

ENVIRONMENTAL COMPLIANCE APPROVAL For a Municipal Stormwater Management System

ECA Number: 022-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:

Richmond Hill, The Corporation of the City of

**225 East Beaver Creek Rd
Richmond Hill, ON L4P 3B4**

For the following Sewage Works:

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 24th day of July, 2026

Signature



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

Schedule A: System Information

System Owner	Richmond Hill, The Corporation of the City of
ECA Number	022-S701
System Name	Stormwater Management System
ECA Issue Date	July 24th, 2026

1.0 ECA Information and Mandatory Review Date

ECA Issue Date	July 24th, 2026
Application for ECA Review Due Date	May 30, 2028

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

2.0 Related Documents

2.1 Other Documents

Document Title	Version
Design Criteria for Sanitary Sewers, Storm Sewers, and Force mains for Alterations Authorized under Environmental Compliance Approval	v.2.0 (May 31, 2023)

3.0 Stormwater Master Plan and Asset Management Plan

Document Title	Version
2021 Asset Management Plan	v.1 (June 2021)
Rouge River Watershed Plan – Towards a Healthy and Sustainable Future	v.1 (2007)
Humber River Watershed Plan – Pathways to a Healthy Humber	v.1 (June 2008)
Don River Watershed Plan – Beyond 40 Steps	v.1 (2009)
Urban Master Environment Servicing Plan	v.1 (May 2014)
Master Environmental Servicing Plan for the Harris Beech Infill Area	v.1 (June 2014)
Master Environmental Servicing Plan – North Leslie Phase 2 (Lands East of Leslie)	v.1 (April 2015)
Master Environmental Servicing Plan – North Leslie Phase 2 (Lands West of Leslie)	v.1 (Feb. 2016)
West Gormley Master Environmental Servicing Plan	v.1 (Feb. 2016)
Historical MESP (Currently under review as part of OP Update)	v.1 (various)

4.0 Operating Authority

System	Operating Authority
City of Richmond Hill Municipal Stormwater Management System	The Corporation of the City of Richmond Hill

Schedule B: Municipal Stormwater Management System Description

System Owner	Richmond Hill, The Corporation of the City of
ECA Number	022-S701
System Name	Stormwater Management System
ECA Issue Date	July 24th, 2026

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 City of Richmond Hill's drainage area is a separate system for stormwater with the Humber, Don and Rouge River watersheds. The Municipal SWM system consists of storm sewers, culverts, ditches, Stormwater Management Facilities, Low Impact Development Facilities, Manufactured Treatment Devices (Oil and Grit Separators and Filters), Storage Pipes and outlets.

This ECA covers the entire Municipal SWM system owned and operated by the City of Richmond Hill. This ECA does not cover municipally or privately owned sewage works on industrial or commercial land.

This Municipal SWM System is connected to York Regional SWM System, City of Vaughan SWM system, City of Markham SWM system and Town of Aurora SWM System.

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
Infrastructure Map – SWM	January 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	10.6	--
Storm Sewers	> 250 - 500	245	--
Storm Sewers	> 500 - 1050	269	--
Storm Sewers	> 1050	44	--
Total Storm Sewers	--	--	570
Ditches / Swales	NA	--	5
Total System Length (km)	--	--	575

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)			22	56	78	74	79
LID Facilities - Filtration			7	3	10	7	10
Stormwater Management Ponds – Wet (includes wetlands, hybrids)	1	5	82	4	93	89	93
Stormwater Management Ponds - Dry	1			33	34	34	34
Super Pipe / Storage Facility						71	71
Filtration MTD - Filter Unit			4		4		4
Sedimentation MTD - OGS				130	130		130
Pumping Stations							0
Other							0
Total Number of Facilities	2	5	115	226	349	275	421

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

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

Table B4. Third Pipe Collection System				
Description	Pipe Diameter (mm)	Length (km)	Quantity	System Totals
Third Pipe (FDC)Sewer	Up to 250	37.99	N/A	N/A
Third Pipe (FDC) Sewer	> 250 - 500	2.70	N/A	N/A
Third Pipe (FDC) Sewer	> 500	0.28	N/A	N/A
Total		40.95		
Third Pipe (RDC)Sewer	Up to 250	0.66	N/A	N/A
Third Pipe (RDC)Sewer	> 250 - 500	4.78	N/A	N/A
Third Pipe (RDC)Sewer	> 500	1.04	N/A	N/A
Total		6.49		
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)

* 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:

Manufactured Treatment Devices**ST6915**

Location	43.941911, -79.446928
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.941908, -79.446974 (OUT195)
Catchment Area	1.6 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Reference Sewage Works as part of treatment train	N/A
Brief Description	A Stormceptor STC1000 located with Ozark Park of Antique Drive
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST7308

Location	43.9094078, -79.4329127
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.9096568, -79.4321673 (OUT348)
Catchment Area	1.6 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Reference Sewage Works as part of treatment train	N/A
Brief Description	A Stormceptor STC1500 located on Verona Court
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST10844

Location	43.911650, -79.4348495
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.9111258, -79.4348022 (OUT679)
Catchment Area	0.8 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Reference Sewage Works as part of treatment train	N/A
Brief Description	A Stormceptor STC300 located south of Heathmont Court
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST50044

Location	43.8829464, -79.4602092
Watershed/Subwatershed	Don River
Receiver of Discharge	Patterson Creek
Outlet Location	43.8828302, -79.4602082 (ISO246)
Catchment Area	1.58 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Reference Sewage Works as part of treatment train	N/A
Brief Description	A Stormceptor STC3000 located east of Oxford Street that drains Marinucci Court
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST10848

Location	43.8949742, -79.4421150
Watershed/Subwatershed	Don River
Receiver of Discharge	Paterson Creek
Outlet Location	43.8958680, -79.4389649 (ISO736)
Catchment Area	7.0 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Reference Sewage Works as part of treatment train	N/A
Brief Description	A Stormceptor STC3000 located east of Oxford Street that drains Marinucci Court
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST10139

Location	43.90234, -79.470394
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.902819, -79.469401 (D53)
Catchment Area	1.63 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	2695-7VFAQFC
Reference Sewage Works as part of treatment train	N/A
Brief Description	A Stormceptor STC4000 to be located at the north end of Jenny Thompson Court at Gamble Road.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST50028

Location	43.95946, -79.476589
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.949331, -79.477176 (OUT348)
Catchment Area	2.0 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	N/A
Reference ECA(s)	2569-874PF4
Brief Description	One oil/grit separator (model OSR 750) located on Pheasant Drive, receiving runoff from a catchment area of 2.0 ha, having a sediment storage capacity of 3.0 m ³ , an oil storage capacity of 0.9 m ³ and a total storage capacity of 4.1 m ³ , and a treatment flow of 39.9 L/s, discharging via a proposed 750 mm diameter outlet pipe, headwall, rip-rap on top on filter cloth and low flow channel to the East Humber River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST10276

Location	43.91944, -79.464025
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.919440, -79.464023 (R69)
Catchment Area	0.27 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	Stormceptor STC 300 located on Jefferson Sideroad, south of SWMF 8-7 that collects drainage from two catchbasins which are connected to culvert R69 via a 450 mm diameter PVC storm sewer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST10457

Location	43.886893, -79.447954
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.885625, -79.436351 (OUT320)
Catchment Area	3.62 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	4150-8MYNDV
Brief Description	A Stormceptor STC 4000 located 160 m west of the intersection of Arten Avenue and Vomano Street collecting drainage from 2.1 ha of residential development and 1.5 ha of external drainage.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST10458

Location	43.887104, -79.446982
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.885625, -79.436351 (OUT320)
Catchment Area	5.67 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	3842-8MYJRZ
Brief Description	A Stormceptor STC 2000 located 75 m west of the intersection of Arten Avenue and Vomano Street; this OGS accepts drainage from ST10457 that is located to the west of this unit. In addition, this OGS collects drainage from 1.5 ha of residential development and 0.59 ha of external drainage.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST10469

Location	43.887731, -79.443643
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.885625, -79.436351 (OUT320)
Catchment Area	13.81 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC4000 located immediately west of the intersection of Arten Avenue with Creekview Avenue. Inlet into the OGS is a 1050 mm storm sewer at 237.64 m with the outlet pipe being a 1050 mm diameter storm sewer at 237.56 m.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST10804

Location	43.875524, -79.451891
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.875652, -79.452337 (OUT136)
Catchment Area	0.15 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC 300i located in the southwest corner of the Mill Pond Park East Parking Lot.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST10820

Location	43.884559, -79.458835
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.883411, -79.458721 (OUT76)
Catchment Area	5.6 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	6486-98YQQK
Brief Description	Stormceptor model STC2000, located on Marbrook Street (approximately 12 m north of Battaglini Avenue), a sediment storage capacity of 7,700 litres, an oil storage capacity of 2,890 L, a total holding capacity of 11,000 L, and a maximum treatment flow rate of 30 L/s, discharging via a 675 mm diameter storm outlet pipe and existing storm sewers on Marbrook Street to an existing oil/grit separator (ST7556) located on Marbrook Street (approximately 16 m south of Battaglini Avenue) and ultimately via existing storm sewers to the Don River
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST10856

Location	43.952314, -79.431261
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.952268, -79.431068 (OUT93)
Catchment Area	0.81 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC750 located at the southeast end of Old Bayview Avenue within the roundabout.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST10904

Location	43.857672, -79.45802
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.850185, -79.450391 (OUT295)
Catchment Area	2.84 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC750 located immediately north of Pemberton Road to treat the drainage from Georgian Bay Street.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST10951

Location	43.944157, -79.466366
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.944723, -79.466579 (OUT89)
Catchment Area	3.46 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year event
Reference ECA(s)	1871-9VZQVK
Brief Description	One (1) oil and grit separator (Stormceptor Model OSR 2000), located between #10 and #12 Poplar Drive, having a sediment storage capacity of 7,700 L, an oil storage capacity of 2,890 L and a total storage capacity of 11,000 L, discharging via a new outlet to the East Humber River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST11039

Location	43.892686, -79.448569
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.891339, -79.44527 (OUT385)
Catchment Area	3.61 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	4642-98ZQBP
Brief Description	One (1) oil/grit separator, Contech Vortechs model 11000 located at the downstream limit of the site, serving a total catchment area of approximately 3.61 ha, designed for a minimum long term average TSS removal of 80%, a sediment storage capacity of 4,280 litres, an oil storage capacity of 2,378 L, a total holding capacity of 13,592 L, and a maximum treatment flow rate of 495 L/s, discharging to existing storm sewers located on Canyon Hill Avenue and ultimately to East German Mills Creek.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST11063

Location	43.944507, -79.437721
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.946048, -79.435067 (OUT7)
Catchment Area	1.55 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	9817-A3QH89
Brief Description	One oil/grit separator (model Vortechs 5000), located on Sunset Beach Road, having a sediment storage capacity of 2,450 L, an oil storage capacity of 1,383 L, a total holding capacity of 7,731 L, and a maximum treatment flow rate of 240.7 L/s, discharging to a proposed storm sewers on Sunset Beach Road.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST11064

Location	43.945208, -79.434718
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.946048, -79.435067 (OUT7)
Catchment Area	2.04 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	9817-A3QH89
Brief Description	One oil/grit separator (model Vortechs 11000), located on Sunset Beach Road, having a sediment storage capacity of 4,280 L, an oil storage capacity of 2,378 L, a total holding capacity of 13,592 L, and a maximum treatment flow rate of 495.5 L/s, discharging to a proposed storm sewers on Sunset Beach Road, at an Easement.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST11065

Location	43.944641, -79.436628
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.946048, -79.435067 (OUT7)
Catchment Area	1.37 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	9817-A3QH89
Brief Description	One oil/grit separator (model Vortechs 4000), located on west leg of Park Crescent, having a sediment storage capacity of 2,450 L, an oil storage capacity of 1,383 L, a total holding capacity of 7,731 L, and a maximum treatment flow rate of 240.7 L/s, discharging to a proposed storm sewers on Sunset Beach Road.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST3524

Location	43.890595, -79.431858
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.891957, -79.42157 (OUT209)
Catchment Area	7.43 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC5000 on the east side of Newkirk Road 100 m south of Elgin Mills Road East
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST4800

Location	43.90581, -79.445665
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.905907, -79.445335 (R11)
Catchment Area	2.6 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC3000, located adjacent to the west side of Yonge Street, 200 mm south of 19 th Avenue, that treats the adjacent residential development
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST4811

Location	43.903833, -79.447757
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.901092, -79.446612 (OUT435)
Catchment Area	7.1 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC2000 located on Lacewood Drive located 40 m south of Nottingham Drive
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST4941

Location	43.896629, -79.452673
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.89691, -79.452007 (D52)
Catchment Area	2.25 ha
Level of sTreatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC2000 located on Chantilly Crescent, 13 m south of Brookside Road
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST5007

Location	43.906095, -79.445899
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.906103, -79.445772 (OUT159)
Catchment Area	3.1 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC3000 located on the west side of Yonge Street, 180 m south of 19 th Avenue, adjacent to Melinda Clark Parkette
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST50006

Location	43.896468, -79.405541
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.896236, -79.406479 (OUT110)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Vortechs 7000 with a bypass located south of the Operations parking lot at 1200 Elgin Mills Road East
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST50007

Location	43.896426, -79.406551
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.89625, -79.406524 (OUT65)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Vortechs 9000 with a bypass located west of the shared driveway between Richmond Hill Operations Centre and the Elgin Mills Community Environmental Centre
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST50010

Location	43.903956, -79.423011
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.903972, -79.422914 (R62)
Catchment Area	0.5 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC750 located on Subrisco Avenue, 45 m west of Bayview Avenue
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST50012

Location	43.960684, -79.442343
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.96058, -79.4428 (OUT510)
Catchment Area	0.83 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality:5-year
Reference ECA(s)	7670-AFDNXXB
Brief Description	A Stormceptor STC1000 discharging via a 675 mm diameter storm sewer to Wilcox-St. George Wetland Complex
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST5299

Location	43.840506, -79.449634
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.84043, -79.450405 (OUT149)
Catchment Area	2.27 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC4000 located at the southwest corner of Pebblelane Court.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST5308

Location	43.947549, -79.450588
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.947582, -79.450586 (H1)
Catchment Area	0.2 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	2226-4L8HYS
Brief Description	Stormceptor with 2,700 L capacity with a double catchbasin maintenance hole lid.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST5310

Location	43.953341, -79.434758
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.953232, -79.434859 (OUT294)
Catchment Area	0.37 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	2226-4L8HYS
Brief Description	Stormceptor STC300, 1,350 L
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST5311

Location	43.953162, -79.435595
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.953232, -79.434859 (OUT294)
Catchment Area	0.1 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	2226-4L8HYS
Brief Description	Stormceptor STC300, 1,350 L
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST5313

Location	43.952247, -79.43839
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.952007, -79.438333 (OUT147)
Catchment Area	2.78 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	2226-4L8HYS
Brief Description	Stormceptor 6,750L
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST5317

Location	43.949037, -79.44785
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.94893, -79.447864 (OUT226)
Catchment Area	0.63 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	2226-4L8HYS
Brief Description	Stormceptor STC1000 with 4,500L
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST5599

Location	43.87833, -79.425979
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.877967, -79.428486 (OUT234)
Catchment Area	10.51 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC5000 located on Newkirk Road, 65 m north of Centre Street East
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST5612

Location	43.882213, -79.429712
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.881732, -79.431399 (OUT237)
Catchment Area	17.3 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC5000 located on Crosby Avenue, immediately west of the intersection with Newkirk Road
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST5870

Location	43.947854, -79.449238
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.947778, -79.449393 (OUT499)
Catchment Area	2.39 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	2226-4L8HYS
Brief Description	Stormceptor STC3000 with 2,700 L capacity
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST5876

Location	43.946735, -79.448339
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.946335, -79.44827 (OUT218)
Catchment Area	1.87 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC2000 located at the southeast corner of Canoe Court
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST6355

Location	43.84729, -79.454055
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.845924, -79.453834 (OUT178)
Catchment Area	4.38 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC5000 located on Winterport Court, immediately west of Sala Drive
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST6463

Location	43.952901, -79.481403
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.952916, -79.480547 (SWMF 1-4 D)
Catchment Area	8.43 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC6000 located on Amaryllis Avenue at the northwest corner of the intersection with Raintree Crescent
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST6464

Location	43.953037, -79.481339
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.952916, -79.480547 (SWMF 1-4 D)
Catchment Area	3.29 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC4000 located on Raintree Crescent at the south leg of the intersection with Amaryllis Avenue
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST6511

Location	43.950773, -79.479061
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.950982, -79.479121 (SWMF 1-4 B)
Catchment Area	4.57 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC6000 located between 68 & 72 Woodhaven Crescent
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST6570

Location	43.957415, -79.47577
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.957218, -79.476376 (OUT207)
Catchment Area	1.38 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	3-0899-98-997
Brief Description	A Stormceptor STC5000 with a minimum design volume of 24 m³ will be used to control sediment from the development, the lower chamber will handle flows up to a maximum discharge rate of 0.050 m³/s. The system is designed to control post development flows to approximately 184 L/s. All flows in excess of this controlled flow will be routed through the OGS by-pass. Flow from the OGS will discharge into an outlet channel via a storm sewer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST6575

Location	43.95121, -79.467932
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.950818, -79.467894 (OUT501)
Catchment Area	1.28 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	7720-5HMSYA
Brief Description	A Stormceptor STC2000 located between 33 & 35 Greyfriars Avenue
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST6583 / ST6584

Location	43.950561, -79.464163
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.950454, -79.464316 (OUT349)
Catchment Area	8.82 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	7720-5HMSYA
Brief Description	A Stormceptor STC9000 on Blackforest Drive north of Culvert H12
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST6585 / ST6586

Location	43.950319, -79.464065
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.950415, -79.464298 (OUT504)
Catchment Area	2.67 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	7720-5HMSYA
Brief Description	A Stormceptor STC14000 on Blackforest Drive south of Culvert H12
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST6595

Location	43.95053, -79.468742
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.950656, -79.468605 (OUT502)
Catchment Area	3.21 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC300 located on Coon's Road, 66 m south Humberland Drive
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST6599

Location	43.950282, -79.466774
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.95065, -79.466784 (OUT503)
Catchment Area	1.54 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC300 located in front of 41 Pegasus Drive
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST6772

Location	43.949397, -79.445355
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.9493, -79.445347 (OUT200)
Catchment Area	1.363 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC1500 located on Everglades Court, east of #31
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST6829

Location	43.960745, -79.442421
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.96058, -79.4428 (OUT510)
Catchment Area	1.63 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	6508-5MKKAL
Brief Description	A Stormceptor STC1000 located on the north side of the intersection of Worthington Avenue and Snively Street
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST7122

Location	43.908544, -79.455507
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.908662, -79.454958 (OUT185)
Catchment Area	2.8 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	3-0572-99-006
Brief Description	Stormceptor STC1500
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST7202 / ST7203

Location	43.906001, -79.456224
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.906320, -79.453494 (R12)
Catchment Area	3.33 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	1662-5NSJ78
Brief Description	A Stormceptor STC3000 located in front of 28 Windmill Court
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST7279

Location	43.911523, -79.440351
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.911944, -79.440052 (OUT87)
Catchment Area	2.0 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	2196-5A8HP4
Brief Description	A Stormceptor STC3000 located in front of 28 Escapade Drive
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST7495

Location	43.903727, -79.451879
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.903688, -79.451202 (OUT79)
Catchment Area	1.07 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	2318-4TZQBX
Brief Description	Stormceptor Model STC 1500 for Type I habitat protection
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST7497

Location	43.90342, -79.451458
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.903688, -79.451202 (OUT79)
Catchment Area	0.87 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	2318-4TZQBX
Brief Description	Stormceptor Model STC 1500 for Type I habitat protection
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST7503

Location	43.846035, -79.453752
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.845924, -79.453834 (OUT178)
Catchment Area	4.97 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	Sedimentation Tank located in front of 99 Birch Avenue. A two-chamber sedimentation tank. The inlet into the first chamber is via a 300 mm storm sewer orifice pipe at 191.39 m; the chamber is 2945 mm H x 4570 mm W. Flow between the chambers is via 4-150 mm diameter. The second chamber is 2945 mm H x 2185 mm W. Outlet from the second chamber is via a 300 mm at 191.25 mm.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST7556

Location	43.883645, -79.458531
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.883411, -79.458721 (OUT76)
Catchment Area	11.75 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC3000 located in front of 2 Marbrook Street
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST7673

Location	43.88934, -79.405738
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.888983, -79.405768 (OUT75)
Catchment Area	0.59 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	0131-5CXP7Y
Brief Description	A Stormceptor STC750 located in front of 120 & 122 Holly Drive
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST7712

Location	43.861547, -79.440961
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.861203, -79.439871 (OUT247)
Catchment Area	2.25 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	Sedimentation Tank located in front of 64 Yongehurst Road. A two-chamber sedimentation tank. The inlet into the first chamber is via a 300 mm storm sewer orifice pipe at 206.826 m; the chamber is 2945 mm H x 4570 mm W. Flow between the chambers is via 4-150 mm diameter. The second chamber is 2945 mm H x 2185 mm W. Outlet from the second chamber is via a 300 mm at 206.807 mm.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST7713

Location	43.862348, -79.437253
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.861635, -79.437363 (OUT117)
Catchment Area	2.18 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	Sedimentation Tank located in front of 22 Yongehurst Road. A two-chamber sedimentation tank. The inlet into the first chamber is via a 300 mm storm sewer orifice pipe at 206.82 m; the chamber is 2945 mm H x 4570 mm W. Flow between the chambers is via 4-150 mm diameter. The second chamber is 2945 mm H x 2185 mm W. Outlet from the second chamber is via a 300 mm at 206.8 mm.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST8151

Location	43.897776, -79.421033
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.893331, -79.41815 (OUT10)
Catchment Area	0.683
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC1000 located on the west side of Bayview Avenue, south of Megarry Court
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST8381

Location	43.950329, -79.449169
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.948323, -79.450973 (OUT375)
Catchment Area	1.24 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	3-1471-98-006
Brief Description	Stormceptor STC1500 with a minimum design volume of 7 m3. The lower chamber will handle flows up to a maximum discharge rate of 18 L/s. All flows in excess of this controlled flow will be routed through the OGS by-pass. Flow from the OGS will discharge into 600 mm storm sewer.
Receive Emergency Sanitary Overflows	N/A
Notes / Additional Information	Assumed

ST8383

Location	43.950059, -79.449721
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.948323, -79.450973 (OUT375)
Catchment Area	14.79 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	3-1471-98-006
Brief Description	Stormceptor STC6000 with a minimum design volume of 30 m3. The lower chamber will handle flows up to a maximum discharge rate of 70 L/s. All flows in excess of this controlled flow will be routed through the OGS by-pass. Flow from the OGS will discharge into 1200 mm storm sewer.
Receive Emergency Sanitary Overflows	N/A
Notes / Additional Information	Assumed

ST8435 / ST8436

Location	43.878071, -79.453428
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.877771, -79.453675 (D135)
Catchment Area	15.0 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC9000 located within Mill Pond Park off of Rumble Avenue
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST8792

Location	43.948638, -79.448253
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.948634, -79.448243 (OUT508)
Catchment Area	0.1 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	2226-4L8HYS
Brief Description	Stormceptor with 2,700 L capacity with a double catchbasin maintenance hole lid.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST8894

Location	43.894284, -79.420821
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.893384, -79.419424 (OUT126)
Catchment Area	3.34 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	7897-6E7JWY
Brief Description	A Stormceptor STC5000 located at 10800 Bayview Avenue, east side of south entrance
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST8911

Location	43.898473, -79.455166
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.898099, -79.456276 (OUT113)
Catchment Area	0.27 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A Stormceptor STC750 located on a pathway off of Aztec Court
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST9917

Location	43.938933, -79.465183
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.945294, -79.465295 (OUT494)
Catchment Area	1.2 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	4890-5RGPTP
Brief Description	A Stormceptor STC1500 located in front of 46 Timber Valley Avenue
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST9948

Location	43.946843, -79.43087
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.9472, -79.430996 (OUT301)
Catchment Area	0.89 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	6265-7CDNKS
Brief Description	One (1) oil/grit separator [CDS PMSU 30-20] for the treatment of stormwater runoff from a catchment area of 0.89 ha, serving Sunset Beach Road, located on Sunset Beach Road, approx. 63 m north of the intersection of Sunset Beach Road and Bayview Park Lane, having a sediment capacity of 91,000 L, an oil capacity of 3,180 L, a total holding capacity of 136,000 L and a maximum treatment flow rate of 30 L/s, discharging via a 600 mm diameter storm sewer and a combined outlet to Lake Wilcox; a combined outlet to Lake Wilcox consisting of a vertical drop structure, a reduced slope 900 mm diameter outlet sewer, a lightweight headwall without footings and an armour stone waterfall, including a 0.5 m wide swale for overland flow.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

ST50025

Location	43.953162, -79.435594
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.953232, -79.434859 (OUT294)
Catchment Area	1.0 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	3842-8MYJRZ
Brief Description	A Stormceptor STC300 located in front of 583 North Lake Road
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Dry Ponds**SWMF 1-6, Russell Tilt**

Location	43.950927, -79.463579
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.950807, -79.468811 (OUT326)
Catchment Area	71.1 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: N/A
Reference ECA(s)	7720-5HMSYA
Brief Description	A portion of the existing drainage course within the Humber River watershed is to be realigned through the Tranquility Subdivision. The realigned drainage corridor provides conveyance of an upstream external drainage area of approximately 46.6 ha and an internal drainage area of approximately 24.5 ha. The drainage corridor is designed as an on-line quantity control facility to control post development peak flows from the 2 to 100 year events to existing level. The drainage corridor is a trapezoidal channel with a top width of approximately 33 m, 3:1 side slopes, 20 m bottom width and a low flow channel. The channel slope varies from 1.25% to 0.26%. Culverts are provided at the Blackforest Drive and Coon's Road crossings (i.e. one 1200 mm dia. and two 900 to 975 mm dia. culverts at each crossing) to control post development peak flows to existing levels. The maximum 100 year storage volumes within the channel are 5,074 m³ at elevation 295.44 m upstream of Blackforest Drive and 5,045 m³ at elevation 294.26 upstream of Coon's Road.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 1-8, Fern Valley

Location	43.956583, -79.471584
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.954864, -79.474948 (SWMF 1-4 I)
Catchment Area	18.71 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 2-year
Reference ECA(s)	N/A
Brief Description	A dry pond with a 1500 mm inlet at 297.508 m. The bottom of facility is between 296.965 m to 296.785 m. The outlet structure is comprised of a low flow outlet of 250 mm orifice at 296.785 m, a 300 mm orifice at 297.2 m. The high flow outlet consists of 3-2666 mm x 2000 mm DICB and 1-2000 mm x 700 mm DICB at 298.18 m. The outlet pipe is a 1500 mm at 0.45% at 296.51 m.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 1-10, Minthorn

Location	43.960899, -79.459231
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.961123, -79.458225 (OUT335)
Catchment Area	12.18 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	N/A
Brief Description	A dry pond with approximately 2,035.6 m³ at an elevation of 309.5 m (100-year). The maximum storage volume of the pond is 3,205.4 m³ at 310.0 m. The bottom of the pond is 308.175 m. There are 3 inlets into the facility: a 735 mm x 1135 mm elliptical storm sewer at the northwest corner, a 450 mm diameter storm sewer at the southeast corner and a 300 mm corrugated steel pipe from the east. The outlet from the pond is a 600 mm diameter storm sewer at 0.17% under Yonge Street.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 2-4, Craigleith

Location	43.9556, -79.45555
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.9546, -79.45726 (OUT31)
Catchment Area	30.64 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	N/A
Brief Description	A dry pond functioning as a wetland. A 600 mm diameter outlet pipe discharging to a series of storm sewers under Worthington Avenue and Yonge Street with a discharge to Humber River Tributary.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 8-2, Driftwood

Location	43.939092, -79.466661
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.945294, -79.465295 (OUT494)
Catchment Area	8.97 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year The 100-year level in the pond is 302.57 m.
Reference ECA(s)	N/A
Brief Description	A dry pond with two cells: a quality and quantity cell. A 825 mm pipe flows into the quality and a 525 mm into the quantity cell. Flow between the two cells is via a Hickenbottom outlet with a 65 mm orifice plate at 301.244 m from the quality cell via a 200 mm CSP into the quantity cell. The outlet from the quantity cell is via a 375 mm diameter storm sewer at 301.14 m, a weir outlet at 303.12 m. Both outlets flow north through a 750 mm diameter storm sewer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 11-2, Country Heights

Location	43.922637, -79.415898
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.92248, -79.415325 (OUT430)
Catchment Area	13.32 ha
Level of Treatment for Suspended Solids	Level 3
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	N/A
Brief Description	A dry pond with a 25.40 m long, 750 mm diameter inlet pipe at 1.03% constructed in an existing wetland area (1986). This area outlets via a 900 mm diameter CSP pipe through a noise berm immediately upstream of the CN railway.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 15-1, Dove

Location	43.895811, -79.435725
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.895793, -79.433147 (R59)
Catchment Area	267 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	N/A
Brief Description	An on-line pond located between Yorkland Street and Bernard Avenue. Flows are controlled via a twin 3.0 m x 2.1 m box culverts located under Bernard Avenue and CNR Railway.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 15-2, Leno

Location	43.897357, -79.423468
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.893331, -79.41815 (OUT10)
Catchment Area	635 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	3-0669-89-006
Brief Description	A storm detention pond providing a minimum storage volume of 104,000 m ³ as an online facility that has a drainage area that covers two Rouge River tributaries to discharge at a rate of 63.7 m ³ /s through a controlled outlet consisting of a low flow control orifice and a rectangular overflow weir 33 m in length into an outlet culvert of 8 m by 2.5 m. A low flow control structure having average dimensions 4.4 m x 3.9 m x 2.5 m to be constructed on the southeast corner of SWMF 15-2 and equipped with an orifice opening having dimension 2500 mm x 1100 mm on the upstream side and 2100 mm diameter by approximately 100 m long concrete outlet pipe from this structure up to the existing outfall concrete culvert having dimension of 8 m x 2.5 m. The concrete overflow weir (1.5 m x 0.35 m x 33 m) to be constructed approximately 50 m east of the low flow control structure and protected with gabion basket covered with geotextile fabric, topsoil and sod, together with low flow channel.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 15-3, Newberry

