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PROPOSED RETAIL DEVELOPMENT
RETAIL PAD C
455 McNEELY AVE.
CARLETON PLACE, ONTARIO

SITE SERVICING
AND
STORM WATER MANAGEMENT
REPORT

Prepared For:

LOBLAW COMPANIES LIMITED

ORIGINAL: DECEMBER 2025

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Note: This report should be read in conjunction with the complete Site Servicing & Grading Plans prepared by The Odan/Detech Group Inc.

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STANDARD LIMITATIONS

This report was prepared by The Odan/Detech Group Inc. (Odan/Detech) for the client in accordance with the agreement between Odan/Detech and the client. This report is based on information provided to Odan/Detech which has not been independently verified. The disclosure of any information contained in this report is the sole responsibility of the client. The material in this report, accompanying spreadsheets and all information relating to this activity reflect Odan/Detech judgment in light of the information available to us at the time of preparation of this report and any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Odan/Detech accepts no responsibility for damages, if any, suffered by a third party as a result of decisions made or actions based on this report.

Odan/Detech warrants that it performed services here under with that degree of care, skill, and diligence normally provided in the performance of such Odan/Detech in respect of projects of similar nature at the time and place those services were rendered. Odan/Detech disclaims all other warranties, representations, or conditions, either express or implied, including, without limitation, warranties, representations, conditions of merchantability or profitability, or fitness for a particular purpose.

This Standard Limitations statement is considered part of this report.

1. BACKGROUND

The property under study is a 5.58ha (13.78 acre) site. The site is located at McNeeley Ave. and Hwy. 7 (Trans-Canada Hwy.). The site is bound by Commercial Lands to the west, existing Commercial lands to the north, Hydro Easement and Residential, Hwy. 7 to the east and McNeeley Ave. to the south.

The site is presently developed and zoned as a Commercial use (see aerial view). There are small areas that remain undeveloped that form part of this proposed Retail Pad C. The site was previously approved and the design of the full development was completed by Bronte Engineering Limited.

It is proposed to develop the Site with a new Commercial Retail Pad, Retail Pad C. The Site Plan is shown in Appendix A including an Aerial of the existing lands.

Refer to the Architectural Site Plan prepared by Turner Fleischer Architects Inc. (TFAI) for further information regarding the proposed layout of the site including the building locations, asphalt, curb and landscape.

2. SCOPE OF WORK

THE ODAN/DETECH GROUP INC. was retained by **LOBLAW COMPANIES LIMITED** to review the site, collect data, evaluate the site for the proposed industrial use and present the findings in support of a Site Plan Application. The scope of work in brief involves the following:

a) Collecting existing servicing drawings from the Carleton Place in order to establish availability and feasibility of site servicing.
b) Meetings/conversations with Carleton Place Planners & Engineers and other local governing authorities.
c) Meetings/conversations with Consulting team to coordinate.
d) Evaluation of the data and presentation of the findings in this report that will in support of a Site Plan Application.

3. SANITARY WASTEWATER DISPOSAL

Existing Infrastructure

There is an existing sanitary sewer located within a Municipal Easement at the front of the existing food store. The existing sanitary sewer is a 375mm diameter sewer flowing in a northerly direction towards the existing Hydro Easement and Residential lands. Refer to Site Servicing plans for location of the existing Sanitary sewer.

Proposed system

The proposed development will drain by gravity from Retail Pad C to the existing 300mm diameter sanitary sewer within the Municipal Easment. During improvements of the sanitary sewer Carleton Place provide a 200mm sanitary sewer stub for connection of Retail Pad C. It is proposed to connect the Retail Pad C to the connection provided.

Proposed Sanitary Flows

For calculating the proposed population/flows for Retail C standards for population densities and flow rates from Carleton Place Water & WasteWater Master Plan prepared by Stantec Consulting Ltd. dated April 29, 2022 Table 7 will be used:

