873434, Longitude:-79.709771
Catchment Area	88.49 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Provides quanlity control for the "first flush", and quantity control provided by attenuating post-development run-off for 25mm and 2 through 100 year events
Reference ECA(s)	3-0473-96-006
Reference Works as part of treatment train	Bolton_Dry pond13_Plan 43M-1210 Blk 62
Brief Description	Located downstream of pond Bolton_Dry pond13_Plan 43M-1210 Blk 62. Consists of stormwater extended detention wet pond facility to provide quality and quantity control functions with a quality treatment volume component of 13600 cu.m. Inlet forebay, outlet plunge pool and vegetative lining to enhance sediment removal and discharge control via an orifice and perforated riser pipe structure. The "first flush" outflow prior to discharge at average rate of 0.015 3 cms over 80 hr period. Quantity control is provided by attenuating catchment area run-off to target discharge rates of 0.03, 0.44, 0.85, 1.12, 1.95, 2.46, and 2.92 cms for the 25mm, 2, 5,10,25,50, 100 year design storm events in conjunction with the upstream pond. Regional event flows from the pond and overtops Town Line to a maximum depth of 0.15 metres and a spread of 50 m. The anticipated maximum water level of the Regional event in the Pond is 243.7 m.
Receive Emergency Sanitary Overflows	Yes. Recieves overflows from the Region of Peels Harvestview SPS located at 10 Harvestview, Caledon. Overflow location coordinates: Lat. 43.87631157, Long. -79.71364207
Notes / Additional Information	

Bolton_Dry Pond15_Plan 43M-278 Blk B

Location	Bolton, Latitude:43.856337, Longitude:-79.728226
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a series of grassed swales draining to

	Pond 16
Outlet location	Bolton, Latitude:43.861696, Longitude:-79.723736
Catchment Area	54 ha (15 ha from the norht and 39 ha from the east)
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Peak flow control for 2, 5 and 10 year events. Overflow weir acts as an emergency spillway to store and release runoff from the pond only during more exptreme (50 year and 100 year)
Reference ECA(s)	Unknown
Reference Works as part of treatment train	Bolton_Dry Pond16_Plan 43M-418 Blk 29
Brief Description	Collects stormwater runoff from the two channels and controls the peak runoff rates flowing downstream by an outlet control consisting of a 900 mm culvert and an overflow weir. The flow through the culvert conveys storm events up to the 10 year occurence. The overflow weir acts an as emergency spillway to release runoff from the pond during the 100 year occurence. The stormwater management ponds as a capacity of approximately 11,500 cu.m before the overflow weir is reached and approximately 13,000 cu.m before the minimum embankment elevation is reached.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Dry Pond16_Plan 43M-418 Blk 29

Location	Bolton, Latitude:43.85823, Longitude:-79.728655
Watershed/Subwatershed	Humber River
Receiver of discharge	Online facility draining to a tributary of the West Humber River
Outlet location	Bolton, Latitude:43.861696, Longitude:-79.723736
Catchment Area	50.5 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Post to pre peak flow for the 10 and 100 year event.
Reference ECA(s)	Unknown
Reference Works as part of treatment train	Bolton_Dry Pond15_Plan 43M-278 Blk B
Brief Description	The detention pond proposed created by constructing an earth embanktment across the existing valley lands. The 10

	year storm and the 100 year storm outflows form the subject lands are regulated by the operation of the outlet culverts jointly with the proposed spillway. The twin 1000mm dia. culverts will discharge the 10-year pre-development flow of the upstream area. As the flow enters the detention pond, the water level on the ponds will rise because of the restricted capacity of the culverts, creating storage. The flow condition for the 100-year pre-development flow is similar to the 10 year flow condition only that discharge over the spillway will occur. The sizing of the spillway and culverts is such that combined discharge rate will not increase the runoff downstream of the subject lands.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond17_Vaughan Plan 43M-1208

Location	Bolton, Latitude:43.865518, Longitude:-79.702075
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a tributary of the Humber River
Outlet location	Bolton, Latitude:43.864264, Longitude:-79.70299
Catchment Area	76.97 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Extended detention storage for quality control of runoff generated from 25 mm events, erosion control for 25 mm over 24 hours, and 2 through 100 year events post- to pre peak flow control.
Reference ECA(s)	3-0556-96-006
Reference Works as part of treatment train	
Brief Description	Stormwater wet pond with inlet and outlet structures, sediment forebay; providing approximately 5,430 m’ of extended detention storage for quality control of runoff generated from the initial 25 mm precipitation of a storm event to be discharged slowly over a min. 24 h period; and approximately 11,280 m of detention storage for attenuation of peak runoff from storm events up to the 100-year level
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond18_Pt Lot 3 Conc 6 Albion

Location	Bolton, Latitude:43.853484, Longitude:-79.712309
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlet through a 1500 mm diametre storm sewer to Pond 19
Outlet location	Bolton, Latitude:43.84854, Longitude:-79.695314
Catchment Area	23.18 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Water quality and erosion control using the 2 year 6 hour AES. Quantity control for storm events 2 through 100 year return frequency released over 24 hours.
Reference ECA(s)	1184-4WTPFT
Reference Works as part of treatment train	Bolton_Wet Pond19_Pt Lot 3 Conc 6 Albion; Bolton_Wet Pond20_Plan 43M-1658 Blk 10; Bolton_Wet Pond40_Lot 1 Conc 6 Alb; Bolton_Wet Pond95_CON 6 PT LOT 1 RP43R31997
Brief Description	Extended wet detention pond located at northwest corner of George Bolton Pkwy and Nixon Rd intersection. Maximum storage capacity of 4800 cu.m at elevation of 237.7m. Connected through 1500mm diameter sewer providing free hydraulic connection to Facility 19.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond19_Pt Lot 3 Conc 6 Albion

Location	Bolton, Latitude:43.854156, Longitude:-79.709885
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlet through a 675 mm diametre storm sewer to Pond 20
Outlet location	Bolton, Latitude:43.84854, Longitude:-79.695314
Catchment Area	43.83 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Water quality and erosion control using the 2 year 6 hour AES. Quantity control for storm events 2 through 100 year return frequency released over 24 hours
Reference ECA(s)	1184-4WTPFT
Reference Works as part of	Bolton_Wet Pond18_Pt Lot 3 Conc 6 Albion; Bolton_Wet

treatment train	Pond20_Plan 43M-1658 Blk 10; Bolton_Wet Pond40_Lot 1 Conc 6 Alb; Bolton_Wet Pond95_CON 6 PT LOT 1 RP43R31997
Brief Description	Extended wet detention pond located at southeast corner of George Bolton Pkwy and Nixon Rd intersection. Max storage capacity – 31800 cu.m at elevation of 237.7 m equipped with forebay and low flow outlet control with 152mm orifice plate. Includes weir flow control structure with bottom elevation of 236.5m and top elevation of 237.7m. Flow discharges into 675mm dia concrete sewer which is connected to storm sewers along Ferrier St and Regional Rd 50.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond20_Plan 43M-1658 Blk 10

Location	Bolton, Latitude:43.850021, Longitude:-79.703509
Watershed/Subwatershed	Humber River/West Robinson Creek
Receiver of discharge	Outlet through a 975 mm diametre storm sewer to Pond 40 which outlets to the West Robinson Creek
Outlet location	Bolton, Latitude:43.84854, Longitude:-79.695314
Catchment Area	38.63 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Quality control and erosion control provided for the 25 mm design storm. Quantity control provided for 2 through 100 year, 24 hour event. Erosion control provide for the 2 year, 6 hour storm event.
Reference ECA(s)	3177-5U3QG3
Reference Works as part of treatment train	Bolton_Wet Pond18_Pt Lot 3 Conc 6 Albion; Bolton_Wet Pond19_Pt Lot 3 Conc 6 Albion; Bolton_Wet Pond40_Lot 1 Conc 6 Alb; Bolton_Wet Pond95_CON 6 PT LOT 1 RP43R31997
Brief Description	A stormwater management facility located on the west side of Pillsworth Drive approx. 160 m south of Parr Boulevard. Consists of an elongated stormwater extended detention wet pond designed to provide quality, erosion and quantity control functions. The stormwater management facility has an available storage volume of 8,939.4 cu.m for permanent pool storage plus a combined active available storage volume of approx. 28,061 cu.m which includes 7,524.4 cu.m of extended detention storage. Quality control is provided via two (2) separate inlet forebays (located at east and west ends of main pond) with vegetative lining to

	enhance sediment removal prior to discharge over a berm to the main pond. Discharge control downstream of the wet pond is provided via a reversed sloped pipe complete with outlet pipe with orifice plate designed to provide quality/erosion control by detaining the extended detention storage during the 25 mm design storm event prior to discharge at a peak flow release rate of 0.051 m/s over a duration of 41 hours into an existing watercourse which ultimately outlets into West Robinson Creek. Quantity control is provided by attenuating the catchment area post-development flows to predevelopment flow rates of 0.36 m/s, 0.54 m/s, 0.67 m'/s, 0.85 m/s and 1.11 m/s during the 2, 5, 10, 25 and 100 year - 24 hour design storm events respectively together with quantity erosion control of the 2 year - 6 hour storm event to a discharge rate of 0.18 m/s, prior to discharge into an existing watercourse which ultimately outlets into the West Robinson Creek and including inlet and outlet piping and control structure, overflow weir, emergency spillway, staff gauge and signage and fencing; including temporary erosion/sedimentation stormwater management facilities during construction, all in accordance with the stormwater management report and plans prepared by A.M. Candaras Associates Inc., Consulting Engineers
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond21_Plan 43M-1660 Blk 18

Location	Bolton, Latitude:43.845006, Longitude:-79.708769
Watershed/Subwatershed	Humber River/West Rainbow Creek
Receiver of discharge	Outlet to a grassed swale, eventually draining to the West Robinson Creek
Outlet location	Bolton, Latitude:43.844616, Longitude:-79.708141
Catchment Area	56.4 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Enhanced water quality protection, erosion control, and post-development peak flows to pre-development levels for all storm events up to and including the 100-year return storm. Quality/erosion control by detaining the extended detention storage during 25 mm 4-hour storm event over duration of 72 hours.
Reference ECA(s)	2443-7CVJY9
Reference Works as part of	

treatment train	
Brief Description	A stormwater management system to service the Equity Prestige Business Park, bounded to the west by Coleraine Drive and to the east by the termination of Simona Drive in the Town of Caledon, relying on an extended detention wet pond having a permanent pool storage volume of 15,641 cu.m, an extended detention storage volume of 11,134 cu.m (erosion control), an additional active storage volume of 20,657m (100-year storm event) and a total storage volume of 47,432 m, complete with two (2) separate inlet structures, two (2) separate forebays, an emergency overflow weir ‘designed to convey the Regional Storm event and outlet control structure consisting of a 300 mm diameter reverse slope pipe complete with a 215 mm diameter orifice plate allowing for a maximum discharge rate of 0.076 m /s to provide quality/erosion control by detaining the extended detention storage during 25 mm 4 hour storm event over duration of 72 hours and a 0.75m wide weir allowing for a maximum discharge rate of 1.07 m Is from the outlet control structure for the 100-year storm event, discharging via a proposed 750 mm diameter outlet complete with a 635 mm orifice plate for additional quantity control to the existing swale which ultimately outlets into the West Robinson Creek.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond22_Pt Lot 4 Conc 7 Albion

Location	Bolton, Latitude:43.864732, Longitude:-79.70937
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a series of ditches, eventually draining to the Humber River
Outlet location	Bolton, Latitude:43.864872, Longitude:-79.708094
Catchment Area	14.16 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Extended detention wet pond having a permanent pool storage and a micro-pool area for removal of sediment, and a total extended detention to include storm runoff during the 25 mm rainfall event with slow release, and pond storage to attenuate the peak post-development flows during the 5 year and 100-year storm events to levels less than the peak pre-development levels
Reference ECA(s)	4077-6JCSBL

Reference Works as part of treatment train	
Brief Description	Stormwater management facilities managing approx. 14.16 ha commercial development in located in the Town of Caledon comprising of an extended detention wet pond having a permanent pool storage area comprising of sediment forebay area (3,040 m3) and a micro-pool area (2,030 m3) for removal of sediment, and a total extended detention volume of approx. 13,532 m3 to include storm runoff during the 25 mm rainfall event with slow release (via a restricting orifice within the 'quality' outlet structure), and pond storage to attenuate the peak post-development flows during the 5 year and 100 year storm events (88 L/s and 1,129 L/s respectively) to levels less than the peak pre-development levels (954 L/s and 4,291 L/s during the 5 year and 100 year storm events respectively) with discharge via the flow control (and emergency overflow) structure, discharging via an outlet storm sewer located along the railway tracks to an existing ditch, together with sediment and erosion control measures
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Constructed Wetland23_Plan 43M-808 Pt Blk 1

Location	Bolton, Latitude:43.858078, Longitude:-79.713952
Watershed/Subwatershed	Humber River/West Robinson Creek
Receiver of discharge	Surface outlets to a tributary of Robinson Creek
Outlet location	Bolton, Latitude:43.85836, Longitude:-79.712872
Catchment Area	46.2 ha
Level of Treatment for suspended solids	70% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Level 2 water quality protection and to attenuate post-development peak flows to pre-development levels for all storm events up to and including the 100-year return storm
Reference ECA(s)	1173-B36S4P
Reference Works as part of treatment train	
Brief Description	Originally constructed as a Dry Pond, retrofitted in 2019. the retrofitted facility was upgraded to a wetland type stormwater management system, having one (1) 1500X900 mm elliptical pipe, one (1) 1200 mm diameter pipe and two (2) open channel inlets into two (2) forebays, with a design minimum retention volume of 3435 cu.m. in the permanent pool, 4712 cu.m. in extended detention volume and a total

	storage volume of 8147 cu.m., to control up to the 100-year post development flow rate to approximately 5.13 cu.m/sec. via a flow control device. The flow control device is a 600 mm diameter reverse slope pipe with a metal grate located at the inlet side, to outlet through a 1800 mm diameter outlet control structure manhole, complete with a divider sill wall with a 300 mm deep 30 degree V-notch weir to discharge into a 600 mm diameter outlet pipe to a plunge pool lined with embedded boulders; to finally discharge into an existing ditch to the tributary of West Robinson Creek; Emergency Overflow is a 5.5 m wide approximately 1.0 m deep spillway located at the south of the outlet control manhole to discharge emergency overflow from the wetland into the existing ditch to the tributary of Robinson Creek
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_DryPond24_Plan 43M-1364 Lot 8

Location	Palgrave, Latitude:43.973855, Longitude:-79.780814
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a natural area
Outlet location	Palgrave, Latitude:43.974353, Longitude:-79.782304
Catchment Area	37 ha
Level of Treatment for suspended solids	60%
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	2- through 100-year peak flow control.
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	Elongated longitudinal Dry Pond complete with a flow control structure that controls the peak flow of the 2- through 100- year event at the following rates and elevations: 2-yr Q = 0.228 cms, elevation 303.30 m 5-yr Q = 0.447 cms, elevation 303.75 m 25-yr Q = 0.871 cms, elevation 304.00 m 100-yr Q = 1.330 cms, elevation 304.30 m
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Inglewood_Dry Pond25_Plan 43M-1152 Lot 12

Location	Inglewood, Latitude:43.794981, Longitude:-79.936026
Watershed/Subwatershed	Credit River
Receiver of discharge	Outlets to a 600 mm storm sewer, outletting to a ditch
Outlet location	Inglewood, Latitude:43.79508, Longitude:-79.935189
Catchment Area	6.62 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	First flush water quality control and peak flow control for the 1:5 year storm.
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	Extended detention pond to capture the first flush stormwater runoff form McDonald Street. All road and lot drainage that flows along MacDonald Street toward Victoria Street will be diverted into the extended detention pond. Total storage voume of the extended detention pond is 200 m3 with an additional 0.3 m of freeboard above that volume. Flow in excess of the first flush volume will overflow into a peak flow control pond via a 4 m wide overflow weir.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Inglewood_Wet Pond27_Pt Lot 2 Conc 1 WHS