Location	43.901272, -79.432824
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.900584, -79.430693 (R65)
Catchment Area	315 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity:100-year
Reference ECA(s)	N/A
Brief Description	An on-line pond located within Newberry Park. The outlet is controlled via a 1600 mm x 1100 mm rectangular orifice at 238.0 m as well as a two flat concrete overflow at 241.0 m (2900 mm x 3100 mm and 2700 mm x 3100 mm) which flow to a 2700 mm diameter concrete culvert under the CNR Railway. There is also an overflow weir at 241.7 m with a weir length of 17.60 m with 3:1 side slopes.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 15-4, Luba

Location	43.909342, -79.428923
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.909054, -79.428202 (OUT364)
Catchment Area	275 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	N/A
Brief Description	An on-line pond located north of Luba Avenue. The outlet of the pond is controlled via a 1020 mm x 650 mm at 246.8 m connected to a 1050 mm diameter concrete culvert at 246.55 m. A multiple stage high flow overflow weir is also located at the downstream end of the pond. The bottom of the weir sill is 248.4 m with a bottom width of 4.0 and a top width of 14 m. The next stage of the weir is at 250.0 m with the top of the berm set at 250.7 m.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 16-1, Silver Pine #1

Location	43.886129, -79.460705
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.885427, -79.460387 (D37)
Catchment Area	103.96 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 2-year
Reference ECA(s)	N/A
Brief Description	An on-line facility located immediately upstream of Elgin Mills Road West. Flow rates from storms up to the 2-year return period event are controlled by a 900 mm diameter CSP culvert installed through a 1.35 m high, gabion lined berm constructed across the channel. Flows from storms larger than the 2-year return period event are limited by the 1.8 m diameter CSP culvert under Elgin Mills Road West. The 900 mm diameter culvert and embankment and upstream storage area are owned and maintained by the City of Richmond Hill. Elgin Mills Road, including the 1.8 m diameter CSP culvert, was transferred from Richmond Hill to York Region in 1971. SWMF 16-1 is unique in that it was designed to rely on the existing York Region culvert under Elgin Mills Road to control peak flow rates for the 2 year through 100 year storm events.
Receive Emergency Sanitary Overflows	Yes, Invar Pumping Station, PS01
Notes / Additional Information	Assumed; To be removed by York Region in 2027

SWMF 16-6, Larratt Lea

Location	43.893561, -79.457989
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.891339, -79.44527 (OUT385)
Catchment Area	38 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	N/A
Brief Description	A dry pond south of Larratt Lea Park. Flow enters the facility through back flow through five DICB throughout the facility connected to the 1200 mm and 600 mm diameter pipes around the facility. The outlet of the facility is controlled via a 525 mm pipe.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 16-9, Durango

Location	43.898361, -79.456423
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.898099, -79.456276 (OUT113)
Catchment Area	204.3 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	N/A
Brief Description	An online facility with a three-stage outlet structure: low flow is a 450 mm diameter orifice at 258.0 m, a 900 mm x 1800 mm box culvert at 259.0 m and a 1200 mm x 2400 mm box culvert at 260.6 m. A 20.0 m overflow weir exists at 262.62 m offset to the east of the outlet structure.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 16-13, Rouge Crest

Location	43.902321, -79.448813
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.901391, -79.448643 (R109)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	N/A
Brief Description	An online facility controlled via an approximately 900 mm diameter culvert located under a trail between Rouge Crest Park and SWMF 16-12.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 16-14, Rothbury East

Location	43.900638, -79.447277
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.900079, -79.447203 (R198)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	N/A
Brief Description	An online facility controlled via three approximately 600 mm diameter culverts located across the valley north of the outfall from SWMF 16-11
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 22-2, Bayview Hill

Location	43.864413, -79.390681
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.862418, -79.386252 (R1)
Catchment Area	400 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	N/A
Brief Description	An on-line facility that outlets through two culverts that cross the intersection of Leslie Street and 16th Avenue. The initial outlet is comprised of a single 3600 mm (W) x 2400 mm (H) precast concrete box culvert that transitions to a 3700 mm (W) x 2200 mm (H) corrugated plate steel pipe arch culvert before outletting downstream of 16th Avenue. This structure is sized to restrict the flows up to and including the 25-year event. An overflow weir structure is located immediately behind this initial outlet and controls flows up to the 100-year event. Flows that overtop the overflow weir are directed under Leslie Street via a 2700 mm culvert.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 23-1, Harding West

Location	43.865917, -79.428576
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.865907, -79.42824 (OUT54)
Catchment Area	2.16 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year
Reference ECA(s)	N/A
Brief Description	A dry pond with a total storage volume of 925 m3 with a bottom elevation of 208.7 m. Flows enter the facility via a 525 mm storm sewer at 208.79 m and outlet the facility through a 450 mm diameter storm sewer at 208.7 m with an outlet elevation of 208.44 m to German Mills Creek.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 24-1, Don Head West

Location	43.861653, -79.457109
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.861449, -79.456024 (OUT479)
Catchment Area	57 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	N/A
Brief Description	An on-line facility controlled via a concrete weir with a 330 mm opening at 211.0 m followed by a series of chute blocks followed by concrete trapezoidal weir at 210.90 m. The concrete trapezoidal weir has a bottom width of 0.6 m and a top width of 0.9 m at 211.05 m before extending to be 2.6 m wide meeting the concrete side walls of the outlet structure.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 24-2, Don Head East

Location	43.864501, -79.445858
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.86371, -79.44581 (OUT478)
Catchment Area	756 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	N/A
Brief Description	An on-line facility controlled via a large concrete weir across the channel between Kersey Crescent and May Avenue. The weir incorporates 2 stages. A 2.4 m high trapezoidal notch extends from an invert of 209.9 m to a top elevation of 212.3 m, with a base width of 1 m and a top width of 2.68 m. This notch is intended to control flow rates for up to a 2-year storm. At the top of the low flow opening, the notch widens to approximately 8.8 m, and extends to a height of 1.2 m with a top width of approximately 9.6 m.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 26-2, Russell Farm

Location	43.848707, -79.41095
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.846384, -79.407918 (D11)
Catchment Area	432.61 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	N/A
Brief Description	An on-line facility controlled by a multi-step rock weir. The lowest portion of the weir is constructed of rip-rap at 197.25 m and is 5.5 m. The next step is at 197.65 m and is 3.2 m wide on each side of the low portion of the weir. The highest portion of the weir is 8.25 m wide either side of the other weirs at 199.3 m. Where the middle and upper weirs are constructed of Canadian marble with a concrete cut-off wall.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 27-1, Doncrest

Location	43.849712, -79.407949
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.846384, -79.407918 (D11)
Catchment Area	83 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year
Reference ECA(s)	N/A
Brief Description	A dry pond with a bottom elevation of 200.08 m. Outlet is via a 2400 mm x 1500 mm concrete box culvert that combines with the storm sewer on Bayview Avenue before discharging to German Mills Creek downstream of SWMF 26-2. The 2-year flood level in the facility is 201.5 m and the 5-year flood level is 202.5 m.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 27-2, Beaver Woodland

Location	43.843496, -79.389603
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.843242, -79.389359 (OUT466)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	Basic
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity:10 year
Reference ECA(s)	Unknown
Brief Description	Unknown
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed; Subject to a Transfer of Review Application in 2022

SWMF 28-2, Mural South

Location	43.856903, -79.375752
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.854379, -79.373884 (OUT119)
Catchment Area	187 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 25-year
Reference ECA(s)	N/A
Brief Description	An on-line facility controlled via a 1830 mm x 1070 mm pipe arch at 184.916 m connected to a 3250 m x 2400 mm sloped inlet grate at 187.69 m which drains via a 3890 mm x 2690 mm multiplate pipe arch which outlets to Beaver Creek at 184.486 m.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed; Outlet from Highway 404 ROW located within the berm that acts as the control.

Plunge Pools**PP 2-1, Snively Street**

Location	43.960505, -79.443186
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.96058, -79.4428 (OUT510)
Catchment Area	2.83 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A two cell plunge pool (artificial wetland) facility fed by two inlets: a 675 mm concrete storm sewer from Snively Street (invert elevation is 300.52 m) and a 300 mm CSP from the rear lots along Worthington Avenue to the north of the plunge pool. The inlet from Snively Street is connected to the plunge pool via a 6.0 river stone outfall channel at 0.3%. Cell 1 is 1.0 m deep (bottom elevation of 299.5 m; top elevation 300.5 m) and is connected to Cell 2 via a river stone weir at 300.0 m. Cell 2 has a depth of 1.35 m (bottom elevation of 299.15 m; top elevation 300.5 m). The outflow from the facility is a river stone weir set at 300.3 m. The normal water level in the facility is 300.15 m. The volume of the facility is 307 m³.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

PP 7-2, Headwaters

Location	43.945619, -79.449027
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.94575, -79.449101 (OUT408)
Catchment Area	3.6 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Unknown
Reference ECA(s)	8411-4PBHUP
Brief Description	A stormwater drainage channel with a permanent pool elevation at 293.9 m. Inlet into the drainage channel is through a 22.0 m long, 975 mm diameter storm sewer at 0.4% at elevation 293.73 m. Outlet from the facility is through a 3:1 side slope swale starting at 293.68 m to the Lake Wilcox Outlet Channel.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

PP 8-1, Miles Hill Crescent

Location	43.929135, -79.458
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.929056, -79.457925 (OUT511)
Catchment Area	0.576 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 2-year
Reference ECA(s)	4947-64TQPE
Brief Description	A single cell plunge pool at the outlet of the rooftop drainage collector pipe (40.6 m 375 mm diameter at 0.47%). Cell is lined with 200/300 mm of rip rap having a depth of 1.5 m (312.0 m bottom elevation; to 313.5 m top of rip rap). The plunge pool is tied into the existing grades (minimum elevation 314.5 m) surrounding the area in which it is constructed so there is no formal outfall from this facility. The volume of the facility is 103 m3.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

PP 8-2, Vandervoort Drive

Location	43.93041, -79.454184
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.93029, -79.454244 (OUT512)
Catchment Area	4.688 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 2-year
Reference ECA(s)	4947-64TQPE
Brief Description	A single cell plunge pool at the outlet of the rooftop drainage collector pipe (15.5 m 600 mm diameter at 1.3%). Cell is lined with 300 mm of rip rap having a depth of 2.0 m (307.0 m bottom elevation; to 309.0 m top of rip rap). The plunge pool is tied into the existing grades (minimum elevation 310.5 m) surrounding the area in which it is constructed so there is no formal outfall from this facility. The volume of the facility is 355 m³.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Wet Ponds**SWMF 1-1, Verdi**

Location	43.945793, -79.476188
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.946481, -79.475897 (H29)
Catchment Area	98.3 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	4417-BTQT89
Brief Description	One (1) hybrid wet pond with sediment forebay, located at the northeast corner of Verdi Road and Vitlor Drive, having a permanent pool storage volume of 9,615 m ³ , an extended detention storage volume of 7,550 m ³ , and a total storage volume of 28,574 m ³ including the permanent pool, at a total depth of 4 m (2.45 m permanent pool, 1.56 m active storage), including four (4) inlet structures comprising of a 300 mm diameter concrete pipe (northwest inlet to Cell 1), a 900 mm diameter concrete pipe (west inlet to Cell 2), a twin 1,800 mm by 1,200 mm box culvert (southwest inlet to Cell 2), and a 900 mm diameter concrete pipe (southeast inlet to Cell 3); two (2) quality control orifice pipes comprising a 100 mm diameter orifice pipe outletting from the Cell 1, and a 300 mm diameter orifice pipe outletting from the Cell 3; an outlet structure comprised of a trapezoidal weir having a base with of 1.3 m and 3:1 side slopes with a low flow V-notch weir with an invert of 291.96 m and associated concrete end walls, flow split structures, and appurtenances, all allowing a maximum discharge of 7,366 L/s under the 100-year storm event to East Humber River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 1-2, Vitlor

Location	43.945252, -79.473849
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.945622, -79.473521 (OUT412)
Catchment Area	10.8 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 25-year; Quality: 25 mm
Reference ECA(s)	4560-6D5QVJ
Brief Description	A stormwater management system to service part of the Elmway Developments Subdivision Phase 2 residential developments, located on the open block near the northeast corner of Verdi Road and Vitlor Drive, comprising an extended detention wet pond with a sediment forebay and a main stormwater detention cell, having a permanent pool volume of 1,620 m ³ , an extended detention storage volume of 1,510 m ³ for quality and erosion control of the runoff from the initial 25 mm precipitation of a rainfall event, to be slowly released over a 48-hour period, complete with inlet pipe and headwall, hickenbottom outlet pipe with orifice, twin ditch outlet, maintenance hole and outlet pipe, major storm overflow weir, discharging to East Humber River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 1-3, Tranquility

Location	43.947769, -79.482471
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.948301, -79.482133 (OUT250)
Catchment Area	15.97 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	2569-874PF4

Brief Description	A stormwater management system located east of Bathurst Street at the northwest corner of the west parcel, receiving runoff from a catchment area of 15.972 hectares, relying on an extended detention wet pond having a permanent pool storage volume of 3,486 m³, an extended detention storage volume of 1,847 m³ and an active storage volume of 7,088 m³ during the 100-year storm event comprised of the following: - an inlet structure to the sediment forebay consisting of a 975 mm diameter inlet pipe, headwall, armour stone apron and a rip rap splash pad on top of filter cloth; - a 5 m wide access maintenance road to the pond; - a forebay with a permanent pool of 1.5 m depth and a second cell with a permanent pool of 2.0 m depth, both lined with a 0.6 m thick clay liner; - a submerged forebay berm between forebay and wet cell, submerged 0.3 m below the permanent pool elevation, complete with a rip-rap on top of filter cloth; - a 10 m wide emergency overflow weir; - an outlet control structure consisting of a 300 mm diameter perforated reverse slope pipe to a 2,400 mm diameter control maintenance hole MH 100, a 120 mm diameter orifice plate attached to the 300 mm diameter reverse slope pipe entering the control maintenance hole, allowing for a maximum discharge rate of 0.02 m³/s to provide erosion and quality control by detaining the extended detention storage during a 25 mm storm event over duration of 43.64 hours and a 1,200 mm x 600 mm ditch inlet (quantity control) catchbasin equipped with a 100 mm vertical orifice and a 300 mm diameter lead pipe to the control maintenance hole MH 100, allowing for a maximum combined two orifices quantity control discharge rate of 0.062 m³/s during the 100-year storm event, discharging via a proposed 675 mm diameter outlet pipe from the control maintenance hole MH 100, headwall, a 4 m long river run stone pad on top on filter cloth and a 5 m wide vegetative swale to the East Humber River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 1-4, Humber Flats

Location	43.949445, -79.480439
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.949149, -79.48153 (OUT72)
Catchment Area	67.3 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A

Level of volume control	13 mm
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	N/A
Brief Description	The extended detention pond treats a drainage area of approximately 67.3 ha. The pond was designed to provide 24 hour extended detention storage for the 25 mm rainfall event. The pond has two outlets: • a 200 mm diameter orifice for controlled release of the 25 mm event • a 26 m long overflow weir for flows in excess of the 25 mm event The pond has a permanent pool volume of 5720 m³. A sediment forebay is provided in the pond at the outfall of a 48.0 m long, 975 mm first flush pipe at 0.19%. The forebay has a maximum depth of 3 m. Quantity control is provided by a 35.0 m long, 2400 x 1800 mm box culvert at 0.54% under Humberland Drive. This structure works in concert with the road to provide quantity control prior to discharging to an outfall channel located northwest of the extended detention pond. Upstream of the pond there are 9 minor system outlets into the “ecopark” which drain to individual gravel filter pads. The gravel filter pads and a granular French drain constructed along the invert of the “ecopark” channel are meant to provide additional stormwater quality enhancement and conveyance. These filter pads capture runoff from the 13 mm event and provide 48 hr detention. The filter pads are designed with a length to width ratio ranging from 8:1 to 12:1. The French drain will enter a perforated pipe which will outlet treated runoff directly to the East Humber River, by-passing the pond. Quantity control is provided by a control structure at the downstream end of the “ecopark” providing for the storage required to attenuate the post-development peak flows to pre-development levels.
Receive Emergency Sanitary Overflows	Yes; Humber Flats Pumping Station (PS10)
Notes / Additional Information	Assumed

SWMF 2-2, Ashfield

Location	43.948683, -79.451689
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.948323, -79.450973 (OUT375)
Catchment Area	26.2 ha
Level of Treatment for Suspended Solids	Level 2
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 23 mm
Reference ECA(s)	N/A
Brief Description	A wetland type facility with an inlet plunge pool 0.65 m deep (293.0 m to 293.65 m) and a 0.3 m deep permanent pool. Permanent pool volume of 1,310 m³ is provided from 293.65 m to 293.95 m. The extended detention storage volume is approximately 2,760 m³ at elevation 294.35 (maximum depth above the permanent pool of 0.40 m) and a total active storage of approximately, 6,600 m³ at elevation 295.0 m (maximum depth above the permanent pool of 1.1 m). A baffle curtain extends the flow path in the pond by bisecting the main cell of the pond. The extended detention facility's outlet will consist of a 195 mm diameter orifice plate (invert level 293.95 m) and a 1.2 m rectangular overflow weir set at an elevation of 294.4 m. The 195 mm orifice plate installed on the upstream face of the outlet control structure will detain the first flush runoff for approximately 60 hours and control the release rate to 0.043 m³/s at an elevation of 294.35 m. The 1.2 m wide weir and the 195 mm orifice will control the discharge to the Humber tributary to 1.0 m³/s at 295.05 m for the 100 year design storm.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 2-7, Pennyroyal Pond

Location	43.961412, -79.452197
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.961457, -79.451551 (OUT98)
Catchment Area	19.93 ha
Level of Treatment for Suspended Solids	Level 1

Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: N/A; Quality: 25 mm
Reference ECA(s)	7702-8XTLBQ
Brief Description	External Flow Bypass: - a 2,400 mm diameter concrete manhole, complete with a 750 mm diameter inlet pipe, a 450 mm diameter outlet pipe, and a 525 mm diameter outlet pipe to the flow splitter, identified below; - a 450 mm diameter outlet pipw with concrete headwall and rip-rap protection, discharging part of the external drainage from an existing area of 12.38 ha north of Bloomington Road directly to existing Environmental protection Area 1 (EPA1-2aE); Flow Splitter: - one (1) 8,600 mm by 4,200 mm concrete flow splitter manhole, complete with a 900 mm diameter inlet pipe, a 525 mm diameter inlet pipe from the external flow bypass manhole, identified above, a 1,050 mm diameter outlet pipe to the wet pond, identified below, and a 1,500 mm diameter outlet pipe, identified below, discharging flows in excess of the design capacity of the wet pond and flows in excess of approximately 1.0 m³/s via MH2 directly to existing Environment Protection Area 1 (EPA1-3a); Wet Pond - A wet pond with a 1 m thick clay liner and a sediment forebay, having a permanent pool storage volume of 3,263 m³, an extended detention storage volume of 1,972 m³, and a total storage volume of approximately 5,603 m³, including the permanent pool storage volume, at a total depth of 2.8, complete with: - One (1) 1,050 mm diameter inlet pipe from the splitter manhole (MH3), identified above, with concrete headwall and rip-rap protection, discharging to the sediment forebay; - A 300 mm diameter perforated riser pipe and tee installed in a rip-rap jacket and a 300 mm diameter reverse slop outlet pipe, discharging through a 115 mm diameter orifice to a 2,400 mm diameter concrete manhole (MH), identified below; - A 2,400 mm diameter concrete manhole (MH), complete with a 1,500 mm diameter inlet pipe from the flow splitter manhole, identified above, a 300 mm diameter inlet pipe from the wet pond, and a 1,500 mm diameter outlet pipe with concrete headwall and rip-rap protection, discharging to existing Environment Protection Area 1 (EPA1-3a); - One (1) 35 m by 20mm deep emergency spillway

	with rip-rap protection, discharging to existing Environment Protection Area 1 (EPA1-3a);
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 2-10, Delbert Baker Pond and Garden

Location	43.955485, -79.438208
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.952117, -79.436282 (OUT204)
Catchment Area	10.88 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	Phosphorous
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	1486-5MHS4Y
Brief Description	An extended detention wet pond located on the east side of Aloe Avenue at the intersection with Raffia Avenue, with a sediment forebay, having a permanent pool volume of 2,826 m ³ , an extended detention storage volume of 1,814 m ³ , and an additional attenuation storage volume of 1,059 m ³ , with an outlet control structure discharging to an infiltration trench; an infiltration trench with subdrain system collecting infiltrated stormwater and discharging to the storm sewer system on Wildwood Avenue.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 2-11, Newman

Location	43.957915, -79.437685
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.952117, -79.436282 (OUT204)
Catchment Area	19.05 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	Phosphorous
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 5-year
Reference ECA(s)	1486-5MHS4Y
Brief Description	An extended detention wet pond located on the north side of Newman Avenue at the intersection with Wildwood Avenue, comprising of a quality control cell with a sediment forebay, a permanent pool volume of 2,731 m ³ and an extended detention storage volume of 1,873 m ³ , and a quantity control cell with a attenuation storage volume of 8,720 m ³ ; an outlet control structure in the quality control cell discharging to the quantity control cell; collected stormwater discharging into the ground through infiltration; a subdrain system collecting infiltrated stormwater and discharging to the foundation drain system on Wildwood Avenue.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 2-14, Paradelle

Location	43.964701, -79.438033
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.964736, -79.437533 (OUT410)
Catchment Area	21.68 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm event
Reference ECA(s)	0356-5LMH6K
Brief Description	An extended detention wet pond providing Level 1 water quality protection and to attenuate post-development peak flows from the 25 mm design storm for a period of 48 hours. One sediment forebay with a permanent pool depth of 1.75 m. One main wet pond cell with a permanent pool depth of 2.5 m. A permanent pool storage volume of 3,002 mm ³ at an elevation of 299.25 m. An extended detention volume of 4,387 mm ³ at an elevation of 300.50 m for a total active storage depth of 1.25 m. An extended detention outflow control structure consisting of a 120 mm diameter orifice installed within an 1800 mm x 1200 mm control maintenance hole and a 300 mm diameter perforated riser and reverse slope pipe which will generate a maximum discharge of 29 L/s under 25 mm design storm conditions. Overflow into the 1800 mm x 1200 mm control maintenance hole, which will generate a maximum discharge of 980 L/s under the 5 year design storm conditions. A 750 mm diameter outlet pipe that will release stormwater runoff to an existing dug pond, which is part of the Snively Wetland complex. An overland flow channel to convey stormwater runoff exceeding the 5 year design storm peak flow around the wet pond and directly to the Snively Wetland.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 6-2, Helliwell

Location	43.949918, -79.426909
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.950033, -79.428277 (OUT123)
Catchment Area	15.27 ha
Level of Treatment for Suspended Solids	Level 1

Treatment for other contaminants, as required	Phosphorous
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	1845-8YBHA2
Brief Description	A wet pond, located east of Bayview Avenue, just south of Bethesda Sideroad, with a sediment forebay, having a permanent pool volume of 1,761 m³, an extended detention volume of 1,495 m³, and a total storage volume of approximately 12,268 m³, including the permanent pool volume, at a total depth of 3.5 m, complete with: one (1) 1200 mm diameter inlet pipe with concrete headwall and rip-rap protection, discharging to the sediment forebay, one (1) 525 mm diameter inlet pipe with concrete headwall and rip-rap protection, discharging to the sediment forebay, one (1) 4.5 m wide overland flow inlet channel with Terraweb or Approved Equivalent lining, from Helliwell Crescent, discharging to the main cell, a phosphorus treatment media and collection system within the main cell, complete with a 3 m wide by 1 m deep iron-rich sand media with three (3) 200 mm diameter perforated subdrains with filter socks, discharging through a single 200 mm diameter reverse slope outlet pipe to outlet control structure (maintenance hole 201), identified below, one (1) 750 mm diameter reverse slope outlet pipe with a perforated end piece and riser, from the main cell to outlet control structure (maintenance hole 201), identified below, one (1) 1800 mm diameter concrete outlet control structure (maintenance hole 201), with a 750 mm diameter inlet pipe, a 200 mm diameter inlet pipe from the phosphorus treatment media and collection system, identified above, a 2.55 m high concrete weir wall with an 105 mm diameter orifice, an 80 mm diameter orifice and a 600 mm wide by 700 mm high weir cut, discharging through a 750 mm diameter outlet pipe to Bethesda Sideroad, one (1) 33 mm wide by 100 mm deep emergency overflow spillway with Terraweb or Approved Equivalent lining, discharging from the main cell to the Bayview Avenue and Bethesda Sideroad intersection.
Schedule C Works	No
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 7-3, Sandbanks

Location	43.942947, -79.431896
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.9472, -79.430996 (OUT301)
Catchment Area	8.31 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: N/A; Quality: 25 mm
Reference ECA(s)	6190-53MLZG
Brief Description	A stormwater management facility, sized to provide detention for the first 25 mm of rainfall, consisting of a sediment forebay discharging into a main cell area with a total permanent storage volume of approximately 991 m ³ (maximum depth of 2.2 m) and an extended detention storage volume of approximately 911 mm ³ (maximum depth above the permanent pool of 0.72 m), complete with an outlet structure consisting of a 250 mm diameter reversed sloped pipe including an internal check valve at the control manhole and a 100 mm diameter orifice plate, which will detain the first 25 mm rainfall and allow a maximum discharge rate of 18 L/s to an existing swale.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 7-4, Ozark Park

Location	43.939861, -79.448194
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.944282, -79.454949 (OUT273)
Catchment Area	35.8 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	N/A

Brief Description	A wetland type facility. Water enters the facility through a 7.0 m long, 1220 x 1920 mm concrete box culvert at 0.22% with an invert elevation of 298.55. There is a small plunge pool in the forebay adjacent to the inlet with a bottom elevation of 297.7 m (0.85 m deep). The permanent pool elevation is 298.5 m resulting in a depth in the forebay of 0.8 m (bottom at 297.7 m) and 0.3 m in the main cell (bottom at 298.2 m). The active and passive storage volumes are 900 m³ and 2,200 m³, respectively. The forebay weir is set at 299.355 m with 3-300 mm diameter PVC set within the forebay berm at 298.5 m. There is an overflow weir directing flows into the natural wetland area to the north; this 20 m long weir is located within the forebay area set at 299.61 to divert large flows around the pond. This weir is located 0.16 m below the 5-year storm elevation within the facility (299.77 m). The outlet control maintenance hole consists of two chambers. There are two inlets into the control maintenance hole that drain to Chamber A: a 575 mm x 800 mm perforated plate and a 300 mm diameter orifice pipe. Flows between Chamber A and B are controlled via 2-85 mm diameter orifice plates on 300 mm openings at 298.57 m and 299.07 m and a weir at 299.5 m. Within the control maintenance hole, flows are directed to the foundation drain collector that drains to Yonge Street through a 150 mm orifice plate at 299.28 m on a 300 mm pipe. Flows are directed to and from the adjacent wetland area to the west of the pond through a 375 mm diameter pipe, invert elevation 298.52 m. The 100-year elevation in the pond is 300.08 m.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 7-5, Four Winds

Location	43.942549, -79.442154
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.945699, -79.441081 (OUT219)
Catchment Area	15.1 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	Phosphorous
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	3628-4PYKCR
Reference Works as part of treatment train	SWMF 7-5
Brief Description – SWMF 7-5	• One (1) forebay with a permanent pool volume of approximately 2,361 m³ to receive the stormwater runoff from the site via two inlet pipes; • One (1) stormwater detention pond with approximate volumetric capacity of 3,710 m³ with discharge to an outlet control structure via a reverse sloped pipe; • One (1) outlet control structure with a 112 mm diameter orifice plate at the outlet pipe with control discharge of 19.3 L/s to a phosphorus attenuation trench; • Two (2) catch basin maintenance holes with two orifice plates, 515 mm and 444 mm in diameter, at the slope of the detention pond with control discharge from the facility to a maximum rate of 1.40 m³/s during a 100-year storm to an existing ditch along Douglas Road; • One (1) phosphorus attenuation trench measuring 40 m in length and 3 m in diameter filled with a mixture of 80% sand filter material and 20% fine steel-making slag or Ontario Hydro fly-ash for attenuation of phosphorus from the Stormwater.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 7-7, Barnwood

Location	43.936405, -79.433914
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.936005, -79.431825 (OUT241)
Catchment Area	19.6 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	3119-5QBJWP
Brief Description	A wet pond on the west side of Bayview Avenue having approximate permanent volume of 2,447 m ³ , extended detention volume of 2,447 m ³ and a maximum storage volume of 9,188 m ³ , one 300 mm diameter Hickenbottom perforated vertical riser and outlet pipe with 25 mm diameter perforations on a concrete anchor block and discharging into the outlet control structure fitted with a 89 mm diameter vertical orifice on the wall, one 600 mm by 1200 mm grated ditch inlet catchbasin maintenance hole with a 213 mm diameter vertical orifice on the wall, one 600 mm by 1200 mm grated ditch inlet catchbasin maintenance hole for major flow capture at the bank of the pond, one 1800 mm diameter outlet control structure complete with a 300 mm diameter gate valve, connection with 300 mm diameter pond outlet and two 450 mm diameter outlet from the ditch inlet catchbasins discharging via: one 525 mm diameter outfall pipe, approximately 100 m long, a 8.0 m wide by 250 mm deep overland flow route covered with TRM 450 mat or approved equivalent, all finally discharging to the tributary R1 of Rouge River via a mixture of rip-rap and clearstone protected 2.0m wide by 150mm high trapezoidal low flow channel in the valley at the west of Bayview Avenue.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 7-9, Youth Park