Table 7: Recommended Sanitary Flow Generation Parameters

Design Parameter		Existing (2020) Conditions			Future Development (Growth)		
		Design [1]	Annual	Rare	Design	Annual	Rare
Residential	Average Flow Rate	392 L/c/d			280 L/c/d	200 L/c/d	200 L/c/d
	Peaking Factor	Harmon Peaking Factor with Correction Factor: 0.8	Harmon Peaking Factor with Correction Factor: 0.6	Harmon Peaking Factor with Correction Factor: 0.6	Harmon Peaking Factor with Correction Factor: 0.8	Harmon Peaking Factor with Correction Factor: 0.6	Harmon Peaking Factor with Correction Factor: 0.6
Extraneous Flows [2]	Peak Rate	0.33 L/s /effective gross ha	0.30 L/s /effective gross ha 0.40 L/s /effective gross area for FM#6 sub-basin, taken from J.L. Richards (2014) [3]	0.55 L/s /effective gross ha 3.0 L/s/ha for FM#6 sub-basin (higher rate from 2018 Technical Bulletin)	0.33 L/s /effective gross ha	0.30 L/s /effective gross ha 0.40 L/s /effective gross area for FM#6 sub-basin, taken from J.L. Richards (2014) [3]	0.55 L/s /effective gross ha 3.0 L/s/ha for FM#6 sub-basin (higher rate from 2018 Technical Bulletin)
Institutional/ Commercial	Average Flow Rate	-	-	-	28,000 L/gross ha/d	17,000 L/gross ha/d	17,000 L/gross ha/d
	Peaking Factor	-	-	-	ICI contribution > 20% : 1.5 ICI contribution ≤ 20% : 1.0	ICI contribution > 20% : 1.0 ICI contribution ≤ 20% : 1.0	ICI contribution > 20% : 1.0 ICI contribution ≤ 20% : 1.0
Light Industrial	Average Flow Rate	-	-	-	35,000 L/gross ha/d	10,000 L/gross ha/d	10,000 L/gross ha/d

Summarizing the above Table 7 the following will be used for evaluating the flows from Retail Pad C and existing Commercial Site (not including CTC Lands).

- flow rate = 28,000 L/gross ha/day
- Infiltration to be 0.00033$m^{3/}$sec/ha (0.33L/s/ha)
- Peaking Factor of 1.0 will be used.

The following table summarizes the proposed flow for the residential site. Refer to detailed calculations in Appendix B.

TABLE 1 - Proposed Commercial flows from the Site

Area (ha)	Population	Residential Flow (l/s)	Commercial Flow (l/s)	Infiltration Flow (l/s)	Total Flow (l/s)
5.58	-	-	1.81	1.84	**3.65**

Based on the above criteria the flows from the site will be 3.74 l/sec.

There is one sanitary sewer located on within the Easement to the west. The proposed site will connect to this existing 375mm diameter sewer at the Easement where it will continue to flow to the north.

Please refer to the Site Servicing plan in Appendix E for detailed information including location of existing and proposed services.

4. WATER DISTRIBUTION

Existing Infrastructure

There is presently a 300mm watermain on site located within the Municipal Easement in front of the existing food store that can service the proposed development. The connection point will be located near the sanitary sewer connection provided by Carleton Place to reduce impact at the front of the food store.

Proposed System

Based on Carleton Place water modelling there will be adequate flow from the existing 300mm dia. water main. A 50mm domestic and 200mm fire main connection, reduced to 150mm after the fire hydrant will service the proposed Retail Pad C.

Domestic & Fire Water Requirements:

The unit rate and peaking factors of water consumption, minimum pipe size and allowable pressure in line were established based on the following criteria (70 p/ha, 290L/c/d).

The Water demands were calculated as follows:

a)	Average day domestic demand – (Population 390)		1.22 L/sec
b)	Max day demand -	1.4 x daily demand	1.7 L/sec
c)	Peak hour demand -	3.0 x daily demand	3.7 L/sec
d)	Fire flow demand -	Based on FUS	33 L/sec
e)	Total Development Water Demand		36.7 L/sec

Fire Flow – All calculations to be verified by Fire Consultant at time of sprinkler design. The demand for the sprinkler system has been calculated based on the FUS and shall be finalized at the Building Permit stage based on the Ontario Building Code (OBC).

Condition	**Allowable Pressures (kPa)**	
	Min.	**Max.**
1) Minimum Hour	275	700
2) Peak Hour	275	700
3) Peak Day + Fire Flow	140	700

The unit rate and peaking factors of water consumption, minimum pipe size and allowable pressure in line were established from the Region Design Manual Standards.
The pressures and volumes must be sufficient for peak hour conditions and under fire conditions as established by the Ontario Building Code 2006. The minimal residual pressure under fire conditions is 140 kPa (20.3 psi).