Location	Inglewood, Latitude:43.799759, Longitude:-79.932313
Watershed/Subwatershed	Credit River
Receiver of discharge	Outletting to a ditch and draining to the Credit River
Outlet location	Inglewood, Latitude:43.79895, Longitude:-79.931029
Catchment Area	16.72 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Extended detention, peak flow control for 2 through 100 year events
Reference ECA(s)	4106-5KQLQZ

Reference Works as part of treatment train	
Brief Description	Stormwater Management Facility to service development of Inglewood Estate Subdivision comprising of approximately 16.72ha.area (including 7.41ha.external land) in the Town of Caledon consisting of: - a wet pond including a forebay located on a block to be dedicated to the Town of Caledon onthe east side of Orangeville-Brampton Railway Line having approximate permanent volume of 2,400cu.m., extended detention volume of 1,841cu.m. and a maximum storage volume of 5,021cu.m., - one (1) 300mm diameter reversed slope outlet pipe from the pond to a 1200mm diameter outlet control manhole fitted with a 150mm diameter vertical orifice on the 300mm diameter inlet on the wall, - one (1) 300mm diameter outfall pipe from the manhole to the outfall channel / spillway, - one (1) 1.5m base width by 600mm deep trapezoidal weir spillway and outfall channel at the bank of the pond to convey major flows; all finally discharging to a tributary of Credit River via an energy dissipater riprap outfall channel and 1050mm diameter culvert under the Caledon Rail Trail.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon Village_Dry pond28_Plan 43M-1196 Blk 67

Location	Caledon Village, Latitude:43.868622, Longitude:-79.987895
Watershed/Subwatershed	Credit River
Receiver of discharge	Surface outlets to a grassed swale, discharging to the Caledon Creek
Outlet location	Caledon Village, Latitude:43.869014, Longitude:-79.98637
Catchment Area	15.99 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Quality control for 25 mm first flush event. Quantity control for 1:100 year design storm event
Reference ECA(s)	3-0601-95-006
Reference Works as part of treatment train	Caledon Village_Grassed Swale28
Brief Description	Two cell detention pond system. Quality and quantity cell located side by side, south of Gillis Rd and Amalfi Rd intersection. Goal is to attenuate post development stormwater runoff from 1 in 100-year storm over 15.99ha drainage area and discharging into Caledon Creek. Quantity cell designed to collect runoff from subdivision in a

	1 in 100-year storm event with storage volume of 3570 cu.m while discharging at a controlled flow rate of 1.51 cu.m/s. Includes a 17m, 750mm diameter outlet pipe, 90m long outlet channel, pond outlet headwalls, rip-rap, 15m wide emergency spillway, temporary and permanent silt + erosion control facilities.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon East_Infiltration29_Plan 43M-896 Blk 25

Location	Caledon East, Latitude:43.857941, Longitude:-79.863323
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a naturally occuring wetland
Outlet location	Caledon East, Latitude:43.857415, Longitude:-79.862881
Catchment Area	6.7 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Design storm unclear
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	Designed to provide stormwater retention for a catchment of 6.7 ha of low-density residential subdivision. The SWMF was constructed in a naturally low-lying area which does not have any positive drainage surface outlets, and thus the SWMF must rely on infiltration and evaporation to manage all runoff that it receives. The design criteria for this facility is to contain and retain up to the 100-year storm event, and to not increase the rate of discharge from the site into adjacent lands. The primary outlet constructed in the SWMF was a set of two infiltration wells. The infiltration wells were constructed by drilling 10 m from the base of the SWMF into the sand layer and placing 1 m diameter steel pipes backfilled with free-draining granular fill and capped with catchbasin style lids. The two infiltration wells provide a contact area with the sandy infiltration layer of 1.57 m² based on an estimated infiltration rate of 0.09 m/min. The 100-year event is intended to infiltrate over 4 days. Events above the 100-year will top the emergency overflow weir.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon East_Dry Pond30_Plan 43M-1039 Blk 37

Location	Caledon East, Latitude:43.861518, Longitude:-79.857435
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets through a 750 diametre storm sewer to a tributary of Innis Lake (a naturaly occuring Pond within the Humber River Watershed)
Outlet location	Caledon East, Latitude:43.862429, Longitude:-79.855125
Catchment Area	30.7 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Post- to pre-peak flow attenuation for all storms with return period from 2 through 100 - year.
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	Dry detention pond is approximately 1 ha in area and 3.5 metres deep at the outlet. The outlet structure is comprised of a 250 mm diameter orifice tube which routes incoming flows up to the 100-year event. An emergency spillway at elevation 301.5m has been designed to accommodate the 100-year flow in the case that the orifice tube is partially or wholly blocked. In the event of a blockage, the flow would spill over the weir and into the existing ditch along Airport Road where it would be conveyed to the culvert. The weir is not intended to convey the Regional Storm since the backwater from the 600 mm culvert at Airport Road inundates the pond (top level of pond is 302.5) at a level of 303.2 m.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon East_Infiltration31_Plan 43M-1481 Blk 49

Location	Caledon East, Latitude:43.870257, Longitude:-79.871808
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a tributary of Centreville Creek
Outlet location	Caledon East, Latitude:43.870702, Longitude:-79.871261
Catchment Area	3.16 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None

Level of Volume control	None
Design Storm	Infiltration facility for quality and quantity control for all events up to and including 100 year event
Reference ECA(s)	0807-4TYPBK
Reference Works as part of treatment train	
Brief Description	A constructed extended detention wetland providing water quality, quantity and erosion control. Stormwater management pond with a total volumetric capacity of 470.9 cu.m complete with a sediment forebay and a sand filter having an area of 350 sq.m. The wetland drains through a woodland area and out to the creek. Outflows are through a weir structure overflow and control outlet 80 mm pipe.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon East_Infiltration32_Plan 43M-1481 Blk 47

Location	Caledon East, Latitude:43.869226, Longitude:-79.873843
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a tributary of Centreville Creek
Outlet location	Caledon East, Latitude:43.869436, Longitude:-79.873457
Catchment Area	1.95 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Infiltration facility for quality and quantity control for all events up to and including 100 year event
Reference ECA(s)	0807-4TYPBK
Reference Works as part of treatment train	
Brief Description	Stormwater management pond with a volumetric capacity of 797.5 cu.m complete wit ha sediment forebay and a sand filter having an area of 360 sq.m
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon East_Wet Pond33_Plan 43M-1723 Blk 72

Location	Caledon East, Latitude:43.8644, Longitude:-79.875534
Watershed/Subwatershed	Humber River/Centreville Creek
Receiver of discharge	Surface outlets to a tributary of Centreville Creek
Outlet location	Caledon East, Latitude:43.863711, Longitude:-79.875843
Catchment Area	6.48 ha

Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Extended detention to enhance the removal of sediment and outlet control to detain runoff from events 25 mm rainfall, released over a 48 hour period for erosion control, and provide peak post-development flows to pre-development flows for events up to and including 1:100.
Reference ECA(s)	0160-5K5TAV
Reference Works as part of treatment train	
Brief Description	An extended detention wet pond designed with an impervious clay liner serving a drainage area of approx. 6.48 ha, having an inlet structure, a 180 m^3 sediment forebay area to enhance the removal of sediments, a permanent pool storage of approx. 893 m^3, an active storage of 4,152 m^3, and an outlet control structure equipped with a control orifice to detain the storm runoff generated from a 25 mm rainfall event to be released slowly over a 48 hour period for erosion control, and to provide storage during major storm events and attenuate peak post-development flows to levels less than peak pre-development flows for storm events up to the 1:100 return period, complete with an emergency spillway, discharging via a 375 mm diameter High Density Polyethylene Sclair pipe with a rip-rap flow spreader berm at the terminal outlet to the existing wetland and Centreville Creek, together with all temporary sediment and erosion control measures during construction, all in accordance with the report entitled ‘Stormwater Management Plan, Langleigh Estates 21T-87028C, Community of Caledon East, Town of Caledon, Regional Municipality of Peel' dated August 9, 2002, final plans and specifications prepared by Cumming Cockburn Limited, Consulting Engineers.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Mayfield West_Dry Pond34_Pt Lot 19 Conc 1 EHS

Location	Southfield, Latitude:43.747162, Longitude:-79.823823
Watershed/Subwatershed	Etobicoke Creek/Upper Etobicoke
Receiver of discharge	Surface outlets to Upper Etobicoke
Outlet location	Southfield, Latitude:43.747742, Longitude:-79.822951
Catchment Area	61.3 ha
Level of Treatment for suspended solids	60% TSS Removal

Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	25 mm over 4 hours, 2 year peak flow control
Reference ECA(s)	Unknown
Reference Works as part of treatment train	No
Brief Description	Total storage volume of 3358 cu.m. Detention facility with a low flow channel outletting through a 975 mm diameter culvert at a release rate of 1.18 cms. The facility includes an emergency spillway 3.0 metre wide at elevation of 245.9.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Mayfield West_Wet Pond35_Pt Lot 20 conc 1 EHS

Location	Southfield, Latitude:43.749192, Longitude:-79.834327
Watershed/Subwatershed	Etobicoke Creek
Receiver of discharge	Surface outlets to Upper Etobicoke
Outlet location	Southfield, Latitude:43.749615, Longitude:-79.833792
Catchment Area	16.29 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Extended detention to provide quality control. Quality control by detaining the runoff from 4 hour - 25 mm rainfall design storm.
Reference ECA(s)	3-1152-96-006
Reference Works as part of treatment train	No
Brief Description	a stormwater quality management facility located on a site between Pinebrook Circle (North Leg) and Etobicoke Creek, consisting of a stormwater extended detention pond designed to provide quality control functions. The available storage volume in the pond includes 1400 cu.m of extended detention storage and 825 cu.m of permanent storage, with inlet forebay and main pond with vegetation lining to enhance sediment removal and discharge via a perforated riser structure with orifice plate, designed to provide quality control by detaining the runoff from the 4 hr - 25 mm rainfall design storm event, prior to discharge at an allowable discharge rate of 0.03 cu.m/s over a 24.17 hr period to Etobicoke Creek and including inlet-and outlet piping and outlet control structure, overflow weir manhole and emergency spillway;
Receive Emergency Sanitary	No

Overflows	
Notes / Additional Information	

Caledon East_Bioswale36

Location	Caledon East, Latitude:43.85486, Longitude:-79.86895
Watershed/Subwatershed	Credit River Watershed/East Credit River
Receiver of discharge	Surface outlets to a roadside ditch
Outlet location	Caledon East, Latitude:43.855388, Longitude:-79.86824
Catchment Area	10.6 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Post-development peak flow control for events 2 through 100 year event.
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	The design criteria for this facility, as outlined in the 1988 SWM Analysis for Whispering Pines Report (Falby Candaras & Associates) were: 1. Reduce the post development runoff rate to less than the predevelopment rates for up to, and including, the 100-year storm event; and 2. Outflow controlled by existing 375 mm diameter culvert, depth controlled by overflow weir southeast of the intersection of Mountainview Road and Cranston Drive. Runoff rates were controlled through attenuation within the conveyance swale north of Cranston Drive and the percolation pit south of Cranston Drive, adjacent to Mountainview Road. The percolation pit provided a retention volume of 30.6 m^3.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon East_Wet Pond37_Municipal Offices

Location	Caledon East, Latitude:43.873216, Longitude:-79.858731
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to Centreville Creek
Outlet location	Caledon East, Latitude:43.872159, Longitude:-79.857392
Catchment Area	7.62 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Erosion control and post-development peak flow control for events 2 through 100 year event.

Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	Wet pond with a total available storage of 2616 cu.m for the 100-year event with a maximum ponding depth of 288.84 m, and outlet discharge rate of 150 L/s. For the 50-year event there is a maximum storage of 2370 cu.m, pond elevation of 288.64 m and a discharge rate of 139 L/s. For the 25-year event there is a maximum storage of 2063 cu.m pond elevation of 288.46 m and a discharge rate of 127 m. For the 10-year event there is a maximum storage of 1700 cu.m, pond elevation of 288.22 and a discharge rate of 111 L/s. For the 5-year event there is a maximum storage of 1486 cu.m, ponding elevation of 288.04 wit ha discharge rate of 95 L/s. For the 2-year event there is a maximum storage of 816 cu.m, ponding elevation of 291 m and a discharge rate of 14 L/s. A reverse slope 300mm pipe with a 100mm orifice plate inside a manhole. The manhole also contains a 300mm maintenance pipe fitted with a knife slit valve to prevent dewatering. High flow outlet is a concrete inlet with a 250mm orifice over the outlet pipe.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond40_Lot 1 Conc 6 Alb

Location	Bolton, Latitude:43.845793, Longitude:-79.699175
Watershed/Subwatershed	Humber River
Receiver of discharge	outlet through a 1200 storm sewer to Pond 95
Outlet location	Bolton, Latitude:43.84854, Longitude:-79.695314
Catchment Area	36.11 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Water quality protection and post-development peak flow to pre-development levels for all storm events up to and including 100 year return storm
Reference ECA(s)	54187GCPNW
Reference Works as part of treatment train	Bolton_Wet Pond18_Pt Lot 3 Conc 6 Albion; Bolton_Wet Pond19_Pt Lot 3 Conc 6 Albion; Bolton_Wet Pond20_Plan 43M-1658 Blk 10; Bolton_Wet Pond95_CON 6 PT LOT 1 RP43R31997
Brief Description	A stormwater management wet pond to service Regional Road No.50 and Mayfield Road Business Park, located at north side of the Mayfield Road, consisting of a sediment

	forebay and a main pond with an emergency overflow route, complete with a reverse sloped outlet pipe and a quality/quantity control structure with a 240 millimetre diameter orifice and a 1250 millimetres overflow weir, having a design minimum liquid retention volume of 7896 cubic metres and a maximum total volume of 36,070 cubic metres, with a controlled discharge flow rate of 0.139 cubic metre per second and 1.779 cubic metres per second for the 2 year and 100 year storm event, respectively, discharging to the West Robinson Creek via proposed 1200 millimetre diameter storm sewers and wetland feature
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond41_Lot 3 Conc 6 Alb

Location	Bolton, Latitude:43.850597, Longitude:-79.717864
Watershed/Subwatershed	Humber River
Receiver of discharge	outlet to a series of ditches, eventually outletting to West Humber River
Outlet location	Bolton, Latitude:43.849761, Longitude:-79.718457
Catchment Area	14.73 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Quantity control provided for 2, 5, 25, and 100 year 4 hour Chicago desig nstorm events. Quality and erosion control provided by extending detention runoff prior to discharge over a 48.5 hour period.
Reference ECA(s)	1434-6TSGNZ
Reference Works as part of treatment train	
Brief Description	An onsite stormwater management facility, consisting of an extended detention wet pond having a minimum permanent pool liquid volume of 2,748 m^3 plus a minimum detention storage volume of approx. 6,273 m^3 including a minimum extended detention volume of 2,540 m^3. Quality control is provided via a forebay with vegetative lining to enhance sediment removal prior to discharge over a submerged berm to the main wet pond cell. Discharge control downstream of the wet pond cell is provided via an outlet control structure consisting of a perforated riser pipe and reverse sloped pipe discharging via an orifice pipe within an outlet manhole, designed to provide quality/erosion control by detaining the extended detention runoff prior to discharge over a 48.5-hour period prior to discharge to a

	municipal storm sewer which ultimately discharges to King Drain. Quantity control is provided by attenuating the catchment area post-development flows to the pre-development target runoff rates during the 2, 5, 25 and 100 year - 4-hour Chicago design storm events prior to discharging via an outlet control structure to a municipal storm sewer which ultimately discharges to King Drain and including inlet and outlet piping, inlet and outlet control structures, weir, emergency overflow spillway and fencing. Controlled pond outflow discharges to Coleraine Dr storm sewer system via 975mm pipe along property boundary to south-west. Emergency spillway discharges to existing drainage course to southeast. Ultimately both drainage paths converge at culvert under Coleraine (approx. 200m to South) and proceed to West Humber River (Clarkeway Drive Tributary) in S/SW direction.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_Dry Pond42_43M-963