Location	43.944012, -79.42985
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.9472, -79.430996 (OUT301)
Catchment Area	1.85 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	Phosphorous
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	6265-7CDNKS
Brief Description	A wet detention facility which receives flows via a 450 mm diameter storm sewer from Bayview Park Lane. Low flows are directed through a Hickenbottom riser which is connected to a 1.2 m long x 0.6 m wide DICB with a 100 mm diameter orifice on the 450 mm diameter outlet pipe to control flows. The outlet pipe connects to a catchbasin MH on Bayview Park Lane. The facility has a permanent pool depth of 1.0 m with a filtersoxx berm installed in an east-west to extend the flow path between the inlet and outlet.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 8-1, Augustine

Location	43.934334, -79.479025
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.935798, -79.48062 (H810)
Catchment Area	41.69 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	0641-89HJ85
Brief Description	An extended detention wet pond located on the open block on the southeast corner of Bathurst Street and Poulias Avenue, comprising a sediment forebay and two wet stormwater detention cells in series, having a permanent pool volume of 10,975 m ³ , an extended detention storage volume of 10,800 m ³ for quality and erosion control to a maximum discharge rate of 20 L/s for a 50 mm rainfall event, and an additional attenuation storage volume of 7,884 m ³ for peak flows control up to the 100 year storm event to pre-development levels, complete with inlet pipes and headwalls, emergency spillway, hickenbottom outlet pipe and twin ditch outlet, outflow control maintenance hole with orifices, outfall pipe to the road ditch system on Bathurst Street discharging to an existing watercourse just north of Poulias Avenue into the headwaters of the East Humber River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 8-3, Mitchell

Location	43.940198, -79.455142
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.944282, -79.454949 (OUT273)
Catchment Area	14.9 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity:100-year; Quality: 25 mm
Reference ECA(s)	5264-BXLSNU
Brief Description	A wet pond having a permanent storage volume of 3,447 m ³ , an extended detention volume of 1,192 m ³ , and a total storage volume of 9,243 m ³ including the permanent pool, at a total depth of 5.69 m, inlet structures consisting of an 825 mm diameter and 300 mm diameter storm inlet pipes and concrete headwalls, and an open channel; an outlet structure comprised of a 300 mm diameter reverse slope storm outlet pipe equipped with a 134 mm diameter orifice, a 460 mm orifice at the outlet headwall and a ditch inlet catch basin equipped with a 860 mm orifice, allowing a maximum discharge of 1,684 L/s under the 100-year storm event to an existing storm sewer located on Yonge Street.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 8-4, Timber Valley

Location	43.940614, -79.456537
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.944282, -79.454949 (OUT273)
Catchment Area	5.9 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity:100-year; Quality: 25 mm
Reference ECA(s)	5218-AANP97
Brief Description	A wet pond with a sediment forebay having a permanent pool volume of 915 m ³ , an extended detention volume of 764 m ³ , and a total storage volume of approximately 3,450 m ³ , including the permanent pool volume, at a total depth of approximately 4.8 m for the 100 year storm event, receiving inflow from the storm sewer on Timber Valley Avenue and discharging at a maximum (100-year) peak flow rate of 1.17 m ³ /s to the existing Mitchell Pond (SWMF 8-3).
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 8-5, Wellsprings

Location	43.943276, -79.45704
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.943892, -79.457178 (OUT468)
Catchment Area	8.7 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	8844-66DLUS
Brief Description	An extended detention wet pond located on the open block on the south side of Bostwick Crescent near the intersection at King Road, comprising a sediment forebay and a main stormwater detention cell, having a permanent pool storage volume of 1,200 m ³ , an extended detention storage volume of 800 m ³ for quality control of a 25 mm rainfall event, and an additional attenuation storage volume of 600 m ³ for peak flows control up to the 100-year storm event to pre-development levels, complete with inlet pipe and headwall, emergency spillway, ditch inlet control structure, outflow control manhole with orifice and outfall pipe to the road ditch system on King Road and therefrom to the headwaters of the East Humber River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 8-6, Betony

Location	43.93878, -79.479362
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.946481, -79.475897 (H29)
Catchment Area	15.8 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	5923-7DARN7
Brief Description	An extended detention wet pond having a permanent pool storage volume of 2,400 m ³ , an extended detention storage volume of 3,638 m ³ (erosion control), a total active storage volume of 6,598 m ³ (100-year storm event) and 12,572 m ³ (Regional storm event) complete with a inlet structure, forebay, an emergency spillway grate and an multi-stage outlet control structure consisting of a 300 mm diameter reverse slope pipe complete with a 105 mm diameter orifice plate allowing for a maximum discharge rate of 0.016 m ³ /s to provide quality/erosion control by detaining the extended detention storage during 25 mm 4 hour storm event over duration of 51 hours and orifice plates with a 425 mm and 610 mm diameters allowing for a maximum discharge rate of 0.44 m ³ /s for the 100 year 1.53 m ³ /s for the Regional storm events, discharging via a proposed 1,500 mm diameter storm sewer to the upstream end of an existing watercourse and culvert conveying to SWMF 1-1 discharging to a tributary of East Humber River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 8-7, Philips

Location	43.920072, -79.464476
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.919551, -79.464116 (OUT28)
Catchment Area	48 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 50 mm
Reference ECA(s)	7475-6TUK2W
Brief Description	An extended detention wet pond with a sediment forebay and a main wet stormwater detention cell, having a total permanent pool volume of 8,870 m ³ , an extended detention storage volume of 13,170 m ³ for quality and erosion control to a maximum discharge rate of 20 L/s of the runoff from the initial 50 mm precipitation of a rainfall event, and an additional attenuation storage volume of 5,280 m ³ for peak flows control up to the 100 year storm event to pre-development levels based on the Rouge River Watershed Hydrology model, complete with inlet pipe and headwalls, emergency spillway, hickenbottom outlet pipe and ditch outlet manholes, outflow control manholes with orifices, outfall pipe and headwall, scour pool and culvert crossing under Jefferson Side Road discharging south to a tributary of Rouge River (Rouge B).
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 8-10, Albright

Location	43.92262, -79.452591
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.91488, -79.447761 (OUT304)
Catchment Area	62.87 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 50 mm
Reference ECA(s)	3442-9KBPAM
Brief Description	An extended detention wet pond located on the open block on the northwest corner of Yonge Street and Jefferson Sideroad, comprising a sediment forebay and a wet stormwater detention cell, having a permanent pool volume of 9,345 m ³ , an extended detention storage volume of 18,147 m ³ for quality and erosion control to a maximum discharge rate of 20 L/s for a 50 mm rainfall event, and an additional attenuation storage volume of 6,990 m ³ for peak flows control up to the 100 year storm event to pre-development levels, complete with inlet pipe and headwall, emergency spillway, Hickenbottom outlet pipes and twin ditch outlet with control orifice, outflow control maintenance hole with control orifices, outfall pipes to the existing Jefferson Pond and to the storm sewer system on Jefferson Sideroad and Yonge Street and discharging therefrom to Rouge Tributary C approximately 850 m south of Jefferson Sideroad.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 9-1, Collin

Location	43.904107, -79.471288
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.903645, -79.471132 (OUT493)
Catchment Area	3.78 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	2358-8DALN4
Brief Description	SWM Pond is a quality/quantity wet pond facility with a total drainage of 3.78 ha. The facility will attenuate post development flows to target release rates, calculated using the unit peak flows to Basin 29 from TRCA's Table 3.1: Pre-Development Unit Peak Flows for Areas in the Upper Don River Watershed, for all storms up to and including the 100-year storm event. Minor system flow (up to the 5-year storm) is conveyed to the pond by storm sewer pip ultimately discharging to the forebay through a 675 mm diameter pipe and major system flow is conveyed overland along the road right-of-ways and ultimately to the overland flow rout within the pond block. The facility is comprised of the concrete storm flows to the forebay: Forebay Dimensions: 22 m long by 20 m wide by 1 m deep; Forebay Berm Weir Dimensions: 5 m long by 5 m wide by 1 m high; The wet pond has a permanent pool storage volume of 1,565 m³ (including the forebay) and an active storage volume of 2,128 m³ at 1.73 m above the bottom of the pond (including the forebay) for the 100-year storm with the normal water level at 1 m above the bottom of the pond. An outflow control structure consisting of the following: a submerged 300 mm diameter perforated pipe and perforated vertical riser; a 300 mm diameter PVC pipe connected to the 2,400 mm diameter maintenance hole control structure (invert at 1 m above the bottom of the pond) and controlled by a 90 mm diameter orifice (invert at 1 m above the bottom of the pond); a double inlet catch basin (weir elevation at 1.5 m above the bottom of the pond) connected to a 300 mm diameter PVD pipe entering the control structure (invert at 0.25 m below the bottom of the pond) and controlled by a 110 mm diameter orifice (invert at 0.25 m below the bottom of the pond); a 300 mm diameter outlet pipe and headwall; a 8.0 m long trapezoidal weir with its crest elevation at 1.75 m above the bottom of the pond designed as an emergency spillway with the capacity to convey the 100-year un-attenuated flow.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 9-2, Hearthside

Location	43.908313, -79.469674
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.906762, -79.469173 (OUT19)
Catchment Area	45.3 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	5898-62WGPN
Brief Description	The facility is an on-line pond integrated into an intermittent tributary of East German Mills Creek. The facility is a hybrid wet pond/wetland system, comprised of two (2) wet pond elements and a central wetland element separated by submerged berms. Flows from the internal contributing areas are conveyed into the first wet cell via a 750 mm diameter concrete pipe, and from the external areas via a 1,050 mm diameter concrete pipe into the wetland cell. The facility has a permanent pool of 7,4325 m³ and maximum active storage of 10,920 m³. This active storage also includes an extended detention volume of 4,587 m³. This volume will be detained for approximately 50.44 hr. The outlet structure consists of a control manhole, to which a 300 mm diameter PVC pipe and a 600 mm diameter concrete pipes are connected. The 300 mm diameter pipe is equipped with a riser, and the 600 mm diameter pipe with a standard double ditch inlet. The control manhole also accommodates a 190 mm diameter orifice, where the 600 mm diameter pipe acts as an orifice in this setup. Outflows discharge to an adjacent valley via a 750 mm diameter concrete pipe and a 10 m emergency spillway to German Mills Creek, including appropriate erosion protection measures.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 9-3, Alpaca

Location	43.909529, -79.465612
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.909048, -79.465905 (OUT368)
Catchment Area	37.58 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	5898-62WGPN
Brief Description	A wet off-line pond, comprised of a forebay and main cell separated by a submerged berm, having an average slope of 5:1, with 3 horizontal metres next to the permanent pool at 7:1 slope. The facility receives flows from the 38.32 ha of contributing drainage areas via a 1,350 mm diameter concrete sewer pipe and overland flow route. The facility has a permanent pool storage of 5,876 m³ and a maximum active storage capacity of 12,791 m³. This active storage includes an extended detention storage volume of 5,365 m³. This volume will be detained for approximately 48.7 hr. The outlet structure consists of an outlet control manhole, to which a 300 mm diameter PVC pipe and two (2) 750 mm diameter concrete pipes are connected. The 300 mm diameter pipe is equipped with a riser, and the two (2) 750 mm diameter pipes with standard double ditch inlets. The outlet control manhole also accommodates a 170 mm diameter and two (2) 600 mm diameter orifice plates. Outflows discharge to an adjacent valley via a 1,200 mm diameter concrete pipe to Tributary A of the Rouge River, including appropriate erosion protection measures. The facility also includes a 5 m wide emergency spillway.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 9-4, Morganfield

Location	43.917129, -79.464467
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.91749, -79.464127 (OUT459)
Catchment Area	24.60 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 2-year
Reference ECA(s)	0945-7FHKKX
Brief Description	An extended detention wet pond having a permanent pool storage volume of 4,641 m ³ , an extended detention storage volume of 5,240 m ³ and a total active storage volume of 10,198 m ³ , complete with two (2) inlet structures, a forebay, a 2.75 m wide emergency spillway and a two-stage outlet control structure consisting of a 300 mm diameter perforated reverse slope pipe complete with a 150 mm diameter orifice plate allowing for a maximum discharge rate of 0.045 m ³ /s to provide enhanced level quality control by detaining the extended detention storage during the 2-year 4 hr Chicago storm event over duration of 58 hr and a 490 mm diameter orifice plate mounted on a 750 mm diameter pipe allowing for combined maximum discharge rate of 1.037 m ³ /s for the 100-year storm event, discharging to the proposed 750 mm diameter outlet pipe into a riprap lined energy dissipator and then ultimately into a natural channel of the Rouge B Tributary.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 9-8, Tower Hill

Location	43.9135, -79.451382
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.912606, -79.451801 (OUT189)
Catchment Area	25.1 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	2457-9XEGP8
Brief Description	One (1) extended detention wet pond, to serve the proposed subdivision, receiving stormwater run-off from a total drainage area of 25.1 hectares, with an active storage volume of approximately 17,200 m ³ for up to and including a 100-year storm event, including the permanent pool volume, at a total depth of approximately 3.4 m, receiving inflow from the storm sewer on Jonah Drive and Tower Hill Drive, and discharging via a 825 mm diameter outfall sewer to Tributary "B" of the Rouge River, a permanent pool volume of approximately 3,800 m ³ , and an extended detention volume of approximately 4,600 m ³ for a 25 mm storm event, complete with a sediment forebay sized to accommodate for a 10-year sediment loading.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 9-9, Grange

Location	43.916826, -79.449666
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.915803, -79.449192 (OUT194)
Catchment Area	23 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	9646-9ZYPRX
Brief Description	An extended detention wet pond which has a clay liner and sediment forebay, with an active storage volume of approximately 16,600 m ³ for up to and including a 100-year storm event, a permanent pool volume of approximately 3,160 m ³ , and an extended detention volume of approximately 5,050 m ³ for a 25 mm storm event, discharging to Tributary "C" of the Rouge River via a 1200 mm diameter storm sewer to Tributary "C" of the Rouge River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 9-10, Selwyn

Location	43.904862, -79.464713
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.904519, -79.463632 (OUT114)
Catchment Area	12.45 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	5898-62WGPN
Brief Description	The facility is a wet off-line pond, comprised of a forebay and main cell separated by a submerged berm, having an average slope of 5:1, with 3 horizontal metres next to the permanent pool at 7:1 slope. The facility receives flows from the 12.45 ha of contributing drainage areas via a 975 mm diameter concrete sewer pipe and overland flow route. The facility has a permanent pool storage of 2,349 m³ and a maximum active storage capacity of 4,677 m³. This active storage includes an extended detention storage volume of 1,743 m³. This volume will be detained for approximately 55.47 hr. The outlet structure consists of an outlet control manhole, to which a 300 mm diameter PVC pipe and two (2) 525 mm diameter concrete pipes are connected. The 300 mm diameter pipe is equipped with a riser, and the two (2) 525 mm diameter pipes with standard double ditch inlets. The outlet control manhole also accommodates a 120 mm diameter and two (2) 280 mm diameter orifice plates. Outflows discharge to an adjacent valley via a 750 mm diameter concrete pipe to Tributary A of the Rouge River, including appropriate erosion protection measures. The facility also includes a 5 m wide emergency spillway.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 10-3, Crossmar

Location	43.912934, -79.437424
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.911954, -79.437782 (OUT183)
Catchment Area	67 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	1878-524KCF
Brief Description	One (1) stormwater management pond with a total volumetric capacity of 41,722 m³ with permanent pool volume of 10,970 m³ and an extended detention volume of 9,466 m³ complete with two forebays, one located in the north section of the pond having a volumetric capacity of 789 m³ and the one located in the south section of the pond having a volumetric capacity of 1,336 m³; one (1) 300 mm diameter reversed sloped pipe submerged in the permanent pool with a Hickenbottom inlet pipe and an orifice plate (185 mm) to provide a minimum detention time of 48 hours for the extended detention volume with a peak discharge rate of 0.07 m³/s to an outlet control maintenance hole (MH A); one (1) ditch inlet catchbasin (DICB 1) on the side slope of the pond located at a grate elevation of 267.5 m, fitted with a 525 mm diameter pipe and a 335 mm diameter orifice at the outlet control maintenance hole (MH A) to achieve a 5-year target release rate of 0.5 m³/s when combined with the flow via the reversed sloped pipe; one (1) ditch inlet catchbasin (DICB 2) on the side slope of the pond located at a grate elevation of 268.1 m, fitted with a 525 mm diameter pipe and a 420 mm diameter orifice at the outlet control maintenance hole (MH A) to achieve a 100-year maximum release rate of 1.23 m³/s when combined with the flows via the reversed sloped pipe and the DICB 1; one (1) control maintenance hole (MH A) for control and discharge of stormwater via a 750 mm diameter pipe to a scour pool and then to Rouge 'C' Tributary; one (1) emergency spillway measuring 20 m in width (bottom) and 0.5 m in depth located adjacent to control maintenance hole (MH A); and all other appurtenances essential for proper operation of the aforementioned sewage work.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 10-4, Milglen

Location	43.911757, -79.429397
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.911777, -79.428087 (OUT244)
Catchment Area	10.16 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	0971-7RJKAW
Brief Description	An extended wet detention pond receiving storm runoff via an inlet structure (consisting of a reinforced concrete headwall complete with concrete chute blocks for energy dissipation and a rip rap apron to reduce scour potential) discharging to a sediment forebay area (which is bottom lined with 300 mm of crusher run limestone underlain with a geotextile membrane) for removal of sediment, and a main cell providing approximately 1,939 m3 of permanent pool storage volume and an extended detention storage volume of approximately 1,559 m3 with slow release over a minimum period of over 48 hours, and providing storage during major storms, outletting via a flow control structure equipped with a restricting orifice to attenuate peak post-development flows during major storm events to levels less than pre-development levels, discharging to the ditch on the north side of Nineteenth Avenue.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 11-1, Summit Trail

Location	43.915555, -79.42303
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.915154, -79.422792 (OUT448) 43.915062, -79.423358 (OUT450)
Catchment Area	40.9 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	3-0125-94-006
Brief Description	A twin cell detention pond consists of a sedimentation pond compartment having a total volume of 7,000 m³ and a storage pond compartment having a total volume of 2,300 m³. The pond will retain surface runoff for a 100 year design storm, from an area of 26.3 ha within the development and an external area of 14.6 ha. The pond will discharge at controlled rates as follows: a peak flow rate of 40 L/s via a 65 m of 300 mm diameter perforated pipe from the sedimentation pond and a peak flow rate of 260 L/s via a 17 m of 300 mm diameter culvert from the storage pond. The outlets from both pond cells converge into an existing watercourse, a tributary of the Rouge River that leads into an existing 1800 mm diameter culvert under the CN rail track.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 13-2, Gerden

Location	43.903595, -79.388991
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.9028530, -79.3897269 (OUT946)
Catchment Area	18.00 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Extended Detention: 25 mm
Reference ECA(s)	8311-AJTR2W
Reference Works as part of treatment train	SWMF 13-2 MTD-Filter – ST500026
Brief Description – SWMF 13-2	An extended detention wet pond located at the intersection of Seager Street and Gerden Drive, having a catchment area of approximately 18.00 ha. The pond has designed to provide a total permanent pool storage volume of 6,178 m ³ and an extended detention storage of 2,448 m ³ . The pond is designed to provide an enhanced level water quality protection and attenuation of post-development peak flows to pre-development levels, discharging at 0.476 m ³ /s during the 100-year storm event. The pond is complete with inlet structures, access road, emergency6 spillway, outlet control structure (complete with orifice and weir0 and an 825 mm diameter outlet pipe discharging to the Rouge River.
Brief Description – MTD-Filter	Jellyfish filter, model JF 10-13-4 or equivalent, designed for a catchment area of 21.3 ha and site imperviousness of 53.4%. It is manufactured to reduce 80% of the sediment and has a sediment storage capacity of 853 kg. It has a maximum treatment flow rate of approximately 75.7 L/s, discharging through an 825 mm diameter outlet pipe to the Rouge River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 14-4, Richmond Green East

Location	43.899796, -79.397225
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.889125, -79.398135 (OUT125)
Catchment Area	26.63 ha
Level of Treatment for Suspended Solids	Level 1

Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	0593-6CCQ5B
Brief Description	The pond is to operate as a water quality/quantity pond. For water quality function, the pond will meet the Enhanced MOE protection level and will provide 72-hour extended detention time. For water quantity function, it will control post developments peak flows to pre-development levels for all events up to the 100-year storm event. The pond will have a permanent pool at elevation 231.2 m, which corresponds to storage of approximately 12,775 m³. The maximum 100-year operating level for the pond is at elevation 232 m. At this elevation, the pond has a detention storage of approximately 13,200 m³. The total storage of the pond is approximately 25,975 m³. Discharge from the pond will occur when the water level in the pond exceeds elevation 231.2 m. The flow is drawn through a 200 mm diameter pipe near the bottom of the pond to promote circulation. This pipe is connected to a maintenance hole which houses a sluice gate for control of the flow before it is released to the roadside ditch north of Elgin Mills Road. The sluice gate is adjustable and is normally set at open to provide the required 72-hour extended detention. At the 100 year ponding elevation 232 m, the flow through the 200 mm diameter outlet pipe is 0.037 m³/s. A new concrete headwall has been constructed at the outlet of the 200 mm diameter pipe with rip-rap to control erosion as part of another contract (Elgin Mills Road Reconstruction). At this location, the flow is conveyed to the existing 1400 mm CSP across Elgin Mills Road, approximately 25 m west of the pond outlet. The CSP then discharges into a 1050 mm diameter storm sewer with 1.2% slope on the south side of Elgin Mills Road. Overflow from the pond occurs when the water level exceeds elevation 232 m, which is expected to occur for events greater than 100 year. In the event that a storm greater than the 100-year recurrence interval should occur, the flows would be released by an emergency spillway and would be conveyed along Elgin Mills Road (major system) to the creek located west of the site.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 15-6, Zippora

Location	43.907751, -79.441987
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.904859, -79.443665 (OUT306)
Catchment Area	34.9 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	3-0634-97-006
Brief Description	An extended detention pond with 48 hour detention of the 25 mm event, there are two flow splitter maintenance holes that divert the 25 mm runoff to the extended detention portion of the pond. The pond has a permanent pool volume of 450 m³ is provided at an elevation of 262.5 m (1.5 m max depth of ponding) and an active storage of 5,560 m³ at an elevation of 264.55 m (3.55 m maximum depth). A 0.3 m deep forebay is also provided in the extended detention facility which treats the 5-year event. For storms greater than the 5-year event, the ponding level will spill over a berm (top elevation 264.55 m) into the adjoining water quantity cell. In addition, flows in excess of the 25 mm runoff will overflow the weir (in the flow splitter maintenance hole set at an 263.9 m) into the quantity pond. The facility's low flow outlet will consist of a 250 mm diameter perforated Hickenbottom type polyethylene drain with 100 holes, 25 mm in diameter at 50 mm c/c approximately 1 m in length (from elevation 262.45 m to 262.70 m) together with 0.5 m horizontal length of 250 mm perforated pipe with 135 holes, 25 mm in diameter at 50 mm c/c and bolted to a perforated CMP riser complete with a lock cap and surrounded by a 50-80 mm clear stone jacket. A 100 mm diameter orifice at an invert elevation of 262.5 m installed at the pipe inlet will provide a minimum of 48-hour drawdown time from a 25 mm rainfall event with a discharge of 0.026 m³/s to the quantity pond. The higher intensity rainfall runoff will enter the quantity pond via overflow from the weirs in the flow splitter maintenance holes and by overland flow routes from the drainage area. The outflow from the quantity pond is controlled to 1.51 m³/s by a 690 mm diameter orifice set at an elevation of 261.5 m and fastened to the permanent headwall in the southwest corner of the pond. The maximum storage provided in the quantity pond is 13,050 m³ at an elevation of 265.0 m. Approximately 8,360 m³ of storage from the quantity and extended pond is required at an elevation of 263.7 m to control runoff from the 100 year design storm. Flow from the quantity pond is conveyed through the 690 mm diameter orifice into a 900 mm

	sewer which discharges downstream into a tributary of the Rouge River. A standard ditch inlet catchbasin at a top elevation of 263.7 m is installed in the quantity pond to provide emergency relief should the orifice become clogged. The catchbasin is connected to the 900 mm outflow pipe.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 16-4, Twickenham

Location	43.889825, -79.461714
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.88956, -79.461535 (OUT405)
Catchment Area	71.36 ha
Level of Treatment for Suspended Solids	Level 1 (based on treatment of 11.92 ha)
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	Unknown
Brief Description	This is an online wet pond with a permanent pool of 1.0 m deep with a deepened to 2.0 m at the outlet. The permanent pool volume at 255.0 m is approximately 3,665 m³ (based on treatment of 11.92 ha). The extended detention elevation will be 255.4 m. This facility receives drainage from an upstream stormwater pond (SWMF 16-5) and a natural woodland area. The extended detention is controlled via a 200 mm diameter orifice with a maximum release rate of 47 L/s. This results in a storage volume of 1,766 m³. To control larger storm events, two additional orifices will be installed within the control maintenance hole: a 400 mm diameter orifice at 255.4 m and a 600 mm at 256.0 m. Flow leaves the control maintenance hole through a 2400 x 1200 mm box culvert under Canyon Hill Avenue. The elevation of the 100-year event in the pond will be 256.9 m. This results in a total storage of 11,691 m³ being provided for within the facility at the 100-year event.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed; Subject to a Transfer of Review Application in 2022

SWMF 16-7, Toll Bar

Location	43.891817, -79.446468
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.891339, -79.44527 (OUT385)
Catchment Area	Quantity: 112 ha; Quality: 96.8 ha
Level of Treatment for Suspended Solids	Level 2
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	9540-BFUKW2
Brief Description	A wet pond located between Canyon Hill Avenue and Cooperage Crescent, having a permanent storage volume of 2,755 m ³ , an extended detention volume of 7,140 m ³ , and a total volume storage 39,755 m ³ including the permanent pool, at a total depth of 3.20 m, an inlet structure consisting of a 750 mm storm inlet pipe and concrete headwall to the extended detention cell and a twin 2.4 m by 1.5 m box storm inlet pipe and a concrete wingwalls to the quantity cell, an outlet structure comprised of a 300 mm diameter storm outlet pipe equipped with a 250 mm diameter orifice and concrete weir allowing a maximum discharge of 18.2 m ³ /s under the 100-year storm event to German Mills Creek.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 16-8, Cedar Springs

Location	43.897603, -79.456611
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.898099, -79.456276 (OUT113)
Catchment Area	13.7 ha
Level of Treatment for Suspended Solids	Level 3
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 25 mm
Reference ECA(s)	N/A
Brief Description	A wet pond designed to treat the first flush flows with quantity control provided by SWMF 16-9. A by-pass structure is designed to accept flows from a 900 mm inlet pipe into a custom maintenance hole structure that is 7.32 m long by 2.4 m wide. This maintenance hole is bisected by a weir at a height of 264.00 m (2-year event) that runs the entire length of the structure. Runoff that does not overtop the weir flows towards SWMF 16-8 through a 600 mm pipe; all flows above the capacity of this pipe overflow over the weir and into a 900 mm storm sewer that discharges to SWMF 16-9. The overall design storage volume of SWMF 16-8 is a permanent pool volume of approximately 708.3 m³, providing 69% Total Suspended Solids (TSS) removal efficiency and a total pond volume of 3,582 m³ with an active storage amount of 2,874 m³. The outlet from the facility consists of a Hickenbottom structure with a 100 mm diameter orifice plate on a 250 mm diameter pipe that is connected to the 900 mm diameter bypass pipe prior to discharging to SWMF 16-9.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 16-10, Aztec

Location	43.898778, -79.455555
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.898099, -79.456276 (OUT113)
Catchment Area	38.6 ha
Level of Treatment for Suspended Solids	Level 3
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 25 mm
Reference ECA(s)	3-1750-98-006
Brief Description	The stormwater management facility is located on the east side of the valley of German Mills Creek. The facility is designed to provide at least 24 hours of detention time for the first flush runoff from the drainage area prior to discharge into German Mills Creek upstream of SWMF 16-9. The detention pond will consist of a wet pond area with a total permanent storage volume of approximately 1,360 m³ at elevation 262.00 m (maximum depth of 1.00 m) and a total active storage of 2,622 m³ at elevation 263.16 m (maximum depth above the permanent pool of 1.16 m). The pond will provide a total volume of 3,982 m³ at the high water level of 263.16 m. The diversion structure will direct the first flush from storm sewers into the extended detention pond. Larger flows will be conveyed directly to SWMF 16-9 by a 7 m length weir with overflow elevation of 263.16 m. The outlet will consist of a 200 mm Hickenbottom drain. A 140 mm diameter orifice installed at an invert elevation of 262.00 m will provide a minimum of 24 hours detention of the first flush runoff with a discharge of approximately 45.5 L/s at 263.16 m.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 16-11, Rothbury West

Location	43.899777, -79.448939
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.89987, -79.447846 (OUT99)
Catchment Area	22.91 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	4223-82YPV3
Brief Description	A clay lined wet pond with one (1) 1200mm by 900mm concrete box culvert inlet into a forebay, consisting of approximate permanent pool volume of 3,155cu.m., extended detention volume of 3,068m3. and total storage volume of 9,810m3 at 3.6m depth for up to 100-year storm flow attenuation, together with: • one (1) 120mm diameter removable vertical orifice installed in a 300mm diameter reverse slope pipe with a Hickenbottom perforated outlet/ CSP riser held in a stone jacket surround to discharge into a flow control inlet catch basin with flat grate, • one (1) 525mm diameter outlet pipe from a grated 600mm by 1200mm double catchbasin to the flow control catchbasin; All to discharge pond outflow including 100-year peak emergency overflow into 1600mm diameter outfall pipe to discharge into the Rouge A Branch of the Rouge River via a grated headwall and riverstone protected plunge pools, low flow cooling trench and spreader plunge pool and riverstone swale.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 16-12, Lacewood

Location	43.901463, -79.446973
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.901092, -79.446612 (OUT435)
Catchment Area	9.334 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	4223-82YPV3
Brief Description	A clay lined wet pond with one (1) 900 mm diameter inlet into a forebay and overflow spillway, consisting of approximate permanent pool volume of 2,209 m³, extended detention volume of 1,119 m³ and total storage volume of 7,622 m³ at 3.1m depth for 100-year storm attenuation, together with: • One (1) 95 mm diameter vertical orifice installed in a 300mm diameter reverse slope pipe in a Hickenbottom outlet within a 300 mm diameter perforated CSP riser held in a stone jacket surround to discharge into a flow control maintenance hole; • One (1) 675 mm diameter outlet pipe from a grated double catchbasin to discharge into the flow control maintenance hole, all to discharge pond outflow and up to 100-year emergency flow via a 675 mm diameter outlet pipe and a 450mm diameter pipe within a cooling trench to finally discharge into the Rouge A Branch of the Rouge River via a grated headwall and riprap-protected plunge pool and riverstone swale.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 17-3, Heritage Estates