WATER SUPPLY FOR PUBLIC FIRE PROTECTION , FIRE UNDERWRITERS SURVEY 2020
GUIDE FOR DETERMINATION OF REQUIRED FIRE FLOWS

$F = 220 \times C \times \sqrt{A}$
Where:

F = required fire flow in liters per minute

C= Coefficient related to the type of construction
A = the total floor area in square meters
(excluding basements) in the building

Coefficient related to type of construction	
1.5	Type V - Wood Frame
0.8	Type IV-A - Mass Timber Construction
0.9	Type IV-B - Mass Timber Construction
1	Type IV-C - Mass Timber Construction
1.5	Type IV-D - Mass Timber Construction
1	Type III - Ordinary Construction
0.8	Type II - Non combustible
0.6	Type I - Fire Resistive

LOCATION: Retail Pad C
OBC OCCUPANCY: Commercial
BUILDING FOOT PRINT (m2): 1589
OF STOREYS: 1

PROJECT No: 01215
PROJECT: Loblaw Companies Limited
455 McNeeley Ave.
Carelton Place

Contents	Charge
Non-Combustible	-25%
limited Combustible	-15%
Combustible	0%
Free Burning	15%
Rapid Buring	25%

CONSTRUCTION CLASS: Fire Resistive

AUTOMATED SPRINKLER PROTECTION

		Credit	Total
NFPA 13 sprinkler standard	yes	30%	50%
Standard Water Supply	yes	10%	
Fully Supervised System	yes	10%	
		50%	

CONTENTS FACTOR: Limited Combustible — CHARGE: -15%

EXPOSURE 1 (south)	Distance to Exposure Building (m)	>30	0%
	Length - Height		
EXPOSURE 2 (east)	Distance to Exposure Building (m)	>30	0%
	Length - Height		
EXPOSURE 3 (west)	Distance to Exposure Building (m)	>30	0%
	Length - Height		
EXPOSURE 4 (north)	Distance to Exposure Building (m)	>30	0%
	Length - Height		
		Total:	0%

no more than 75%

Separation	Charge
0-3 m	25%
3.1 -10 m	20%
10.1 - 20 m	15%
20.1 - 30 m	10%
Greater than 30m	0%

ARE BUILDINGS CONTIGUOUS: NO

FIRE RESISTANT BUILDING Are vertical openings and exterior vertical communications protected with a minimum one (1) hr ratin: No

CALCULATIONS

	C =	0.6		TYPE I - Fire Resistive
	A =	1589	m2	(2 largest floors + 50% floors above)
	F =	5262	L/min	
Round to Nearest 1000 L/min	F =	5000	L/min	must be > 2000 L/min