Location	Palgrave, Latitude:43.927815, Longitude:-79.800775
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a natural area, draining to the Humber River
Outlet location	Palgrave, Latitude:43.926714, Longitude:-79.801751
Catchment Area	9.72 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Design storm unclear
Reference ECA(s)	3-0189-88-006
Reference Works as part of treatment train	
Brief Description	Stormwater retention pond with a maximum volume of 500 cubic metres
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_Dry Pond43_43M-675

Location	Palgrave, Latitude:43.923133, Longitude:-79.797962
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a roadside ditch, draining to the Humber

	River
Outlet location	Palgrave, Latitude:43.925431, Longitude:-79.801338
Catchment Area	10 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Design storm unclear
Reference ECA(s)	3-0189-88-006
Reference Works as part of treatment train	
Brief Description	Stormwater retention pond having a maximum volume of 700 cubic metres
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Dry Pond44_Plan 43M-649 blk 190

Location	Bolton, Latitude:43.891625, Longitude:-79.740094
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to Cold Creek
Outlet location	Bolton, Latitude:43.891354, Longitude:-79.737954
Catchment Area	35.04 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Design storm unclear
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	Online facility built in 1985. Stormwater inlets through a 900 mm diameter pipe entering at a headwall flowing over a 0.3 metre thick terrafix filter mat. The stormwater flows into a Cold Creek and outlets through a 2650 diametre culvert under Kingsview Drive. Peak flow is managed through catchbasins with flow controls that manage flows at 0.056 cms.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_Kettle45_Plan 43M-1181

Location	Palgrave, Latitude:43.942148, Longitude:-79.77563
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a creek draining to Pond 46
Outlet location	Palgrave, Latitude:43.941789, Longitude:-79.769191
Catchment Area	1.65 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Quality control for the 25 mm event, quantity control for up to the 100-year event.
Reference ECA(s)	3-0792-95-006
Reference Works as part of treatment train	Palgrave_Wet Pond46_Plan 43M-1181; Palgrave_Dry Pond88_Plan 43M-1181; Palgrave_Wet Pond89_Plan 43M-1181
Brief Description	Naturally occurring Kettle Lake that is characterized as wet all year round. The pre-development drainage area to the facility was 1.25 ha and was increased by 32% to 1.65 ha receiving drainage from estate residential and road drainage. The facility includes a grassed swale with live siltation and vegetated palisades. The facility has 120 cu.m of storage for the 25 mm event and 750 cu.m of storage for the 100-year event.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Pond in an existing Kettle

Palgrave_Wet Pond46_Plan 43M-1181Lot18

Location	Palgrave, Latitude:43.942685, Longitude:-79.774036
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a creek draining to Pond 47
Outlet location	Palgrave, Latitude:43.941789, Longitude:-79.769191
Catchment Area	4.45 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	25 mm storm event (first flush)
Reference ECA(s)	3-0792-95-006
Reference Works as part of treatment train	Palgrave_Wet Pond45_Plan 43M-1181; Palgrave_Dry Pond88_Plan 43M-1181; Palgrave_Wet Pond89_Plan 43M-1181

Brief Description	Construction of stormwater water facilities to service Bruno Farms Development (21793016 C) in the Town of Caledon. A Stormwater Management Facility will be located on the south side of Bruno Ridge Drive on Lot 18 and as shown on Drawing 5230-P2 dated January 1995. Stormwater from the development will flow through the storm sewer collector system into the facility. The facility will have a storage capacity of 350 cubic metres and a maximum depth of 70 centimetres at Elevation 276.5 metres with a highflow bypass at Elevation 276.5. Stormwater will flow from the facility into the existing Kettle Pond to the south through a 20mm clear stone berm wrapped with geotextile fabric.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Pond in an existing Kettle

Palgrave_Wet Pond48_Plan 43M-1182 Lot

Location	Palgrave, Latitude:43.946532, Longitude:-79.769512
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to Humber River
Outlet location	Palgrave, Latitude:43.945928, Longitude:-79.766618
Catchment Area	39.4 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Quality control for the 25 mm event, quantity control for up to the 100-year event.
Reference ECA(s)	3-0792-95-006
Reference Works as part of treatment train	
Brief Description	Designated as a Wet Kettle Pond, having a drainage area of 39.4 ha, decreased from its natural drainage area of 41.6 ha. The outlet structure is a low berm wit ha perched 600 mm diameter culvert. The emergency outlet is at 281.0 m. The outlet control reduces the peak flows by more than the pre-development peak flows for all events. The pond function to store and infiltrate stormwater.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Pond in an existing Kettle

Palgrave_Wet Pond49_43M-854

Location	Palgrave, Latitude:43.945658, Longitude:-79.806625
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a creek that drains to Pond 50
Outlet location	Palgrave, Latitude:43.94219, Longitude:-79.808433
Catchment Area	2.78 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Post- to pre-peak flow control for up to the 100-year event.
Reference ECA(s)	Unknown
Reference Works as part of treatment train	Palgrave_Wet Pond 50_43M-854; Palgrave_Wet Pond51_43M-854; Palgrave_Wet Pond52_43M-854
Brief Description	Existing naturally occurring pond. Available storage for the 100-year event. The facility includes two gabion mat inlets and one emergency overflow. The inlet off of Cedar Meadow Lane has an inlet Q-100 yr = 72 L/s. The inlet off of Dacres has an inlet Q-100yr = 91.5 L/s.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Existing natural pond

Palgrave_Wet Pond 50_43M-854

Location	Palgrave, Latitude:43.944128, Longitude:-79.80629
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to Pond 51
Outlet location	Palgrave, Latitude:43.94219, Longitude:-79.808433
Catchment Area	3.43 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Post- to pre-peak flow control for up to the 100-year event.
Reference ECA(s)	Unknown
Reference Works as part of treatment train	Palgrave_Wet Pond49_43M-854; Palgrave_Wet Pond51_43M-854; Palgrave_Wet Pond52_43M-854
Brief Description	Naturally occurring pond. Existing ponding areas and drainage routes used to contain up to 100- year flow and release at predevelopment rates or below.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Existing natural pond

Palgrave_Wet Pond51_43M-854

Location	Palgrave, Latitude:43.944034, Longitude:-79.809522
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets through a culvert to Pond 52
Outlet location	Palgrave, Latitude:43.94219, Longitude:-79.808433
Catchment Area	5.58 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Post- to pre-peak flow control for up to the 100-year event.
Reference ECA(s)	Unknown
Reference Works as part of treatment train	Palgrave_Wet Pond49_43M-854; Palgrave_Wet Pond 50_43M-854; Palgrave_Wet Pond52_43M-854
Brief Description	Naturally occurring pond. Existing ponding areas and drainage routes used to contain up to 100- year flow and release at predevelopment rates or below. Pond elevation water level 288.33 m ensuring a minimum of 2 metre pond depth. Outlet through a 21-metre channel with slope of 1.24% through a 1000 mm diameter CSP culvert under Waterway Court.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Existing natural pond

Palgrave_Wet Pond52_43M-854

Location	Palgrave, Latitude:43.942533, Longitude:-79.809873
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a natural area
Outlet location	Palgrave, Latitude:43.94219, Longitude:-79.808433
Catchment Area	5.29 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Post- to pre-peak flow control for up to the 100-year event.
Reference ECA(s)	Unknown
Reference Works as part of treatment train	Palgrave_Wet Pond49_43M-854; Palgrave_Wet Pond 50_43M-854; Palgrave_Wet Pond51_43M-854
Brief Description	Naturally occurring pond. Existing ponding areas and drainage routes used to contain up to 100- year flow and release at predevelopment rates or below. Outlets to a natural area through a rip-rap structure.

Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Converted natural marsh

Palgrave_Wet Pond53_43M-854

Location	Palgrave, Latitude:43.944093, Longitude:-79.813194
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a natural area
Outlet location	Palgrave, Latitude:43.943588, Longitude:-79.813985
Catchment Area	12 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Post- to pre-peak flow control for up to the 100-year event.
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	Naturally occurring pond. Existing ponding areas and drainage routes used to contain up to 100- year flow and release at predevelopment rates or below. Discharges through 600mm CMP with overflow weir.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Converted natural marsh

Mayfield West_Wet Pond60_Plan 43M-1800

Location	Southfield, Latitude:43.750555, Longitude:-79.819935
Watershed/Subwatershed	Etobicoke Creek
Receiver of discharge	Outlets to a 1800 mm diametre pipe, draining to Upper Etobicoke Creek
Outlet location	Southfield, Latitude:43.749234, Longitude:-79.823091
Catchment Area	44.98 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Enhanced Level water quality protection, erosion control, an post-development peak flows to pre-development levels for all storm events up to and including the 100-year return storm
Reference ECA(s)	1096-9PAJG2
Reference Works as part of treatment train	

Brief Description	A wet stormwater management pond (Pond E4) bounded by residential development to the north, Highway 410 to the south, and Kennedy Road to the west, having a permanent storage volume of 21,775 m', an extended detention storage volume of 3,530 m and a total active storage volume of 41,985 m, complete with two (2) inlet structures, one consisting of a 3.0 m by 2.4 m inlet box pipe, a concrete headwall and an armour stone apron (discharging to the eastern forebay) and one consisting of a 675 mm diameter inlet pipe, a concrete headwall and an armour stone apron (discharging to the western forebay), two (2) sediment forebays with berms, each complete with a 200 mm diameter drain pipe, a 5 m wide access road with turfstone paving, with extended detention volume from the main pond discharged at a peak allowable release rate of 59 L/s via a reverse slope perforated pipe supported by a concrete cradle to storm manhole (MH421) and then to 2.4 m x 2.4 m precast concrete box drop inlet structure (MH422), together with a proposed second 3.0 m x 2.4 m precast concrete box outlet drop structure (MH501) to improve functionality of the pond, especially during major storm events, connected to 2.4 m x 1.8 m precast concrete manhole (MH500) which also discharges to MH421, all outletting via a 1800 mm diameter outfall, a concrete headwall and an armour stone apron with plunge pool, eventually discharging via a naturalized channel to Tributary 19 of Etobicoke Creek
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Mayfield West_Wet Pond61_Plan 43M-1801

Location	Southfield, Latitude:43.753357, Longitude:-79.824391
Watershed/Subwatershed	Etobicoke Creek
Receiver of discharge	Surface outlets to a small tributary of the Upper Etobicoke Creek
Outlet location	Southfield, Latitude:43.750976, Longitude:-79.822941
Catchment Area	27.08 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Enhanced Level water quality protection, erosion control, an post-development peak flows to pre-development levels for all storm events up to and including the 100-year return storm
Reference ECA(s)	1096-9PAJG2

Reference Works as part of treatment train	
Brief Description	A wet stormwater management pond (Pond E3) located south of Larson Peak Road and west of Kennedy Road, having a permanent storage volume of 25,700 m, an extended detention storage volume of 9,277 m and a total active storage volume of 27,596 m, complete with one (1) inlet structure consisting of a 3.0 m by 1.8 m inlet box pipe, a concrete headwall and an armour stone apron, a sediment forebay, a forebay berm complete with a 200 mm diameter drain pipe, a wet pond, a 5 m wide reinforced grass access road, a 5 m wide turfstone paving, a 5 m wide asphalt access road, a sediment drying area, a 200 mm diameter drain pipe complete with a 200 mm diameter control gate valve located in a manhole (4251), discharging via a concrete headwall and an armour stone apron to Tributary 18 of Etobicoke Creek, a 1.5 m diameter by-pass pipe designed to divert a 25 mm rainfall event from the inlet structure to the pond outlet structure during pond maintenance periods, complete with stoplogs, a 6 m wide emergency overflow channel and one (1) outlet structure consisting of a deep pool, a 375 mm diameter reverse slope outlet pipe and a 3 m by 2.4 m control manhole (MH 425)/box outlet structure/drop inlet structure complete with a 162mm diameter orifice plate, four (4)-300mm diameter orifices and a 1.6m wide and 0.33m high outlet weir, together allowing a maximum discharge of 1.2m^3/s (100-year return storm) via a 1800mm diameter outfall, a concrete headwall and an armour stone apron with plunge pool, all located on Toronto and Region Conservation Authority Land, to Tributary 18 of Etobicoke Creek.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_Wet Pond66_Plan 43M-1837 Blk 20

Location	Palgrave, Latitude:43.930813, Longitude:-79.7918
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to Cold Creek, draining to the Humber River
Outlet location	Palgrave, Latitude:43.929956, Longitude:-79.792091
Catchment Area	5.59 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Enhanced Level water quality protection, erosion control, an post-development peak flows to pre-development levels

	for all storm events up to and including the 100-year return storm
Reference ECA(s)	7716-85EHGW
Reference Works as part of treatment train	Palgrave_OGS_66.1; Palgrave_OGS_66.2; Palgrave_Infiltration Gallery47 43M-1837
Brief Description	The establishment of stormwater management Works for the collection, transmission, treatment and disposal of stormwater run-off from a catchment area of 5.59 hectares, to provide enhanced water quality protection, discharging to a minor tributary to Cold Creek and to attenuate post-development peak flows to pre-development levels for all storm events up to and including the 100-year return storm, consisting of the following: Stormwater Management System consist of a hybrid wet pond, infiltration gallery, and two OGS units. This facility is the hybrid wet pond/ wetland feature with a permanent pool volume of 300 m^3 and an active storage volume of 811.6 m^3. The facility has two inlets located above the permanent pool elevation which discharge into a sediment forebay with 1.0 m deep section (drawing U-2085-SWM). These inlets are located 17 m and 25 m from the forebay berm. A second smaller pool is located at the outlet which consists of an 1800 mm diameter CSP aligned vertically with a 79 mm orifice and a 490 mm weir providing water quality control and quantity control to the 100-year event. A 525 mm diameter outlet pipe from the riser is equipped with a 1500 mm diameter maintenance chamber for access. The emergency overflow consists of a 7 m wide river stone spillway.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon East_Wet Pond67_Plan 43M-1840

Location	Caledon East, Latitude:43.878069, Longitude:-79.85772
Watershed/Subwatershed	Humber River
Receiver of discharge	to a series of storm sewers, outletting to a grassed swale, eventually discharging to Centreville Creek
Outlet location	Caledon East, Latitude:43.876404, Longitude:-79.85202
Catchment Area	36.81 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Enhanced Level water quality protection, erosion control, an post-development peak flows to pre-development levels for all storm events up to and including the 100-year return storm

Reference ECA(s)	4285-86BP6F
Reference Works as part of treatment train	Caledon East_OGS_67; Caledon East_Bioswale67; Caledon East_Bioswale67.1; Caledon East_Bioswale67.2
Brief Description	Stormwater management system receiving runoff from 36.81ha catchment area relying on an extended detention wet pond with 4029m^3 permanent pool storage, 1619m^3 extended detention storage volume, 12108m^3 active storage volume during a 100-year storm event, complete with a 150mm dia subdrain placed in clear stone wrapped in filter cloth. 1340mm by 2100mm concrete storm sewer, headwall HW1 and a splash pad rip-rap placed
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

MayfieldWest_Wetlands68_Plan 42 M-1845

Location	Southfield, Latitude:43.739123, Longitude:-79.820063
Watershed/Subwatershed	Etobicoke Creek
Receiver of discharge	Surface outlets to Upper Etobicoke
Outlet location	Southfield, Latitude:43.738783, Longitude:-79.82199
Catchment Area	21.46 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Enhanced level of quality, erosion and quantity control for 2 to 100-year events runo-ff, post development flows to pre-development levels
Reference ECA(s)	9958-8ALHZB
Reference Works as part of treatment train	
Brief Description	establishment of Storm water Management Facilities to service approximately 18.83ha. residential development of Fernbrook Anthem Subdivision in the Town of Caledon to provide for enhanced level of quality, erosion and quantity control for 2 to 100-year events run-off, post development flows to pre-development levels consisting of the following: - a wetland on an approximate footprint of 0.82ha., with a 1500mm diameter pipe inlet into the forebay, pond bed lined with a 1.0m thick clay layer with an approximate permanent volume of 1,275cu.m., an extended detention volume of 2,220cu.m. and total storage volume of 6,247cu.m. effecting a depth of 2.44m, together with: - one (1) 2.4m by 2.4m concrete Outlet Control Structure located within the pond embankment to accept pond discharge via a 2m long, 300mm diameter perforated horizontal pipe, encased in clear stone surround to discharge wetland

	effluent via a 300mm diameter pipe via a 120mm diameter vertical orifice and two (2) 1.75m wide by 250mm high weirs cut into the-walls; to discharge into a 825mm diameter storm sewer culvert under the pond berm into a river stone filled plunge pool to finally flow into the Etobicoke Creek of Lake Ontario, - a 1.0m long by 3.0m wide by 330mm deep spillway within the wetland embankment provided to discharge stormwater flows above the 25-year storm event, - a 54m long by 3.0m wide by 120mm deep spillway within the wetland embankment provided to discharge stormwater flows above and over the 100-year storm event to the Creek incase of blockage of the normal outlet in times of extraordinary storms and to avoid pond embankment damage, including appurtenances, temporary erosion/sedimentation control measures during every stage of construction to minimize the effects on external lands and to reduce the amount of silt carried to the wetland and the Creek
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Mayfield West_Wet Pond70_POND E2