Location	43.879826, -79.455256
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.879237, -79.454798 (OUT376)
Catchment Area	51.9 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 2-year
Reference ECA(s)	N/A
Brief Description	Runoff enters the SWM facility via a 1050 mm diameter storm sewer from Regent Street (in an easement opposite Riggs Court) and a 1350 mm diameter storm sewer from Falkland Place. These storm sewer systems were design for the 5 year storm event. Flows in excess of the storm sewer capacities (major system flows) are primarily conveyed overland to the pond via Falkland Place. Permanent pool volume of 13,000 m³. The 100-year peak flow is controlled to 3.90 m³/s using an active storage volume of 9,400 m³. The outlet of the facility is an 1800 mm concrete weir at 235.1 m elevation. There is an existing metal weir constructed within the concrete weir measuring 230 mm high and extending 600 mm from each edge of the existing concrete weir.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 19-1, Heron

Location	43.878595, -79.409433
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.877342, -79.404981 (R2)
Catchment Area	205 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	3-1163-96-006
Brief Description	A three-celled extended detention wet pond with wetland. The three cells incorporate extended detention of the 25 mm design storm for a minimum of 48 and also provide post to pre peak flow attenuation for the 2 to 100-year design storms. The total permanent storage volume of 4,100 m³ is provided. Cell 1 extended detention outlet consists of a Hickenbottom type outlet fitted with a 115 mm diameter orifice. The outlet is located within a perforated Armco liner surrounded by a gravel jacket consisting of 150 mm diameter clear stone. This outlet discharges directly to the existing CSP pipe arch culvert under Major Mackenzie Drive. This cell provides an active extended detention storage of 3,420 m³ with an average controlled release rate of 23 L/s for a pond surface fluctuation from 216.60 to 218.20 m. The extended detention outlet for the combined upstream cells (cell 2 and 3), consists of a Hickenbottom type outlet fitted with a 200 mm diameter orifice. The outlet is located within a perforated Armco liner surrounded by a gravel jacket consisting of 150 mm diameter clear stone. This outlet discharges to the existing CSP pipe arch culvert under Major Mackenzie Drive through a 525 mm diameter storm sewer. These ponds provide an active extended detention storage of 22,360 m³ with an average controlled release rate of approximately 139 L/s for a pond surface fluctuation up to 219.55 m. The combined cells provide a maximum active storage volume of 34,800 m³ for design storms up to the 100 year return period.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 19-2, Gemini

Location	43.881486, -79.394292
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.881189, -79.393305 (OUT429)
Catchment Area	32.02 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 25 mm
Reference ECA(s)	3-1787-98-006
Brief Description	An extended detention facility designed to provide 48 hour detention of the first 25 mm rainfall runoff (first flush) and over control of the 5-year design storm to 0.316 m³/s prior to discharge to the existing on site watercourse. The facility will consist of 2 sediment forebays discharging into 2 permanent pool areas with a total permanent storage volume of 2,887 m³ at elevation 208.5 m (maximum depth of 3.0 m), a first flush storage of 3,945 m³ at elevation 209.33 m (maximum depth above the permanent pool of 0.83 m) and a total active storage of 8,522 m³ at elevation 210.08 m (maximum depth above the permanent pool of 1.58 m). The pond will provide a total storage volume of 11,409 m³ at elevation 210.08 m for the 5-year design storm and 13,560 m³ at elevation 210.39 m (emergency overflow water level) for the 25 year design storm. The inlet into the pond will consist of a 1200 mm diameter storm sewer from the northwest discharging into the northwest sedimentation forebay and two (2) 825 mm diameter storm sewers from the south discharging into the south sedimentation forebay. The northwest sedimentation forebay will have a forebay length of approximately 26 m and the south sedimentation forebay will have a forebay length of approximately 30 m. The outlet will consist of 17 m, 300 mm diameter of reverse sloped pipe. The outlet invert of the pipe will be located at the top of the permanent pool (elevation 208.50 m) inside the control maintenance hole, located within the south berm of the facility and the inlet invert will be placed at elevation 206.25 m. The controlled release from the pond is effected by two orifice plates. A 133 mm diameter orifice plate installed at elevation 208.50 m will detain the first flush runoff over a 48 hour period discharging up to 0.048 m³/s at elevation 210.08 m. Flows in excess of the first 25 mm storm up to the 5-year design storm will be controlled by a 407 mm diameter orifice plate installed at

	elevation 209.33 m and discharging up to 0.268 m ³ /s at elevation 210.08 m. Total discharge from the pond will be 0.316 m ³ /s for the 5-year design storm. Flows in excess will discharge over a planted overflow weir, 26.5 m wide and 0.42 m high, located at the southeast end of the pond. High water level in the pond will be 210.39 m for the 25 year design storm. The pond will discharge into a 27.0 m long cooling trench which outlets to the existing channel located immediately southeast of the pond.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 19-3, Bilberry

Location	43.885644, -79.393256
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.8858, -79.393742 (OUT474)
Catchment Area	10.2 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 25 mm
Reference ECA(s)	3-1552-97-006
Brief Description	A two celled wetland facility providing extended detention for the first 25 mm rainfall volume for a minimum of 48 hour period and to provide quantity control for up to the 5-year design storm. The facility receives storm runoff via a 900 mm storm sewer discharging up to the 5-year design storm. The pond has a permanent storage volume of 2,078 m³ at an elevation of 207.7 m (north pool at 3.2 m ponding depth, south pool at 1.2 m ponding depth). The total active storage volume is 2,921 m³ at an elevation of 208.5 m (approx. 4 m maximum depth of ponding). The pond has a forebay length of approximately 40 m with a length to width ratio of approximately 3.6:1. The facility's low flow outlet consisted of a 300 mm diameter reversed slope pipe at invert elevation 204.5 m discharging into a 1200 mm control maintenance hole at invert elevation 207.7 m. A 110 mm diameter orifice plate installed at the maintenance hole inlet (from the reverse slope pipe) at invert elevation of 207.7 m will provide a minimum 48 hour detention for the first 25 mm design storm at elevation 208.02 m. Flow will be restricted to 0.021 m³.s at a top water elevation of 208.41 m discharging into a 300 mm storm sewer. Flow in excess of the 25 mm

	design storm will be restricted by a 250 mm diameter orifice plate (invert elevation 208.02 m) at the inlet of the concrete headwall discharging into a 300 mm concrete storm sewer. Flow will be restricted to 0.071 m ³ /s by the 250 mm orifice plate at a top water elevation of 208.41 m. The total restricted flow will be approximately 0.093 m ³ /s. The flow from the maintenance hole is discharged to an outfall channel/cooling trench which discharges into the Rouge River. Flows in excess of the 5-year design storm will flow over an emergency overflow spillway located along the western perimeter of the pond and discharging into the outfall channel. An interceptor trench is constructed around the northern, southern and eastern perimeter of the facility and is designed to intercept shallow groundwater flow from entering into the facility.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 19-4, Orchard

Location	43.884774, -79.396659
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.885358, -79.39573 (OUT55)
Catchment Area	38.5 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 5-year
Reference ECA(s)	3-0723-96-006
Brief Description	An extended detention pond consisting of a single cell pond designed to provide first flush control volume for the 25 mm design storm and over-control volume for the 5 year design storm. The pond has a permanent storage volume of approximately 2,380 m³ at 211.0 m. A diversion maintenance hole diverts flows from the 25 mm design storm to the sediment forebay area of the pond, flows in excess are directed into the main pond area. The extended detention pond will provide an active storage of 4,970 m³ for the 25 mm design storm, at an elevation of 212.27 m. The release rate is controlled by a 120 mm diameter orifice plate at the outlet end of a 250 mm pipe extending for the pond into the outlet maintenance hole located at the eastern extension of the pond. The pond provides an extended detention in excess of 48 hours for the 25 mm design storm.

	The pond provides a maximum storage volume of approximately 10,120 m³ for the 5-year design storm at an elevation of 213.24 m. Flows in excess of the 25 mm design storm flows are discharged through a DICB set at an elevation of 212.5 m. The release rate will be controlled by a 375 mm diameter pipe outletting from the DICB at invert 212.42 m. This outlet pipe will operate under inlet control with a maximum release rate for the 5-year design storm of 0.241 m³/s. The total 5 year release rate, including the 120 mm diameter orifice release from the extended detention, will be controlled to a maximum of 0.285 m³/s. Flows in excess of the 5 year design storm flows will pass through the pond with outflow being controlled by overflow weirs located adjacent to the outlet maintenance hole. The pond release rate from the 100 year design storm will be 8.75 m³/s with a maximum pond elevation of 213.73 m and a maximum storage volume of approximately 13,030 m³. The pond will discharge to an outlet channel which will convey all flows directly to the Rouge River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 19-5, Princeton

Location	43.89058, -79.397555
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.889125, -79.398135 (OUT125)
Catchment Area	83 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 25 mm
Reference ECA(s)	3-1319-97-006
Brief Description	An offline extended detention wet pond provides extended detention of the 25 mm first flush rainfall volume for a minimum 48-hour period and provide quantity control for up to the 5 year design storm. The pond has a permanent storage volume of approximately 5,229 m³ at an elevation of 214.1 m (north pool at 3.1 m ponding depth) and at 213.65 m (middle pool at 1.15 m ponding depth and south pool at 2.65 m ponding depth). Flow from the north pool to the middle pool is restricted by a weir at elevation 214.1 m. The total active storage provided is approximately 22,000 m³ at elevation of 215.97 m (approximately 5 m maximum ponding depth). The facility's low flow outlet consists of a 450 mm diameter reversed sloped pipe at invert elevation 212.50 m discharging into a 1500 mm control maintenance hole at invert elevation 213.65 m. A 200 mm diameter orifice plate installed at the maintenance hole inlet (from the reversed slope pipe) at invert elevation of 213.65 m will provide a minimum 48 hour detention for the first 25 mm design storm. Flow will be restricted to 0.090 m³/s at a top water elevation of 214.91 m discharging into a 375 mm storm sewer. Flow in excess of the 25 mm design storm will be restricted by a 600 mm orifice plate (invert elevation 214.91 m) at the inlet of the control maintenance hole. Flow will be restricted to 0.689 m³/s by the 600 mm plate and 0.131 m³/s through the 200 mm plate at a top water elevation of 215.97 m. The total restricted flow will be approximately 0.821 m³/s. This flow is discharged directly into a channel/cooling trench which is conveyed into a low flow channel discharging into a tributary of the Rouge River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 19-6, Redstone

Location	43.888212, -79.404257
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.88841, -79.402328 (OUT164)
Catchment Area	50 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 25 mm
Reference ECA(s)	3-1274-96-006
Brief Description	A two-celled wet pond consisting of a forebay and main cell. The extended detention component will provide for a detention time of 48 hours for the 25 mm design storm. The facility will provide peak flow attenuation for up to the 5 year design storm with a maximum release rate of 0.4 m³/s. Flow in excess of the 5 year design storm runoff will discharge directly to the Rouge River through overland flow outlets. The facility will provide 6,400 m³ of permanent storage at an elevation of 213.84 m and 7,600 m³ of total active storage at an elevation of 214.60 m. The extended detention outlet will consist of a Hickenbottom type, 300 mm diameter horizontal polyethylene pipe, fitted with a 210 mm diameter orifice plate. This outlet will provide a maximum extended detention release rate of 0.065 m³/s at a water surface elevation of 214.44 m based on runoff from the 25 mm design storm. This outlet will discharge into the quantity DICB outlet immediately upstream of the quantity control orifice. Peak flow attenuation will be controlled by a 370 mm diameter orifice plate located at the downstream face of the outlet DICB. This orifice will control outflows from the 5-year design storm to 0.34 m³/s at a water surface elevation of 214.6 m based on runoff from the 5-year design storm. This outlet will discharge directly to the Rouge River through a 525 mm diameter outlet pipe and headwall. Flows in excess of the 5-year design storm flows will pass through the pond and discharge over an emergency spillway directly to the Rouge River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 19-7, Leslie Heights

Location	43.890471, -79.401905
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.889388, -79.401637 (OUT517)
Catchment Area	28.60
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 25 mm
Reference ECA(s)	3-1697-97-006
Brief Description	A wet pond with a total permanent storage volume of 2,790 m ³ (max depth 2.25 m) and a total active storage of 7,150 m ³ (max depth 1.45 m). The facility's outlet will consist of a 300 mm diameter reverse sloped pipe outletting into a storm release control maintenance hole. Release from the pond will be controlled by 2 orifice plates installed in the control maintenance hole. The 48 hour drawdown of the first flush volume will be controlled by a 125 mm diameter orifice set at 213.25 m. The 5-year over control peak outflow rate will be controlled by the previously mentioned orifice and a 384 mm diameter orifice set at 214.02 m. Flow from the control maintenance hole will be discharged to the Rouge River tributary via a 450 mm diameter storm sewer. A 50 m wide emergency overflow weir with a sill level of 214.70 m will be provided on the west side of the pond.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 19-8, Melbourne

Location	43.88984, -79.402737
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.889279, -79.402671 (OUT39)
Catchment Area	10.45 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 25 mm
Reference ECA(s)	3-1697-97-006
Brief Description	A wet pond with a total permanent storage volume of 2,110 m ³ (max depth 1.5 m) and a total active storage of 2,676 m ³ (max depth 0.86 m). The outlet will consist of a 300 mm diameter reverse sloped pipe outletting into a storm release control maintenance hole. Release from the pond will be controlled by 2 orifice plates installed in the control maintenance hole. The 48 hr drawdown of the first flush volume will be controlled by an 80 mm diameter orifice set at 213.50 m. The 5-year over control peak outflow will be controlled by the previously mentioned orifice and a 288 mm diameter orifice set at 213.98 m. Flow from the control maintenance hole will be discharged to the Rouge River via a 450 mm diameter storm sewer. A 23 m wide emergency overflow weir with a sill level of 214.36 m will be provided at the northeast corner of the pond.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 19-9, Coco

Location	43.889482, -79.407051
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.889114, -79.406752 (OUT477)
Catchment Area	24.6 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 25 mm
Reference ECA(s)	7683-4PRHT3
Brief Description	A stormwater management system collecting up to 100-year storm event runoff from an area of 24.6 hectares, having a permanent storage volume of 2,050 m ³ an extended storage volume of 2,763 m ³ and a total storage volume of 6,213 m ³ complete with inlet structure, sediment forebay, wet pond, emergency overflow weir (for flows larger than the 5-year design storm) and outlet structure including a 250 mm diameter reverse sloped pipe including a 120 mm diameter orifice plate allowing a discharge of 0.03 m ³ /s into the Manhole A (first flush), a Ditch Inlet Catchbasin located within the pond's berm including a 300 mm diameter pipe and a 210 mm diameter orifice plate allowing a discharge of 0.09 m ³ /s into the Manhole A (5-year storm event) and a combined total discharge (weir and orifices) of 4.17 m ³ /s (100-year storm event) to the scour pool with overland discharge leading to the Main Branch of the Western Tributary of the Rouge River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 21-2, Headford West

Location	43.876706, -79.38592
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.876852, -79.385177 (OUT379)
Catchment Area	46.8 ha
Level of Treatment for Suspended Solids	Level 2
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 2-year; Quality: 25 mm
Reference ECA(s)	6197-9XKPSG
Brief Description	A wet detention pond having a permanent pool volume of 4,600 m3 and active storage volume of 9,250 m3 for 48-hour extended detention of a 25 mm 4-hour Chicago Storm event, complete with inlet structure, sediment forebay, outlet control structure with a 200 mm diameter orifice plate, and an overflow spillway.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 23-2, Harding East

Location	43.866263, -79.427697
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.8659, -79.428095 (OUT6)
Catchment Area	16.5 ha
Level of Treatment for Suspended Solids	Level 2
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 2-year; Quality: 20 mm
Reference ECA(s)	N/A
Brief Description	Stormwater enters the facility through a 1050 mm diameter concrete storm sewer, emptying into the sediment forebay at the south-east corner of the facility. The sewer was designed with a slope of 1% and an outlet invert of 210.25 m. Major flows from 14.5 ha of the upstream development do not flow to this facility. The pond comprises of three cells: forebay, wet cell and wet meadow. Flows between the forebay and wet cell are controlled by a weir set at 210.1 m. A Hickenbottom structure exists within the wet cell to control flows into the wet meadow. The connection between the cells is through a 150 mm diameter PVC pipe. A 450 mm concrete sewer acts as the outlet structure from the wet meadow to German Mills Creek. The total permanent pool volume in the facility is 1,000 m³, with an extended detention volume of 1,700 m³ and a total active storage volume of 3,500 m³. A baffle curtain extends the flow path in the pond by bisecting the main cell of the pond.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 26-1, Richmond Centre

Location	43.838402, -79.427092
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.836, -79.428 (D3)
Catchment Area	120 ha
Level of Treatment for Suspended Solids	75% TSS Removal
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	3-0750-94-006
Brief Description	An extended detention, wet pond designed to limit post development flows to pre development levels with a maximum storage volume of approximately 51,400 m ³ at the 100 year level, with inlet and outlet structures including a control weir and outlet culvert discharging up to 7.0 m ³ /s for the 100-year event, all flowing into a 3000 mm x 1500 mm box culvert, which then discharges to a 4000 mm x 3000 mm box culvert at Highway 7 and Yonge Street leading ultimately to the East Don River Tributary.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 28-1, Beaver Creek

Location	43.846438, -79.376249
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.846206, -79.375951 (OUT377)
Catchment Area	54.7 ha
Level of Treatment for Suspended Solids	Less than Level 3
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity:10-year; Quality: N/A
Reference ECA(s)	7412-BF4NUT
Brief Description	one (1) wet pond located between York Boulevard and Highway 7 (within Part 19 on Plan 65R-539 1), having a permanent storage volume of 2,179 m ³ , an extended detention volume of 1,713 m ³ , and a total storage volume of 9,786 m ³ including the permanent pool, at a total depth of 4.20 m, an inlet structure consisting of a 2.44 m by 1.53 m box storm inlet pipe and a concrete headwall, an outlet structure comprised of a 300 mm diameter storm outlet pipe equipped with a 100 mm diameter orifice and 1.6 m wide weir allowing a maximum discharge of 2.464 m ³ /s under the 10-year storm event and a maximum discharge of 8.351 m ³ /s under the 100-year event to the existing storm culvert under Highway 7.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID**LID 1-1, Oak Ridges Library Parking Lot**

Location	43.951393, -79.458525
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.951587, -79.45959 (OUT505)
Catchment Area	0.18 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	165 m2 of permeable pavers with a depth of stone of 0.6 m and an overall retention volume of 39.6 m3.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 1-2, Oak Ridges Library Green Roof

Location	43.951619, -79.456849
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.951587, -79.45959 (OUT505)
Catchment Area	0.1 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	72 m2 of green roof
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 1-3, Minthorn Park

Location	43.961253, -79.459584 (LID 1-3a) 43.961388, -79.459191 (LID 1-3b)
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.961123, -79.458225 (OUT335)
Catchment Area	0.5 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	Unknown
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	Two (2) rain gardens installed within Minthorn Park to handle drainage from park and trail structures
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 2-1, Paradelle Drive West

Location	43.963267, -79.451885
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.961457, -79.451551 (OUT98)
Catchment Area	0.54 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	Unknown
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	9314-8ZCKCR
Brief Description	121.6 m of 300 mm diameter perforated pipe constructed underneath the storm sewer located between Calamint Lane and Pennyroyal Court.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 2-2, Paradelle Drive East

Location	43.963446, -79.449282
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.961457, -79.451551 (OUT98)
Catchment Area	1.62 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	Unknown
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	9314-8ZCKCR
Brief Description	292.7 m of 300 mm diameter perforated pipe constructed underneath the storm sewer located between Meadowsweet Lane and Pennyroyal Court.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 2-4, Lakeland Crescent

Location	43.951281, -79.440972
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.951131, -79.440824 (OUT518)
Catchment Area	0.65 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	Phosphorous
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	1339-ACGS4L
Brief Description	One (1) approximately 12 m ² bioretention area, located at the southeast corner of the intersection of North Lake Road and Lakeland Crescent (east leg), underlain by a 0.6 m depth of filter bed material of 50% sand, 15% peat moss and 35% sorbtive media, having a filtration storage volume of approximately 7.2 m ³ , receiving inflows from the runoff of the north and east side of the site providing stormwater infiltration for phosphorous removal for the Lakeland Crescent urbanization, draining to Lake Wilcox.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 2-6, Lake Wilcox Park North Parking Lot

Location	43.950593, -79.429071 (6a) 43.950633, -79.428931(6b) 43.950662, -79.428813 (6c) 43.950696, -79.428658 (6d)
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.950036, -79.428858 (OUT520)
Catchment Area	0.45 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	50% of annual runoff
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	Permeable paver system located within the parking stalls of the Lake Wilcox Park North Parking Lot. The paver sub-base is designed using Granular 'B' material, with a void ratio of 35% provides 47 m³ of storage. 100 mm diameter sub-drains were installed within the granular material to support traffic loads. These sub-drains discharge to a 0.3 m deep pocket of granular material at the north end of each parking stall row (providing 16.3 m³ of storage). The sub-drains then drain into the sewers, but at a slightly higher elevation (100 mm) than the granular base to enable the underlying soils to absorb runoff and to convey excess water into the infiltration pockets.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 2-12 Lake Wilcox Washroom Green Roof

Location	43.951116, -79.429056
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.950036, -79.428858 (OUT520)
Catchment Area	0.018 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	A vegetated wetland types green roof on the Lake Wilcox Park washroom building with an active storage depth of 0.075 m and an active storage volume of 13.5 m3.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 4-1, Bethesda North

Location	43.955163, -79.405542
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.955109, -79.405947 (OUT528)
Catchment Area	0.23 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Quality: 5-year, Quantity: 100-year
Reference ECA(s)	N/A
Brief Description	2.5 m wide bioswale with infiltration gallery located at the northeast corner of Leslie Street and Bethesda Sideroad providing 67 m3 through subsurface storage (infiltration gallery) and 129 m3 through surface storage with rock check dams.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	N/A

LID 5-1, Bethesda South

Location	43.954909, -79.405491
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.954872, -79.405587 (OUT529)
Catchment Area	0.24
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Quality: 5-year, Quantity: 100-year
Reference ECA(s)	N/A
Brief Description	1 m wide bioswale with infiltration gallery located at the southeast corner of Leslie Street and Bethesda Sideroad providing 31 m ³ through subsurface storage (infiltration gallery) and 79 m ³ through surface storage with rock check dams.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	N/A

LID 7-1, Sunset Beach Road at 43 Dunn Drive

Location	43.943569, -79.442264
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.945699, -79.441081 (OUT219)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5 year
Reference ECA(s)	9817-A3QH89
Brief Description	A 41.0 m long bioretention swale, between 1500 mm to 2000 mm with clean non-cohesive sand filter media of varying depths between 1200 mm to 1800 mm; overflow to storm sewer via a 300 mm x 150 mm diameter tee with bottom cap, 300 mm diameter riser pipe with 300 mm diameter drop in ductile iron grate on a pre-cast concrete slab.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 7-3, 434 Sunset Beach Road

Location	43.944421, -79.438445
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.946048, -79.435067 (OUT7)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5 year
Reference ECA(s)	9817-A3QH89
Brief Description	A 13.75 m long bioretention swale, between 1500 mm to 2000 mm with clean non-cohesive sand filter media of varying depths between 1200 mm to 1800 mm; overflow to storm sewer via a 300 mm x 150 mm diameter tee with bottom cap, 300 mm diameter riser pipe with 300 mm diameter drop in ductile iron grate on a pre-cast concrete slab.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 7-4, 440 Sunset Beach Road

Location	43.944478, -79.438175
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.946048, -79.435067 (OUT7)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5 year
Reference ECA(s)	9817-A3QH89
Brief Description	A 12.2 m long bioretention swale, between 1500 mm to 2000 mm with clean non-cohesive sand filter media of varying depths between 1200 mm to 1800 mm; overflow to storm sewer via a 300 mm x 150 mm diameter tee with bottom cap, 300 mm diameter riser pipe with 300 mm diameter drop in ductile iron grate on a pre-cast concrete slab.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 7-5, 442 Sunset Beach Road

Location	43.944586, -79.437707
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.946048, -79.435067 (OUT7)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5 year
Reference ECA(s)	9817-A3QH89
Brief Description	A 19.75 m long bioretention swale, between 1500 mm to 2000 mm with clean non-cohesive sand filter media of varying depths between 1200 mm to 1800 mm; overflow to storm sewer via a 300 mm x 150 mm diameter tee with bottom cap, 300 mm diameter riser pipe with 300 mm diameter drop in ductile iron grate on a pre-cast concrete slab.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 7-6, 464 Sunset Beach Road

Location	43.944711, -79.437155
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.946048, -79.435067 (OUT7)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5 year
Reference ECA(s)	9817-A3QH89
Brief Description	A 30.5 m long bioretention swale, between 1500 mm to 2000 mm with clean non-cohesive sand filter media of varying depths between 1200 mm to 1800 mm; overflow to storm sewer via a 300 mm x 150 mm diameter tee with bottom cap, 300 mm diameter riser pipe with 300 mm diameter drop in ductile iron grate on a pre-cast concrete slab.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 7-7, 504 Sunset Beach Road

Location	43.945003, -79.435837
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.946048, -79.435067 (OUT7)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5 year
Reference ECA(s)	9817-A3QH89
Brief Description	A 20.4 m long bioretention swale, between 1500 mm to 2000 mm with clean non-cohesive sand filter media of varying depths between 1200 mm to 1800 mm; overflow to storm sewer via a 300 mm x 150 mm diameter tee with bottom cap, 300 mm diameter riser pipe with 300 mm diameter drop in ductile iron grate on a pre-cast concrete slab.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 7-8, 510 Sunset Beach Road

Location	43.9451, -79.435522
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.946048, -79.435067 (OUT7)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5 year
Reference ECA(s)	9817-A3QH89
Brief Description	A 14.5 m long bioretention swale, between 1500 mm to 2000 mm with clean non-cohesive sand filter media of varying depths between 1200 mm to 1800 mm; overflow to storm sewer via a 300 mm x 150 mm diameter tee with bottom cap, 300 mm diameter riser pipe with 300 mm diameter drop in ductile iron grate on a pre-cast concrete slab.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 7-9, 516 Sunset Beach Road

Location	43.945162, -79.435225
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.946048, -79.435067 (OUT7)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5 year
Reference ECA(s)	9817-A3QH89
Brief Description	A 18.5 m long bioretention swale, between 1500 mm to 2000 mm with clean non-cohesive sand filter media of varying depths between 1200 mm to 1800 mm; overflow to storm sewer via a 300 mm x 150 mm diameter tee with bottom cap, 300 mm diameter riser pipe with 300 mm diameter drop in ductile iron grate on a pre-cast concrete slab.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 7-10, 566 Sunset Beach Road

Location	43.94554, -79.433589
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.946048, -79.435067 (OUT7)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5 year
Reference ECA(s)	9817-A3QH89
Brief Description	A 10.5 m long bioretention swale, between 1500 mm to 2000 mm with clean non-cohesive sand filter media of varying depths between 1200 mm to 1800 mm; overflow to storm sewer via a 300 mm x 150 mm diameter tee with bottom cap, 300 mm diameter riser pipe with 300 mm diameter drop in ductile iron grate on a pre-cast concrete slab.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 7-12, Oak Ridges Community Centre North Parking Lot

Location	43.948406, -79.428086 (12a) 43.948219, -79.428043 (12b) 43.948033, -79.428006 (12c)
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.947738, -79.428368 (OUT88)
Catchment Area	0.37 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	Phosphorus
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	Three parallel 2.0 m wide by 29.0 m long bioswales with 500 mm depth of planting soil underlaid by a 200 mm deep layer of iron rich sand for phosphorus mitigation. The bioswale drains to the adjacent storm sewer system through a 100 mm diameter big 'o' perforated pipes within a 500 mm deep by 600 mm wide 19 mm diameter clear stone trench.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 7-13, Oak Ridges Community Centre South Parking Lot

Location	43.946065, -79.428305 (13a) 43.94588, -79.428373 (13b) 43.945696, -79.428429 (13c) 43.945512, -79.428492 (13d) 43.945328, -79.428553 (13e)
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.9472, -79.430996 (OUT301)
Catchment Area	0.62 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	Phosphorus
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	Five parallel 2.0 m wide by 29.0 m long bioswales with 500 mm depth of planting soil underlaid by a 200 mm deep layer of iron rich sand for phosphorus mitigation. The bioswale drains to the adjacent storm sewer system through a 100 mm diameter big 'o' perforated pipes within a 500 mm deep by 600 mm wide 19 mm diameter clear stone trench.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 7-20, Oak Ridges Community Centre Green Roof

Location	43.946862, -79.428761
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.9472, -79.430996 (OUT301)
Catchment Area	0.04 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	A wetland type green roof on a portion of the Oak Ridges Community Centre.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 7-21, Oak Ridges Community Centre Cistern

Location	43.946956, -79.427919
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.9472, -79.430996 (OUT301)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	A greywater cistern located within the turning circle in front of the Oak Ridges Community Centre
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 7-23, Youth Park (West)

Location	43.943849, -79.429597
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.9472, -79.430996 (OUT301)
Catchment Area	0.45 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	Phosphorus
Level of volume control	22 mm
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	A bioretention swale with a base area of approximately 165 m². The bioretention swale includes a 300 mm thick layer of topsoil at the surface, underlain by a 500 mm thick granular filter layer and a 400 mm thick clearstone storage layer. The granular filter layer includes media for phosphorus removal. Assuming a porosity of 0.4 for the filter and clear stone layers, the total water storage volume in the bioretention swale is approximately 60 m³. This volume is equivalent to a depth of approximately 22 mm over the hard surfaces draining to the west bioretention swale. The bioretention swale has also been graded to pond water up to 300 mm over the base of the swale before spilling and flowing overland to SWMF 7-9. The bioretention swale therefore an underdrain to collect water that filters through the bioretention column but cannot infiltrate into the underlying soil which have very limited infiltration capacity. The sub-drain will be positioned approximately 100 mm above the base of the trench to promote some infiltration and will discharge to SWMF 7-9.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 7-24, Youth Park (East)

