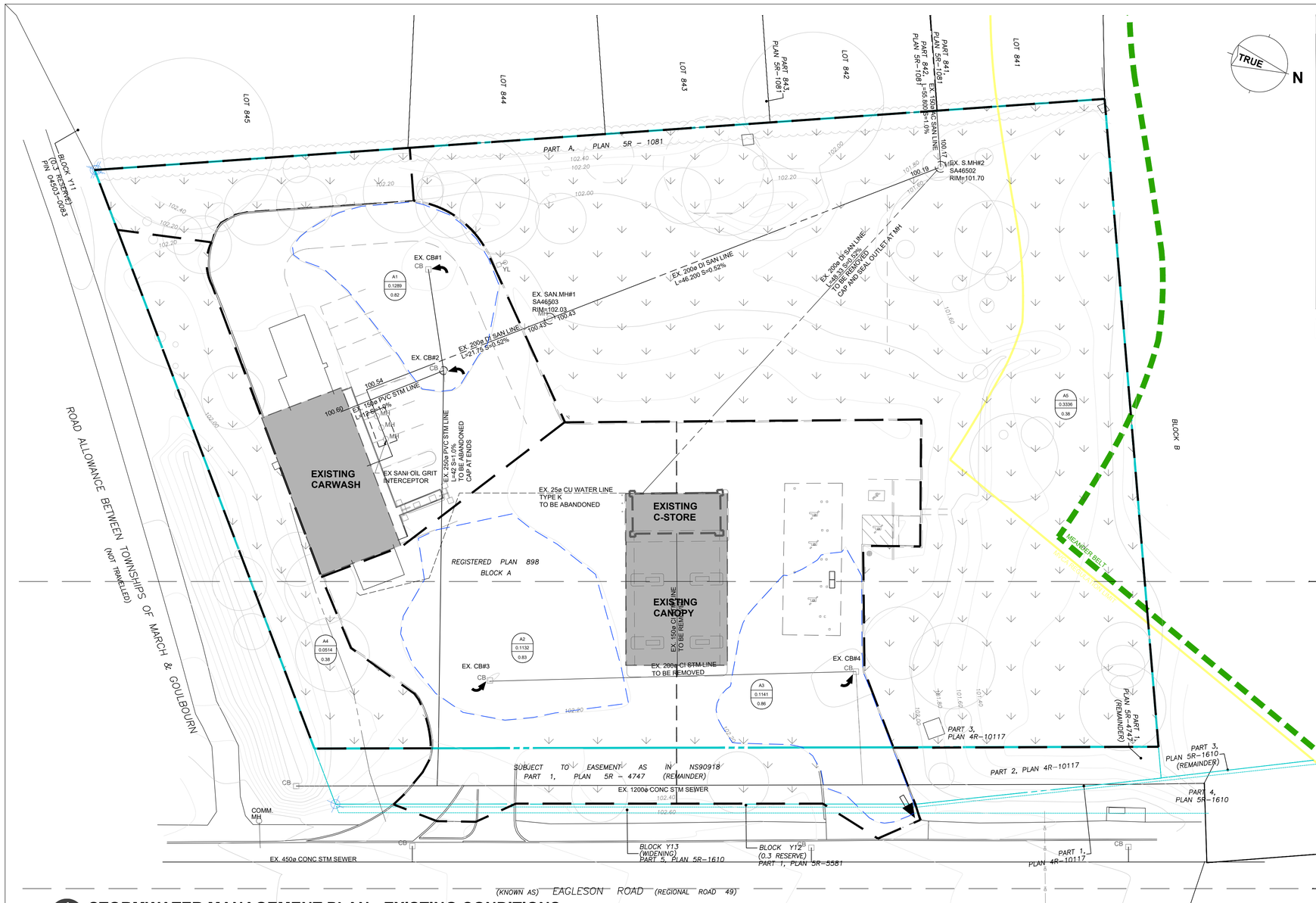


1 STORMWATER MANAGEMENT PLAN - EXISTING CONDITIONS

C103-0 SCALE:1:250

0 5 10 Meters

EX. SERVICES ARE BASED ON CITY OF OTTAWA GIS MAPPING AND BLOCK PROFILES PROVIDED BY THE CITY OF OTTAWA.

STORM SEWER DESIGN - COMPUTATION FORM

Project Name: Eagleson, Shell, EX C-store, EX car wash, EX u/g petroleum tanks — **1:5 year intensity (mm/hr):** 104.19 — Revised: 11/8/2026

Job No: 2025071 — ST Ci 2084

Drainage Area Label	Manhole U/S	Manhole D/S	Drainage Area (ha)	Sum Area (ha)	Runoff Factor C	Equivalent Area (ha) AxC	Cumulative Area (ha) AxC	U/S Tc (min)	D/S Tc (min)	Intensity (mm/hr)	Incremental Design Flow, (L/s)	Design Flow (L/s)	Restricted Flow, (L/s)	Pipe Slope (%)	Nominal Pipe Diameter (mm)	Pipe Material	Friction Coeff. (n)	Pipe Length (m)	Pipe Capacity (L/s)	Velocity (m/s)	Time of Flow (min)	Design / Cap. Ratio	Pipe OK or SURCHARGED
A1	EX CB#1 & 2	EX. 1200 CONC STM SEWER	0.1289	0.1289	0.82	0.106	0.106	10.00	10.69	104.20	30.8	30.8	30.8	1.000%	250	PVC	0.011	59.000	70.3	1.43	0.69	0.44	OK
A2	EX CB#3	EX CB#4	0.1132	0.1132	0.83	0.094	0.094	10.00	10.74	104.20	27.2	27.2	27.2	1.000%	200	CI	0.015	40.000	28.4	0.90	0.74	0.96	OK
A3	EX CB#4	EX. 1200 CONC STM SEWER	0.1141	0.1141	0.86	0.098	0.192	10.74	10.83	100.50	27.4	53.6	53.6	3.000%	200	PVC	0.011	12.500	67.1	2.14	0.10	0.80	OK