Location	Southfield, Latitude:43.753268, Longitude:-79.830336
Watershed/Subwatershed	Etobicoke Creek
Receiver of discharge	Surface outlets to Upper Etobicoke
Outlet location	Southfield, Latitude:43.751795, Longitude:-79.831081
Catchment Area	46.83 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Enhanced level of quality, erosion and quantity control for 2 to 100-year events runoff, post development flows to pre-development levels
Reference ECA(s)	9984-8L3NXK
Reference Works as part of treatment train	
Brief Description	Stormwater Management System -a wet stormwater management pond (Pond B2) consisting of approximate permanent pool volume of 20,066 m^3, extended detention volume of 14,699 m^3 and total storage volume of 80,539 m^3, together with: ~ one (1) inlet structure (east inlet) 2,400 mm x 1,500 mm inlet box pipe, d concrete headwall and an armour stone apron, one (1) inlet structure (west inlet) 3,000 mm x 1,500 mm inlet box pipe, a concrete headwall and an armour stone apron, discharging into a

	sediment forebay, ~ sediment forebay, a forebay berm complete with a 200 mm diameter drain pipe with a 200 mm, diameter valve; ~ 5.0m wide access to the inlets and the outlet to the pond; ” ~ one (1) 375 mm diameter reverse slope outlet pipe from the bottom of the stormwater management pond to a 3,800 mm x 3,000 mm drop inlet structure, fitted with a 190 mm diameter orifice plate at the inlet to the drop inlet structure, ~ one (1) 1,350 min x 350 mm diameter rectangular orifice and one (1) 650 mm long weir, on the drop inlet structure to provide quantity control; - one (1) 200 mm diameter drain pipe from the bottom of the stonmwater management pond to a ~ 3,800 mm x 3,000 nm drop inlet structure, fitted with a 200 mm diameter control gate valve; - one (1) 1,650 mm diameter concrete bypass storm sewer from the MH 80. to MH 180 and from MHI180 to the drop inlet structure (MH 210), designed to divert the 25 mm rainfall event from the inlet structures to the pond outlet structure during pond maintenance periods, complete with stoplogs; - one (1) 13 m wide emergency overflow weir; + one (1) 1,800 mm diameter outlet, a concrete headwall and an armour stone spillway and a plunge pool, ultimately discharging to the Etobicoke Creek
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Campbells Cross_Dry Pond73_Plan 43M-1897 blk 26

Location	Campbell Cross, Latitude:43.782576, Longitude:-79.863316
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to West Humber River
Outlet location	Campbell Cross, Latitude:43.782898, Longitude:-79.863426
Catchment Area	3.1 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Erosion and quantity control for 2 to 100-year events runoff, post development flows to pre-development levels
Reference ECA(s)	4512-8NWLSH
Reference Works as part of treatment train	Campbell Cross_OGS_73
Brief Description	Stormwater management dry pond with a storage volume approximately 1,687 cu.m at an elevation of 281.0 metres, one inlet structure consisting of a 750 mm diameter inlet pipe and a concrete headwall, a 5-metre-wide emergency

	spillway lined with a 300 mm thick gabion mattress, one outlet structure with a Hickenbottom control structure, 47 L/s for the 100-year return storm via a 300 mm diameter outlet pipe, discharging to a tributary of Salt Creek through a natural channel feature.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Mayfield West_Wet Pond74_POND E-1

Location	Southfield, Latitude:43.750635, Longitude:-79.838233
Watershed/Subwatershed	Etobicoke Creek
Receiver of discharge	Surface outlets to Upper Etobicoke
Outlet location	Southfield, Latitude:43.749012, Longitude:-79.836745
Catchment Area	57.91 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Enhanced level of quality, erosion and quantity control for 2 to 100-year events runoff, post development flows to pre-development levels
Reference ECA(s)	4809-9F7S7J
Reference Works as part of treatment train	
Brief Description	Stormwater Management System A stormwater management system to service residential development (Argo Caledon Phase 1, part of Mayfield West Community in the Town of Caledon), located along the east side of Main Street (Highway 10), north of the intersection of Main Street (Highway 10) and Highway 410, relying on an extended detention wet pond identified as Stormwater Management Pond E1, designed to service 36.24 ha of the Argo Caledon Phase 1 development area, as well as 21.7 ha of external developments for a total drainage area of 57.91 ha. The Pond E1 is designed with a minimum liquid retention volume (permanent pool) of 13,396 cubic metres (mm), extended detention storage volume provision of 8,259 m’ and a volume provision of 25,040 m’ above the permanent pool under 100 year conditions and 31,493 m’ for Hurricane Hazel Regional design storm conditions, with a controlled total discharge flow rate of 7.152 m'/s under Regional storm conditions of which 4.304 m’/s is conveyed by the emergency overflow weir at a flow depth of 14.4 cm and a velocity of 2.98 m/s under 50% blockage. Pond is designed to outlet directly to Etobicoke Creek, located immediately south of the pond block. The pond is equipped

	with two inlet pipes, each discharging to a sediment forebay, which allows discharge over a berm into the main pond cell designed with a permanent pool depth of 1.8 m. Discharge control out of the wet pond is provided via a drop inlet structure equipped with pipe and orifice plate arrangements, and a spillway for emergency overflow conditions. Extended detention control for up to the 25 mm storm event is provided through a 375 mm perforated intake pipe with a 140 mm vertical orifice plate with its invert at the permanent pool volume, designed to provide a 5 day detention time, a maximum accumulation depth of 0.7 m above the permanent pool and a peak allowable release rate of 33 L/s. Quantity control is provided by a 0.60 m orifice installed in the drop inlet structure with the invert set at maximum extended detention depth of 0.7 m above permanent pool to provide quantity control for the 2- to 100-year storm. The controlled flows are to be conveyed by a 1650 mm diameter circular concrete pipe with a 0.5% slope and a capacity of 6.4 m'/s to Etobicoke Creek. Also provided is a 10 m wide emergency overflow weir with a crest elevation of set at 1.95 m above the permanent pool. Pond designed also to consider regional storm with outflows as specified above.
Receive Emergency Sanitary Overflows	Yes. Recieves overflows from the Region of Peels Dougall SPS located at 535 Dougall Ave, Caledon. Overflow location coordinates: Lat. 43.75028670, Long. -79.83879832
Notes / Additional Information	

Mayfield West_Wet Pond80_Plan 43M-2017 blk 82

Location	Southfield, Latitude:43.763576, Longitude:-79.82801
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to the West Humber River
Outlet location	Southfield, Latitude:43.764505, Longitude:-79.828503
Catchment Area	17.97 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Enhanced level of quality, erosion and quantity control for 2 to 100-year events runo-ff, post development flows to pre-development levels
Reference ECA(s)	1737-9USL28
Reference Works as part of treatment train	
Brief Description	One (1) wet pond with a clay liner and sediment forebay, located on Block 82, north of Bonnieglen Farm Boulevard,

	having a permanent pool volume of 4,486 m, an extended detention volume of 1,732 m, and a total storage volume of approximately 11,726 m', including the permanent pool volume, at a total depth of approximately 3 m at the deep pool, receiving inflow from the storm sewer on Bonnieglen Farm Boulevard, identified below, and discharging via an 1800 mm diameter outfall pipe and low flow channel to Tributary H3 of the West Humber River
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond81_Plan 43M-2026 blk 55

Location	Bolton, Latitude:43.853868, Longitude:-79.699406
Watershed/Subwatershed	Humber River/Robinson Creek
Receiver of discharge	Surface outlets to Robinson Creek
Outlet location	Bolton, Latitude:43.853237, Longitude:-79.699998
Catchment Area	9.6 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Enhanced level of quality, erosion and quantity control for 2 to 100-year events runo-ff, post development flows to pre-development levels
Reference ECA(s)	0753-A4BPYU
Reference Works as part of treatment train	
Brief Description	stormwater management facility (catchment area 9.6 hectares): - one (1) wet pond with a sediment forebay located just south of Morra Avenue Cul-de-sac on Block 55, having a permanent pool volume of 1,440 m^3, an extended detention volume of 1,120 m^3, and a total storage volume of approximately 5,575 m^3, including the permanent pool volume, at a total depth of approximately 2.1 m, receiving inflow from the storm sewer on Morra Avenue, identified below, including external run-off from the Pannia Lands (1.5 hectares) located to the north of the development, discharging to a pocket wetland, identified below, including a 600 mm diameter maintenance by-pass sewer on Block 55 discharging directly to Robinson Creek (Humber River tributary); pocket wetland: - one (1) wetland feature located on Block 56, receiving inflow from the stormwater management facility, having a total infiltration storage volume of approximately 31 m', discharging via a spillway to Robinson Creek, and then via the Humber River to Lake Ontario; Infiltration Facilities - approximately twenty

	(20) 1.5m wide by 0.5 m deep infiltration galleries at various locations at the rear of the residential lots and block, having a total infiltration storage volume of approximately 72m^3 connected to the rear yard catchbasins and leads, identified below
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon East_Wet Pond82_Part 11 & 12 Conc 2 Alb

Location	Caledon East, Latitude:43.846945, Longitude:-79.79575
Watershed/Subwatershed	Hmber River
Receiver of discharge	to a roadside ditch, eventually outletting to West Humber River
Outlet location	Caledon East, Latitude:43.847003, Longitude:-79.794567
Catchment Area	48.3 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Enhanced level of quality, erosion and quantity control for 2 to 100-year events runo-ff, post development flows to pre-development levels
Reference ECA(s)	9349-8SMJP2
Reference Works as part of treatment train	
Brief Description	A wet pond with a sediment forebay, having a permanent pool volume of 2,220 m3, an extended detention volume of 1,170 m 3, and a total storage volume of approximately 8,500 m3 at a total depth of 2.1 m, complete with: - two (2) 450 mm diameter inlet pipes with rip-rap protection picking up much of the drainage from the road ditches and discharging to the sediment forebay; - one (1) 5 m wide rip-rap protected trapezoidal inflow spillway from the roadside ditch to the sediment forebay; - one (1) 250 mm diameter perforated Hickenbottom riser pipe installed in a clear stone jacket and 300 mm diameter reverse slope pipe, discharging through a 120 mm diameter orifice plate to a 1500 mm diameter precast concrete maintenance hole (MH1); - one (1) 525 mm diameter outlet pipe from the main pond with a concrete inlet headwall, discharging to the 1500 mm diameter maintenance hole (MH#1) identified above; - one (1) 525 mm diameter outlet pipe with a concrete outlet headwall from the 1500 mm diameter maintenance hole (MH1), identified above, to a rip-rap protected outlet channel with a rock check dam, discharging to an existing 1.8 m by 0.9 m box culvert under

	King Street; - one (1) 10 m wide emergency spillway, complete with gabion mat and filter cloth from the main pond, discharging to the existing ditch on King Street and the existing box culvert under King Street identified above; all discharging via an unnamed tributary to the West Humber River
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Johnston Sports Park

Palgrave_Dry Pond88_Plan 43M-1181

Location	Palgrave, Latitude:43.942873, Longitude:-79.771269
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface discharge to Pond 89
Outlet location	Palgrave, Latitude:43.941789, Longitude:-79.769191
Catchment Area	Unknown ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Designed to store and infiltrate the 25 mm and partial control of the 100-year event
Reference ECA(s)	3-0792-95-006
Reference Works as part of treatment train	Palgrave_Wet Pond45_Plan 43M-1181; Palgrave_Wet Pond46_Plan 43M-1181; Palgrave_Wet Pond47_Plan 43M-1181; Palgrave_Wet Pond89_Plan 43M-1181
Brief Description	An existing dry Kettle Pond. Designed to provide partial quantity control and quality control for the first flush. Receiving drainage from 400m of road. Storage capacity of 350 cu.m for the 25 mm event and 2850 cu.m for the 100-year event.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_Wet Pond89_Plan 43M-1181

Location	Palgrave, Latitude:43.942126, Longitude:-79.771266
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface discharge a natural area
Outlet location	Palgrave, Latitude:43.941789, Longitude:-79.769191
Catchment Area	8.7 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None

Level of Volume control	None
Design Storm	Design storm unclear
Reference ECA(s)	Unknown
Reference Works as part of treatment train	Palgrave_Wet Pond45_Plan 43M-1181; Palgrave_Wet Pond46_Plan 43M-1181; Palgrave_Wet Pond47_Plan 43M-1181; Palgrave_Dry Pond88_Plan 43M-1181
Brief Description	An existing wet Kettle Pond. Receiving drainage from the estate development and 200m of road. Perched culvert installed to create ponding upstream providing quantity control and increased recharge. Designed to have a storage of 150 cu.m for the 25 mm event and 1580 cu.m for the 100-year event.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_Wet Pond91_43M-675

Location	Palgrave, Latitude:43.927728, Longitude:-79.795321
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface discharge a natural area
Outlet location	Palgrave, Latitude:43.928759, Longitude:-79.794878
Catchment Area	1.63 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Post- to pre-peak flow control for the 2-year and 5-year event
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	Dry pond with volume control of 620 cu.m for the 2-year event and 1200 cu.m for the 5-year event. Outlet control consists of 300 diametre mm CSP and an overflow weir. The overflow spillway drains to an existing ditch that drains to the Humber River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_Wet Pond92_Plan 43M-834

Location	Palgrave, Latitude:43.926263, Longitude:-79.790096
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface discharge a natural area
Outlet location	Palgrave, Latitude:43.925882, Longitude:-79.790539

Catchment Area	3.99 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Post- development to pre-development peak flow control for the 2-year event
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	Drainage from sub-basin 1b is directed toward an pre-existing pond. This was considered an environmental sensitive area. Sediment control in addition to flood control is implement through a retention pond designed to control up to the 2-year flos. The bottom of the pond will be depressed 0.5 metres with no outlet. The intent is to settle out the larger particles and contaminants and allow the trapped water to infiltrate back into the ground. The total storage volume in the pond is estimated to be 500 mm. The outlet control structure is a circular CSP plus erosion resistant weir overflow.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_Wet Pond93_Plan 43M-834

Location	Palgrave, Latitude:43.928763, Longitude:-79.789877
Watershed/Subwatershed	Humber River
Receiver of discharge	Online facility
Outlet location	Palgrave, Latitude:43.928733, Longitude:-79.788044
Catchment Area	5.9 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Post- development to pre-development peak flow control for the 2-year event
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	The drainage from sub-basin 3 is directed onto the adjacent agricultural land. Only peak flow attenuation is proposed by means of a detention pond designed to control up to the 2-year flow. The available storage volume in the facility is 700mm. The outlet control structure is a circular CSP plus

	erosion resistant weir overflow.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond94_Municipal Right-of-way

Location	Bolton, Latitude:43.84851, Longitude:-79.71776
Watershed/Subwatershed	Humber River/West Humber River
Receiver of discharge	Outlet a storm sewer and discharges to the West Humber River
Outlet location	Bolton, Latitude:43.84288, Longitude:-79.72142
Catchment Area	2.47 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	2- through 5- year peak flow
Reference ECA(s)	Unknown
Reference Works as part of treatment train	None
Brief Description	Bioswale facility believed to provide 5-year peak flow control for the George Bolton Parkway.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond95_CON 6 PT LOT 1 RP43R31997