Location	43.943774, -79.428533
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.9472, -79.430996 (OUT301)
Catchment Area	0.18 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	Phosphorus
Level of volume control	13 mm
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	A bioretention swale is approximately 80 m long with a 0.6 m wide base for a total surface area of 48 m². The bioretention swale includes a 300 mm thick layer of topsoil at the surface, underlain by a 500 mm thick granular filter layer and a 400 mm thick clearstone storage layer. The granular filter layer includes media for phosphorus removal. Assuming a porosity of 0.4 for the granular filter and clearstone, the east bioretention swale has a water storage volume of approximately 17 m³, equivalent to a depth of 13 mm over the hard surfaces draining to the swale. The catchbasin at the north end of the bioretention swale is raised 0.1 m above the swale invert to promote ponding and infiltration through the bioretention column, and the swale can contain surface water to a depth of 0.25 m before overtopping to the Bayview Avenue ditch eventually draining to SWMF 7-8.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 8-1, Military Court

Location	43.923526, -79.472433
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.923891, -79.472422 (OUT262)
Catchment Area	0.432 ha (RDC)
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year
Reference ECA(s)	N/A
Brief Description	A 50.0 m long, 2.0 m by 2.0 m 50 mm clear stone infiltration trench at 0.46% with a 300 mm diameter perforated pipe that receives drainage from the rooftop drainage collector.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 8-2, Amaranth Court

Location	43.923765, -79.471857
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.923891, -79.472422 (OUT262)
Catchment Area	1.23 ha (RDC)
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year
Reference ECA(s)	N/A
Brief Description	A 69.2 m long, 2.0 m by 4.0 m 50 mm clear stone infiltration trench at 0.01% with a 525 mm diameter perforated pipe that receives drainage from the rooftop drainage collector.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 8-3, Philips Ridge Park

Location	43.921952, -79.468922
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.919551, -79.464116 (OUT28)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	A permeable pavement pathway within Philips Ridge Park. Permeable pavements are installed on 50 mm deep of 5 mm clear crush open-graded bedding course over a 200 mm deep layer of 20 mm clear crush open-graded aggregate sub-base with a 100 mm diameter sub-drain.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 16-1, Rouge Crest Park Parking Lot

Location	43.901702, -79.451888 (1a) 43.901583, -79.451615 (1b) 43.901375, -79.451746 (1c) 43.901541, -79.451814 (1d)
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.901552, -79.451399 (OUT521)
Catchment Area	0.14 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	A permeable pavement with the parking lot of Rouge Crest Park. Permeable pavements are installed on 40 mm deep of 6 mm clear crush open-graded bedding course over a 200 mm deep layer per ASTM No. 57 with a 100 mm diameter sub-drain.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 16-2, Rouge Crest Park Playground

Location	43.902391, -79.451973 (2a) 43.902157, -79.45191 (2b) 43.901957, -79.451786 (2c)
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.901552, -79.451399 (OUT521)
Catchment Area	0.08 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	A permeable pavement with the parking lot of Rouge Crest Park. Permeable pavements are installed on 40 mm deep of 6 mm clear crush open-graded bedding course over a minimum 150 mm deep layer per ASTM No. 57 with a 100 mm diameter sub-drain. Portions of the permeable pavement are under laid with a biofilter consisting of a 50 mm diameter clear stone continuous trench.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 16-3, Westbury Court

Location	43.899959, -79.468456
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.900814, -79.46709 (OUT77)
Catchment Area	4.59 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	An exfiltration pipe system consisting of dual 200 mm diameter perforated pipes located alongside the storm sewer system on Westbury Court. The exfiltration trench consists of 16 mm clear stone.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 17-1, Rumble Pond Trail

Location	43.874639, -79.463583
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.873725, -79.463281 (OUT107)
Catchment Area	0.5 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Brief Description	821 m2 of permeable pavement located along the eastern edge of SWMF 17-1 Rumble Pond
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 17-2, Mill Pond West Parking Lot

Location	43.875406, -79.452801
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.875169, -79.452557 (D87)
Catchment Area	0.057 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	A permeable paver parking lot located at Mill Pond Park. The permeable pavers are 80 mm thick with pea gravel for joints, 75 mm leveling course, 150 mm of 19 mm clear stone, 300 mm of 53 mm clear stone and 100 mm of 53 mm clear stone located under a 100 mm diameter sub-drain. Overflow is through four 1.0 m depressed curb.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 25-4, Morgan Boyle Park

Location	43.839351, -79.436533
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.840683, -79.436246 (OUT220)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	N/A
Brief Description	Soil cells within Morgan Boyle Park. A two-layer 510 m x 510 mm x 250 mm stratacell series 30 filled with planting soils.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 27-1, David Hamilton Park Infiltration Chamber

Location	43.856271, -79.399596
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.846384, -79.407918 (D11)
Catchment Area	0.417
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	5 mm
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	N/A
Brief Description	An infiltration Chamber within the lawn area of David Hamilton Park. The chamber is 15.1 m long x 8.1 m wide x 0.762 m high made up of 297 units of Brentwood storm tanks. Inlet into the facility is through a 1.9 m long 250 mm diameter storm sewer connected to a catchbasin at the base of a landscaped hill. This system is also connected via a 34.2 m 250 mm diameter storm sewer from the outlet of LID 27-4 (4b).
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 27-2, David Hamilton Park Bioswale East

Location	43.855131, -79.397305
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.858684, -79.383563 (OUT255)
Catchment Area	0.255 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	5 mm
Design Storm	Quantity: 100-year; Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A 43.3 m long, 2.6 m wide bioretention swale with 3:1 side slope and a bottom elevation of 208.10 m. The 100-year HWL is 208.50 m controlled through 150 mm diameter Hickenbottom drain with a top elevation of 208.20 m. The Hickenbottom is surrounded by 50 mm diameter clear stone. The bioretention swale is comprised of 500 mm deep filter bed with bioretention soil mixture of 85% sand, 10% soil fines and 5% organic matter, and a 600 mm deep layer of 50 mm diameter clear stone wrapped in filter fabric. A 150 mm diameter perforated PVC subdrain in filter sock connects to the Hickenbottom riser at the top of the clear stone layer with an invert of 207.45 m. The flows from the Hickenbottom and the subdrain combine within a downstream 0.6 m x 1.2 m ditch inlet maintenance hole (top at 208.2 m) before discharging to a 300 mm diameter storm sewer. Flows to the storm sewer are controlled via a 80 mm diameter orifice plate at 206.80 m.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 27-3, David Hamilton Park Bioswale West

Location	43.855004, -79.397875
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.846384, -79.407918 (D11)
Catchment Area	0.276 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	5 mm
Design Storm	Quantity: 100-year; Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A 41.2 m long, 2.6 m wide bioretention swale with 3:1 side slope and a bottom elevation of 208.60 m. The 100-year HWL is 209.00 m controlled through 150 mm diameter Hickenbottom drain with a top elevation of 208.70 m. The Hickenbottom is surrounded by 50 mm diameter clear stone. The bioretention swale is comprised of 500 mm deep filter bed with bioretention soil mixture of 85% sand, 10% soil fines and 5% organic matter, and a 900 mm deep layer of 50 mm diameter clear stone wrapped in filter fabric. A 150 mm diameter perforated PVC subdrain in filter sock connects to the Hickenbottom riser at the top of the clear stone layer with an invert of 207.95 m. The flows from the Hickenbottom and the subdrain combine within a downstream 0.6 m x 1.2 m ditch inlet maintenance hole (top at 208.7 m) before discharging to a 300 mm diameter storm sewer. Flows to the storm sewer are controlled via a 120 mm diameter orifice plate at 207.6 m.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 27-4, David Hamilton Park Rain Gardens

Location	43.856492, -79.39946 (4a) 43.855908, -79.39957 (4b)
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.846384, -79.407918 (D11)
Catchment Area	1.106 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	5 mm
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	N/A
Brief Description	Bioswales located at the north west corner of David Hamilton Park. The north bioswale starts with two rain garden areas connected via a 17.0 m long, 300 mm diameter culvert. The rain gardens have a ponding depth of 0.3 m. The rain gardens flow down through a series of riffle and pool bioswales which flow from 207.92 m to 206.30 m with an area of ponding at the bottom with 0.48 m depth. The south bioswale starts with a rain garden area with a ponding depth of 0.3 m. The rain garden flow down through a series of riffle and pool bioswales which flow from 208.76 m to 206.5m with an area of ponding at the bottom with 0.5 m depth.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 27-5, David Hamilton Park Parking Lot

Location	43.854093, -79.397324
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.846384, -79.407918 (D11)
Catchment Area	0.416 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	5 mm
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	N/A
Brief Description	A 43.6 m long, 1.8 m wide bioretention swale with 3:1 side slope and a bottom elevation of 211.0 m. The 100-year HWL is 209.00 m controlled through 150 mm diameter Hickenbottom drain with a top elevation of 211.3 m. The Hickenbottom is surrounded by 50 mm diameter clear stone. Adjacent to the Hickenbottom outlet structure is a 0.6 m x 1.2 m ditch inlet maintenance hole (top at 211.15 m) to capture overflow from the Hickenbottom structure. The bioretention swale is comprised of 500 mm deep filter bed with bioretention soil mixture of 85% sand, 10% soil fines and 5% organic matter, and a 1200 mm deep layer of 50 mm diameter clear stone wrapped in filter fabric. A 150 mm diameter perforated PVC subdrain in filter sock connects to the Hickenbottom riser at the top of the clear stone layer with an invert of 209.85 m. The flows from the Hickenbottom and the subdrain flow to the overflow DICB via a 150 mm diameter overflow pipe at 210.19 m. Flows from the DICB discharge to a 300 mm diameter storm sewer at 209.56 m. Flows to the storm sewer are controlled via a 185 mm diameter orifice plate at 209.56 m.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Storage Pipes**Hall Street (Wright Street to Richmond Street)**

Location	43.877, -79.442
Watershed/Subwatershed	Don River
Receiver of Discharge	Surface discharge to Upper East Don River
Outlet Location	43.867, -79.448 (OUT308)
Catchment Area	0.87 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset IDs: S10049 and S10050 Two segments of 675 mm diameter storage pipes, 140 m long, that connect to a 300 mm sewer on Richmond Street; constructed in 2006.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Birch Avenue (West)

Location	43.847, -79.45
Watershed/Subwatershed	Don River
Receiver of Discharge	Surface discharge to Upper East Don River
Outlet Location	43.845, -79.451 (OUT74)
Catchment Area	3.085 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset ID: S10062 A 99 m long, 1200 mm diameter storage pipe at 0.6% located on Birch Avenue just upstream of the intersection with Cividale Court; Constructed in 2006.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Richmond Hill Go Station East Parking Lot

Location	43.876, -79.425
Watershed/Subwatershed	Don River
Receiver of Discharge	Surface discharge to Upper East Don River
Outlet Location	43873, -79.429 (D43)
Catchment Area	0.561 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset ID: S10100 A 64.4 m long, 1350 mm diameter pipe at 0.2% located within the Richmond Hill Go Station East Parking Lot within easement.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

67 Northern Heights Drive

Location	43.851, -79.43
Watershed/Subwatershed	Don River
Receiver of Discharge	Surface discharge to Pamona Creek via SWMF 26-1
Outlet Location	43.839, -79.428 (SWMF 26-1)
Catchment Area	1.68 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset ID: S10680; on Easement A 66.0 m long, 1200 x 1800 mm concrete box culvert storage pipe at 0.30%.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

222 Duncan Road

Location	43.856, -79.412
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.849, -79.409 (OUT380)
Catchment Area	36.11 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset ID: S11096 A 43.8 m long, 900 mm diameter storage pipe at 1.8% along western property line at 222 Duncan Road within an easement.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Gapper Park

Location	43.858, -79.417
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.849, -79.409 (OUT380)
Catchment Area	20.578 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset ID: S11098 and S11100 Two storage pipes located underneath with overflow to Gapper Park; Tank A (S11100) is a 75 m long, 2400 x 1500 mm concrete box culvert; Tank B (S11098) is a 86 m long, 2400 x 2400 mm concrete box culvert. The inflow from the adjacent development enters into Tank B first and then is transferred to Tank A through a variety of orifice tubes 1 – 100 mm diameter, 4 – 150 mm diameter) which are located within a junction chamber. Overland flows either directly into Tank B via an overflow catchbasin located within the top slab of Tank B or through another overflow catchbasin located at the southeast corner of Gapper park that is connected to the junction chamber through a 750 mm pipe.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Georgian Bay Street

Location	43.859, -79.458
Watershed/Subwatershed	Don River
Receiver of Discharge	East Don River
Outlet Location	43.85, -79.45 (OUT295)
Catchment Area	1.19 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	8897-9J2JNU
Brief Description	Asset ID: S11709 A 42.05 m long, 1500 mm diameter storage pipe at 0.69% controlled via a 185 mm orifice plate.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Fulton Parkette

Location	43.867, -79.417
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.849, -79.409 (OUT380)
Catchment Area	1.95 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset ID: S2348 A 54.3 m long, 1950 mm diameter storage pipe at 0.59%.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Kirsten Street

Location	43.866, -79.42
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.849, -79.409 (OUT380)
Catchment Area	2.27 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset ID: S2351 A 109.3 m long, 1500 mm diameter storage pipe at 0.22%.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Coates Crescent

Location	43.954, -79.453
Watershed/Subwatershed	Humber River
Receiver of Discharge	East Humber River
Outlet Location	43.955, -79.457 (OUT31)
Catchment Area	2.62 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset ID: S239 A 53.3 m long, 1200 x 3000 mm concrete box storage pipe at 0.27%.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Nightstar Drive

Location	43.861, -79.431
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.859, -79.431 (OUT179)
Catchment Area	13.18 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset IDs: S2559, S2562, S2651 A 12.85 m long, 4900 x 1880 mm concrete box storage pipe at 0.08% (S2559) controlled by a 1320 mm weir 1200 mm before the end of the box culvert; 14.65 m long, 4900 x 1830 concrete box storage pipe at 0.06% (S2651); 339 m long, 3600 x 1500 mm concrete box storage pipe at 0.06% (S2651/S2562).
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Josie Drive

Location	43.863, -79.441
Watershed/Subwatershed	Don River
Receiver of Discharge	Upper East Don River
Outlet Location	43.857, -79.447 (OUT316)
Catchment Area	0.28 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset ID: S3080 A 31 m long, 375 mm diameter storage pipe at 0.25%.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Benson Avenue

Location	43.881, -79.441
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	Surface discharge to German Mills Creek
Catchment Area	43.876, -79.43 (OUT135)
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset IDs: S3154, S3159 A 80 m long, 900 mm diameter storage pipe at 0.04% (S3159); a 80 m long, 900 mm diameter storage pipe at 0.16% (S3154); controlled via a 18.2 m long, 375 mm orifice pipe.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Harmony Hill Crescent

Location	43.87, -79.462
Watershed/Subwatershed	Don River
Receiver of Discharge	Patterson Creek
Outlet Location	43.87, -79.462 (OUT323)
Catchment Area	7.03 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset IDs: S3357 A 50 m long, 3850 x 2600 mm multiplate arch storage pipe at 0.52% controlled by a 18.5 m long, 825 mm orifice pipe.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

McConvey Drive

Location	43.887, -79.423
Watershed/Subwatershed	Rouge River
Receiver of Discharge	SWMF 19-1
Outlet Location	43.879, -79.411 (SWMF 19-1)
Catchment Area	4 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset IDs: S3839, S3840 A 37.3 m long, 1350 mm diameter storage pipe at 0.1% (S3839); a 38.25 m long, 1350 mm diameter storage pipe at 0.37% (S3840); controlled by a 2 m long, 450 mm diameter orifice pipe.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Dunsmore Crescent

Location	43.875, -79.43
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.874, -79.429 (OUT236)
Catchment Area	1.4 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset IDs: S4076, S4077, S4078 A 83.75 m long, 600 mm diameter storage pipe at 1.07% (S4076); a 14.6 m long, 600 mm diameter storage pipe at 1.04% (S4077); a 38.2 m long, 600 mm diameter storage pipe at 0.54% (S4078); controlled via a 148 mm diameter orifice plate.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Dunsmore Crescent (Easement)

Location	43.874, -79.43
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.874, -79.429 (OUT236)
Catchment Area	0.5 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset IDs: S4082, S4083 A 40.15 m long, 825 mm diameter storage pipe at 0.43% (S4082); a 47.15 m long, 825 mm diameter storage pipe at 0.56% (S4083); controlled via a 109 mm diameter orifice plate.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

700 Elgin Mills Road East

Location	43.894, -79.421
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Upper Rouge River
Outlet Location	43.893, -79.419 (OUT126)
Catchment Area	1.88 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset IDs: S5606 A 65.8 m long, 1470 x 2310 mm storage pipe at 0.54% controlled by a 4 m long, 900 mm diameter orifice pipe.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

1150 Elgin Mills Road East

Location	43.897, -79.407
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Upper Rouge River
Outlet Location	43.896, -79.407 (OUT65)
Catchment Area	0.81 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset IDs: S5608, S5609 A 36 m long, 1050 mm diameter storage pipe at 0.5% (S5608); a 46.1 m long, 1050 mm diameter storage pipe at 0.5% (S5609); discharging to a 47.3 m long, 375 mm diameter storm sewer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Hunt Avenue

Location	43.881, -79.441
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.882, -79.431 (OUT432)
Catchment Area	5.19 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset IDs: S5759, S5760 A 40 m long, 1535 x 975 mm elliptical arch storage pipe at 1.57% (S5759); a 65.24 m long, 1535 x 975 mm elliptical arch storage pipe at 0.03% (S5760); reduced to a 900 mm diameter pipe via a reducer which then flows to a 250 mm diameter storm sewer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Forest Ridge Road

Location	43.926, -79.417
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Upper Rouge River
Outlet Location	43.928, -79.417 (OUT225)
Catchment Area	1.23 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset IDs: S5930 A 78.40 m long, 1200 mm diameter storage pipe at 0.26%.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Frontier Drive

Location	43.849, -79.433
Watershed/Subwatershed	Don River
Receiver of Discharge	East Don River
Outlet Location	43.848, -79.445 (OUT16)
Catchment Area	1.0 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	4697-7XGTYX
Brief Description	Asset IDs: S6085, S6086, S6087 and S10830 A 47.4 m long, 750 mm diameter storage pipe at 0.5% (S10830); a 20 m long, 750 mm diameter storage pipe at 0.6% (S6085); a 12 m long, 750 mm diameter storage pipe at 0.83% (S6086); a 82.8 m long, 750 mm diameter storage pipe at 0.43% (S6087); controlled by an inlet control device on a low flow 4 m long, 300 mm diameter storm sewer at 0.25% at 202.79 m and a 4 m, 300 mm diameter overflow storm sewer at 1.0% at 204.29 m.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Partially Assumed S10830 is unassumed Developer: The Frontier Edgar Development Corporation 2162 Major Mackenzie Drive Maple ON L6A 1P7

Vanity Crescent

Location	43.851, -79.431
Watershed/Subwatershed	Don River
Receiver of Discharge	Surface discharge to Pamona Creek via SWMF 26-1
Outlet Location	43.839, -79.428 (SWMF 26-1)
Catchment Area	1.11 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset IDs: S6343 A 71 m long, 1050 mm diameter storage pipe at 0.18% controlled via a 9 m long, 375 mm diameter storm sewer at 3%.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

York Boulevard

Location	43.847, -79.377
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek via Cummer Creek
Outlet Location	43.847, -79.377 (SWMF 28-1)
Catchment Area	4.257 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset ID: S6606 A 108.8 m long, 825 mm diameter storage pipe at 0.97% controlled via a 28 m long, 525 mm diameter storm sewer at 0.36%.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Observatory Lane

Location	43.859, -79.429
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.859, -79.431 (OUT179)
Catchment Area	0.89 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset IDs: S2193, S8122 A 43.5 m long, 1830 x 1220 mm concrete box storage pipe at 1.0% (S2193) flowing to a 4.88 m long, 1830 x 1525 mm concrete box storage pipe at 1.0% (S8122) controlled via a 220 mm wide concrete weir at an elevation of 208.42 m located within ST7.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Valleyford Avenue

Location	43.867, -79.417
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.849, -79.409 (OUT380)
Catchment Area	0.838 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset ID: S8988 A 75 m long, 2400 x 900 mm concrete box storage pipe at 0.16% controlled via a 2400 x 900 mm to 450 x 900 mm box culvert reducer section flowing to a 750 mm pipe through a 750 x 400 mm reducer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

190 Harding Boulevard West

Location	43.869, -79.445
Watershed/Subwatershed	Don River
Receiver of Discharge	Surface discharge to Upper East Don River
Outlet Location	43.867, -79.448 (OUT308)
Catchment Area	71.79 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset ID: S9521, S9524 A 46 m long, 3000 x 1800 concrete box storage pipe at 0.5% connected to a 74.0 m long, 3000 x 1800 concrete box storage pipe at 0.5% controlled via a 1500 mm outlet pipe covered with an orifice plate that covers 240 mm segment of the pipe.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Verdi Road and Vitlor Drive

Location	43.944, -79.476
Watershed/Subwatershed	Humber River
Receiver of Discharge	East Humber River via SWMF 1-1
Outlet Location	43.945, -79.476 (SWMF 1-1)
Catchment Area	75.27 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	5224-8HPLGR 8447-9KQRE5
Brief Description	Asset ID: S12915, S12916, S12917 A 8.7 m long, 1800 x 1200 mm concrete box storage pipe at 1.1% (S12915); a 8.5 m long, 1800 x 1200 mm concrete box storage pipe at 0.5% (S12916); a 40.3 m long, 1800 x 1200 mm concrete box storage pipe at 0.57% (S12917).
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Cambridge Court

Location	43.834, -79.445
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.833, -79.447 (OUT202)
Catchment Area	8.34 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year storm
Reference ECA(s)	N/A
Brief Description	Asset ID: S1087 A 97.0 m long, 3400 mm x 2440 mm concrete storm sewer at 0.54%.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Bedford Park Avenue West

Location	43.879342, -79.437287
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	Surface discharge to German Mills Creek
Catchment Area	0.67 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Quantity: 5-year storm
Reference ECA(s)	3834-CS6LHW
Brief Description	Underground storage, provided in a 675 mm diameter oversized storm sewer and two (2) 1,500 mm diameter manholes, having a total length of 77 m, located on Bedford Park Avenue (from approximately 37 m east of Yonge Street to approximately 114 m east of Yonge Street), having a maximum available storage volume of 36 m3, discharging via a 375 mm diameter storm sewer equipped with a 220 mm diameter orifice, allowing for a maximum discharge of 160 L/s under the 5-year storm event to the existing storm sewer on Yonge Street.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Treatment Train**SWMF 1-7, Willow Hollow**

Location	43.957123, -79.462652
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.950864, -79.469284 (OUT350)
Catchment Area	4.02 ha (OGS); 10.48 ha (SWMF 1-7)
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Unknown
Reference ECA(s)	N/A
Reference Works as part of treatment train	SWMF 1-7 OGS - ST10590
Brief Description – SWMF 1-7	A dry pond with two inlets: one from Coon's Road from the north and one from the south east from Cynthia Crescent. Constructed in 1979.
Brief Description – OGS	A Hydroworks HG10 located south of Coon's Road within Willow Hollow Park. Installed in 2012
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 2-3, Bayswater

Location	43.951841, -79.446514
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.951648, -79.446093 (OUT419)
Catchment Area	12.2 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: N/A; Quality: 25 mm
Reference ECA(s)	3-1471-98-006
Reference Works as part of treatment train	SWMF 2-3 OGS ST6025
Brief Description – SWMF 2-3	A wet pond with a permanent pool volume of 1,490 m ³ providing for a minimum of 24 hour detention of the 25 mm event with a storage volume of 1,083 m ³ . Flows from the 100-year event are generally diverted around the pond for those flows not captured in the minor storm system (5-year capacity)
Brief Description – OGS	Stormceptor STC5000 with a minimum design volume of 24 m ³ . The lower chamber will handle flows up to a maximum discharge rate of 50 L/s. All flows in excess of this controlled flow will be routed through the OGS by-pass. Flow from the OGS will discharge into 1050 mm storm sewer into SWMF 2-3.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 2-9, Wood Rim

Location	43.951795, -79.442402
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.951523, -79.443899 (OUT212)
Catchment Area	4.3 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	Phosphorous
Level of volume control	5 mm
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	N/A
Reference Works as part of treatment train	SWMF 2-9 OGS: ST6258
Brief Description - SWMF	An extended detention wet pond with a water quality pond volume of 505 m³ and 465 m³ for active storage. The permanent pool will be provided with a maximum depth of 1.0 m and an active storage depth of 0.5 m. The outlet structure is made of a 200 mm diameter Hickenbottom polyethylene drain that drains through a 70 mm orifice at 299.0 m connected to a 250 mm diameter outlet pipe to the infiltration trench at 297.87 m and to the high flow outlet by a 250 mm pipe at 298.02 m. The high flow outlet is a DICB at 299.25 m. The pond discharges through a 450 mm diameter storm sewer connected to the FDC pipe on Wood Rim Drive prior to discharge to the North Lake Road Marsh. Infiltration Trench at outlet of SWMF 2-9 lined with a 1.0 m deep layer of phosphorous retentive soil with a phosphorous retention capacity of 765 mg/kg soil.
Brief Description – OGS	Stormceptor STC3000 at inlet into SWMF 2-9
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 2-15, Worthington

Location	43.962964, -79.442328
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.963076, -79.440743 (OUT411)
Catchment Area	9.8 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 25 mm
Reference ECA(s)	N/A
Reference Works as part of treatment train	SWMF 2-15 OGS – ST6783
Brief Description - SWMF	Consists of two constructed wetlands. The normal water level in the upper wetland is set at an elevation of 305.30 m. The upper wetland cell depth varies from 0.10 m to a maximum of 0.30 m. The normal water level in the lower wetland is set at an elevation of 304.30 m. The lower wetland depth varies from 0.10 m to a maximum of 0.50 m. Stormwater runoff will enter the upper wetland from a single storm sewer outlet at the northwest corner of the wetland. The upper wetland cell is connected to the lower wetland cell by a 60 m long meandering channel. The lower wetland cell will release flow to the Snively Wetland over a broad weir approximately 10m wide. The wetlands have been designed to provide 40 m³/ha of extended detention storage and retain runoff from the 25 mm storm event for up to 12 hours. Major system flows from the upstream development will be conveyed from Paradelle Drive to the wetlands using an overland flow spillway, located immediately north of the upper wetland. The permanent pool volume, 370 m³, is slightly less than the required Level 1 volume of 435 m³, but a Stormceptor manhole will be installed to provide pre-treatment of stormwater runoff entering the constructed wetlands, thus providing equal to or better than Level 1 treatment.
Brief Description - OGS	A Stormceptor STC6000 located south of Paradelle Drive and Worthington Avenue intersection within open space block.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 6-1, Denarius

Location	43.945235, -79.427027
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.950033, -79.428277 (OUT123)
Catchment Area	6.03 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	1845-8YBHA2
Reference Works as part of treatment train	SWMF 6-1 Lid 6-1
Brief Description - SWMF	A wet pond, located east of Bayview Avenue, north of Denarius Crescent, with a sediment forebay, having a permanent pool storage volume of 983 m³, an extended detention storage volume of 970 m³, and a total storage volume of approximately 6,584 m³, including the permanent pool storage volume, at a total depth of 3.6 m, complete with: • One (1) 1,050 mm diameter inlet pipe with concrete headwall and rip-rap protection, discharging to the sediment forebay, one (1) 4.5 m wide overland flow inlet channel with Terraweb or Approved Equivalent lining, from Denarius Crescent, discharging to the sediment forebay; • One (1) 600 mm diameter reverse slope outlet pipe with a perforated end piece and riser, from the main cell to an outlet control structure (maintenance hole 103), identified below; • One (1) 1,800 mm diameter concrete outlet control structure (maintenance hole 103), with a 600 mm diameter inlet pipe, a 2.65 m high concrete weir wall with an 80 mm diameter orifice, a 75 mm diameter orifice and a 350 mm wide by 800 mm high weir cut, discharging through a 525 mm diameter outlet pipe running northward towards an exfiltration trench, identified below; • One (1) 600 mm by 1,200 mm concrete ditch inlet catchbasin with an inlet grate from the main cell, discharging through a 525 mm diameter outlet pipe with rip-rap protection to an existing ditch and existing 700 mm diameter CSP across Bayview Avenue, with overflow spill to Bayview Avenue.