LEGEND

- CATCH BASIN — CB
- GRATED TOP MANHOLE — GTMH
- STORM MANHOLE — STMH
- MANHOLE — MH
- STORM CATCHMENT INLET
- OVERLAND ESCAPE ROUTE
- ROOF LAND USE
- ASPHALT OR CONCRETE PAVEMENT
- LANDSCAPED LAND USE
- EXTENT OF PONDING / EXTENT OF FULL SUPPLY LEVEL
- STORM CATCHMENT BOUNDARY
- STORM CATCHMENT LABEL — A2
- AREA (ha) — 0.500
- RUNOFF COEFFICIENT — 0.65
- EXISTING CONTOUR LINE INTERVAL 0.200 — 102.20

STORMWATER CALCULATIONS

STORMWATER MANAGEMENT CALCULATIONS

Rainfall Intensity = 104.2 mm/hr (1:5 Year); 178.6 mm/hr (1:100 Year)

PRE-DEVELOPMENT SITE CONDITIONS
CATCHMENT A

SURFACE	AREA (m^2)	C FACTOR
BUILDING		1.00
PAVEMENT		0.90
LANDSCAPE	7407	0.50
TOTAL	7407	0.50

$Q_{ALLOWABLE}$ = 2.78 C I A

$Q_{ALLOWABLE}$ =	1:5 Year	1:100 Year
	107.3	183.8 L/s

EXISTING DEVELOPMENT SITE CONDITIONS

CATCHMENT A4 - UNCONTROLLED TO LEFT SIDE TO DITCH (EXISTING)

SURFACE	AREA (m^2)	C FACTOR	
BUILDING	0	1.00	
PAVEMENT	0	0.90	
LANDSCAPE	514	0.30	add 25% to c value for 100 year
TOTAL	514	0.30	

Q_{A4} = 2.78 C I A

Q_{A4} =	1:5 Year	1:100 Year
	4.5	9.6

CATCHMENT A5 - UNCONTROLLED TO RIGHT SIDE TO MEANDER BELT (EXISTING)

SURFACE	AREA (m^2)	C FACTOR	
BUILDING	0	1.00	
PAVEMENT	0	0.90	
LANDSCAPE	3336	0.30	add 25% to c value for 100 year
TOTAL	3336	0.30	

Q_{A5} = 2.78 C I A

Q_{A5} =	1:5 Year	1:100 Year
	29.0	62.1

CATCHMENTS A1 - PIPE CONTROLLED

SURFACE	AREA (m^2)	C FACTOR	
BUILDING/ROOF	177	1.00	
PAVEMENT	889	0.90	
LANDSCAPE	223	0.38	add 25% to c value for 100 year
TOTAL	1289	0.82	

Q_{A1} = 2.78 C I A

Q_{A1} =	1:5 Year	1:100 Year
	31	52.7

STORAGE VOLUME REQUIRED (RATIONAL METHOD MODEL)

	1:5 Year	1:100 Year
$VOLUME_{REQ}$ =	2.7	4.7
ELEVATION REACHED =	102.00	102.10

STORAGE VOLUME PROVIDED

Surface Storage Volume at Max Full Supply Level (Elevation 102.20) = 19 m^3

CATCHMENTS A2&A3 - PIPE CONTROLLED

SURFACE	AREA (m^2)	C FACTOR	
BUILDING/ROOF	215	1.00	
PAVEMENT	1771	0.90	
LANDSCAPE	287	0.38	add 25% to c value for 100 year
TOTAL	2273	0.84	

Q_{A23} = 2.78 C I A

Q_{A23} =	1:5 Year	1:100 Year
	56	95.1

STORAGE VOLUME REQUIRED (RATIONAL METHOD MODEL)

	1:5 Year	1:100 Year
$VOLUME_{REQ}$ =	4.9	8.4
ELEVATION REACHED =	102.00	102.10

STORAGE VOLUME PROVIDED

Surface Storage Volume at Max Full Supply Level (Elevation 102.20) = 51 m^3

TOTAL FREE FLOW + CONTROLLED FLOW =

$Q_{A1} + Q_{A23} - Q_{A4} + Q_{A5}$ =	1:5 Year	1:100 Year
	119.7	219.5

$Q_{PR} > Q_{ALL}$
$VOL_{REQ} < VOL_{AVL}$

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REGISTRATION

LICENSED PROFESSIONAL ENGINEER V. A FAAS 100507645 Nov. 13 2026 PROVINCE OF ONTARIO

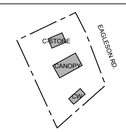
ISSUE/REVISION

I/R	DATE	DESCRIPTION
B	2026-11-13	ISSUED FOR SPCA
A	2026-06-26	ISSUED FOR SPCA

DRAWN BY

ED

KEY PLAN



GLOBAL PROJECT ID NUMBER

CAN00---

SHEET TITLE

SITE
STORMWATER MANAGEMENT PLAN
EXISTING CONDITIONS

FILE NUMBER: D07-12-26-0056
CTM DESIGN FILE NAME

2025071_C103-0

SHEET NUMBER

C103-0

Project Management Initials: Designer: ED/YF Checked: YF Approved: ANSI D 864mm x 559mm

Last Plotted: 2026-11-13

Last Plotted: YFAAS(2026-11-08)
Filename: 2025071_C103-0.DWG