Location	Bolton, Latitude:43.848237, Longitude:-79.69719
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets to a roadside ditch, eventually outletting to Robinson Creek
Outlet location	Bolton, Latitude:43.84854, Longitude:-79.695314
Catchment Area	Unknown
Level of Treatment for suspended solids	50% TSS
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Conveyance of up to the 100-year event
Reference ECA(s)	Unknown
Reference Works as part of treatment train	Bolton_Wet Pond18_Pt Lot 3 Conc 6 Albion; Bolton_Wet Pond19_Pt Lot 3 Conc 6 Albion; Bolton_Wet Pond20_Plan 43M-1658 Blk 10; Bolton_Wet Pond40_Lot 1 Conc 6 Alb
Brief Description	Constructed wetland conveyance channel for Bolton_Wet Pond40_Lot 1 Conc 6 Alb providing fish habitat and outlet

	to Robinson Creek. 30 metre minimum with three depressional areas that will proivde seasonal ponds.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Dry Pond96_Plan 43M-1649

Location	Bolton, Latitude:43.889929, Longitude:-79.728802
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a tributary of the Cold Creek
Outlet location	Bolton, Latitude:43.890046, Longitude:-79.729348
Catchment Area	1.9 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Design storm unclear
Reference ECA(s)	Unknown
Reference Works as part of treatment train	Bolton_OGS_96
Brief Description	Stormceptor STC 4000
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon East_Kettle98_Plan 43M-323

Location	Caledon East, Latitude:43.889369, Longitude:-79.898747
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a natural area
Outlet location	Caledon East, Latitude:43.889258, Longitude:-79.899152
Catchment Area	4.79 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Storage for up to the 100-year event
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	Existing Kettle Lakes used to provide quantity control up to the 100-year event through storage and infiltration
Receive Emergency Sanitary Overflows	No

Notes / Additional Information	

Caledon East_Wet Pond99_Plan 43M-887

Location	Caledon East, Latitude:43.88757, Longitude:-79.897295
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a natural area
Outlet location	Caledon East, Latitude:43.887644, Longitude:-79.896622
Catchment Area	2.6 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Design storm unclear
Reference ECA(s)	Unkown
Reference Works as part of treatment train	
Brief Description	Existing Kettle Lakes used to provide quantity control up to the 100-year event through storage and infiltration
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_Natural Pond103_Plan 43M-1435 Blk 12

Location	Caledon Village, Latitude:43.906898, Longitude:-80.01451
Watershed/Subwatershed	Credit River
Receiver of discharge	Surface outlets to a natural area
Outlet location	Caledon Village, Latitude:43.90681, Longitude:-80.014566
Catchment Area	2.85 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Design storm unclear
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	Quality control provided in Gross Traps in catchbasins. System outlets, both minor and major events, to Rosehill ESA which provides full management of all events.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_Wetland104_Plan 43M-1182

Location	Palgrave, Latitude:43.945848, Longitude:-79.76697
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to the Humber River
Outlet location	Palgrave, Latitude:43.945863, Longitude:-79.766593
Catchment Area	6.65 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	25 mm quality control. 2- through 100-year quantity control.
Reference ECA(s)	3-0792-95-006
Reference Works as part of treatment train	
Brief Description	Stormwater Management Facility will be located. south of Bruno Ridge Drive/ High Forest Court on Lot 19 and as shown on Drawing 5230-P3 dated January 1995. The facility will have a storage capacity of 1150 cubic metres and a maximum depth of 130 centimetres at Elevation 278.8 metres with a highflow bypass at Elevation 278.8 as well as an outlet control. The outlet control will consist of a 250mm subdrain perforated at the top end, wrapped in geotextile fabric and covered with 30mm clear crush stone as well as a 100mm orifice at the discharge end limiting flows to 30 litres per second into the existing watercourse. all in accordance with the Stormwater Management Report revised April 1995 and engineering plans altogether as submitted by Cumming Cockburn Limited, Consulting Engineers.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_OGS_54

Location	Bolton, Latitude:43.882837, Longitude:-79.718506
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets to a stormwater management pond on private property
Outlet location	Bolton, Latitude:43.882701, Longitude:-79.718691
Catchment Area	Approximately 0.8 ha
Level of Treatment for suspended solids	50% TSS Removal

Treatment for other contaminants, as required	none
Level of Volume control	up to 5 year event
Design Storm	
Reference ECA(s)	7775-C5LS5B
Reference Works as part of treatment train	Private Property Stormwater Pond ECA: 7775-C5CS5B
Brief Description	Stormceptor STC 1000 manages runoff from Nunnville Road prior to entering a privately owned stormwater facility. Total storage volume of 1,070 L, hydrocarbon storage of 915 L and 3800L of sediment capacity.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_OGS_66.1

Location	Palgrave, Latitude:43.931475, Longitude:-79.792426
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a natural area, draining to the Humber River
Outlet location	Palgrave, Latitude:43.929956, Longitude:-79.792091
Catchment Area	9.54 ha
Level of Treatment for suspended solids	50% TSS Removal
Treatment for other contaminants, as required	none
Level of Volume control	up to 5 year event
Design Storm	
Reference ECA(s)	7716-85EHGW
Reference Works as part of treatment train	Palgrave_Wet Pond66_Plan 43M-1837 Blk 20; Palgrave_OGS_66.2; Palgrave_Infiltration Gallery47 43M-1837
Brief Description	Treat 18L/s with a total holding capacity of 4325 L
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_OGS_66.2

Location	Palgrave, Latitude:43.931581, Longitude:-79.790561
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a natural area, draining to the Humber River
Outlet location	Palgrave, Latitude:43.929956, Longitude:-79.792091
Catchment Area	9.54 ha
Level of Treatment for suspended solids	50% TSS Removal

Treatment for other contaminants, as required	none
Level of Volume control	up to 5 year event
Design Storm	
Reference ECA(s)	7716-85EHGW
Reference Works as part of treatment train	Palgrave_Wet Pond66_Plan 43M-1837 Blk 20; Palgrave_OGS_66.1; Palgrave_Infiltration Gallery47 43M-1837
Brief Description	Treat 18L/s with a total holding capacity of 4325 L
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon East_OGS_67

Location	Caledon East, Latitude:43.878801, Longitude:-79.855348
Watershed/Subwatershed	Humber River
Receiver of discharge	to a series of storm sewers, outletting to a grassed swale, eventually discharging to Centreville Creek
Outlet location	Caledon East, Latitude:43.876404, Longitude:-79.85202
Catchment Area	37.95 ha
Level of Treatment for suspended solids	50% TSS Removal
Treatment for other contaminants, as required	none
Level of Volume control	up to 5 year event
Design Storm	
Reference ECA(s)	4285-86BP6F
Reference Works as part of treatment train	Caledon East_Wet Pond67_Plan 43M-1840; Caledon East_Bioswale67; Caledon East_Bioswale67.1; Caledon East_Bioswale67.2
Brief Description	Stormceptor STC 750
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_OGS_69

Location	Bolton, Latitude:43.856184, Longitude:-79.726736
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets to a tribuatry of the West Humber River
Outlet location	Bolton, Latitude:43.855194, Longitude:-79.726126
Catchment Area	#N/A
Level of Treatment for suspended solids	50% TSS Removal
Treatment for other contaminants, as required	none
Level of Volume control	up to 5 year event

Design Storm	
Reference ECA(s)	0870-89KHZV
Reference Works as part of treatment train	
Brief Description	Treat 70L/s with a total holding capacity of 3490 L
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Campbell Cross_OGS_73

Location	Campbell Cross, Latitude:43.781329, Longitude:-79.863665
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to West Humber River
Outlet location	Campbell Cross, Latitude:43.782898, Longitude:-79.863426
Catchment Area	3.1 ha
Level of Treatment for suspended solids	50% TSS Removal
Treatment for other contaminants, as required	none
Level of Volume control	up to 5 year event
Design Storm	
Reference ECA(s)	4512-8NWLSH
Reference Works as part of treatment train	Campbells Cross_Dry Pond73_Plan 43M-1897 blk 26
Brief Description	Stormceptor STC 2000
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_OGS_96

Location	Bolton, Latitude:43.889105, Longitude:-79.72841
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets to Bolton_Dry Pond96_Plan 43M-1649
Outlet location	Bolton, Latitude:43.890046, Longitude:-79.729348
Catchment Area	1.9 ha
Level of Treatment for suspended solids	50% TSS Removal
Treatment for other contaminants, as required	none
Level of Volume control	up to 5 year event
Design Storm	
Reference ECA(s)	Unknown
Reference Works as part of	Bolton_Dry Pond96_Plan 43M-1649

treatment train	
Brief Description	Model STC-3000. Managing road runoff from Silvervalley Drive. The OGS provides 15270 L of total volume storage, 3360 L of Hydrocarbon storage and 11965 L of sediment storage.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_OGS_129

Location	Bolton, Latitude:43.886838, Longitude:-79.728709
Watershed/Subwatershed	Humber River
Receiver of discharge	Region of Peel storm sewer system along King Street
Outlet location	Bolton, Latitude:43.886838, Longitude:-79.728709
Catchment Area	#N/A
Level of Treatment for suspended solids	50% TSS Removal
Treatment for other contaminants, as required	none
Level of Volume control	up to 5 year event
Design Storm	
Reference ECA(s)	Unkown
Reference Works as part of treatment train	
Brief Description	Model STC-4000. Managing road runoff from Evans Ridge. The OGS provides 20255 L of total volume storage, 3360 L of Hydrocarbon storage and 16,490 of sediment storage
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Point_OGS_108.1

Location	Alton, Latitude:, 43.855179, Longitude:-80.069435
Watershed/Subwatershed	Credit River
Receiver of discharge	Outlets to an enhanced grass swale
Outlet location	Alton, Latitude:43.857157, Longitude:-80.072449
Catchment Area	#N/A
Level of Treatment for suspended solids	50% TSS Removal
Treatment for other contaminants, as required	none
Level of Volume control	up to 5 year event
Design Storm	
Reference ECA(s)	8454-BMTMSK
Reference Works as part of treatment train	Point_OGS_108.2; Alton_Enhanced Swale108

Brief Description	Model STC 750. Provides quality control for Davis Drive and upstream. STC 750 provides a total storage capacity of 4070 L, 915 of hydrocarbon and 3000 of sediment storage.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Point_OGS_108.2

Location	Alton, Latitude:, 43.856658, Longitude:-80.072777
Watershed/Subwatershed	Credit River
Receiver of discharge	Outlets through a 1350 mm storm sewer to Shaws Creek
Outlet location	Alton, Latitude:43.857157, Longitude:-80.072449
Catchment Area	#N/A
Level of Treatment for suspended solids	50% TSS Removal
Treatment for other contaminants, as required	none
Level of Volume control	up to 5 year event
Design Storm	
Reference ECA(s)	8454-BMTMSK
Reference Works as part of treatment train	Point_OGS_108.1; Alton_Enhanced Swale108
Brief Description	STC 750 Provides quality control for Emiline and Queen Street. STC 750 provides a total storage capacity of 4070 L, 915 of hydrocarbon and 3000 of sediment storage.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon East_Bioswale67.1

Location	Caledon East, Latitude:43.877695, Longitude:-79.857147
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets to a series of storm sewers, outletting to a grassed swale, eventually discharging to Centreville Creek
Outlet location	Caledon East, Latitude:43.876404, Longitude:-79.85202
Catchment Area	37.95 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	25 mm
Design Storm	
Reference ECA(s)	4285-86BP6F
Reference Works as part of treatment train	Caledon East_Wet Pond67_Plan 43M-1840; Caledon East_OGS_67; Caledon East_Bioswale67; Caledon East_Bioswale67.2

Brief Description	Facility Type:Bioswale
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon Village_Grassed Swale28

Location	Caledon Village, Latitude:43.868339, Longitude:-79.987131
Watershed/Subwatershed	Credit River/Caledon Creek
Receiver of discharge	Surface outlets to a grassed swale, discharging to the Caledon Creek
Outlet location	Caledon Village, Latitude:43.869014, Longitude:-79.98637
Catchment Area	15.99 ha
Level of Treatment for suspended solids	50% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	5 mm
Design Storm	All events up to an including the 100 year event
Reference ECA(s)	3-0601-95-006
Reference Works as part of treatment train	Caledon Village_Dry pond28_Plan 43M-1196 Blk 67
Brief Description	Facility Type:Grassed Swale
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon East_Enhanced Grass Swale36

Location	Caledon East, Latitude:43.855065, Longitude:-79.869373
Watershed/Subwatershed	Credit River
Receiver of discharge	Surface outlets to a natural area
Outlet location	Caledon East, Latitude: 43.853741, Longitude:-79.867592
Catchment Area	10.6 ha
Level of Treatment for suspended solids	50% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	25 mm
Design Storm	
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	Facility Type:Enhanced Grass Swale
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_Infiltration Gallery47 43M-1837

Location	Palgrave, Latitude:43.931887, Longitude:-79.792271
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a natural area, draining to the Humber River
Outlet location	Palgrave, Latitude:43.929956, Longitude:-79.792091
Catchment Area	5.59 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	Naturally occuring infiltration area
Design Storm	
Reference ECA(s)	7716-85EHGW
Reference Works as part of treatment train	Palgrave_Wet Pond66_Plan 43M-1837 Blk 20; Palgrave_OGS_66.1; Palgrave_OGS_66.2
Brief Description	Over 360 m of infiltration gallery distributed between driveways in the boulevard between the water service and utilities (drawings U-2085-PP1 and U-2085-PP2 and U-2085-DET1). These galleries are linked by sections of weeper tile pipe.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon Village_Infiltration Facility109

Location	Caledon Village, Latitude:43.908616, Longitude:-80.014675
Watershed/Subwatershed	Credit River
Receiver of discharge	Surface outlets to Credit River
Outlet location	Caledon Village, Latitude:43.907373, Longitude:-80.016
Catchment Area	2.1 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	25 mm
Design Storm	
Reference ECA(s)	Unknown
Reference Works as part of	

treatment train	
Brief Description	Facility Type:Infiltration Facility
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Alton_Enhanced Swale108

Location	Alton, Latitude:43.855494, Longitude:-80.070471
Watershed/Subwatershed	Credit River/Shaws Creek
Receiver of discharge	Outlets to a storm sewer that drains to Shaws Creek
Outlet location	Alton, Latitude:43.857157, Longitude:-80.072449
Catchment Area	10.98 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	25 mm
Design Storm	
Reference ECA(s)	8454-BMTMSK
Reference Works as part of treatment train	Point_OGS_108.1; Point_OGS_108.2
Brief Description	Facility Type:Enhanced Swale
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon East_Bioswale67.2

Location	Caledon East, Latitude:43.877695, Longitude:-79.857147
Watershed/Subwatershed	Humber River
Receiver of discharge	Sruface outlets to Centreville Creek
Outlet location	Caledon East, Latitude:43.876404, Longitude:-79.85202
Catchment Area	37.95 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	5 mm
Design Storm	
Reference ECA(s)	4285-86BP6F
Reference Works as part of treatment train	Caledon East_Wet Pond67_Plan 43M-1840; Caledon East_OGS_67; Caledon East_Bioswale67; Caledon East_Bioswale67.1
Brief Description	Facility Type:Bioswale

Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Inglewood_Swale26

Location	Inglewood, Latitude:43.792168, Longitude:-79.935164
Watershed/Subwatershed	Credit River
Receiver of discharge	Surface outlets to a roadside ditch that drains to a natural area
Outlet location	Inglewood, Latitude:43.791951, Longitude:-79.936993
Catchment Area	1.95 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	5 mm
Design Storm	
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description	Facility Type:Swale
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