Brief Description – Exfiltration Pipe	Approximately 150 m of a 1 m wide exfiltration trench placed under a perforated 525 mm diameter outlet pipe from the outlet control structure (maintenance hole 103), identified above, running along the east side of Bayview Avenue to Anchusa Drive, complete with 50 mm diameter clear stone bedding to the top of the 525 mm diameter pipe, wrapped in Layfield LP200 or Approved Equivalent filter cloth, discharging through the internal storm sewers within the development to SWMF 6-2
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 7-1, Bond Lake Estates

Location	43.939244, -79.452806
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.944282, -79.454949 (OUT273)
Catchment Area	4.2 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 5-year
Reference ECA(s)	N/A
Reference Works as part of treatment train	SWMF 7-1 OGS: ST9217, ST50043
Brief Description - SWMF	A wetland pond with a permanent pool depth of 0.3 m with an active storage depth of 1.4 m. The outlet structure is through a 675 mm pipe at 296.8 m with a 450 mm orifice plate.
Brief Description - OGS	Stormceptor STC4000 at the southeast inlet of SWMF 7-1 (ST9217) Stormceptor STC2000 at the southeast inlet of SWMF 7-1 (ST50043)
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 7-8, Oak Ridges Community Centre

Location	43.945159, -79.429796
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.9472, -79.430996 (OUT301)
Catchment Area	1.74 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	Phosphorous
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 5-year
Reference ECA(s)	6265-7CDNKS
Reference Works as part of treatment train	SWMF 7-8 OGS – ST10912
Brief Description - SWMF	A sedimentation basin #1 located on Municipal Land (Community Centre), east of Bayview Park Lane, approx. 75 m north of the intersection of Bayview Park Lane and Sandbanks Drive, serving Bayview Ridge Court, Sandbanks Drive and Bayview Park Lane, collecting stormwater runoff from an area of 1.74 ha, having a permanent storage volume of 332 m ³ , an extended storage volume of 100 m ³ and an active storage volume of 228 m ³ , complete with a 450 mm diameter inlet storm sewer, an outfall headwall, a sediment forebay, a 200 mm layer of fly ash beneath the topsoil and seed at the base to enhance the phosphorous removal, a temporary rock berm located in the forebay area (replaced with a filter soxx berm at the end of the construction) and one (1) outlet structure consisting of a 1,600 mm diameter perforated CSP housing, a 200 mm diameter slotted standpipe, a 200 mm diameter outlet pipe, a 75 mm diameter orifice plate, a double ditch inlet catchbasin DDICB # 1 and a 450 mm diameter outlet pipe, together allowing a maximum discharge of 356 L/s (maximum pond elevation) via a 450 mm diameter storm sewer located along Bayview Park Lane to temporary sedimentation basin # 2.
Brief Description - OGS	A Stormceptor STC-5000 located at the southwest corner of the south parking lot for the Oak Ridges Community Centre.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 9-5, Rollinghill

Location	43.909392, -79.454153
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.908923, -79.454597 (OUT145)
Catchment Area	17.5 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	3-0572-99-006
Reference Works as part of treatment train	SWMF 9-5 OGS ST7100
Brief Description – SWMF 9-5	Wet pond with a total permanent storage volume of 3,710 m ³ at elevation 283.50 m (max depth of 1.0 m), an extended detention storage of approximately 2,600 m ³ at elevation 284.10 m (max depth above the permanent pool of 0.50 m) and a total active storage of approximately 9,650 m ³ at elevation 285.07 m (max depth above the permanent pool of 1.57 m).
Brief Description – OGS	Downstream Defender 3000, located at the inlet to SWMF 9-5 with a design flow of the unit is 370 L/s and its capacity is 700 L/s. All flows in excess of this controlled flow will bypass the unit and discharge directly into the pond. Flows from the OGS will be discharged through the 750 mm diameter storm sewer into SWMF 9-5.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 9-6, Greenbank

Location	43.907729, -79.449356
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.908415, -79.448606 (OUT143)
Catchment Area	10.80 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 100-year; Quality: 25 mm
Reference ECA(s)	3-0572-99-006
Reference Works as part of treatment train	SWMF 9-6 OGS – ST7132, ST7092, ST7155, ST7157
Brief Description - SWMF	An extended detention wet pond with a total permanent storage volume of 1,640 m ³ at elevation 271.90 m (maximum depth 1.0 m), an extended detention storage of approximately 2,000 m ³ at elevation 272.60 m (maximum depth above the permanent pool of 0.70 m) and a total active storage of approximately 6,350 m ³ at elevation 273.80 m (maximum depth above the permanent pool of 1.90 m).
Brief Description - OGS	ST7132 – Located at the end of Kimberly Court, Stormceptor STC6000 ST7092 – Located at the end of Rollinghill Road, Stormceptor STC6000 ST7155 – Located at the west end of Courtney Crescent, Stormceptor STC6000 ST7157 – Located at the east end of Courtney Crescent, Stormceptor STC6000 The minimum design volume of 31,000 L each will be used to control sediment discharge from 10.80 ha of residential development prior to discharge into SWMF 9-6. The lower chamber will handle flows up to a maximum discharge rate of 70 L/s. All flows in excess of this controlled flow will be routed through the OGS by-pass. Flows from the OGS will be discharged through the 1200 mm diameter storm sewer into SWMF 9-6.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 14-3, Richmond Green West

Location	43.89711, -79.403262
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.896236, -79.406479 (OUT110)
Catchment Area	15.23 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity 2-year; Quality: 2-year
Reference ECA(s)	N/A
Reference Works as part of treatment train	SWMF 14-3 OGS: ST5909
Brief Description – SWMF 14-3	An extended detention wet pond with a permanent pool of approximately 900 m³ at 226.8 m (bottom of pond 226.0 m). The pond has an extended detention storage volume of 2,300 m³ at 228 m which is the maximum operating level of the pond. There are two inlets into the pond: a 400 mm CSP located at the north west corner of the facility and a 600 mm diameter storm sewer located in the middle of the northern edge of the facility which discharges the flows from the OGS unit. The flow is drawn through a 200 mm diameter pipe at 226.2 m near the bottom of the pond. Flow are controlled via a sluice gate at 226.8 m before it is released through a 150 mm diameter pipe. The sluice gate is adjustable and is normally set at ¼ open to provide for 72-hr extended detention.
Brief Description - OGS	CDS PMSU30_20 located at the centre inlet into the pond
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 15-5, Solmar

Location	43.909845, -79.430037
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.909584, -79.429932 (OUT281)
Catchment Area	5 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: N/A; Quality: 25 mm
Reference ECA(s)	3-0758-97-006
Reference Works as part of treatment train	SWMF 15-5 OGS – ST7319
Brief Description – SWMF	A wet quality control pond consisting of a 1,200 m3 permanent pool, 1,100 m3 of extended detention storage and an additional 600 m3 before overtopping the maximum pond elevation of 250.5 m.
Brief Description – OGS	Stormceptor located upstream of inlet to SWMF 15-5
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 16-5, Elgin Mills Greenway

Location	43.892798, -79.466728
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.891851, -79.465846 (OUT445)
Catchment Area	See below
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity Control: 100 year; Quality: 25 mm storm
Reference ECA(s)	0131-APGJD3
Reference Works as part of treatment train	OGS – ST50004 SWMF – SWMF 16-5
Brief Description: OGS	CONTECH Model CDS4030 (or Equivalent Equipment), located at on the storm sewer system near Larratt Lane, serving a total catchment area of approximately 4.97 ha, having a sediment storage capacity of 4270 L, an oil storage capacity of 1612 L, a total holding capacity of 9425 L and a maximum treatment flow rate of 127 L/s, discharging via a 750-1050 mm diameter pipe to the dry pond described below.
Brief Description: Dry Pond	One (1) dry pond, located in the located in the south central portion of the site, having a total detention storage volume of approximately 839 m ³ , complete with an inlet pipe, emergency spillway, concrete headwalls, rip rap, an outlet control structure, and an outlet pipe discharging into swale and ultimately to a tributary of the Don River Watershed;
Brief Description: Hybrid/Wetland Pond	One (1) hybrid pond/wetland facility complete with one (1) sediment forebay, wetland land main cell and deep pool, located north central portion of the site, having a total permanent pool volume of approximately 3,755 m ³ , an extended detention storage volume of approximately 4,918 m ³ , and a total active storage of approximately 13,480 m ³ at a discharge of 1.149 m ³ per second, complete with three (3) inlet pipes, emergency spillway, concrete headwalls, rip rap, an outlet control structure, and an outlet pipe discharging into a swale and ultimately to a tributary of the Don River Watershed.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Constructed in 2018; Assumed

SWMF 17-1, Rumble

Location	43.874518, -79.46391
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.873725, -79.463281 (OUT107)
Catchment Area	44 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year storm
Reference ECA(s)	8937-8TWP9J
Reference Works as part of treatment train	See below
Brief Description (ST50014/50015)	One (1) 3600 mm diameter in-line oil & grit separator (OGS #9) (STORMCEPTOR Model Number SWQ-90), having a sediment storage capacity of 26.9 m3, an oil storage capacity of 3,930 L, and a total storage capacity of 31.2 m3, discharging via a 450 mm diameter outlet pipe to a filtration unit (FU #8).
Brief Description (ST50018/50019/ST50020/50021)	Two (2) 3,600 mm diameter combination oil & grit separators (OGS #4 and OGS #3) (STORMCEPTOR Model Number SWQ-120, having a combined sediment storage capacity of 53.9 m3, an oil storage capacity of 11,700 L, and a total storage volume of 66.4 m3, discharging via a 600 mm diameter outlet pipe to a filtration unit (FU #2).

Brief Description (Pond)	A wet pond having a permanent pool volume of 7,650 m³, and extended detention volume of 3,200 m³, and a total storage volume of approximately 21,660 m³ at a total depth of 5.1 m, complete with: • one (1) 3,000 mm diameter flow splitter maintenance hole (MH #5) with an existing 1,350 mm diameter inlet pipe from White Lodge Crescent, a 600 mm diameter outlet pipe discharging to in-series oil & grit separators (OGS #4 and OGS #3), identified below, an 1,800 mm diameter by-pass outlet pipe with a rip-rap protected concrete headwall (HEADWALL #1) discharging to the wet pond, and a 2.8 m long by-pass weir set at approximately 0.55 m above the invert of the 600 mm diameter outlet pipe; • one (1) 3,000 mm diameter flow splitter maintenance hole (MH #10) with an existing 825 mm diameter inlet pipe and an existing 525 mm diameter inlet pipe from High Grove Crescent, a 450 mm diameter outlet pipe discharging to an oil & grit separator (OGS #9), identified below, an 1,350 mm diameter by-pass outlet pipe with a rip-rap protected concrete headwall (HEADWALL #6) discharging to the wet pond, and a 2.8 m long by-pass weir set at approximately 0.45 m above the invert of the 450 mm diameter outlet pipe; • one (1) 5,600 by 5,100 reinforced concrete control structure (CONTROL STRUCTURE #13) with a 300 mm diameter inlet pipe with headwall (HEADWALL #11) from the wet pond, an 1,800 mm diameter reverse slope inlet pipe with rip-rap protected headwall (HEADWALL #12) from the wet pond, a 1,350 mm diameter outlet pipe with rip-rap protected headwall (HEADWALL #14), discharging to Patterson Creek, identified below, complete with internal piping, motorized gate valves, controls and instrumentation to provide automated night-time release of extended detention volumes from the wet pond; • one (1) 20 m wide rip-rap protected overflow spillway, discharging to Patterson Creek.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 17-2, Pioneer

Location	43.868607, -79.452662
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.86799, -79.451307 (D24)
Catchment Area	646.2 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	4388-7FCPX4
Reference Works as part of treatment train	SWMF 17-2 ST10121
Brief Description – OGS	An oil/grit pre-treatment structure Stormceptor Model STC 3000 on the storm sewer outfall from the Don Head Estates subdivision (1200 mm diameter sewer) to pre-treat the runoff from this existing 26 ha subdivision
Brief Description – SWMF	An off-line wet pond for water quality and quantity control located in approximately the same area of the existing pond, including a new control structure and berm to be located approximately 30 m upstream of Major Mackenzie Drive, with a design permanent pool of $\pm 8,200$ m³ (at a water level of 221.0 m), plus the control of frequent runoff events with a minimum liquid retention volume of $\pm 12,000$ m³ (at a water level of 222.5 m), with a discharge flow release rate of ± 1.9 m³/s; An on-line dry pond for water quantity control for up to the 100-year return storm event with a new control structure and berm located approximately 100 m north of Major Mackenzie Drive, having a liquid retention volume of $\pm 30,000$ m³ (at a water level of 224.8 m), with a discharge flow release rate of ± 15 m³/s, above which a 2-stage spillway is designed to convey twice the Regional storm (Hazel) flow rate (140 m³/s at ± 226.2 m); A pond by-pass pipe for pond maintenance and baseflow by-pass normally closed and designed to be open for short periods every few years for maintenance; A pond by-pass to channel baseflow between the dry pond and the existing culvert under Major Mackenzie Drive, designed to accommodate fish passage around the wet pond during dry weather.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 22-1, Ada Mackenzie

Location	43.859253, -79.40495
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.846384, -79.407918 (D11)
Catchment Area	78 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	N/A
Reference Works as part of treatment train	SWMF 22-1 Storage Pipes:S1457, S1458, S1459
Brief Description – SWMF	Approximately 11,000 m ³ of detention storage is provided for within Ada Mackenzie Park during the 100-year event. This detention storage would restrict the 5-year flows to pre-development rates through discharge through the storage pipes.
Brief Description – Storage Pipes	A 72 m long, 2250 mm diameter storage pipe at 0.2% (S1457); a 107.5 m long, 1050 mm diameter storage pipe at 0.49% (S1458); a 121.5 m long, 21000 mm diameter storage pipe at 0.25% (S1459).
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

SWMF 28-3, Mural North

Location	43.858724, -79.378029
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.857799, -79.375664 (OUT286)
Catchment Area	92.3 ha
Level of Treatment for Suspended Solids	76% TSS Removal
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year; Quality: 25 mm
Reference ECA(s)	9879-763HUW
Reference Works as part of treatment train	SWMF 28-3 OGS: ST9755, ST9754
Brief Description - SWMF	One (1) constructed wetland located along the east Bank of Beaver Creek at a point directly across from East Beaver Creek Road for a catchment area of approximately 88.1 ha, including a permanent pool volume approximately 5,600 m³m and an extended detention volume of approximately 8300 m³ at an additional 0.9 m water level, to provide a 48 hour detention time with a maximum rate of flow of 73 L/s, for an approximately 13 mm storm event, consisting of: • One (1) 2.4 m wide and 1.2 m high box culvert receiving storm water drainage from the upstream areas with a concrete headwall outlet, turned to the south-west, positioned at the entrance of the forebay, at its east end; • One (1) forebay, approximately 125 m by 18 m bottom width, with a maximum depth from the permanent pool elevation of approximately 1.6 m, lined with limestone on a geo-textile cloth, including a central rip rap berm, approximately 0.15 m above the permanent pool elevation, running along the length of the forebay from the area of the inlet to the west to direct inlet flows to the west and then east around the berm and then over a spillway at the south-east end, set at 0.1 m below the permanent pool level, to the constructed wetland; • A constructed wetland consisting of four (4) joined cells, each with a maximum depth of approximately 1.7 m, separated by elevated, planted overflow transition zones, at an elevation approximately 0.25 m below the permanent pool level, with a precast concrete dewatering sump in each cell for maintenance; • An outlet structure at the south-east end of a 300 mm diameter Hickenbottom pipe and perforated riser in a gravel surround, with an outlet pipe invert at 0.7 m below the permanent pool elevation and riser inlet at the extended detention elevation, connected to a 300 mm

	diameter PVC reverse sloped pipe leading to the first of the triple 1.8 m by 0.9 m Ditch Inlet Catch Basin inlet structure, described below, with a 190 mm diameter control orifice in a removable plate, set at the basin inlet at the permanent pool elevation; - One (1) triple Ditch Inlet Catch Basin structure consisting of three (3), side-by-side, series-connected, 1.8 m by 0.9 m Ditch Inlet Catch Basins with their top inlets set at the extended detention elevation, connected to a 1.2 m diameter outlet pipe which drains via a concrete headwall to a flared rip rap lined outlet apron, contained within ledger rock wing walls; - Two (2) overland rip rap lined spillways approximately 56 m and 30 m in length, respectively, set at an invert 0.18 m above the extended detention elevation over the south bank at Cells #3 and #4, respectively with overland flow to Beaver Creek; - An access road along the south side with ramps leading into the forebay and Cell #4 for maintenance and inspection, with final discharge from the outlet apron to Beaver Creek
Brief Description – OGS ST9755	One (1) concrete, Hydrodynamic Swirl-Type Separator #1 (Vortechs PC1319), located at the Leek Crescent right-of-way, with: - Inside dimensions of approximately 5.8 m by 4.0 m by 2.3 m deep, including a swirl chamber, an underbaffle and a second baffle wall with an orifice plate and a weir; - A flow rating of approximately 850 L/s and a sediment storage volume of approximately 6.9 m³m; - An inlet connection to the Separator via a 750 mm diameter PVC pipe from a 2.4 m wide by 1.2 m deep box culvert, carrying the total storm drainage from the 88.1 ha area, by means of an internal 2.4 m wide diversion weir in the culvert, set to direct flows to the Separator up to approximately 100 L/s prior to any bypassing over the weir and down the culvert; - a 750 mm diameter PVC return pipe from the Separator outlet connecting to the box culvert, downstream of the culvert weir, to provide an overall pre-treatment quality control level of approximately 30% long-term TSS removal for the stormwater drainage from the watershed prior to discharge of the culvert flow to the forebay of the constructed wetland.
Brief Description – OGS ST9754	One (1) concrete, stand-alone, Hydrodynamic Swirl-Type Separator #2, located near the south-east tip of the wetland but separate from it, treating collected storm runoff from a separate catchment area of approximately 4.2 ha of industrial-zoned land, located directly north of the Separator, to a quality control level

	of approximately 83% long-term TSS removal, with: • Inside dimensions of approximately 4.3 m by 2.4 m by 2.1 m deep, including a swirl chamber, an underbaffle and a second baffle wall with an orifice plate and a weir; • A flow rating of approximately 312 L/s and a sediment storage volume of approximately 3 m³m; • An inlet connection to the Separator via a 450 mm diameter PVC pipe from a diversion maintenance hole on the main 750 mm diameter concrete storm sewer by means of a manhole weir directing flows to the Separator up to approximately 120 L/s prior to any bypassing over the weir; • a 450 mm diameter PVC return pipe from the Separator outlet to a second downstream manhole on the same main concrete storm sewer, with stormwater being conveyed via the 750 mm storm sewer and a separate outlet, set in the concrete headwall alongside the 1.2 m diameter outlet from the wetland with both flows conveyed over the rip rap lined discharge apron to Beaver Creek.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

LID 7-22, Oak Ridges Community Centre Meandering Channel

Location	43.947555, -79.429265
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.947899, -79.430199 (H51)
Catchment Area	Unknown
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quality: 5-year
Reference ECA(s)	N/A
Reference Works as part of treatment train	LID 7-22 OGS ST10907
Brief Description - LID	A vegetated swale with a bottom width of 0.75 m with 5:1 side slopes. The depth of the swale to be a minimum of 0.3 m below the existing grade on both sides of the channel.
Brief Description - OGS	A Stormceptor STC-5000 located at the southwest corner of the north parking lot for the Oak Ridges Community Centre.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Richmond Hill Centre for the Performing Arts South Parking Lot

Location	43.877, -79.439
Watershed/Subwatershed	Don River
Receiver of Discharge	Surface discharge to German Mills Creek
Outlet Location	43.876, -79.43 (OUT135)
Catchment Area	0.433 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	N/A
Reference Works as part of treatment train	S10265 and S10267 – Storage Pipe ST9540 - OGS
Brief Description: Storage Pipe	A 43.5 m long, 900 mm diameter storage pipe at 0.5% located within the south parking lot at the Richmond Hill Centre for the Performing Arts; flows controlled via a 235 mm Orifice Plate at the downstream end prior to discharge to a 375 mm diameter pipe prior to being treated by an OGS.
Brief Description: OGS	Stormceptor® model STC-1000, to provide Enhanced level treatment (80% Total Suspended Solids Removal), located at ST9540 in the southeast corner of the parking lot.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Richmond Hill Centre for the Performing Arts West Parking Lot

Location	43.876, -79.425
Watershed/Subwatershed	Don River
Receiver of Discharge	Surface discharge to German Mills Creek
Outlet Location	43.876, -79.43 (OUT135)
Catchment Area	0.561 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	N/A
Reference Works as part of treatment train	S10275 and S10276– Storage Pipe ST9526 - OGS
Brief Description: Storage Pipe	A 58 m long, 750 mm diameter storage pipe at 0.3% within the northwest parking lot at the Richmond Hill Centre for the Performing Arts; flows controlled via a 225 mm Orifice Plate at the downstream end prior to discharge to a 450 mm diameter pipe prior to being treated by an OGS.
Brief Description: OGS	Stormceptor® model STC-2000, to provide Enhanced level treatment (80% Total Suspended Solids Removal), located at ST9526 in the northeast corner of the parking lot.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Snively Street at Wolfson Crescent (West)

Location	43.961, -79.44
Watershed/Subwatershed	Humber River
Receiver of Discharge	Snively Wetland / Lake Wilcox
Outlet Location	43.961, -79.441 (OUT103)
Catchment Area	0.68 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	8200-97NHB5 0079-98CJGU
Reference Works as part of treatment train	S11762 and S11763 – Storage Pipes LID 2-7
Brief Description: Storage Pipe	A 32.9 m long, 750 mm diameter storage pipe at 0.5% (S11762); 56.1 m long, 750 mm diameter storage pipe at 0.5% (S11763); controlled by a 75 mm orifice plate.
Brief Description: Exfiltration Pipes	Approximately 89 m of exfiltration system piping on Snively Street (catchment area approximately 0.68 ha), draining through a 375mm diameter outlet pipe to the Snively Wetland located to the north, west of Wolfson Crescent.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Snively Street at Wolfson Crescent (East)

Location	43.962, -79.438
Watershed/Subwatershed	Humber River
Receiver of Discharge	Snively Wetland / Lake Wilcox
Outlet Location	43.962, -79.437 (OUT101)
Catchment Area	0.67 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	8200-97NHB5 0079-98CJGU
Reference Works as part of treatment train	S11764 and S11765– Storage Pipes LID 2-8a
Brief Description: Storage Pipe	A 105.2 m long, 1200 mm diameter storage pipe at 0.3% (S11764); a 17.8 m long, 750 mm diameter storage pipe at 0.5% (S11765); controlled by a 75 mm orifice plate.
Brief Description: Exfiltration Pipes	A 123 m of exfiltration system piping (MH4 to MH6) on Snively Street, draining through a 450 mm diameter outlet pipe to the Snively Wetland located to the north, west of Drynoch Avenue.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Snively Street at Drynoch Avenue

Location	43.962, -79.436
Watershed/Subwatershed	Humber River
Receiver of Discharge	Snively Wetland / Lake Wilcox
Outlet Location	43.962, -79.437 (OUT101)
Catchment Area	0.31 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	8200-97NHB5 0079-98CJGU
Reference Works as part of treatment train	S11767– Storage Pipes LID 2-8b
Brief Description: Storage Pipe	A 65.8 m long, 1200 mm diameter storage pipe at 0.3% (S11764); controlled by a 75 mm orifice plate.
Brief Description: Exfiltration Pipes	Approximately 49 m of exfiltration piping (MH8 to MH7) on Snively Street, draining through a 450 mm diameter outlet pipe to the Snively Wetland located to the north, west of Drynoch Avenue.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Drynoch Avenue

Location	43.962, -79.436
Watershed/Subwatershed	Humber River
Receiver of Discharge	Forrester Wetland / Lake Wilcox
Outlet Location	43.96, -79.435 (OUT90)
Catchment Area	0.92 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	8200-97NHB5 0079-98CJGU
Reference Works as part of treatment train	S11770– Storage Pipes LID 2-22
Brief Description: Storage Pipe	43.5 metre long, 1200 mm diameter storage pipe at 1.0% (S11764); controlled by a 75 mm orifice plate
Brief Description: Exfiltration Pipe	Approximately 97 m of exfiltration system piping (MH10 to MH12) on Drynoch Avenue (catchment area approximately 0.92 ha), draining through a 375 mm diameter outlet pipe to the natural area to the south-west toward Lake Wilcox.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Wellspring Avenue and Glenn Street

Location	43.941, -79.464
Watershed/Subwatershed	Humber River
Receiver of Discharge	East Humber River
Outlet Location	43.945, -79.465 (OUT494)
Catchment Area	3.0 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	5549-A3YQYC
Reference Works as part of treatment train	S11802, S11803, S11804, S11806, S11807 - Storage Pipes ST11037 - OGS
Brief Description: Storage Pipes	Glenn Street – A 41.46 m long, 1050 mm diameter storage pipe at 0.25% (S11803); 33.29 metre long, 1220 x 1920 mm elliptical storage pipe at 0.25% (S11804). Wellspring Avenue – A 43.30 m long, 1220 x 1920 mm elliptical storage pipe at 0.25% (S11802); a 137 m long, 1090 x 1725 mm elliptical storage pipe at 0.5% (S11807); a 59.09 m long, 900 mm diameter storage pipe at 0.75% (S11806).
Brief Description: OGS	Stormceptor STC 5000, to provide enhanced level treatment (80% TSS removal) located at ST11037 at the north end of the hammerhead on Glenn Street.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Giardina Crescent and Love Court

Location	43.879, -79.391
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Beaver Creek
Outlet Location	43.865, -79.394 (OUT496)
Catchment Area	4.6 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	1718-9VZJGH
Reference Works as part of treatment train	S11813, S11817, S11818, S11819, S11821, S11822, S11826, S11828 - Storage Pipes ST11038 - OGS
Brief Description: Storage Pipes	Giardina Crescent – A 97.45 m long, 1050 mm diameter storage pipe at 0.48% (S11819); a 71.49 m long, 1050 mm diameter storage pipe at 0.21% (S11828); a 9.48 m long, 1050 mm diameter storage pipe at 0.42% (S11821); a 88.4 m long, 1050 mm diameter storage pipe at 0.24% (S11822). Love Court – A 101.07 m long, 1050 mm diameter storage pipe at 0.44% (S11813). Easement – A 14.36 m long, 1050 mm diameter storage pipe at 0.21% (S11826); a 63.54 m long, 1050 mm diameter storage pipe at 0.24% (S11817); a 12.31 m long, 1050 mm diameter storage pipe at 0.65% (S11818). Controlled via a 425 mm orifice plate upstream of OGS unit
Brief Description: OGS	Stormceptor STC 9000, located at ST11038 west end of Love Court within Easement
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Dunn Drive

Location	43.945, -79.444
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.946, -79.441 (OUT219)
Catchment Area	1.57 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Quantity: 5-year storm
Reference ECA(s)	9817-A3QH89
Reference Works as part of treatment train	S11849, S11850, S11851 – Storage Pipes LID 7-11
Brief Description: Storage Pipe	A 86 m long, 600 mm diameter storage pipe at 0.4% (S11851); a 52.7 m long, 825 mm diameter storage pipe at 0.4% (S11850); a 8.5 m long, 825 mm diameter storage pipe at 0.3% (S11849); controlled by a 11.0 m long, 250 mm diameter orifice pipe at 0.3%; connecting to an existing approved storm sewers (ECA # 4023-4ZVJDT) on Douglas Road, discharging to the Lake Wilcox.
Brief Description: Bioretention	A 55.5 m long bioretention swale, between 1500 mm to 2000 mm with clean non-cohesive sand filter media of varying depths between 1200 mm to 1800 mm; overflow to storm sewer via a 300 mm x 150 mm diameter tee with bottom cap, 300 mm diameter riser pipe with 300 mm diameter drop in ductile iron grate on a pre-cast concrete slab, with oversized pipe with orifice control to control peak flows discharging to Lake Wilcox.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Sunset Beach Road

Location	43.944, -79.44
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.946, -79.441 (OUT219)
Catchment Area	0.44 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Quantity: 5-year storm
Reference ECA(s)	9817-A3QH89
Reference Works as part of treatment train	S11852 – Storage Pipes LID 7-2
Brief Description: Storage Pipe	A 44 m long, 900 mm diameter storage pipe at 0.8% (S11852) controlled via a 300 mm diameter orifice pipe at 5%
Brief Description: Bioretention	A 22.5 m bioretention system, between 1500 mm to 2000 mm with clean non-cohesive sand filter media of varying depths between 1200 mm to 1800 mm; overflow to storm sewer via a 300 mm x 150 mm diameter tee with bottom cap, 300 mm diameter riser pipe with 300 mm diameter drop in ductile iron grate on a pre-cast concrete slab.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Shining Willow Court

Location	43.848, -79.449
Watershed/Subwatershed	Don River
Receiver of Discharge	East Don River
Outlet Location	43.849, -79.452 (OUT153)
Catchment Area	1.94 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	5 mm
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	8601-AGTKKJ
Reference Works as part of treatment train	S12161- Storage Pipe LID 25-3 – Infiltration Trench ST11342 – OGS
Brief Description: Storage Pipe	An approximately 137 m long, 2400 mm by 1200 mm storm sewer with three (3) maintenance holes, located on Shining Willow Court, receiving inflow from on-site storm sewers, having a total available storage volume of approximately 395 m ³ , discharging via a 1 m long, 200 mm diameter orifice tube placed on a 450 mm diameter outlet pipe, allowing a maximum release rate of 136 L/s during the 100-year storm event, to the oil/grit separator, described below.
Brief Description: Infiltration Trench	An approximately 14 m long, 5 m wide, 1.5 m deep infiltration trench, located on Shining Willow Court, having an available storage volume of approximately 22.4 m ³ , providing water quality control as a treatment train, complete with a 200 mm diameter perforated pipe embedded in 50 mm clear stone wrapped with non-woven geotextile, receiving inflow from a 200 mm diameter storm sewer connected to a 1800 mm by 900 mm catchbasin (CB19170), located on northwest corner of Shining Willow Court, equipped with a 375 mm diameter overflow pipe discharging to the superpipe storage system.
Brief Description: OGS	A Contech CDSPMSU2025, to provide enhanced level treatment (80% TSS removal) located at ST11342 at the northwest corner of the Shining Willow cul-de-sac, having a sediment storage capacity of 1670 L, an oil storage capacity of 439 L, a total storage capacity of 3340 L, and a maximum treatment flow rate of 45 L/s, discharging to the 450 mm diameter on-site storm sewer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Yongehurst Road

Location	43.861, -79.444
Watershed/Subwatershed	Don River
Receiver of Discharge	Upper East Don River
Outlet Location	43.861, -79.446 (OUT182)
Catchment Area	1.36 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year year storm
Reference ECA(s)	N/A
Reference Works as part of treatment train	S3101, S3102 - Storage Pipes ST7711 - Sedimentation Tank
Brief Description: Storage Pipe	A 90.3 m long, 450 mm diameter storage pipe at 0.39% (S3101); a 92.55 m long, 450 mm diameter storage pipe at 0.2% (S3102); controlled by a 2.4 m long, 250 mm orifice pipe.
Brief Description: Sedimentation Tank	A two chamber sedimentation tank. The inlet into the first chamber is via a 250 mm storm sewer orifice pipe at 206.896 m; the chamber is 2135 mm H x 3050 mm W. Flow between the chambers is via 4-150 mm diameter. The second chamber is 2135 mm H x 1450 mm W. Outlet from the second chamber is via a 250 mm at 206.765 mm.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