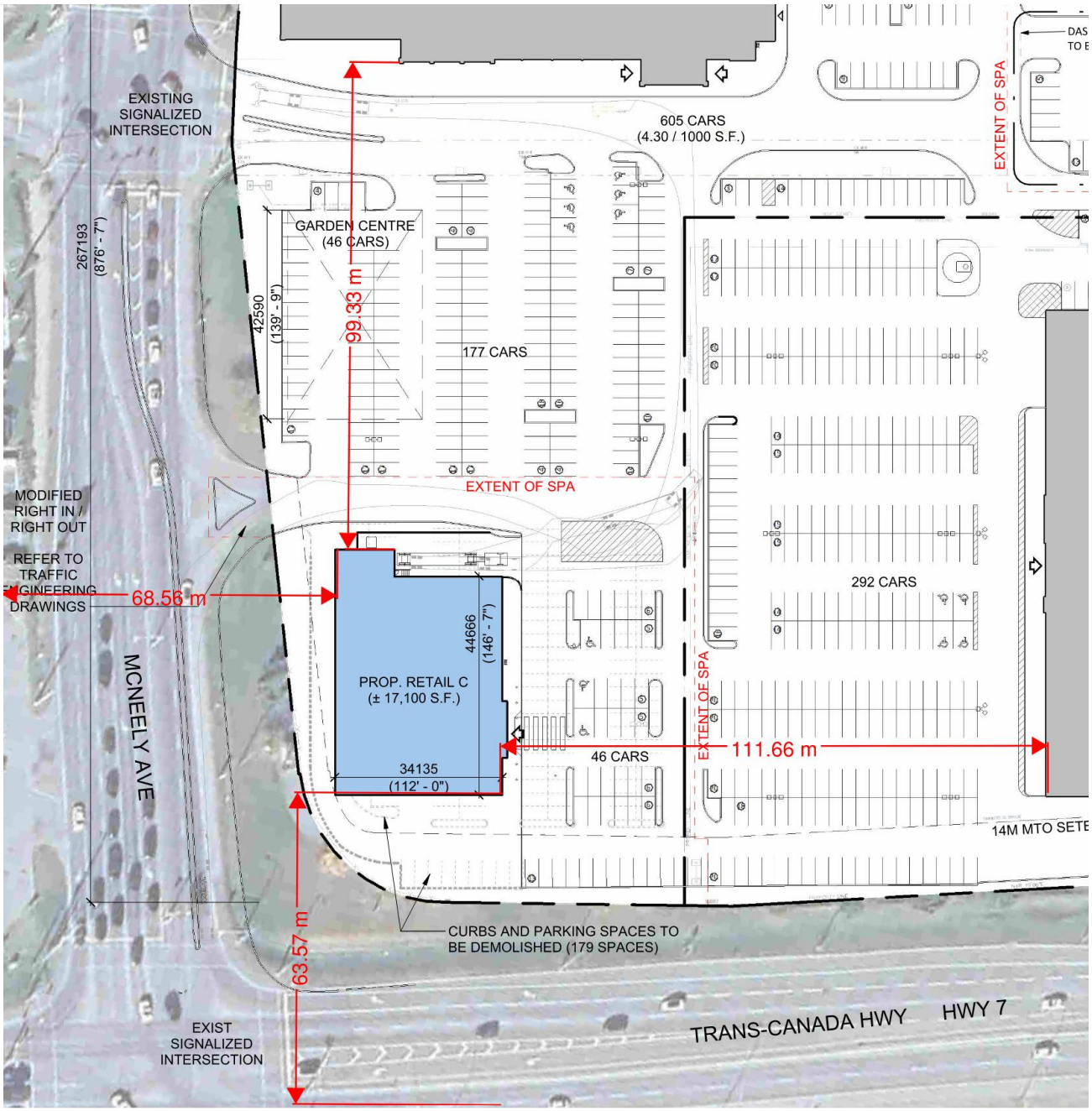
STOREY AREAS m2	
1589	Ground
	Mezzanine

CORRECTION FACTORS:

OCCUPANCY	-750	L/min
FIRE FLOW ADJUSTED FOR OCCUPANCY	4250	L/min
REDUCTION FOR SPRINKLER	-2125	L/min
EXPOSURE CHARGE	0	L/min

REQUIRED FIRE FLOW F = 2125 L/min

Round to Nearest 1000 L/min	**F =**	2000	L/min	528 usgm
	F =	33	L/sec	


EXISTING SIGNALIZED INTERSECTION
605 CARS
(4.30 / 1000 S.F.)
EXTENT OF SPA
GARDEN CENTRE
(46 CARS)
267193
(876' - 7")
42590
(139' - 9")
99.33 m
177 CARS
EXTENT OF SPA
MODIFIED RIGHT IN / RIGHT OUT
REFER TO TRAFFIC ENGINEERING DRAWINGS
68.56 m
292 CARS
44666
(146' - 7")
PROP. RETAIL C
(± 17,100 S.F.)
EXTENT OF SPA
111.66 m
46 CARS
34135
(112' - 0")
MCNEELY AVE
14M MTO SETE
CURBS AND PARKING SPACES TO BE DEMOLISHED (179 SPACES)
63.57 m
EXIST SIGNALIZED INTERSECTION
TRANS-CANADA HWY
HWY 7

The available fire flow based on Carleton Place Water Model is as follows:

Carleton Place - 2021 Model Update

Fire Flow Table

ID	Label	Zone	Fire Flow (Available) (L/s)	Flow (Total Available) (L/s)	Pressure (Residual Lower Limit) (kPa)	Pressure (Calculated Residual) (kPa)	Junction w/ Minimum Pressure (Zone)	Pressure (Calculated Zone Lower Limit) (kPa)
212	J-229	Zone-1	489	489	140	198	J-972	140
1229	J-895	Zone-1	486	486	140	140	J-891	145
306	J-293	Zone-1	485	486	140	179	J-137	140
330	J-176	Zone-1	482	482	140	140	J-818	175
398	J-335	Zone-1	479	479	140	140	J-336	155
468	J-75	Zone-1	455	456	140	179	J-972	140
1220	J-890	Zone-1	448	448	140	160	J-891	140
536	J-818	Zone-1	436	436	140	140	J-223	159
583	J-865	Zone-1	436	437	140	141	J-866	140
397	J-382	Zone-1	433	434	140	143	J-920	140
322	J-311	Zone-1	421	422	140	148	J-920	140
343	J-115	Zone-1	420	420	140	158	J-920	140
1694	J-1009	Zone-1	410	411	140	140	J-1008	145
298	J-201	Zone-1	401	401	140	140	J-972	184
1690	J-1008	Zone-1	400	400	140	140	J-1007	147
405	J-223	Zone-1	396	397	140	140	J-818	208
234	J-107	Zone-1	395	395	140	152	J-137	140
557	J-839	Zone-1	389	390	140	140	J-384	236
1686	J-1007	Zone-1	389	389	140	140	J-995	143
1661	J-995	Zone-1	376	376	140	140	J-912	150
206	J-27	Zone-1	376	376	140	140	J-972	271
1618	J-978	Zone-1	370	370	140	140	J-903	199
204	J-222	Zone-1	368	369	140	140	J-214	168
576	J-858	Zone-1	368	368	140	154	J-920	140
338	J-128	Zone-1	365	365	140	143	J-972	140
454	J-214	Zone-1	364	365	140	140	J-804	153
1293	J-912	Zone-1	361	362	140	140	J-913	148
1207	J-885	Zone-1	361	361	140	140	J-884	148
1674	J-1001	Zone-1	361	361	140	140	J-1000	141
1266	J-902	Zone-1	359	359	140	140	J-975	210
1167	J-871	Zone-1	358	358	140	191	J-972	140
302	J-194	Zone-1	357	357	140	163	J-137	140
1297	J-913	Zone-1	357	357	140	140	J-907	147
1670	J-999	Zone-1	352	352	140	140	J-1000	140
1268	J-903	Zone-1	352	352	140	140	J-979	175
522	J-804	Zone-1	351	351	140	140	J-219	141
1282	J-907	Zone-1	351	351	140	140	J-904	144
438	J-218	Zone-1	350	351	140	140	J-219	140
584	J-866	Zone-1	350	351	140	140	J-13	145
462	J-120	Zone-1	349	350	140	140	J-127	146
1678	J-1003	Zone-1	349	349	140	140	J-1002	199
404	J-127	Zone-1	349	349	140	140	J-120	147
349	J-42	Zone-1	348	348	140	153	J-41	140
323	J-230	Zone-1	346	346	140	140	J-137	142
1676	J-1002	Zone-1	345	345	140	140	J-1003	206
1278	J-906	Zone-1	343	343	140	141	J-904	140
577	J-859	Zone-1	339	339	140	169	J-861	140
1672	J-1000	Zone-1	335	336	140	140	J-999	170
235	J-264	Zone-1	334	335	140	140	J-265	161
228	J-375	Zone-1	334	334	140	140	J-265	151
1680	J-1004	Zone-1	334	334	140	140	J-1006	168

The nearest ID 583 J-865 nearest the site provides for a Fire Flow (Available) of 436 L/sec at 140 KPa (20 PSI). The Fire Flow required for Retail Pad C has been calculated at 33 L/sec (Peak Hour) of 36.7 l/sec.

Based on the water model and FUS calculations there will be adequate flows for delivering both fire and domestic flows to Retail Pad C.

Other Design Considerations

The water mains within the proposed site shall be installed in accordance with the current Region specifications and requirements.

If there is a crossing of the water main and a sewer, the water main shall cross above the sewer with sufficient vertical separation to allow for proper bedding and structural support of the water main (0.5m minimum).

In cases where there is a conflict with the elevation of the sewer and the water main such that the water main cannot cross above the sewer, the water main has been designed to cross below the sewer subject to the following conditions.

a) There shall be a minimum vertical separation of 0.5m between the bottom of the sewer pipe and the top of the water main,
b) The water main shall be lowered below the sewer using vertical thrust blocks and restraining joints,
c) The length of the water main pipe shall be centered at the point of crossing so that the joints are equidistant and as far as possible from the sewer, and
d) The sewer shall be adequately supported to prevent joint deflection and settling.

5. STORMWATER MANAGEMENT

EXISTING CONDITIONS

The existing storm sewer service for the site is located at the north corner of the development. The existing sewer is a 600mm concrete storm sewer with a 320xmm x 320mm Orifice Plate to control flows from the development to the outlet Headwall, refer to Exhibit A below.

Refer to Site Servicing Plan for additional details. The storm sewer was provided to the development during construction of the original Commercial Site development. This will be utilized for storm drainage for Retail Pad C and provides upstream flow control for both the LCL and CTC Sites.