CaledonEast_OGS_115_Plan 43M-1770

Location	Caledon East, Atrium Street, Latitude: 43.87743, Longitude: -79.85508
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets to a stormsewer that drains to Old Church Road and eventually outlets to Centreville Creek
Outlet location	Caledon East, Old Church Road, Latitude: 43.87784, Longitude:-79.85595
Catchment Area	0.5 ha
Level of Treatment for suspended solids	60% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	
Design Storm	
Reference ECA(s)	Unknown
Reference Works as part of	none

treatment train	
Brief Description	Oil and Grit Seperator managing runoff from Atrium Court. The model number is STC 750. total storage capacity of 4070 L, 915 of hydrocarbon and 3000 of sediment storage.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Jellyfish_115_Plan 43M-1770

Location	Bolton, Healey Road, Latitude: 43.83479, Longitude: -79.75953
Watershed/Subwatershed	Humber River/West Humber River
Receiver of discharge	West Humber River
Outlet location	Bolton, Healey Road, Latitude: 43.83458, Longitude:-79.75928
Catchment Area	0.3 ha
Level of Treatment for suspended solids	80% TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	
Design Storm	
Reference ECA(s)	Unknown
Reference Works as part of treatment train	none
Brief Description	Jellyfish Unit Model JF4-2-1. Treats Healey Road runoff.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond11_Pt W Lot 8 Conc 6 Albion to Bolton_Wet Pond10_Plan 43M-1287 Blk 83

Location	Bolton, Latitude:43.872949, Longitude:-79.744589; Bolton, Latitude:43.873437, Longitude:-79.745875
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets through a 1650 mm diametre storm sewer to the Humber River
Outlet location	Bolton, Latitude:43.878124, Longitude:-79.748086
Catchment Area	50.5 ha
Level of Treatment for suspended solids	80% Long-term TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Water quality, erosion control, and quantity control up to the

	100 year event
Reference ECA(s)	3-1717-97-006
Reference Works as part of treatment train	
Brief Description of each component of treatment train:	Bolton_Wet Pond11_Pt W Lot 8 Conc 6 Albion: Existing stormwater management facility retrofited with 2 forebay cells located on southwest side of Station road. Stormwater from storm sewer network of subdiviion first enters a sediment cell. Stormwater then flows into second forebay cell (spillaway - 237.7m elevation) Stormwater management pond has permanent stormwater pool up to 234m elevation. Any water above 234m flows through 200m reverse sloped outlet sewer pipe into outflow control structure at southwest corner of King St W and Station Road.
Brief Description of each component of treatment train:	Bolton_Wet Pond10_Plan 43M-1287 Blk 83: On west side of Station Road - extended detention pond with sediment forebay, a marsh land and a wet detention micro pool to attenuate post developement stormwater runoff from 25mm rainfall over a 12ha drainage area to discharge to the Humber River via outlet control manhole. Low flow channel connexcts 1040m^2 of marsh land with sediment the forebay and micro pool. All flows in excess of first flush are to be diverted from wet detention pond via flow diversion manhole and to be discharged directly to the Humber River via existing ditch system.
Brief Description of each component of treatment train:	
Brief Description of each component of treatment train:	
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Dry pond13_Plan 43M-1210 Blk 62 to Bolton_Wet Pond14_Pt Lot 5 Conc 7 Albion

Location	Bolton, Latitude:43.873331, Longitude:-79.715035; Bolton, Latitude:43.873099, Longitude:-79.712489
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets through culvert to Humber River
Outlet location	Bolton, Latitude:43.873434, Longitude:-79.709771
Catchment Area	88.49 ha
Level of Treatment for suspended solids	80% Long-term TSS Removal
Treatment for other contaminants, as required	None

Level of Volume control	None
Design Storm	Provides quanlity control for the "first flush", and quantity control provided by attenuating post-development run-off for 25mm and 2 through 100 year events. Pond designed to provide quantity control function, having an available storage area, outlet micropool and orifice discharge control. Quantity control is provided by reducing inflow peak by approximately 50% for all design storm events
Reference ECA(s)	3-0473-96-006
Reference Works as part of treatment train	
Brief Description of each component of treatment train:	Bolton_Dry pond13_Plan 43M-1210 Blk 62: Located on site between street "c" and Queensgate Boulevard. Stormwater detention pond designed to provide quantity control function (storage volume 19476m^2) with a sediment forebay, sediment spreading area, outlet micropool and orifice discharge control outletting to pond no.3. This includes inlet/outlet piping, outlet piping/control structure, low flow channel and spillway.
Brief Description of each component of treatment train:	Bolton_Wet Pond14_Pt Lot 5 Conc 7 Albion: Located downstream of pond No.2 between Albion-King Town Line Rd and Street C. Consists ofstormwater extended detention wet pond facility to provide quality and quantity control functions such as quality treatment volume component of 13600m^3. Inlet forebay, outlet plunge pool and vegetative lining to enhance sediment removal and discharge control via an orifice and perforated riser pipe structure. Goal is to detain the "first flush" outflow prior to discharge at average rate of 0.015m^3/s over 80 hr period. Quantity control is provided by attenuating catchment area run-off to target discharge rates 0.03, 0.44, 0.85, 1.12,1.95,2.46,2.92m^3/s during 25mm, 2, 5,10,25,50, 100 year design storm events in conjunction with pond 2.
Brief Description of each component of treatment train:	
Brief Description of each component of treatment train:	
Receive Emergency Sanitary Overflows	Yes. Recieves overflows from the Region of Peels Harvestview SPS located at 10 Harvestview, Caledon. Overflow location coordinates: Lat. 43.87631157, Long. -79.71364207
Notes / Additional Information	

Bolton_Dry Pond15_Plan 43M-278 Blk B to Bolton_Dry Pond16_Plan 43M-418 Blk 29

Location	Bolton, Latitude:43.856337, Longitude:-79.728226; Bolton,

	Latitude:43.85823, Longitude:-79.728655
Watershed/Subwatershed	Humber River
Receiver of discharge	Online facility draining to a tributary of the West Humber River
Outlet location	Bolton, Latitude:43.861696, Longitude:-79.723736
Catchment Area	115.38 ha
Level of Treatment for suspended solids	60% Long-term TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Design storm unclear
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description of each component of treatment train:	Bolton_Dry Pond15_Plan 43M-278 Blk B: Collects stormwater runoff from the two channels and controls the peak runoff rates flowing downstream by an outlet control consisting of a 900 mm culvert and an overflow weir. The flow through the culvert conveys storm events up to the 10 year occurence. The overflow weir acts an as emergency spillway to release runoff from the pond during the 100 year occurence. The stormwater management ponds as a capacity of approximately 11,500 m^3 before the overflow weir is reached and approximately 13,000m^3 before the minimum embankment elevation is reached.
Brief Description of each component of treatment train:	Bolton_Dry Pond16_Plan 43M-418 Blk 29: The detention pond proposed will be created by constructing an earth embanktment across the existing valley lands. The 10 year storm and the 100 year storm outflows form the subject lands will be regulated by the operation of the culverts jointly with the proposed spillway. The twin 1000mm dia. culverts will discharge the 10 year pre-development flow of the upstream area. As the flow enters the detention pond, the water level on the ponds will rise because of the restricted capacity of the culverts, creating storage. The flow condition for the 100 year pre-development flow is similar t othe 10 year flow condition only that discharge over the spillway will occur. The sizing of the spillway and culverts is such that combines discharge rate will not increase the runoff downstream of the subject lands.
Brief Description of each component of treatment train:	
Brief Description of each component of treatment train:	
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_Wet Pond18_Pt Lot 3 Conc 6 Albion to Bolton_Wet Pond19_Pt Lot 3 Conc 6 Albion to Bolton_Wet Pond20_Plan 43M-1658 Blk 10 to Bolton_Wet Pond40_Lot 1 Conc 6 Alb to Bolton_Wet Pond95_CON 6 PT LOT 1 RP43R31997

Location	Bolton, Latitude:43.853484, Longitude:-79.712309; Bolton, Latitude:43.854156, Longitude:-79.709885; Bolton, Latitude:43.850021, Longitude:-79.703509; Bolton, Latitude:43.845793, Longitude:-79.699175; Bolton, Latitude:43.848237, Longitude:-79.69719
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets to a roadside ditch, eventually outletting to Robinson Creek
Outlet location	Bolton, Latitude:43.84854, Longitude:-79.695314
Catchment Area	Approximately 118.37 ha
Level of Treatment for suspended solids	80% Long-term TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Design storm unclear
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description of each component of treatment train:	Bolton_Wet Pond18_Pt Lot 3 Conc 6 Albion: extended wet detention pond located at northwest corner of George Bolton Pkwy and Nixon Rd intersection. Maximum storage capacity of 4800 m^3 at elevation of 237.7m. Connected through 1500mm diameter sewer providing free hydraulic connection with #19 - Pond A.
Brief Description of each component of treatment train:	Bolton_Wet Pond19_Pt Lot 3 Conc 6 Albion: extended wet detention pond located at southeast corner of George Bolton Pkwy and Nixon Rd intersection. Max storage capacity - 31800m^3 at elevation of 237.7 equiped with forebay and low flow outlet control with 152mm orifice plate. Includes weir flow control structure with bottom elevation of 236.5m and top elevation of 237.7m. Flow discharges into 675mm dia concrete sewer which is connected to storm sewers along Ferrier St and Regional Rd No 50 (all in the interim). When interim ponding area is filled, storage capacity of pond is reduced to 1900m^3 and temperoray seal on weir is removed and orifice pate is increased to 178mm diameter.
Brief Description of each component of treatment train:	
Brief Description of each component of treatment train:	
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon Village_Dry pond28_Plan 43M-1196 Blk 67 to Caledon Village_Grassed Swale28

Location	Caledon Village, Latitude:43.868622, Longitude:-79.987895; Caledon Village, Latitude:43.868339, Longitude:-79.987131
Watershed/Subwatershed	Credit River/Caledon Creek
Receiver of discharge	Caledon Creek
Outlet location	Caledon Village, Latitude:43.869014, Longitude:-79.98637
Catchment Area	24 ha
Level of Treatment for suspended solids	70% Long-term TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	All events up to an including the 100 year event
Reference ECA(s)	3-0601-95-006
Reference Works as part of treatment train	
Brief Description of each component of treatment train:	Caledon Village_Dry pond28_Plan 43M-1196 Blk 67: Two cell detention pond system. Quality and quantity cell located side by side, south of Gillis Rd and Amalfi Rd intersection. Goal is to attenuate post development stormwater runoff from 1 in 100 year storm over 15.99ha drainage area and discharging into East Creek Quantity cell designed to collect runoff from subdivision in a 1 in 100 year storm event with storage volume of 3570m^3 while discharging at a controlled flow rate of 1.51m^3/s. Includes a 17m, 750mm diameter outlet pipe, 90m long outlet channel, pond outlet headwalls, rip-rap, 15m wide emergency spillaway, temporary and permanent silt + erosion control facilities.
Brief Description of each component of treatment train:	Caledon Village_Grassed Swale28: Quality cell designed to collect runoff generated from 25mm first flush over 15.99ha area via flow splitter manhole and discharge via controlled outlet system which includes a 15m wide weir spillway at 430.3m elevation. Purpose is to overflow the quality cell into the quantity cell combining use of concrete head walls, extended detention outflow structure and 200m diameter outlet pipe.
Receive Emergency Sanitary	No

Overflows	
Notes / Additional Information	

Palgrave_Wet Pond45_Plan 43M-1181 to Palgrave_Wet Pond46_Plan 43M-1181 to Palgrave_Wet Pond47_Plan 43M-1181 to Palgrave_Dry Pond88_Plan 43M-1181 to Palgrave_Wet Pond89_Plan 43M-1181

Location	Palgrave, Latitude:43.942148, Longitude:-79.77563; Palgrave, Latitude:43.942685, Longitude:-79.774036; Palgrave, Latitude:43.942882, Longitude:-79.773245; Palgrave, Latitude:43.942873, Longitude:-79.771269; Palgrave, Latitude:43.942126, Longitude:-79.771266
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface discharge a natural area
Outlet location	Palgrave, Latitude:43.941789, Longitude:-79.769191
Catchment Area	Approximately 146.01 ha
Level of Treatment for suspended solids	60% Long-term TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Design storm unclear
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description of each component of treatment train:	Stormwater management facility will be located on south side of Bruno Ridge Dr. Stormwater will flow through storm sewer collector into facility which has storage capacity of 350m^3, 70cm maximum depth at elevation 276.5m along with highflow bypass at elev 276.5m. Stormwater will flow from facility into existing pond through a 20mm clear stone berm wrapped with geotextile fabric. Purpose is to serve Bruno Farms Development.
Brief Description of each component of treatment train:	Second Stormwater management facility will be located south of Bruno Ridge Dr. Facility will have 1150m^3 storage capacity, 130cm max depth at elev 278.8m with highflow bypass at elev 278.8m. Outlet control will consist of 250mm subdrain perforated at the top end, wrapped in geotextile fabric and covered with 30mm clear crush stone as well as a 100mm orifice at the discharge end which limits flows to 30L/s into the existing watercourse. Purpose i to serve Bruno Farms Development.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_Wet Pond49_43M-854 to Palgrave_Wet Pond 50_43M-854 to Palgrave_Wet Pond51_43M-854 to Palgrave_Wet Pond52_43M-854

Location	Palgrave_Wet Pond49_43M-854 to Palgrave_Wet Pond 50_43M-854 to Palgrave_Wet Pond51_43M-854 to Palgrave_Wet Pond51_43M-854 to Palgrave_Wet Pond51_43M-854 to Palgrave_Wet Pond52_43M-854
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a natural area
Outlet location	Palgrave, Latitude:43.94219, Longitude:-79.808433
Catchment Area	16.81 ha
Level of Treatment for suspended solids	60% Long-term TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Design storm unclear
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description of each component of treatment train:	Palgrave_Wet Pond 50_43M-854 and Palgrave_Wet Pond51_43M-854: minimum 2 metre depth, 4:1 side slopes, specifics unknown
Brief Description of each component of treatment train:	Palgrave_Wet Pond49_43M-854, Wet Pond51_43M-854 and Palgrave_Wet Pond52_43M-854: Naturally occuring ponds, specifics unknown
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_OGS_54 to private property stormwater pond

Location	Bolton, Latitude:43.882837, Longitude:-79.718506
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets to a stormwater management pond on private property
Outlet location	Bolton, Latitude:43.882701, Longitude:-79.718691
Catchment Area	0.8 ha
Level of Treatment for suspended solids	50% Long-term TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	2 year return event

Reference ECA(s)	7775-C5LS5B
Reference Works as part of treatment train	Outlets to a private property pond located at 13246 Nunnville Road, ECA Unknown
Brief Description of each component of treatment train:	Storm sewers on Clover Ben Terrace approx 60-220m west of Albion-Vaughan Rd. Stormwater discharges to oil and grit separates (OGS) which subsequently discharges to an underground storage tank, eventually draining to existing east ditch parallel to Albion-Vaughan Rd. Erosion/sedimentation control measures are included.
Brief Description of each component of treatment train:	
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_Infiltration Pond72_Plan 43M-1895 to Palgrave_Infiltration Pond71_Plan 43M-1895 blk 11

Location	Palgrave, Latitude:43.959093, Longitude:-79.840343; Palgrave, Latitude:43.957231, Longitude:-79.840089
Watershed/Subwatershed	Humber River
Receiver of discharge	Overflow to Humber River, otherwise infiltrated
Outlet location	Palgrave, Latitude:43.955993, Longitude:-79.842975
Catchment Area	1.57 ha
Level of Treatment for suspended solids	80% Long-term TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Enhanced level water quality protection and erosion control with no off-site discharge including the 100 year return storm
Reference ECA(s)	1609-8BZJG6
Reference Works as part of treatment train	

Palgrave_OGS_66.1 to; Palgrave_Infiltration Gallery47 43M-1837 and Palgrave_OGS_66.2 to; Palgrave_Infiltration Gallery47 43M-1837