El Dorado Street

Location	43.896, -79.455
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.897, -79.452 (D52)
Catchment Area	1.56 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-yearyear; Quality: 5-yearyear
Reference ECA(s)	N/A
Reference Works as part of treatment train	S4977 - Storage Pipe ST4997 - OGS
Brief Description: Storage Pipe	A 95 m long, 1050 mm diameter storage pipe at 0.30% controlled via a 6 m long, 450 mm diameter orifice pipe prior to discharge to OGS.
Brief Description: OGS	Stormceptor STC 1000, located at ST4997 at the intersection of El Dorado Road with Brookside Road
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Chantilly Crescent

Location	43.896, -79.454
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.897, -79.452 (D52)
Catchment Area	1.36 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-yearyear; Quality: 5-yearyear
Reference ECA(s)	N/A
Reference Works as part of treatment train	S5719 - Storage Pipe ST5117 - OGS
Brief Description: Storage Pipe	A 120 m long, 1525 x 965 mm elliptical arch storage pipe at 0.15% controlled via a 190 mm orifice plate prior to discharge to OGS.
Brief Description: OGS	Stormceptor STC 2000, located at ST5117 at the intersection of Chantilly Crescent with Brookside Road
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Wainwright Avenue

Location	43.858, -79.451
Watershed/Subwatershed	Don River
Receiver of Discharge	Patterson Creek
Outlet Location	43.858, -79.452 (OUT214)
Catchment Area	1.88 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-yearyear; Quality: 5-yearyear
Reference ECA(s)	N/A
Reference Works as part of treatment train	S6856, S6857 - Storage Pipes ST6141 - OGS
Brief Description: Storage Pipe	A 63.3 m long, 600 mm diameter storage pipe at 0.14% (S6856); a 8.5 m long, 600 mm diameter storage pipe at 1.41% (S6857); discharging to a STC 1000 prior to discharging to a 18.4 m long, 450 mm diameter storm sewer to headwall.
Brief Description: OGS	A Stormceptor STC 1000, to provide enhanced level treatment (80% TSS removal) located at ST6141 at the west end of Wainwright Avenue
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Kaitlin Drive and Green Meadow Crescent

Location	43.953, -79.44
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.952, -79.438 (OUT147)
Catchment Area	1.1 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	Phosphorus
Level of volume control	5 mm 4 hour event
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	N/A
Reference Works as part of treatment train	S6979, S6980, S6981(Kaitlin Drive); S6985, S6986, S6987 (Green Meadow Crescent) - Storage Pipes LID 2-17 (Green Meadow Crescent), 2-18, 2-19 (Kaitlin Drive), 2-20 (North Lake Road)
Brief Description: Storage Pipe	A 17.5 m long, 1200 mm diameter storage pipe at 0.29% that flows into a 21.4 m long, 675 mm diameter storage pipe at 0% with a 300 mm diameter exfiltration pipe inlet pipe within the upstream MH that flows into a 11.4 m long, 675 mm diameter storage pipe at 0% with a 300 mm diameter exfiltration pipe inlet pipe within the upstream and downstream MH on Kaitlin Drive. A 26.3 m long, 675 mm diameter storage pipe at 0.0% that flows into a 30.6 m long, 600 mm diameter storage pipe at 0% with a 300 mm diameter exfiltration pipe inlet pipe within the upstream MH that flows into a 16.2 m long, 525 mm diameter storage pipe at 0% with a 300 mm diameter exfiltration pipe inlet pipe within the upstream and downstream MH on Green Meadow Drive.
Brief Description: Exfiltration Pipe	Approximately 46.8 m long, dual 300 mm perforated subdrain exfiltration pipe with inlet phosphorus adsorption pods on Green Meadow Drive (LID 2-17). Approximately 32.4 m long, dual 300 mm perforated subdrain exfiltration pipe with inlet phosphorus adsorption pods on Kaitlin Drive (LID 2-18). A 20.0 m long, 3.0 m wide, 0.6 m deep, filter bed made up of 50 mm clear stone (LID 2-20). Inlet into the filter bed is via a 2 mm x 300 mm diameter big 'O' perforated subdrain at 294.77 m. A 20.0 m long, 2 m wide, 0.6 m depth filter bed with a trench invert at 294.58 m. A 300 mm diameter big 'O' pipe at 1.0% bisects the filter bed with an upstream invert of 294.85 m and a downstream invert at 294.65 m.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Marzilli Gate

Location	43.947, -79.464
Watershed/Subwatershed	Humber River
Receiver of Discharge	East Humber River
Outlet Location	43.947, -79.464 (OUT193)
Catchment Area	3.82 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	N/A
Reference Works as part of treatment train	S7356 - Storage Pipe ST6611 - OGS
Brief Description: Storage Pipe	A 73 m long, 1050 mm diameter storage pipe at 0.25% controlled by a 370 mm orifice plate prior to discharging to a 11.5 m long, 450 mm diameter storm sewer at 1.13% which outlets into the Stormceptor
Brief Description: OGS	A Stormceptor STC 1000, to provide enhanced level treatment (80% TSS removal) located at ST6611 at the south end of Marzilli Gate
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Elles Street and Wellspring Avenue

Location	43.941, -79.466
Watershed/Subwatershed	Humber River
Receiver of Discharge	East Humber River
Outlet Location	43.945, -79.465 (H7)
Catchment Area	2.09 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	9193-AGFRFH
Reference Works as part of treatment train	S12622, S12623, S12626 - Storage Pipe ST50001 - OGS
Brief Description: Storage Pipe	A 77 m long, 1090 mm x 1725 mm concrete box storage pipe at 0.3% (S12622); a 19.06 m long, 1090 mm x 1725 mm concrete box storage pipe at 0.3% (S12626); a 35.77 m long, 1090 mm x 1725 mm concrete box storage pipe at 0.3% (S12622); controlled by a 254 mm diameter orifice plate in advance of a 5 m long, 675 mm diameter storm sewer at 0.5% which outlets into the Stormceptor.
Brief Description: OGS	A Stormceptor STC 2000, to provide enhanced level treatment (80% TSS removal) located at ST50001 at the north end of Elles Street having a sediment storage capacity of 7,700 L, an oil storage capacity of 2,890 L, a total holding capacity of 10,250 L and a maximum flow rate of 30 L/s, discharging to an existing municipal storm sewer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Worthington Avenue and Wellman Drive

Location	43.96, -79.442
Watershed/Subwatershed	Humber River
Receiver of Discharge	Forrester Wetland to Lake Wilcox
Outlet Location	43.958, -79.439 (SWMF 2-11)
Catchment Area	2.09 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year
Reference ECA(s)	7670-AFDNXB 4895-AE8KZG
Reference Works as part of treatment train	S12629, S12634, S12635, S12642, S12646, S12650, S12659 - Storage Pipe LID 2-13a, LID 2-13b, LID 2-13c, LID 2-13d
Brief Description: Storage Pipe	Wellman Drive – 70.4 metres long, 600 mm diameter storage pipe at 0.25% (S12659); 11.1 metres long, 675 mm diameter storage pipe at 0.25% (S12634); 30.1 metres long, 675 mm diameter storage pipe at 0.25% (S12629); 31.6 metres long, 675 mm diameter storage pipe at 0.25% (S12650); 15.1 metres long, 675 mm diameter storage pipe at 0.25% (S12646) Worthington Avenue – 70.6 metres long, 525 mm diameter storage pipe at 0.60% (S12642); 46.8 metres long, 675 mm diameter storage pipe at 1.7 (S12635) Controlled via a 150 mm diameter orifice plate
Brief Description: LID	Infiltration gallery (LID 2-13b - catchment area 0.62 ha): one (1) large clear stone infiltration gallery located on Worthington Street, at Wellman Drive intersection, having a total storage volume of approximately 88 m3; Infiltration gallery (LID 2-13c and LID 2-13d - catchment area 0.19 ha): two (2) large clear stone infiltration galleries along the southern boundary of Worthington Street, having a total storage volume of approximately 25 m3; Infiltration gallery (LID 2-13a - catchment area 1.23 ha): one (1) StormTech SC-160LP Chamber, with clear stone bedding, located within lots 29 to 37, having a total storage volume of approximately 264 m3
Schedule C Works	N/A
Receive Emergency Sanitary Overflows	N/A
Notes / Additional Information	Assumed

Fire Station 8-6

Location	43.906, -79.449
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Upper Rouge River
Outlet Location	43.906, -79.446 (OUT159)
Catchment Area	0.45 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	N/A
Reference Works as part of treatment train	S12741, S12808, S12856 – Storage Pipes OGS: ST50009 LID 16-4
Brief Description: Storage Pipes	A 32.1 m long, 300 mm diameter storage pipe at 1.0% (S12741); a 19.8 m long, 300 mm diameter storage pipe at 0.5% (S12808); a 6.5 m long, 300mm diameter storage pipe (ST12856); controlled via a 94 mm orifice plate which causes flows to back up and flow towards the OGS and into the infiltration pit.
Brief Description: OGS	Stormceptor STC 750 located at ST50009
Brief Description: Perforated Pipe	A 0.50 m x 16.0 m x 22.0 m infiltration pit. Flows enter into the infiltration pit via three 200 mm diameter perforated pipes which are between 21.5 m to 22.0 m long.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Macdonald Court

Location	43.961916, -79.441916
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.961849, -79.441613 (OUT156)
Catchment Area	1.31 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	5 mm
Design Storm	Quantity: 100-year storm; Quality 5-year storm
Reference ECA(s)	2949-A7MQ59
Reference Works as part of treatment train	OGS – ST50002 LID 2-3 Exfiltration Pipe
Brief Description - OGS	A Stormceptor® model STC-2000, for a drainage area of 1.31 ha, having a sediment capacity of 7,700 L, an oil capacity of 2,890 L, a total holding capacity of 11,000 L and a maximum treatment flow rate of 30 L/s.
Brief Description - LID	Perforated pipe system located along Macdonald Court and rear lot yards (lots 10, 11, 14, 15, 16, 18, 20 and 21), with a total length of approximately 232 ms of perforated pipe within a 1.2 m to 2.0 m wide by 1.0 m to 1.2 m deep 50 mm diameter stone filter cloth wrapped infiltration trench, with an active storage volume of 159 cubic m
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Birch Avenue (East)

Location	43.848, -79.446
Watershed/Subwatershed	Don River
Receiver of Discharge	Surface discharge to Upper East Don River
Outlet Location	43.847, -79.446 (OUT146)
Catchment Area	1.844 ha
Level of Treatment for Suspended Solids	50%
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year storm; Quality: 5-year
Reference ECA(s)	7507-6RTJ7W
Reference Works as part of treatment train	Storage Pipes – S10064, S10065 OGS – ST9267
Brief Description – Storage Pipe	S10064: A 99 m long, 1200 mm diameter storage pipe at 0.28%, immediately west of Avenue Road. S10065: A 52.1 m long, 1200 mm diameter pipe at 0.54% located on Birch Avenue. Controlled by a 400 mm orifice plate on the outlet storm maintenance hole (ST9266) to control the 2, 5 and 100 year post development flow rates to the 2, 5 and 100 year pre development flow rates of 199.8 L/s, 283.1 L/s and 657.1 L/s respectively.
Brief Description – OGS	One (1) oil/grit interceptor (Stormceptor STC1000), located downstream of ST9266 having a sediment capacity of 3800 L, an oil capacity of 915 L, a total holding capacity of 4871 L and a maximum treatment flow rate of 18 L/s, discharging to the Don River East, via a 450 mm diameter storm sewer, existing outfall to a tributary about 500 m long
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Headwater Crescent (East)

Location	43.946, -79.445
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox Outlet Channel
Outlet Location	43.947, -79.446 (OUT253)
Catchment Area	1.3653 ha
Level of Treatment for Suspended Solids	N/A
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 5-year; Quality: 5-year
Reference ECA(s)	3945-747PQL 2895-9ZDHL9
Reference Works as part of treatment train	Storage Pipes – S11010, S11011, S11012, S11013, S11014, S11015, S11018, S11793 and S11794 OGS – ST10249
Brief Description – Storage Pipes	Asset IDs: S11010, S11011, S11012, S11013, S11014 and S11015 A 64.59 m long, 600 mm diameter storage pipe at 0.50% (S11010); a 64.78 m long, 900 mm diameter storage pipe at 0.52% with a 450 mm reducer control both upstream and downstream (S11011); a 63.2 m long, 1200 mm diameter storage pipe at 0.57% with a 450 mm reducer control both upstream and downstream (S11012); a 11.7 m long, 1200 mm diameter storage pipe at 1.11% with a 450 mm reducer control both upstream and downstream (S11013); a 34.29 m long, 1200 mm diameter storage pipe at 0.47% with a 450 mm reducer control both upstream and downstream (S11014); a 21.27 m long, 1200 mm diameter storage pipe at 0.42% with a 450 mm reducer control both upstream and downstream (S11015). Asset IDs: S11018, S11793 and S11794 A 53.31 m long, 900 mm diameter storage pipe at 0.5%(S11793); a18.6 m long, 900 mm diameter storage pipe at 0.5 with a 450 mm reducer at the downstream end (S11794); a 27.07 m long, 1200 mm diameter storage pipe at 1.37% with a 450 mm reducer control both upstream and downstream (S11018).
Brief Description - OGS	A Stormceptor STC 4000 located at the south end of the easement that contains a storm sewer that drains this development to the Lake Wilcox Outlet Channel.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Bedford Park Avenue East

Location	43.879342, -79.437287
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	Surface discharge to German Mills Creek
Catchment Area	1.39 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Quantity: 5-year
Reference ECA(s)	3934-CS6LHW
Reference Works as part of treatment train	TBD – Asset IDs have not yet been assigned to the storage pipes LID 18-1
Brief Description – Storage Pipes	Underground storage, provided in 675 mm diameter oversized storm sewers and three (3) 1,500 mm diameter manholes, having a total length of 113.8 m, located on Bedford Park Avenue (from Pugsley Avenue to approximately 113 m west of Pugsley Avenue), having a maximum available storage volume of 47 m ³ , discharging via a 525 mm diameter storm sewer equipped with a 325 mm diameter orifice, allowing for a maximum discharge of 282 L/s under the 5-year storm event to the existing storm sewer on Dorothy Price City Park located immediately southeast of the intersection of Bedford Park Avenue and Pugsley Avenue.
Brief Description	Surface infiltration rain garden (catchment area 0.16 ha), providing enhanced water quality treatment located within Dorothy Price City Park (at the southwest corner of the Bedford Park Avenue and Pugsley Avenue intersection), having an average length of 15 m, an average width of 8 m with a base area of 40 m ² , a maximum allowable storage depth 0.3 m and a maximum available storage volume of 19 m ³ , comprised of a 350 mm deep engineered soil layer overlying a 150 mm deep compost amended layer, complete with a 250 mm diameter overflow storm sub-drain outlet discharging to the existing storm sewer on Dorothy Price City Park located immediately southeast of the intersection of Bedford Park Avenue and Pugsley Avenue.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Constructed

Limerick Street

Location	43.958, -79.449
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.957922, -79.448983 (OUT102)
Catchment Area	0.87 ha
Level of Treatment for Suspended Solids	Unknown
Treatment for other contaminants, as required	N/A
Level of volume control	Unknown
Design Storm	Quantity: 5-year
Reference ECA(s)	0783-ANXJ6L
Reference Works as part of treatment train	S12667 and S12636 Lid 2-21
Brief Description	A 94.5 m long, 750 mm diameter storage pipe at 0.41% (S12667) and a 45.4 m long, 750 mm diameter storage pipe at 0.40% (S12636) controlled via a 375 mm diameter outlet pipe.
Brief Description	149 m of 300 mm diameter perforated pipes constructed underneath the storm sewer
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Leyburn Avenue

Location	43.893673, -79.445345 (16-5a) 43.89342, -79.445043 (16-5b) 43.892954, -79.444636 (16-5c)
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.892239, -79.445660 (IOS791)
Catchment Area	0.83 ha
Level of Treatment for Suspended Solids	Level 1
Treatment for other contaminants, as required	N/A
Level of volume control	5 mm
Design Storm	Quantity and Quality: 100-year
Reference ECA(s)	1096-BEFHY7
Reference Works as part of treatment train	Lid 16-5a, 16-5b, 16-5c S13250, S13251 – Storage Pipes ST50037
Brief Description: LID	Three (3) surface and subsurface infiltration trenches located in the west boulevard of Leyburn Avenue, having a total length of 73 m, a width of 1.8 m, a base area of 131.4 m ² , a maximum allowable storage depth of 0.5 m and a maximum available storage volume of 26.3 m ³ and an emergency overflow outlet discharging to paved surface on Leyburn Avenue.
Brief Description: Storage Pipe	A 69.7 m long, 1,800 mm x 900 mm at 0.32% (S13250) connected to a 18.9 m long, 1,800 mm x 900 mm at 0.32% (S13251) discharging through 450 mm diameter storm sewer which is further restricted by a perforated riser in front of a 29 mm diameter orifice plate allowing for a maximum discharge of 200 L/s under the 100-year storm event prior to discharging to ST50037. The storage pipes have a maximum storage volume of 136.4 m ³ .
Brief Description: OGS	One (1) oil and grit separator, CDS Model PMSU2015-5, located southwest of the intersection of Leyburn Avenue and Nine Mile Lane approximately 15 m west of Leyburn Avenue, providing Enhanced Level of protection, having a sediment storage capacity of 1.668 m ³ , an oil storage capacity of 313 L, a total storage volume of approximately 2.826 m ³ , and a maximum treatment rate of 20 L/s, receiving inflow from the storm sewer located within Leyburn Avenue, discharging via a 525 mm diameter outlet pipe to Outlet IOS791.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Persica Street

Location	43.9478505, -79.4577738
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.9465271, -79.4640932 (IOS328)
Catchment Area	1.07 ha
Level of Treatment for Suspended Solids	50% TSS removal rate
Treatment for other contaminants, as required	Oil Capture
Level of volume control	5 mm event
Design Storm	Quantity: 100-year City of Richmond Hill storm; Quality: 90% annual runoff quality capture
Reference ECA(s)	ECA # 8112-C55jwu
Reference Works as part of treatment train	S13228, S13229, S13230 – Storage Pipe ST50033 - OGS
Brief Description of each component of treatment train: OGS	HydroStorm HS5 Oil and Grit Separator located on Persica Street providing Enhanced Level of protection, with a minimum sediment storage capacity of 2,202 litres, oil storage capacity of 915 litres, a total storage volume of approximately 3,921 litres, receiving inflow from the storm sewers located on Persica Street, discharging via a 375 millimetre diameter outlet pipe to existing storm sewers located on Maple Grove Avenue.
Brief Description of each component of treatment train: Storage Pipe	Provided in 1,050 millimetre diameter storm sewers, 2,400 millimetre diameter and 3,000 millimetre diameter manholes, having a total length of 170.4 metres, located on Persica Street (from approximately 30 metres north of Aubrey Avenue to approximate 20 metres south of Maple Grove Avenue), having a maximum available storage volume of 211,95 cubic metres, discharging via a 375 millimetre diameter storm sewer equipped with a 174 millimetre diameter orifice, allowing for a maximum discharge of 92.68 litres per second under the 100-year storm event to existing storm sewers located on Maple Grove Avenue.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Otty Gate

Location	43.8821098, -79.4636295
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.8824144, -79.4605431 (IOS232)
Catchment Area	1.07 ha
Level of Treatment for Suspended Solids	50% TSS removal rate
Treatment for other contaminants, as required	Oil Capture
Level of volume control	5 mm event
Design Storm	Quantity: 100-year City of Richmond Hill storm; Quality: 90% annual runoff quality capture
Reference ECA(s)	ECA # 8485-C3CNCE
Reference Works as part of treatment train	S13234, S13235 – Storage Pipe ST50034 - OGS
Brief Description of each component of treatment train: OGS	HydroStorm HS6 Receives runoff generated from DiRezze Court and Otty Gate, discharges to the existing storm sewer on Oxford Street.
Brief Description of each component of treatment train: Storage Pipe	900 millimetre diameter storm sewers, 1,200 millimetre diameter storm catchbasins, 1,800 millimetre diameter and 2,400 millimetre diameter manholes, having a total length of 176 metres, located on DiRezze Court from Otty Gate to approximately 84 metres west of Otty Gate, and on Otty Gate from DiRezze Court to Oxford Street, having a maximum available storage volume of 123 cubic metres, discharging via a 450 millimetre diameter storm sewer equipped with a 79 millimetre diameter orifice, allowing for a maximum discharge of 18.47 litres per second under the 100-year storm event to existing storm sewers located on Oxford Street.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

Pathlane Road

Location	43.8520819, -79.4225782
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.8497439, -79.4225782 (IOS34)
Catchment Area	1.14 ha
Level of Treatment for Suspended Solids	50% TSS removal rate
Treatment for other contaminants, as required	N/A
Level of volume control	N/A
Design Storm	Quantity: 100-year
Reference ECA(s)	ECA # 8112-C55jwu
Reference Works as part of treatment train	S11739 – Storage Pipe ST50042 - OGS
Brief Description of each component of treatment train: OGS	Stormceptor STC 1500 located in front of 137 Pathlane Road
Brief Description of each component of treatment train: Storage Pipe	A 102.98 metres long, 1,350 millimetre diameter concret storm sewer, controlled via a 5.56 metres long, 675 millimetre diameter pipe prior to ST50042.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	N/A

Dexter Road

Location	43.8567826, -79.4550343
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.8501627, -79.4504102 (IOS11)
Catchment Area	3.42 ha
Level of Treatment for Suspended Solids	50% TSS removal rate
Treatment for other contaminants, as required	N/A
Level of volume control	Water balance provided for 5 mm event
Design Storm	Rainfall events up to and including the 100-year storm event is controlled to 5-year release rate
Reference ECA(s)	N/A
Reference Works as part of treatment train	ECA # 1646-9ZCSGU
Brief Description of each component of treatment train: OGS	Hydroguard HG6 Oil and Grit Separator receives runoff generated from the Dexter Road Subdivision and discharges to the existing storm sewer on Dexter Road east of Annette Gate. The oil and grite separator provides 50% TSS removal rate with an oil storage volume of 768 litres and a total storage volume of 5,566 litres.
Brief Description of each component of treatment train: Storage Pipe	Quantity control provided by a 1.2 metres high x 2.4 metres wide x 45.4 metres long underground concrete box culvert. Discharge from the box culvert is controlled by a 304 millimetre diameter orifice plate located at the outlet of the culvert. The culvert outlets to the existing 525 millimetre diameter storm sewer on Dexter Road, east of Annette Gate.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	Assumed

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.

Humber Flats

Asset ID and Name	Various Asset IDs; Reference Drawing 0100ST40
Location	43.978814, -79.481951
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.978814, -79.481951 (OUT173)
Catchment Area	64.89 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	3-0899-98-997
Brief Description	A foundation drain collector system (150 mm diameter to 525 mm diameter) that is designed to: • Convey cool, groundwater directly to the East Humber River; • Maximize the capacity of the open space infiltration/filtration system to deal with surface runoff; • Provide greater flexibility in the design of the storm sewer outfalls to open space areas; • Protect basements in the southwest portion of drainage area from storm sewer surcharging.
Notes / Additional Information	Assumed

Vitlor Drive

Asset ID and Name	Various Asset IDs; Reference Drawing 0100ST25
Location	43.945216, -79.470112
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.945216, -79.470112 (OUT216)
Catchment Area	2.55 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A foundation drain collector system on Vitlor, Lorwood, Poplar and Kent Methews. Diameters range from 200 mm to 300 mm.
Notes / Additional Information	Assumed

Ashfield Drive

Asset ID and Name	Various Asset IDs; Reference Drawing 0100SA01
Location	43.948819, -79.452765
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.948819, -79.452765 (OUT272)
Catchment Area	4.38 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	250 mm diameter foundation drain collector located on Sunderland, Westbourne and Ashfield Drive.
Notes / Additional Information	Assumed

Queensborough Court

Asset ID and Name	FDC454, FDC453, FDC452, FDC451
Location	43.949111, -79.450913
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.949111, -79.450913 (OUT34)
Catchment Area	2.55 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	450 mm diameter foundation drain collector on Queensborough Court.
Notes / Additional Information	Assumed

Westlea Avenue

Asset ID and Name	FDC496 and FDC497; Reference Drawing 0200ST34
Location	43.949646, -79.443869
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.949646, -79.443869 (OUT18)
Catchment Area	1.392 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	200 mm diameter foundation drain collector on Westlea Avenue.
Notes / Additional Information	Assumed

Lakeland Crescent

Asset ID and Name	Various Asset IDs; Reference Drawing 0200ST03
Location	43.949508, -79.441758
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.949508, -79.441758 (OUT532)
Catchment Area	3.4 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	250 mm diameter to 300 mm diameter foundation drain collectors on Kaitlin, Green Meadow and Lakeland.
Notes / Additional Information	Assumed

Wood Rim Drive

Asset ID and Name	FDC154, FDC139, FDC138, FDC327, FDC328, FDC329
Location	43.951523, -79.443899
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.951523, -79.443899 (OUT212)
Catchment Area	1.71 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 250 mm diameter to 600 mm diameter foundation drain collectors located on Wood Rim Avenue.
Notes / Additional Information	Assumed

Aloe Avenue

Asset ID and Name	Various Asset IDs; Reference Drawings 0200ST20, 0200ST21, 0200ST22
Location	43.955017, -79.437965
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.955017, -79.437965 (ST7451)
Catchment Area	13.24 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	250 mm diameter foundation drain collector located on Aloe, Raffia, Wood Rim, Alyssum, Fitzwillian, Newman, and Pagoda.
Notes / Additional Information	Assumed

Wildwood Avenue

Asset ID and Name	Various Asset IDs; Reference Drawings 0200ST20, 0200ST21, 0200ST22
Location	43.955178, -79.437183
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.955178, -79.437183 (ST6717)
Catchment Area	21 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	300 mm diameter foundation drain collector located on Wildwood Avenue that also accepts some groundwater from SWMF 2-11.
Notes / Additional Information	Assumed

Old Colony Road

Asset ID and Name	Various Asset IDs; Reference Drawing 0700ST03
Location	43.93988, -79.453374
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.93988, -79.453374 (ST6856)
Catchment Area	4.48 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A foundation drain collector system on Old Colony, Carousel, and Nantucket. Diameters range from 200 mm to 450 mm.
Notes / Additional Information	Assumed

Nantucket Drive

Asset ID and Name	Various Asset IDs; Reference Drawing 0700ST08
Location	43.943736, -79.441191
Watershed/Subwatershed	Humber River
Receiver of Discharge	Lake Wilcox
Outlet Location	43.945699, -79.441081 (OUT219)
Catchment Area	3.02 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A foundation drain collector system located on Nantucket, Bel Canto, Lacona, and Inverhuron installed to protect against flooding. Diameters range from 200 mm to 300 mm.
Notes / Additional Information	Assumed

Estate Garden

Asset ID and Name	Various Asset IDs; Reference Drawings 0800ST08/0800ST09
Location	43.939641, -79.45434
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.944282, -79.454949 (OUT273)
Catchment Area	18.86 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 250 mm diameter foundation drain collector located on Estate Garden, Snowy Meadow and Little side.
Notes / Additional Information	Assumed

Shadow Falls Drive

Asset ID and Name	Various Asset IDs; Reference Drawing 1000ST05
Location	43.911954, -79.437782
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.911954, -79.437782 (OUT183)
Catchment Area	2.55 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 200 mm diameter foundation drain collector located on Shadow Falls Drive.
Notes / Additional Information	Assumed

Cougar Court

Asset ID and Name	Various Asset IDs; Reference Drawing 1500ST15
Location	43.89724, -79.426115
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.89724, -79.426115 (OUT302)
Catchment Area	1.78 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 200 mm diameter foundation drain collector located on Cougar Court.
Notes / Additional Information	Assumed

Rose Branch

Asset ID and Name	Various Asset IDs; Reference Drawing 1500ST15
Location	43.897614, -79.424612
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.897614, -79.424612 (OUT533)
Catchment Area	1.55 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 200 mm diameter foundation drain collector located on Rose Branch Drive.
Notes / Additional Information	Assumed

Bayview Avenue

Asset ID and Name	Various Asset IDs; Reference Drawings 1500SA19/20
Location	43.898378, -79.421113
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.893331, -79.41815 (OUT10)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A foundation drain collector system located on Cantex, Subrisco, Ennis, Woodriver, Rawlings, Bilbermar, Hamills, McCoy, Cedarhurst, and Rosetree. Diameters range from 200 mm to 250 mm.
Notes / Additional Information	Assumed

Luba Avenue

Asset ID and Name	FDC4492, FDC4493, FDC4494, FDC4495, FDC4496, FDC4499, FDC4504, FDC4505, FDC4508, FDC4509, FDC4510, FDC4511, FDC4515, FDC4516, FDC137
Location	43.906321, -79.429267
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.902416, -79.434829 (OUT534)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 200 mm diameter foundation drain collector located on Luba and Dumaurier.
Notes / Additional Information	Assumed

Zippora Drive

Asset ID and Name	FDC391, FDC392, FDC393, FDC394, FDC395, FDC396, FDC397
Location	43.906749, -79.442289
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.904859, -79.443665 (OUT306)
Catchment Area	1.19 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 200 mm diameter foundation drain collector located on Zippora Drive.
Notes / Additional Information	Assumed

Aztec Court

Asset ID and Name	Various Asset IDs; Reference Drawing 1600ST27
Location	43.898488, -79.454999
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.8981, -79.456276 (OUT113)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A foundation drain collector located on Aztec, Durango, Alamo Heights, Eagle Peak, Sandy Point, and Mirando. Diameters range from 200 mm to 250 mm.
Notes / Additional Information	Assumed

Canyon Hill Avenue

Asset ID and Name	FDC402, FDC403, FDC404, FDC405, FDC406, FDC407, FDC408, FDC409, FDC410, FDC411, FDC412, FDC413, FDC414, FDC415, FDC416, FDC417
Location	43.945216, -79.470112
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.892701, -79.446968 (OUT78)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A foundation drain collector system located on Canyon Hill, Debonair, Leyburn, Naughton, Lane N and Abitibi. Diameters range from 200 mm to 250 mm.
Notes / Additional Information	Assumed