Location	Palgrave, Latitude:43.931887, Longitude:-79.792271; Palgrave_OGS_66.1; Palgrave_OGS_66.2
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to a natural area, draining to the Humber River
Outlet location	Palgrave, Latitude:43.929956, Longitude:-79.792091
Catchment Area	5.59 ha
Level of Treatment for	60% Long-term TSS Removal

suspended solids	
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Naturally occuring infiltration area
Reference ECA(s)	7716-85EHGW
Reference Works as part of treatment train	
Brief Description of each component of treatment train:	Overview: For collection, tansmission, reatment, and disposal of stormwater run-off from 5.59ha catchment area so that enhanced water quality protection can be provided, discharging waters to a minor tributary to Cold Creek along with attenuating post-development peak flows to pre-development levels for the 100-year return storm.
Brief Description of each component of treatment train:	; Palgrave_Infiltration Gallery47 43M-1837: Hybrid wet pond/wetland feature with 300m^3 permanent pool volume and 811.6m^3 active storage volume. 2 inlets located above permanent elevation which discharge into a sediment forebay with 1m deep section. Inlets located 17m and 25m from the forebay berm. Second smaller pool located at the outlet with a 1800mm CSP aligned vertically with 79mm orifice and 490mm weir providing water quality and quantity control to the 100 year event. A 525mm dia outlet pipe from the riser is euiped with a 1500mm dia maintenance chamber for access. There is a 7m wide river stone spillway for emergency overflow. Over 60m of infiltration gallery distributed between driveways in the boulevard between the water service and utilities.
Brief Description of each component of treatment train:	Palgrave_OGS_66.1 to ; Palgrave_Infiltration Gallery47 43M-1837 and Palgrave_OGS_66.2: Two OGS located in block 20 and 16 each rated at 18L/s with 2460L sediment capacity, 915L oil capacity and 4325 total holding capacity. Both treat 0.35ha and 0.38ha of impervious
Brief Description of each component of treatment train:	
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Caledon East_Wet Pond67_Plan 43M-1840 and Caledon East_Bioswale67.1 to Caledon East_OGS_67 to Caledon East_Bioswale67.2

Location	Caledon East, Latitude:43.878069, Longitude:-79.85772; Caledon East, Latitude:43.877695, Longitude:-79.857147; Caledon East, Latitude:43.878801, Longitude:-79.855348; Caledon East, Latitude:43.877695, Longitude:-79.857147
Watershed/Subwatershed	Humber River
Receiver of discharge	Centreville Creek
Outlet location	Caledon East, Latitude:43.876404, Longitude:-79.85202
Catchment Area	37.95 ha
Level of Treatment for suspended solids	80% Long-term TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Enhanced Level water quality protection, erosion control, an post-development peak flows to pre-development levels for all storm events up to and including the 100-year return storm
Reference ECA(s)	4285-86BP6F
Reference Works as part of treatment train	
Brief Description of each component of treatment train:	Overview: Serve the Chateaux of caledon residential development located northwest corner of old church Rd and innis lake Rd (Town of Caledon). Serves as treatment and disposal of stormwater run-off from 37.26 catchment area to provide erosion control, enhanced water quality protection and to atenuate post-development peak flows to unit flows from the Humber River Watershed unit rate equations (toronto and region conservation Authority). Furthermore, discharging to a tributary of the Humber River for the 100-year return storm.
Brief Description of each component of treatment train:	Caledon East_Wet Pond67_Plan 43M-1840: Stormwater management system receiving runoff from 36.81ha catchment area relying on an extended detention wet pond with 4029m^3 permanent pool storage, 1619m^3 extended detention storage volume, 12108m^3 active storage volume during a 100-year storm event, complete with a 150mm dia subdrain placed in clear stone wrapped in filter cloth. 1340mm by 2100mm concrete storm sewer, headwall HW1 and a splash pad rip-rap placed
Brief Description of each component of treatment train:	Caledon East_OGS_67: OGS located west of innis Lake Rd and North of Old Church Rd receiving run-off from 0.45ha catchment area, 3000L sediment storage capacity, 915L oil storage capacity, 4070L total storage capacity, and 18L/s treatment flow discharging
Brief Description of each	

component of treatment train:	
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Campbell Cross_OGS_73 to Campbells Cross_Dry Pond73_Plan 43M-1897 blk 26

Location	Campbell Cross, Latitude:43.781329, Longitude:-79.863665; Campbell Cross, Latitude:43.782576, Longitude:-79.863316
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface outlets to West Humber River
Outlet location	Campbell Cross, Latitude:43.782898, Longitude:-79.863426
Catchment Area	3.1 ha
Level of Treatment for suspended solids	80% Long-term TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Enhanced level of quality, erosion and quantity control for 2 to 100-year events runo-ff, post development flows to pre-development levels
Reference ECA(s)	4512-8NWLSH
Reference Works as part of treatment train	
Brief Description of each component of treatment train:	Overview: Stormwater management pond for quantity control, infiltration trenches and 1 OGS to provide enhanced level quality control for 3.1ha drainage area all located at 13945 Kennedy Rd, Town of Caledon.
Brief Description of each component of treatment train:	Campbell Cross_OGS_73: OGS Stormceptor Model STC 2000 downstream of MH4 designed for enhanced level of proetection, servicing the 3.1ha drainage area with an overal imperviousness of 21%, 7700L sediment capacity, 2890L oil capacity, 11000L total holding capacity and a 40L/s max treatment flow rate discharging to the management pond in Block 26 through a 750mm dia inlet pipe.
Brief Description of each component of treatment train:	Campbells Cross_Dry Pond73_Plan 43M-1897 blk 26: The pond has a 1687m^3 storage volume at elevation of 281.0m. There is 1 750mm dia inlet pipe, concrete headwall, 5m wide emergency spillway lined with a 300mm thick gabion mattress. 1 outlet structure with
Brief Description of each component of treatment train:	
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Palgrave_Dry Pond88_Plan 43M-1181 to Palgrave_Wet Pond89_Plan 43M-1181

Location	Palgrave, Latitude:43.942873, Longitude:-79.771269; Palgrave, Latitude:43.942126, Longitude:-79.771266
Watershed/Subwatershed	Humber River
Receiver of discharge	Surface discharge a natural area
Outlet location	Palgrave, Latitude:43.941789, Longitude:-79.769191
Catchment Area	8.7 ha
Level of Treatment for suspended solids	80% Long-term TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Design storm unclear
Reference ECA(s)	Unknown
Reference Works as part of treatment train	
Brief Description of each component of treatment train:	Palgrave_Dry Pond88_Plan 43M-1181: Specifics Unknown
Brief Description of each component of treatment train:	Palgrave_Wet Pond89_Plan 43M-1181: Specifics unknown
Brief Description of each component of treatment train:	
Brief Description of each component of treatment train:	
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Bolton_OGS_96 to Bolton_Dry Pond96_Plan 43M-1649

Location	Bolton, Latitude:43.889105, Longitude:-79.72841; Bolton, Latitude:43.889929, Longitude:-79.728802
Watershed/Subwatershed	Humber River
Receiver of discharge	Outlets to Bolton_Dry Pond96_Plan 43M-1649
Outlet location	Bolton, Latitude:43.890046, Longitude:-79.729348
Catchment Area	1.9 ha
Level of Treatment for suspended solids	80% Long-term TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Design storm unclear
Reference ECA(s)	Unknown
Reference Works as part of	

treatment train	
Brief Description of each component of treatment train:	Bolton_OGS_96: Specifics unknown
Brief Description of each component of treatment train:	Bolton_Dry Pond96_Plan 43M-1649: Specifics unknown
Brief Description of each component of treatment train:	
Brief Description of each component of treatment train:	
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Point_OGS_108.1 to Alton_Enhanced Swale108 to Point_OGS_108.2

Location	Alton, Latitude:, 43.855179, Longitude:-80.069435; Alton, Latitude:43.855494, Longitude:-80.070471; Alton, Latitude:, 43.856658, Longitude:-80.072777
Watershed/Subwatershed	Credit River
Receiver of discharge	Outlets to Shaws Creek
Outlet location	Alton, Latitude:43.857157, Longitude:-80.072449
Catchment Area	15.31 ha
Level of Treatment for suspended solids	80% Long-term TSS Removal
Treatment for other contaminants, as required	None
Level of Volume control	None
Design Storm	Provide water quality protection and erosion control for the 25 mm 4 hour design storm
Reference ECA(s)	8454-BMTMSK
Reference Works as part of treatment train	
Brief Description of each component of treatment train:	Overview: Existing stormwater management works to serve Alton Estates subdivision located in Village of Alton, Town of Caledon, for collection, transmission, treatment and disposal of stormwater runoff from a 15.31ha total catchment area to provide an improved level of water quality protection and erosion control, discharging to the Alton Millpond.
Brief Description of each component of treatment train:	Alton_Enhanced Swale108: Enhanced grassed swales (10.98ha catchment area): Located on rear side of lots on municipal easement. 290m total length, 1-2m bottom width, 4:1 side slopes, 0.65m max depth, 0.5m max flow depth (all for 100-year storm event). Includes 1800mm x 1200mm ditch inlet catch basin installed at the stormwater outlet allowing a max discharge of 2.16m/s under 100-year storm event to the existing maintenance hole MH1 located at the

	intersection of Queen St W and Emeline St
Brief Description of each component of treatment train:	Point_OGS_108.1: 1OGS (7.35ha catchment area): Stormceptor STC 750 located on David Dr, providing normal level of protection having a sediment storage capacity of 3m^3, 915L oil storage capacity, 4.07m^3 approx. total storage volume, and 18L/s max treatme
Brief Description of each component of treatment train:	Point_OGS_108.2: OGS (4.08ha catchment area): Stormceptor STC 750 located on Emeline St providing normal level of protection having a sediment storage capacity of 3m^3, 915L oil storage capacity, 4.07m^3 approx. total storage volume, and 18L/s max trea
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Stormwater Pumping Stations

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

[N/A]

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.

[N/A]

Asset ID and Name	

Location	N/A
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 Asset ID / Name	Column 2 Site Location (Latitude & Longitude)	Column 3 Component	Column 4 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.

Table B8: Facilities with Individual ECAs				
Asset ID	**Type of Facility**	**Location**	**ECA Number**	**Developer Name**
Palgrave_Dry Pond76_Plan 43M-1994	Dry Pond	Stellar Homes Estates (21T-07001C) 15462 Mount Pleasant Road, Town of Caledon	0350-93YN78	Stellar Estates Residential Developme nt
Palgrave_Dry Pond75_Plan 43M-1994 Blk 12	Dry Pond	Stellar Homes Estates (21T-07001C) 15462 Mount Pleasant Road, Town of Caledon	0350-93YN78	Stellar Estates Residential Developme nt
Palgrave Estates_OGS_76	Oil and Grit Seperator	Stellar Homes Estates (21T-07001C) 15462 Mount Pleasant Road, Town of Caledon	0350-93YN78	Stellar Estates Residential Developme nt
Palgrave Estates_OGS_75	Oil and Grit Seperator	Stellar Homes Estates (21T-07001C) 15462 Mount Pleasant Road, Town of Caledon	0350-93YN78	Stellar Estates Residential Developme nt
Palgrave_Infiltration Pond62_Plan 43M-1827 blk 16	Infiltration Facility	Sunshine Estates Subdivition (21T-95026C) Part of Lots 28, 29 and 30, Concession 7, Town of Caledon	6441-77KLFG	1693388 Ontario Inc
Palgrave_Infiltration Pond63_Plan 43M-1827 blk 15	Infiltration Facility	Sunshine Estates Subdivition (21T-95026C) Part of Lots 28, 29 and 30, Concession 7, Town of Caledon	6441-77KLFG	1693388 Ontario Inc
Palgrave_Infiltration Pond71_Plan 43M-1895 blk 11	Infiltration Facility	Sunshine Estates – Lots 1 to 10 – Phase 2 Part of Lot 28, Concession 7, Town of Caledon	1609-8BZJG6	Glorco Holdings Inc

Table B8: Facilities with Individual ECAs				
Asset ID	**Type of Facility**	**Location**	**ECA Number**	**Developer Name**
Palgrave_Infiltration Pond72_Plan 43M-1827	Infiltration Facility	Sunshine Estates Subdivition (21T-95026C) Part of Lots 28, 29 and 30, Concession 7, Town of Caledon	6441-77KLFG	1693388 Ontario Inc
Palgrave_Infiltration Pond101_Plan 43M-1827	Infiltration Facility	Sunshine Estates Subdivition (21T-95026C) Part of Lots 28, 29 and 30, Concession 7, Town of Caledon	6441-77KLFG	1693388 Ontario Inc
Palgrave_Infiltration Pond64_Plan 43M-1828 Blk 33	Infiltration Facility	Palgrave Estates West Subdivision Lots 22 to 28, Concession 7, Town of Caledon	5618-7T3R4D	Aliance Homes Inc
Palgrave_Infiltration Pond65_Plan 43M-1828 Blks 34	Infiltration Facility	Palgrave Estates West Subdivision Lots 22 to 28, Concession 7, Town of Caledon	5618-7T3R4D	Aliance Homes Inc
Palgrave_OGS_65	Oil Grit Seperator STC 750	Palgrave Estates West Subdivision Lots 22 to 28, Concession 7, Town of Caledon	5618-7T3R4D	Aliance Homes Inc
Palgrave_OGS_64	Oil Grit Seperator STC 750	Palgrave Estates West Subdivision Lots 22 to 28, Concession 7, Town of Caledon	5618-7T3R4D	Aliance Homes Inc
Palgrave_Bioswale_111_Plan 43M-2069	Bioswale	Beaverhall Homes Residential Subdivision Lot Part of Lots 26 and 27, Concession 9 Town of Caledon ON, L7C 1J6	7184-AU7LE4	Caledon Residences
Palgrave_Perforated Pipe_111_Plan 43M-2069	Perforated storm sewer	Beaverhall Homes Residential Subdivision Lot Part of Lots 26 and 27, Concession 9 Town of Caledon ON, L7C 1J6	7184-AU7LE4	Caledon Residences

Table B8: Facilities with Individual ECAs				
Asset ID	**Type of Facility**	**Location**	**ECA Number**	**Developer Name**
Palgrave_OGS124 Plan43M-2094	OGS	Flato Palgrave Mansions Inc. Lot Part of Lot 25, Concession 9 Caledon Town, Regional Municipality of Peel	9410-BAQNDV	Flato Palgrave Mansions Inc
Palgrave_DryPond124 Plan43M-2094	Dry Pond	Flato Palgrave Mansions Inc. Lot Part of Lot 25, Concession 9 Caledon Town, Regional Municipality of Peel	9410-BAQNDV	Flato Palgrave Mansions Inc
Palgrave_OGS124 Plan43M-2094	OGS	Flato Palgrave Mansions Inc. Lot Part of Lot 25, Concession 9 Caledon Town, Regional Municipality of Peel	9410-BAQNDV	Flato Palgrave Mansions Inc
Palgrave_DryPond125 Plan43M-2094	Dry Pond	Flato Palgrave Mansions Inc. Lot Part of Lot 25, Concession 9 Caledon Town, Regional Municipality of Peel	9410-BAQNDV	Flato Palgrave Mansions Inc
Palgrave_BioretentionCell_112.1_Plan 43M-2119	Biorenetion Cell	15877 Mount Wolfe Road Town of Caledon, Regional Municipality of Peel L7E 3P4	9957-APTQMC	RITELAND HOLDINGS INC
Palgrave_BioretentionCell_112.2_Plan 43M-2119	Biorenetion Cell	15877 Mount Wolfe Road Town of Caledon, Regional Municipality of Peel L7E 3P4	9957-APTQMC	RITELAND HOLDINGS INC
Palgrave_BioretentionCell_112.3_Plan 43M-2119	Biorenetion Cell	15877 Mount Wolfe Road Town of Caledon, Regional Municipality of Peel L7E 3P4	9957-APTQMC	RITELAND HOLDINGS INC
Palgrave_BioretentionCell_112.4_Plan 43M-2119	Biorenetion Cell	15877 Mount Wolfe Road Town of Caledon, Regional Municipality of Peel	9957-APTQMC	RITELAND HOLDINGS INC

Table B8: Facilities with Individual ECAs				
Asset ID	**Type of Facility**	**Location**	**ECA Number**	**Developer Name**
		L7E 3P4		
Palgrave_BioretentionCell_112.5_Plan 43M-2119	Biorenetion Cell	15877 Mount Wolfe Road Town of Caledon, Regional Municipality of Peel L7E 3P4	9957-APTQMC	RITELAND HOLDINGS INC
Palgrave_OGS_112.1_Plan 43M-2119	OGS Stormceptor 705	15877 Mount Wolfe Road Town of Caledon, Regional Municipality of Peel L7E 3P4	9957-APTQMC	RITELAND HOLDINGS INC
Palgrave_OGS_112.2_Plan 43M-2119	OGS Stormceptor 705	15877 Mount Wolfe Road Town of Caledon, Regional Municipality of Peel L7E 3P4	9957-APTQMC	RITELAND HOLDINGS INC
Palgrave_Bioswale_113.1_Plan 43M-2117	Enhanced Grass Swale	Hillview Estates Subdivision (Highway 50 and Hillview Place) Lot 23, Concession 7 Town of Caledon, Regional Municipality of Peel L7E 3S1	NUMBER 8352-BGUNSD	Hillview Estates Limited
Palgrave_DryPond113_Plan 43M-2117_Blk 15	Dry/infiltration Pond	Hillview Estates Subdivision (Highway 50 and Hillview Place) Lot 23, Concession 7 Town of Caledon, Regional Municipality of Peel L7E 3S1	NUMBER 8352-BGUNSD	Hillview Estates Limited
Palgrave_DryPond114_Plan 43M-2117_Blk 17	Dry/infiltration Pond	Hillview Estates Subdivision (Highway 50 and Hillview Place) Lot 23, Concession 7 Town of Caledon, Regional Municipality of Peel L7E 3S1	NUMBER 8352-BGUNSD	Hillview Estates Limited
Palgrave_Pre-Treatment Cells56_Plan 43M-	Water quality pre-treatment cell	Rednex Subdivision 21T-76010C Part of East Halves of Lots	4107-769R5V	Rednex Investments Limited

Table B8: Facilities with Individual ECAs				
Asset ID	**Type of Facility**	**Location**	**ECA Number**	**Developer Name**
1787 blk 23		19 and 20, Concession 8, Town of Caledon		
Palgrave_Pre-Treatment Cells57_Plan 43M-1787 blk 24	Water quality pre-treatment cell	Rednex Subdivision 21T-76010C Part of East Halves of Lots 19 and 20, Concession 8, Town of Caledon	4107-769R5V	Rednex Investments Limited
Palgrave_Pre-Treatment Cells58_Plan 43M-1787 blk 20	Water quality pre-treatment cell	Rednex Subdivision 21T-76010C Part of East Halves of Lots 19 and 20, Concession 8, Town of Caledon	4107-769R5V	Rednex Investments Limited
Palgrave_Dry Pond105_PLAN 43M-2053 BLK 21 IRREG	Dry Pond	Mt. Pleasant Preserve Lot 20, Concession 9 Caledon Town, Regional Municipality of Peel	0297-ABYPSX	Harbour View Investments Limited
Palgrave_Dry Pond106_PLAN 43M-2053 BLK 18 IRREG	Dry Pond	Mt. Pleasant Preserve Lot 20, Concession 9 Caledon Town, Regional Municipality of Peel	0297-ABYPSX	Harbour View Investments Limited
Palgrave_OGS_106 PLAN 43M-2053	Oil and Grit Separator	Mt. Pleasant Preserve Lot 20, Concession 9 Caledon Town, Regional Municipality of Peel	0297-ABYPSX	Harbour View Investments Limited
Palgrave_Infiltration Facility_83	Infiltration Facility	Mt. Pleasant Preserve Lot 20, Concession 9 Caledon Town, Regional Municipality of Peel	0297-ABYPSX	Harbour View Investments Limited
Palgrave_Biorention_106	Bioretention	Mt. Pleasant Preserve Lot 20, Concession 9 Caledon Town, Regional Municipality of Peel	0297-ABYPSX	Harbour View Investments Limited
Palgrave_Superpipe_106	Superpipe with Orifice Control	Mt. Pleasant Preserve Lot 20,	0297-ABYPSX	Harbour View

Table B8: Facilities with Individual ECAs				
Asset ID	**Type of Facility**	**Location**	**ECA Number**	**Developer Name**
		Concession 9 Caledon Town, Regional Municipality of Peel		Investments Limited
Caledon East_Wet Pond84_Plan 43M-2056 blk 133	Wet Pond	Lot Part of 21, Concession 2 Town of Caledon, Regional Municipality of Peel	4693-AJMTC6	Caledon Villas Corp. 98 Vineyard Court Vaughan, Ontario L4L 4M6
Caledon East_Bioswale Infiltration84.1_Plan 43M-2081 blk	Bioswale	Lot Part of 21, Concession 2 Town of Caledon, Regional Municipality of Peel	4693-AJMTC6	Caledon Villas Corp. 98 Vineyard Court Vaughan, Ontario L4L 4M6
Caledon East_Bioswale Infiltration84.2_Plan 43M-2081 blk	Bioswale	Lot Part of 21, Concession 2 Town of Caledon, Regional Municipality of Peel	4693-AJMTC6	Caledon Villas Corp. 98 Vineyard Court Vaughan, Ontario L4L 4M6
Caledon East_Bioswale Infiltration84.3_Plan 43M-2081 blk	Bioswale	Lot Part of 21, Concession 2 Town of Caledon, Regional Municipality of Peel	4693-AJMTC6	Caledon Villas Corp. 98 Vineyard Court Vaughan, Ontario L4L 4M6
Caledon East_Bioswale Infiltration84.4_Plan 43M-2081 blk	Bioswale	Lot Part of 21, Concession 2 Town of Caledon, Regional Municipality of Peel	4693-AJMTC6	Caledon Villas Corp. 98 Vineyard Court Vaughan, Ontario L4L 4M6
Caledon East_WetPond116 Plan 43M-2136	Wet Pond	Castles of Caledon Subdivision Lot 4, Concession 6 Town of Caledon, Regional Municipality of Peel	3677-B32K2V	Castles of Caledon Corp
Caledon East_Jellyfish116.1	Jellyfish JF8-8-2-L1	Castles of Caledon Subdivision Lot 4,	3677-B32K2V	Castles of Caledon

Table B8: Facilities with Individual ECAs				
Asset ID	**Type of Facility**	**Location**	**ECA Number**	**Developer Name**
Plan 43M-2136		Concession 6 Town of Caledon, Regional Municipality of Peel		Corp
Alton_Wet Pond86_Plan 43M-2067	Wet Pond	Alton Mills Subdivision, Town of Caledon	6521-8CLS5A	Alton Mills Inc.
Mayfield West_OGS117_ Plan 43M-2071	Oil and Grit Separator	Argo Phase 2 Part Lots 21 & 22, Concession 1 E.H.S. Town of Caledon, Regional Municipality of Peel	7670-AZXLHF	Argo Caledon Corporation
Victoria_Wet Pond59_Plan 43M-1797 Blk 16	Wet Pond	Pt Lot 27, Con 1 WHS, Town of Caledon	5339-7CLGSU	Maple Valley Acres Limited
Mayfield West_Wet Pond77_PART 2 43R-34866	Wet Pond	CHINGUACOUSY CON 3 EHS PT, LOT 18 RP 43R34866 PART 2, Town of Caledon	2323-760957	Mayfield Road Portfolio Inc.
Bolton_WetP_118 Plan 43R34749	Wet Pond	100 Pillsworth Road Town of Caledon, Regional Municipality of Peel	5232-BWZJG7	Anatolia Capital Corp.
Bolton_WetP_119 43R39298 Part 51	Wet Pond	Bolcol North Holdings Part of Lots 2 and 3, Concession 5, Town of Caledon	5104-BGMFTF	Boltcol Holdings North Inc
Mayfield_WetP_120 Plan 43M-2114	Wet Pond	Mayfield Development Inc. Lot 18, Concession 2 West of Hurontario Caledon Town, Regional Municipality of Peel	7365-BQJ5UN	Mayfield McLaughlin Developments Inc.
Mayfield_WetP_121 Plan 43M-2109	Wet Pond	Mayfield Development Inc. Lot 18, Concession 2 West of Hurontario Town of Caledon, Regional Municipality of Peel	0955-BMKPD2	Mayfield Station Developments Inc.
Mayfield_WetP_122 Plan 43M-2112	Wet Pond	1234 McLaughlin Rd Lot 19, Concession 2 West of Hurontario	4003-BRYSPQ	Caledon Development #2

Table B8: Facilities with Individual ECAs				
Asset ID	**Type of Facility**	**Location**	**ECA Number**	**Developer Name**
		Street Caledon Town, Regional Municipality of Peel L7C 1J6		General Partner Ltd., as general partner for an on behalf of Caledon Developme nt #2 LP
Bolton_UnderStorag e_123 43M-2134	Underground Storage	13247 & 13233 Nunnville Road Town of Caledon, Regional Municipality of Peel L7E 2Z9	NUMBER 4495-C8WS4U	Bolton Midtown Developme nts Inc.

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	**Caledon, The Corporation Of The Town Of**
ECA Number	**324-S701**
System Name	**Town of Caledon Municipal Stormwater Management System**
ECA Issue Date	**August 29, 2024**

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).

Table C1: Schedule C Notices

Column 1 Issue #	Column 2 Issue Date	Column 3 Description	Column 4 Status	Column 5 DN#
N/A	N/A	N/A	N/A	N/A

Schedule D: General

System Owner	**Caledon, The Corporation Of The Town Of**
ECA Number	**324-S701**
System Name	**Town of Caledon Municipal Stormwater Management System**
ECA Issue Date	**August 29, 2024**

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 Forcemains 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 Town of Caledon, 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 notices 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 3600 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 within 1-year of authorizing the alteration.

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.

5.1.23 subsurface storage infiltration chambers

5.1.24 subsurface storage chambers

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 the full range of hydraulic loading rates up to the bypass rate for the unit monitored.

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 suspended solids 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;

d) The Owner ensures on-going operation and maintenance of the Privately Owned Stormwater Works; and

e) 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 within 1-year of authorizing the alteration;

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 100 ha;

5.3.5 Where the Alteration will result in conversion of an existing Stormwater Management Facility into another type of Stormwater Management Facility, unless the conversion results in enhanced treatment for the Works, quantity control does not decrease, and the new facility is not a manufactured treatment device.

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 December 31, 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 moved past the 60% design phase 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	**Caledon, The Corporation Of The Town Of**
ECA Number	**324-S701**
System Name	**Town of Caledon Municipal Stormwater Management System**
ECA Issue Date	**August 29, 2024**

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 January 1, 2026, 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 SAC, 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 June 11, 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 April 1, 2025 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 30th of each year and covers the period from January 1st to December 31st 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 30th, 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 1st of the same reporting year, to members of the public without charge by publishing the report on the Internet, if the Owner maintains a website on the Internet.

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 January 11, 2024 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 June 11, 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)

Table E2. Summary of Storm Sewersheds

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	**Caledon, The Corporation Of The Town Of**
ECA Number	**324-S701**
System Name	**Town of Caledon Municipal Stormwater Management System**
ECA Issue Date	**August 29, 2024**

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 [1]	**FOR DEVELOPMENT SCENARIOS** [2] **Assessment Studies:** i) Control [3] as per the criteria identified in the water balance assessment completed in one or more of the following studies [15], 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 **IF Assessment Studies in i) NOT completed:** ii) Control [3] the recharge [4] to meet Pre-development [5] conditions on property; **OR** iii) Control [3] the runoff from the 90th percentile storm event. **Lake Simcoe Watershed Municipalities:** iv) Control [3] 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 [6]. 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 **[7]**, that the site's post to Pre-development water balance cannot be met, and Maximum Extent Possible [8] has been attained, the proponent may use Lake Simcoe and Region Conservation Authority's (LSRCA) Recharge Compensation Program [9]. **FOR RETROFIT SCENARIOS** [10] **Assessment Studies:** 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,

	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; **OR** ii) If constraints [11] identified in i), then control [3] as per Maximum Extent Possible [8] based on environmental site feasibility studies or address local needs[14]. **IF Assessment Studies in i) NOT completed:** iii) Control [3] the recharge [4] to meet Pre-development [5] conditions on property; **OR** iv) Control [3] the runoff from the 90th percentile storm event.
Water Quality [1]	**FOR DEVELOPMENT SCENARIOS** [2] All of the following criteria must be met for development scenarios: **General:** 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, **OR** 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. **Suspended Solids:** i) Control [3] 90th 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). **Phosphorus:** i) Minimize existing phosphorus loadings to Lake Erie and its tributaries, as compared to 2018 or conditions prior to the proposed development, **OR** 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 [6]. The assessment should include sufficient detail to be used at a local site level. If, using the approved phosphorus budget tool [12], it is demonstrated that the site's post to Pre-development phosphorus budget cannot be met, and Maximum Extent Possible [8] has been attained, the proponent may use LSRCA's Phosphorus Offsetting Policy [9]. **FOR RETROFIT SCENARIOS** [10] i) Improve the level of water quality control currently provided on site; **AND** ii) As per the 'Development' criteria for Suspended Solids, **OR** iii) **If 'Development' criteria for Suspended Solids cannot be met**, 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[14], within ten (10) years; **OR**

	iv) If constraints [11] identified in ii) and iii), then control [3] as per Maximum Extent Possible [8] based on environmental site feasibility studies.
Erosion Control (Watershed) [1]	**FOR DEVELOPMENT SCENARIOS** [8] 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; **OR** ii) As per the Detailed Design Approach or Simplified Design Approach methods described in the Stormwater Management Planning and Design Manual: 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. 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: 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 2) Meets the following conditions: • The channel bankfull depth is less than three quarters of a metre; • The channel is a headwater stream; • 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; • The channel is stable to transitional; and • The channel is slightly entrenched; **OR** 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. **FOR RETROFIT SCENARIOS** [10] i) If approaches i-iii) under 'Development Scenarios' are not feasible as per identified constraints [11], then improve the level of erosion control [3] currently provided on site to Maximum Extent Possible [8] based on environmental site feasibility studies or address local needs[14].
Water Quantity (Minor and Major System) [1]	**i)** As per municipal standards, Master Stormwater Management Plan, Class EA, Individual EA and/or ECA, as appropriate for the type of project [13]
Flood Control (Watershed Hydrology) [1]	**FOR DEVELOPMENT SCENARIOS** [2] 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 [13].

	FOR RETROFIT SCENARIOS [10] i) If approaches i) under 'Development Scenarios' are not feasible as per identified constraints [11], then improve the level of flood control [3] currently provided on site to Maximum Extent Possible [8] based on environmental site feasibility studies.
Construction Erosion and Sediment Control	i) Manage construction erosion and sediment control through development and implementation of an erosion and sediment control (ESC) plan. The ESC plan shall: a. Have regard to Canadian Standards Association (CSA) W202 Erosion and Sediment Control Inspection and Monitoring Standard (as amended); OR b. Have regard to Erosion and Sediment Control Guideline for Urban Construction 2019 by TRCA (as amended). 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. 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). iv) For sites with drainage areas greater than 5 ha, a QP shall inspect the construction ESC measures, as specified in the ESC plan.
Footnote	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 [3]. 2. Development includes new development, redevelopment, infill development, or conversion of a rural cross-section into an urban cross-section. 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 [8] has been attained for Steps 1 and 2 for retention and filtration. 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. 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. 6. Major Development has the same meaning as in the Lake Simcoe Protection Plan, 2009. 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. 8. Maximum Extent Possible means maximum achievable Stormwater volume control through retention and LID filtration engineered/landscaped/technical Stormwater practices, given the site constraints [11]. 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.

	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. 11. Site constraints must be documented. A list of site constraints can be found in Table A2. 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. 13. Possible to look at combined grey infrastructure and LID system capacity jointly. 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. 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.

Table A2. Stormwater Management Practices Site Constraints

	Site Constraints
a)	Shallow bedrock [1], areas of blasted bedrock [2], and Karst;
b)	High groundwater [1] 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 [3] 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: i Increase private property flood risk liabilities that cannot be mitigated through design; ii Impact pumping and treatment cost that cannot be mitigated through design; or

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 [4].
Footnote: 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. 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. 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. 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.