Jacey Anne Drive

Asset ID and Name	FDC156, FDC157
Location	43.885133, -79.442745
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.885627, -79.436351 (OUT320)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 200 mm diameter foundation drain collector on Pairash and Jacey Anne.
Notes / Additional Information	Assumed

Goldbrook Crescent

Asset ID and Name	FDC456, FDC457
Location	43.882702, -79.416727
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.877342, -79.404981 (R2)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 200 mm diameter foundation drain collector located on Goldbrook.
Notes / Additional Information	Assumed

Shirley Drive

Asset ID and Name	FDC418, FDC419
Location	43.882587, -79.401941
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.885358, -79.39573 (OUT55)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 200 mm diameter and 250 mm diameter foundation drain collector located on Shirley Drive.
Notes / Additional Information	Assumed

Herbert Watford Avenue

Asset ID and Name	FDC162, FDC163, FDC436, FDC437, FDC438, FDC439, FDC444, FDC445
Location	43.884352, -79.396121
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.885358, -79.39573 (OUT55)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 250 mm diameter foundation drain collector located on Herbert Watford, Silverstream, and ForestWood.
Notes / Additional Information	Assumed

Redstone Road

Asset ID and Name	FDC49, FDC50, FDC51, FDC52, FDC53, FDC54, FDC55, FDC56, FDC57, FDC58, FDC60, FDC61, FDC71, FDC72, FDC73, FDC74
Location	43.887966, -79.4029
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.888189, -79.401122 (OUT165)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 250 mm diameter foundation drain collector located on Redstone, Monaco, Peninsula and Champagne.
Notes / Additional Information	Assumed

Lord Nelson

Asset ID and Name	FDC62, FDC63, FDC64, FDC65, FDC66, FDC67, FDC68, FDC69, FDC70, FDC75, FDC76, FDC77
Location	43.886815, -79.388362
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.886998, -79.397669 (OUT163)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 250 mm diameter foundation drain collector located on Lord Nelson, Valley ridge and ForetWook.
Notes / Additional Information	Assumed

Princeton Avenue West

Asset ID and Name	FDC78, FDC88, FDC89, FDC90, FDC91
Location	43.88897, -79.398381
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.888279, -79.398379 (OUT161)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 250 mm diameter foundation drain collector located on Princeton and Redstone.
Notes / Additional Information	Assumed

Princeton Avenue East

Asset ID and Name	Various Asset IDs; Reference Drawings 1900ST24 and 1900ST12
Location	43.890472, -79.396772
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.888797, -79.397944 (OUT162)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 250 mm diameter foundation drain collector located on Princeton, Manorheights, Ruby, and Kiwi.
Notes / Additional Information	Assumed

Valleyford Avenue

Asset ID and Name	FDC116, FDC423, FDC424, FDC425, FDC2350
Location	43.88709, -79.417664
Watershed/Subwatershed	Don River
Receiver of Discharge	German Mills Creek
Outlet Location	43.849, -79.409 (OUT380)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 250 mm diameter foundation drain collector located on Valleyford and Bothfield.
Notes / Additional Information	Assumed

Gordon Rowe Crescent

Asset ID and Name	FDC2322, FDC2334, FDC2335, FDC2336, FDC2337
Location	43.857255, -79.416418
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.846384, -79.407918 (D11)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 250 mm diameter foundation drain collector located on Gordon Rowe and Fern.
Notes / Additional Information	Assumed

Elmsley Drive

Asset ID and Name	FDC2320, FDC2323, FDC2325, FDC2476, FDC2329, FDC2328, FDC2330, FDC2333, FDC2322, FDC2331
Location	43.85827, -79.415354
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.846884, -79.407918 (D11)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 250 mm diameter foundation drain collector located on Elmsley, Cygnus, and Fern.
Notes / Additional Information	Assumed

Bantry Avenue West

Asset ID and Name	FDC458
Location	43.84568, -79.424045
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.849416, -79.416344 (OUT85)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 250 mm diameter foundation drain collector located on Bantry Avenue.
Notes / Additional Information	Assumed

Bantry Avenue East

Asset ID and Name	FDC459, FDC460, FDC461, FDC462, FDC463, FDC464, FDC465
Location	43.846954, -79.414443
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.847995, -79.410137 (OUT536)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 250 mm diameter foundation drain collector located on Bantry Avenue.
Notes / Additional Information	Assumed

Highbridge Road

Asset ID and Name	Various Asset IDs; Reference Drawings 2700ST17 and 2700ST18
Location	43.850837, -79.406913
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.846384, -79.407918 (D11)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A foundation drain collector located on Highbridge, Blackmore, Waltham, Ashdown, Rubin, Miriam, Hanna, Emanuel, Jet, Lynngrove, Lagani, Kevi, Strathearn, Montesano, Heath, Valleymede, Anglesey, Sheila, Dartmore, and Northampton. Diameters range from 200 mm to 450 mm.
Notes / Additional Information	Assumed

Horizon Court

Asset ID and Name	FDC2060, FDC2059
Location	43.858191, -79.39851
Watershed/Subwatershed	Don River
Receiver of Discharge	Don River
Outlet Location	43.858684, -79.383563 (OUT255)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A 200 mm diameter foundation drain collector located on Horizon Court.
Notes / Additional Information	Assumed

Military Court, Bassview Court and Amaranth Court

Asset ID and Name	Various Asset IDs; Reference Drawings 0800ST42 and 0800ST43
Location	43.923738, -79.472284
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.923891, -79.472422 (OUT262) 43.922923, -79.473292 (OUT285)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A rooftop drainage collector located on Military Court, Amaranth, Philips Lake, Philips View, Milos, Bassview, Stoyell, Winisk, Yang, Overhold, and Lourakis. Diameters range from 250 mm to 675 mm.
Notes / Additional Information	Assumed

Miles Hill Crescent

Asset ID and Name	Various Asset IDs; Reference Drawing 0800ST33
Location	43.928467, -79.457254
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.92906, -79.457925 (OUT511)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A rooftop drainage collector located on Miles Hill Crescent. Diameters range from 300 mm to 375 mm.
Notes / Additional Information	Assumed

Vandervoort Drive

Asset ID and Name	Various Asset IDs; Reference Drawing 0800ST33
Location	43.929753, -79.454361
Watershed/Subwatershed	Humber River
Receiver of Discharge	Humber River
Outlet Location	43.930296, -79.454244 (OUT512)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A rooftop drainage collector located on Vandervoort, Silver Maple, Parsell, Windrow, Miles Hill and Brumstead. Diameters range from 300 mm to 600 mm.
Notes / Additional Information	Assumed

McCague Avenue

Asset ID and Name	S12965, S12966, S12967, S12970, S12972, S12973, S12974, S12977, S12978, S12979, S12980, S12981, S12982, S12983, S12984, S12985, S12986, S12990, S12991, S12992, S12993, S12994, S12995, S12997, S12998, S13001`
Location	43.909284, -79.395268
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.909465, -79.395387 (OUT537)
Catchment Area	Unknown
Treatment, if applicable	N/A
Reference ECA(s), if applicable	N/A
Brief Description	A rooftop drainage collector located on McCague, Boiton, Hewison and Hilts. Diameters range from 300 mm to 450 mm.
Notes / Additional Information	Assumed

Montorio Drive

Asset ID and Name	Not assigned
Location	43.950699, -79.409747
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.951047, -79.40938 (OUT531)
Catchment Area	0.33 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	1762-C2HRX9
Brief Description	Roof drainage collector storm sewer to supply adjacent wetland area.
Notes / Additional Information	Unassumed 19T-16009

Puisaya Street

Asset ID and Name	S12841 (1200), S12839 (1200), S12815 (1200), RDC1002 (1200), RDC999 (1200), RDC1001 (1200), RDC1000 (1200)
Location	43.950659, -79.406548
Watershed/Subwatershed	Rouge River
Receiver of Discharge	Rouge River
Outlet Location	43.949616, -79.405331 (OUT530)
Catchment Area	52.27 ha
Treatment, if applicable	N/A
Reference ECA(s), if applicable	4643-BZTTVQ
Brief Description	Clean water collector (Berczy Creek Bypass) located on Puisaya Street that discharges to Leslie Street drainage ditch.
Notes / Additional Information	Unassumed 19T-17006

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
SWMF 11-3	Wetland Pond	43.914728, -79.409718	Deergate Holdings Inc.
SWMF 11-4	Wetland Pond	43.915439, -79.406254	Deergate Holdings Inc.
SWMF 14-13	Hybrid Pond	43.910735, -79.412848	Earlglen Investments Inc.
LID 14-1	LID	43.909732, -79.41632	Earlglen Investments Inc.
ST50047	OGS	43.8536156, -79.4245519	Arkfield Development
S13833 S13834 S13835 S13836	Storage Pipe	43.8539387, -79.4237352	Arkfield Development
No Asset ID	OGS and Storage Pipe	43.8846217, -79.4563962	Oxford Communities (Richmond Hill) Inc.
No Asset ID	OGS, Storage Pipe and Infiltration Trench	43.9435205, -79.4932514	Carval Homes (Shaver) Inc.

- 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
ST11191	MTD - Filter	43.864, -79.426	3871-A8YR4T	Corsica Developments Inc.
ST11198	MTD - Filter	43.867, -79.414	3871-A8YR4T	Corsica Developments Inc.
ST10443	MTD - OGS	43.850039, -79.377096	9417-ABJH5A	OGO Development Inc.
ST10844	MTD - OGS	43.911165, -79.434849	0225-98ENHJ	Angela and Luigi Marsiglio
ST50011	MTD - OGS	43.959677, -79.460212	0554-A8JSAN	Hilltop Estates Inc.
ST8931	MTD - OGS	43.928394, -79.410234	0042-647J2C	Gareene Homes Limited
ST8936	MTD - OGS	43.925344, -79.414115	N/A	Gareene Homes Limited
ST9400	MTD - OGS	43.904519, -79.453935	1643-5JHJ8A	Arbint Construction Compant Limited
SWMF 6-3	Wet Pond	43.946557, -79.405076	8415-ASHRVV	Sedgewick Property Inc.
SWMF 6-4	Wet Pond	43.938128, -79.408543	0448-AN6MUY	Lond Body Inc.
SWMF 9-4	Wet Pond	43.917129, -79.464467	0945-7FHKKX	Duck of Richmond Developments Inc.
SWMF 9-11	Wet Pond	43.91897, -79.458968	8516-CNCMF4	Country Wide Homes (Jefferson) Inc.
SWMF 13-1	Wet Pond	43.901639, -79.389528	4659-6YGMJH	Riotrin Properties Inc.
SWMF 13-4	Wet Pond	43.914603, -79.393978	6472-BX9HPF	Leslie Richmond Developments Limited
SWMF 14-5	Wet Pond	43.906063, -79.401378	5838-AXJKE8	Mattamy Limited
SWMF 14-6	Wet Pond	43.904301, -79.406243	5838-AXJKE8	Mattamy Limited
SWMF 14-8	Wet Pond	43.901582, -79.420095	6347-APSNW8	Richview 19 Holdings Inc.
SWMF 14-9	Wet Pond	43.899751, -79.419687	3492-APFQVX	Raki Holdings Inc. and Autimnhill Investment Ltd.
SWMF 14-10	Wet Pond	43.90151, -79.410647	6749-AP9RSU	Raki Holdings Inc.
SWMF 14-11	Wet Pond	43.896562, -79.414105	0224-BV3K5J	Elbay Developments Inc.
SWMF 14-12	Wet Pond	43.896796, -79.407682	1459-BVXPAX	North Leslie Residential Landowners Group Inc.

Table B8: Facilities with Individual ECAs				
Asset ID	Type of Facility	Location	ECA Number	Developer Name
SWMF 20-1	Wet Pond	43.884005, -79.387221	0806- 7G4QVV	Barker Business Park Limited
SWMF 20-2	Wet Pond	43.88481, -79.389048	2159- 7G4QVA	Barker Business Park Limited
LID 6-3	LID	43.950959, -79.410475	1762- C2HRX9	Sundance (Richmond Hill) Estates Inc.
LID 6-5	LID	43.948867, -79.408203	3611- C2NQV7	Dickson 48 Property Inc.
LID 6-7	LID	43.948122, -79.408658	3611- C2NQV7	Dickson 48 Property Inc.
LID 6-8	LID	43.947294, -79.409358	3611- C2NQV7	Dickson 48 Property Inc.
LID 6-9	LID	43.94716, -79.410172	3611- C2NQV7	Dickson 48 Property Inc.
LID 6-10	LID	43.941189, -79.404739	4570- BYRMGD	Centerfield Properties Inc.
LID 6-11	LID	43.940616, -79.403403	4570- BYRMGD	Centerfield Properties Inc.
LID 6-12	LID	43.941008, -79.405671	4570- BYRMGD	Centerfield Properties Inc.
LID 6-13	LID	43.940278, -79.405411	4570- BYRMGD	Centerfield Properties Inc.
LID 6-14	LID	43.940348, -79.406398	4570- BYRMGD	Centerfield Properties Inc.
LID 6-15	LID	43.941872, -79.41255	4570- BYRMGD	Centerfield Properties Inc.
LID 6-16	LID	43.941747, -79.411899	4570- BYRMGD	Centerfield Properties Inc.
LID 6-17	LID	43.942025, -79.410157	4570- BYRMGD	Centerfield Properties Inc.
LID 6-18	LID	43.941271, -79.410417	4570- BYRMGD	Centerfield Properties Inc.
LID 6-19	LID	43.939635, -79.408641	4570- BYRMGD	Centerfield Properties Inc.
LID 6-20	LID	43.940722, -79.409371	4570- BYRMGD	Centerfield Properties Inc.
LID 6-21	LID	43.941459, - 79.408619	4570- BYRMGD	Centerfield Properties Inc.
LID 6-22	LID	43.940545, - 79.408294	4570- BYRMGD	Centerfield Properties Inc.
LID 6-23	LID	43.939234, -79.406911	4762- BYSNVJ	Long Body Homes Inc.
LID 6-24	LID	43.939791, -79.404496	4762- BYSNVJ	Long Body Homes Inc.
LID 6-25	LID	43.938833, -79.405808	4762- BYSNVJ	Long Body Homes Inc.

Table B8: Facilities with Individual ECAs				
Asset ID	Type of Facility	Location	ECA Number	Developer Name
LID 6-26	LID	43.937928, -79.406867	4762- BYSNVJ	Long Body Homes Inc.
LID 13-1	LID	43.915472, -79.395933	9341- BX9JBF	Leslie Richmond Developments Limited
LID 13-2	LID	43.914374, -79.397794	9341- BX9JBF	Leslie Richmond Developments Limited
LID 13-3	LID	43.911532, -79.396649	4622- C56K7H	775377 Ontario Limited
LID 13-4	LID	43.912426, -79.395851	4622- C56K7H	775377 Ontario Limited
LID 13-5	LID	43.912657, -79.39362	4622- C56K7H	775377 Ontario Limited
LID 13-6	LID	43.9098648, -79.3955397	8311- AJTR2W	Leslie Elgin Developments Inc.
LID 25-5	LID	43.848158, -79.44657	4071- 97CPWY	Bayview Manor Homes Inc.
S5935	Super / Storage Pipes	43.929, -79.417	N/A	Bridgewater Ross Developments
S5939 and S5940	Super / Storage Pipes	43.933, -79.418	N/A	Bridgewater Ross Developments
S5943	Super / Storage Pipes	43.93, -79.419	N/A	Bridgewater Ross Developments
SWMF 13-3 / ST50027	Treatment Train (Wet Pond and MTD Filter)	43.907422, -79.396202	8311- AJTR2W	Leslie Elgin Developments Inc.
SWMF 21-1 / S13813 S13814 S13815 S13816 S13817 S13820 S13821 S13871 S13948 S13949 S13950 S13951 S13954 ST50045	Treatment Train (Wet Pond, storage pipes and MTD Filter)	43.878292, -79.386748	5314- CPJPXN	Montagna Capital Inc.

Table B8: Facilities with Individual ECAs				
Asset ID	Type of Facility	Location	ECA Number	Developer Name
SWMF 23-3/ST11176	Treatment Train (Wet Pond and MTD OGS)	43.862173, -79.413382	3871-A8YR4T	Corsica Developments Inc.
S12913 / ST50013	Treatment Train (Storage Pipes and MTD OGS)	43.844, -79.432	5395-BDYLPY	Collecdev GP Inc.
S11705 / ST10897	Treatment Train (Storage Pipes and MTD OGS)	43.859, -79.457	2799-9J3VM2	Edward Grinberg 45 Stockdale Crescent Richmond Hill, Ontario L4C 3T1
S13002 and S13003/ST50029	Treatment Train (Storage Pipes and MTD OGS)	43.947906, -79.458482	0098-BHFH94	Incon Property Holdings (Maple Grove) Ltd.
S13220/ST50032	Treatment Train (Storage Pipes and MTD OGS)	43.947439, -79.46076	5523-BTFTJJ	Carval Homes (Maple Grove) Inc.
S13238 and S13239/ST50035	Treatment Train (Storage Pipes and MTD OGS)	43.873745, -79.440089	8441-BXHRZ3	Laurier Homes (Richmond Hill) Inc.
S13244 and S13245/ST50036	Treatment Train (Storage Pipes and MTD OGS)	43.940995, -79.466005	6704-AYVLHC	Wycliffe King Bond Limited
No Asset IDs	Treatment Train (Storage Pipes and MTD OGS)	43.844996, -79.454385	6242-C7BHNv	Centrex Homes Inc.
No Asset IDs	Treatment Train (Storage Pipes and MTD OGS)	43.903384, -79.398092	9101-CJB7Y8	Mattamy (Elgin Mills) Limited

- 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	Richmond Hill, The Corporation of the City of
ECA Number	022-S701
System Name	Stormwater Management System
ECA Issue Date	July 24th, 2026

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#
Issue Number 1	April 30, 2026	Tank 21-3, Name: Vogell Tank	Developer Owned (under Construction)	N/A

Schedule D: General

System Owner	Richmond Hill, The Corporation of the City of
ECA Number	022-S701
System Name	Stormwater Management System
ECA Issue Date	July 24th, 2026

1.0 Definitions

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

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

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

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

“Appendix A” means Appendix A of this Approval.

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

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

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

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

“Combined Sewer(s)” means pipes that collect and transmit both sanitary Sewage and other Sewage from residential, commercial, institutional, and industrial buildings and facilities and Stormwater through a single-pipe system, but does not include Nominally Separate Sewers.

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

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

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

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

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

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

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

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

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

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

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

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

“ESC” means erosion and sediment control.

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

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

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

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

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

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

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

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

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

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

“MTD” means manufactured treatment device.

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

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

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

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

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

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

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

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

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

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

“Owner” for the purposes of this Approval means the Corporation of the City of Richmond Hill, and includes its successors and assigns.

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

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

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

“Pre-development” means the more stringent of a site’s:

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

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

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

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

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

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

“Sewage” has the same meaning as defined in section 1 of the OWRA.

“Sewage Works” has the same meaning as defined in section 1 of the OWRA.

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

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

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

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

"Source Protection Authority" has the same meaning as defined in section 2 of the CWA.

"Source Protection Plan" means a drinking water source protection plan prepared under the CWA.

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

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

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

"Stormwater" means rainwater runoff, water runoff from roofs, snowmelt, and surface runoff.

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

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

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

"TRCA" means the Toronto Region Conservation Authority.

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

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

“Vulnerable Area(s)” has the same meaning as in the CWA.

2.0 General Conditions

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

Schedule A – System Information

Schedule B – Municipal Stormwater Management System Description

Schedule C – List of Notices of Amendment to this ECA

Schedule D – General

Schedule E – Operating Conditions

Schedule F – Residue Management

Appendix A – Stormwater Management Criteria

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

3.0 Alterations to the Municipal Stormwater Management System

- 3.1 For greater certainty, the Alterations authorized under this Approval are limited to Sewage Works comprising the Authorized System which does not include municipally or Privately Owned Stormwater Works:
 - 3.1.1 On industrial, commercial, or institutional land, unless is municipality owned Stormwater Works on municipal land;
 - 3.1.1.1 Notwithstanding 3.1.1, alterations are allowed for the stormwater management facility serving 39 King Road site located at 39 King Road in the City of Richmond Hill, Ontario;
 - 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 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 in any maintenance holes as per design; and
 - b) Provide smooth flow transition to existing gravity Storm Sewers;
- 4.1.3 The Alteration shall not result in:
 - a) Adverse Effects; or
 - b) A deterioration of the approved effluent quality or quantity of downstream Stormwater Management Facilities which results in not being able to achieve the overall Stormwater performance criteria per Appendix A.
- 4.1.4 The Storm Sewer, ditch or culvert addition, modification, replacement, or extension is wholly located within the municipal boundary over which the Owner has jurisdiction or there is a written agreement in place with the adjacent property owner respecting the Alteration and resulting Sewage Works.
- 4.1.5 The Owner consents in writing to the addition, modification, replacement, or extension.
- 4.1.6 A Licensed Engineering Practitioner has verified in writing that the addition, modification, replacement, or extension meets the requirements of conditions 4.1.1 a) to h), 4.3.9, and 4.3.10.
- 4.1.7 The Owner has verified in writing that the addition, modification, replacement, or extension has complied with inspection and testing requirements in the Design Criteria.
- 4.1.8 The Owner has verified in writing that the addition, modification, replacement, or extension meets the requirements of conditions 4.1.1 i), 4.1.2 to 4.1.6, 4.3.7, and 7.2.
- 4.2 The addition of Storm Sewers or ditches can be constructed but not operated until the Stormwater Management Facilities required to service the new Storm Sewers or ditches are in operation.

- 4.3 The Owner or a Prescribed Person is not authorized to undertake an Alteration described above in condition 4.1 where the Alteration relates to the addition, modification, replacement, or extension of a Storm Sewer that:
- 4.3.1 Passes under or through a body of surface water, unless trenchless construction methods are used or the local Conservation Authority has authorized an alternative construction method.
 - 4.3.2 Has a nominal diameter greater than 2,400 mm, or equivalent sizing.
 - 4.3.3 Is a Combined Sewer.
 - 4.3.4 Is a concrete channel.
 - 4.3.5 Is designed to, at any time, transmit, store, or control sanitary Sewage.
 - 4.3.6 Converts rural road cross section ditches to curb, gutter, and Storm Sewers if the Stormwater volume and/or peak flow is increased and no water quality treatment is planned or demonstrated to be achieved, in accordance with this Approval and Appendix A, to offset the increase in Stormwater.
 - 4.3.7 Results in new discharges or increased discharges to a Municipal Drain without written approval by the Owner and a signed Municipal Drainage Engineer's Report in accordance with the *Drainage Act* R.S.O. 1990, c. D.17.
 - 4.3.8 Establishes a new outlet with direct discharge into the Natural Environment without monitoring in accordance with this Approval and without achieving the requirements set in Appendix A.
 - 4.3.9 Increases Stormwater flow of an existing Storm Sewer or ditch without achieving water quality criteria set in Appendix A in accordance with this Approval unless the existing downstream Municipal Stormwater Management System has sufficient residual transmission and treatment capacity to accommodate the additional Stormwater.
 - 4.3.10 Increases local hydraulic capacity of an existing Storm Sewer or ditch to accommodate new Stormwater flows unless the existing downstream Municipal Stormwater Management System has sufficient residual hydraulic capacity to accommodate the additional Stormwater.

4.3.11 Connects to another Municipal Stormwater Management System, unless:

- a) Prior to construction, the Owner of the Authorized System obtains written consent from the Owner or Owner's delegate of the Municipal Stormwater System being connected to; and
- b) The Owner of the Authorized System retains a copy of the written consent from the Owner or Owner's delegate of the Municipal Stormwater Management System being connected to as part of the record that is recorded and retained under condition 4.4.

4.3.12 Is part of an Undertaking in respect of which:

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

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

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

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

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

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

4.5.2 Constitutes maintenance or repair of the Authorized System.

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

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

5.1.1 Rooftop storage

- 5.1.2 Parking lot storage
- 5.1.3 Superpipe storage
- 5.1.4 Reduced lot grading
- 5.1.5 Roof leader to ponding area
- 5.1.6 Roof leader to soakaway pit
- 5.1.7 Infiltration trench
- 5.1.8 Engineered grassed swales / bioswale
- 5.1.9 Pervious pipes
- 5.1.10 Pervious catchbasins
- 5.1.11 Vegetated filter strips
- 5.1.12 Natural buffer strips
- 5.1.13 Green roofs/Rooftop gardens
- 5.1.14 Wet pond
- 5.1.15 Engineered wetland
- 5.1.16 Dry pond
- 5.1.17 Hybrid Facility
- 5.1.18 Infiltration basin
- 5.1.19 Filtration MTD
- 5.1.20 Sedimentation MTD - OGS
- 5.1.21 LID that relies on one or more of the following mechanisms to achieve treatment and control:
 - a) Evapotranspiration;
 - b) Infiltration into the ground; or
 - c) Filtration.
- 5.1.22 Any other Stormwater Management Facilities where the Director has provided authorization in writing to proceed with the Alteration.

5.2 Any Alteration to the Authorized System authorized under condition 5.1 is subject to the following conditions:

5.2.1 The design of the Alteration shall:

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

5.2.2 The Alteration shall not result in:

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

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

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

- a) Tested in accordance with the Publicly Available Specification Canadian Procedure for Laboratory Testing of Oil Grit Separators and testing data verified in accordance with the ISO 14034 Environmental Technology Verification (ETV) Standard (2016). 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 ISO 14034 verified modified mass balance 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 in the verification report specified in the testing Procedure, the sedimentation MTD sizing methodology shall use linear interpolation to calculate sediment removal efficiencies for surface loading rates that fall 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, where the depth dimension is measured from the outlet pipe invert to the floor of the unit.

- 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 verification following the requirements of the International Organization for Standardization (ISO) 14034:2016; and the field monitoring data set used to obtain GULD certification should include a minimum of three (3) events that exceed 75th percentile rainfall event with at least one hour with an intensity of 6 mm/h or greater.
 - ii. The Canadian Procedure for field Testing of Filtration Manufactured Treatment Devices and verification following the requirements of the International Organization for Standardization (ISO) 14034:2016; and the field monitoring data set used to obtain GULD certification should includes a minimum of three (3) events that exceed 75th percentile rainfall event with at least one (1) hour with an intensity of 6 mm/h or greater.
 - iii. Another testing and verification method, where the Director has communicated acceptability in writing.
- b) Where available, 15 min rainfall stations shall be used for sizing the filtration MTD using the rainfall intensity corresponding to 90% of annual runoff volume;

- c) The SS removal rate determined for the tested full scale, commercially available filtration MTD, or single full-scale commercially available cartridge or filtration module, may be applied to other model sizes of that filtration MTD provided that appropriate scaling principles are applied. Scaling the tested filtration MTD or single full-scale commercially available cartridge or filtration module, to determine other model sizes and performance without completing additional testing is acceptable provided that:
 - i The depth, composition, bulk density and gradation of media remain constant. The nominal pore size of membrane based filters remain constant.
 - ii The ratio of the system treatment flow rate to effective filtration treatment area (filter surface area) is the same or less than the tested filtration MTD; and
 - iii 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 ensures on-going operation and maintenance of the Privately Owned Stormwater Works; and
 - d) The Owner shall ensure that the Privately Owned Stormwater Works have obtained separate approval(s) under the EPA, as required.
- 5.2.7 The Alteration is wholly located within the municipal boundary over which the Owner has jurisdiction or there is a written agreement in place with the adjacent municipality respecting the Alteration and resulting Sewage Works.

- 5.2.8 The Owner consents in writing to the Alteration authorized under condition 5.1.
- 5.2.9 A Licensed Engineering Practitioner has verified in writing that the Alteration authorized under condition 5.1 meets the design requirements of conditions 5.2.1 a) to f), 5.2.4 and 5.2.5.
- 5.2.10 The Owner has verified in writing that the Alteration authorized under condition 5.1 meets the requirements of conditions 5.2.1 g), 5.2.2, 5.2.6 to 5.2.9, 5.3, 5.4, and 7.2.
- 5.3 The authorization in condition 5.1 does not apply:
 - 5.3.1 To the establishment of a regional Stormwater management end-of-pipe flood control Facility;
 - 5.3.2 Where the Alteration will result in new or increased discharges to a Municipal Drain without written approval by the Owner and a signed Municipal Drainage Engineer's Report in accordance with the *Drainage Act* R.S.O. 1990, c. D.17;
 - 5.3.3 To the establishment of a new outlet with direct discharge into the Natural Environment without treatment and monitoring in accordance with this Approval;
 - 5.3.4 Where the Alteration will service a drainage area greater than 150 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.

Schedule E: Operating Conditions

System Owner	Richmond Hill, The Corporation of the City of
ECA Number	022-S701
System Name	Stormwater Management System
ECA Issue Date	July 24th, 2026

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 shall 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 December 31, 2024, that includes or references, but is not necessarily limited to, the following information:

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

- iv The frequency of maintenance for any other Stormwater Management Facilities identified in Schedule B that collect sediment.
 - d) Operational and maintenance requirements to protect sources of drinking water, such as those included in the Standard Operating Policy for Sewage Works, and any applicable local Source Protection Plan policies;
 - e) Procedures for routine physical inspection and calibration of monitoring equipment or components in accordance with the Monitoring Plan;
 - f) Emergency Response, Spill Reporting and Contingency Plans and Procedures for dealing with equipment breakdowns, potential spills, and any other abnormal situations, including notification to the Spills Action Centre, the Medical Officer of Health, and the District Manager, as applicable;
 - g) Procedures for receiving, responding, and recording public complaints, including recording any follow-up actions taken; and
 - h) As-built drawings or record drawings of the Sewage Works.
- 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 30, 2026, 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 June 30, 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, 2024 to December 31st, 2024 and be submitted to the Director on or before April 30th, 2025.

- 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 from 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 June 30, 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 included 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 30, 2026. 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	Richmond Hill, The Corporation of the City of
ECA Number	022-S701
System Name	Stormwater Management System
ECA Issue Date	July 24th, 2026

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 0.5 ha, with the construction erosion and sediment control criteria applying also to sites <0.5 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 (LSRC 9A) Recharge Compensation Program ^[9].
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	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, or infill development 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. 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.
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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.