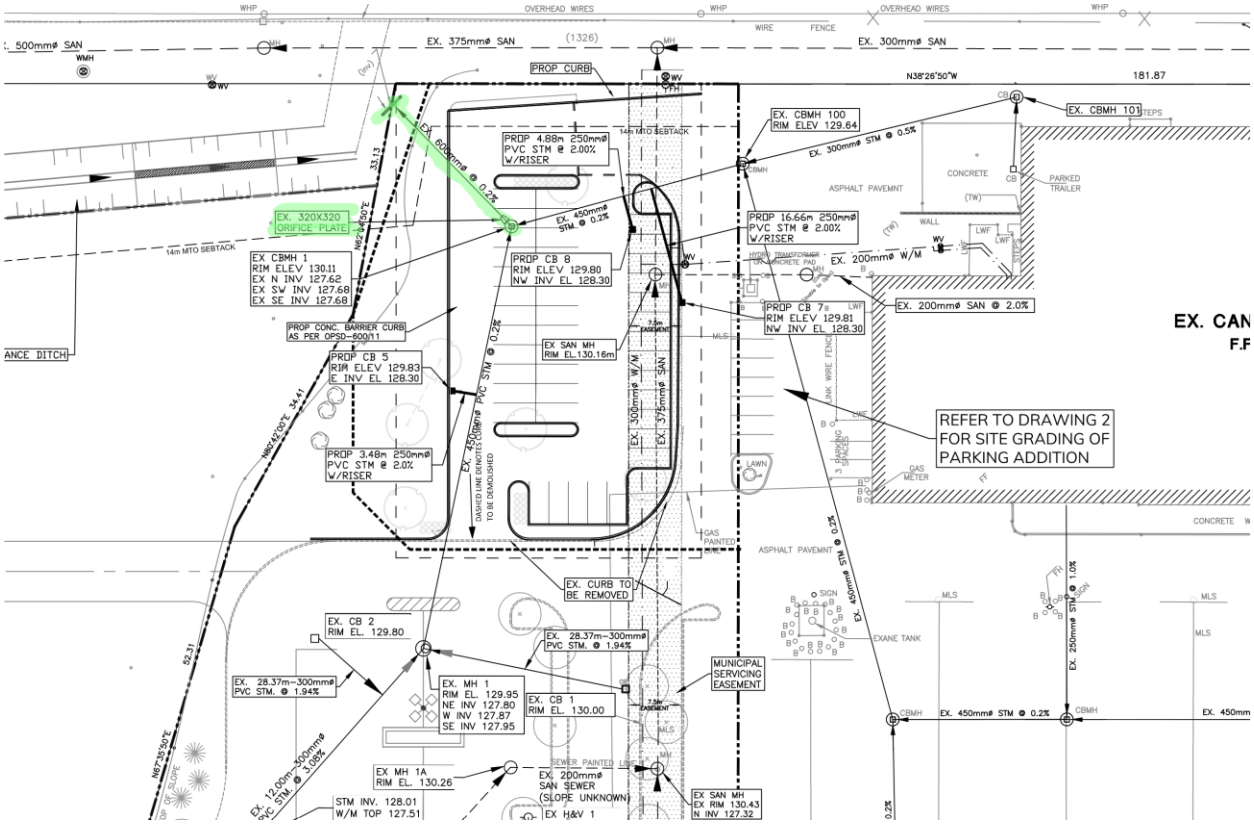


Exhibit A – Exisitng Storm Location

PRE-DEVELOPMENT

The proposed development was included within the original commercial development design completed by Bronte Engineering Limited (BEL). As such the original tributary plan and report by BEL established the predevelopment conditions for the proposed site and the post devlepoment allowable flows.

The allowable flows for the development were established as follows from Bronte Engineering Limited report:

Carleton Place
Town of Carleton Place
Stormwater Management Design Plan
Bronte Engineering Limited Project No. 97 2590
Date: November 1998
Revised: April 1999

As provided within the above noted Stormwater management report Section 6.0 All Flows for the South Site (which includes the Food Store, Canadian Tire Store and Retail Pad C) are to be controlled as follows.

5 Year Allowable = 380.1 L/sec

100 Year Allowable = 650.1 L/sec

In order to establish the post development flows from the site with the addition of parking and Retail Pad C and OTTHYMO Model was created to match the condition in the BEL and updated to include the new layout and proposed Retail Pad C. The original Report completed by BEL include for full development of the site which consisted of mainly asphalt and building pad with minimal landscape areas. As such the result of the post development site with Retail C added are consistent with the original stormwater management strategy and report prepared by BEL. The following plans show the original post development tributary area plan by BEL and the updated post development tributary area plan prepared by Odan/Detech for the addition of Retail Pad C.

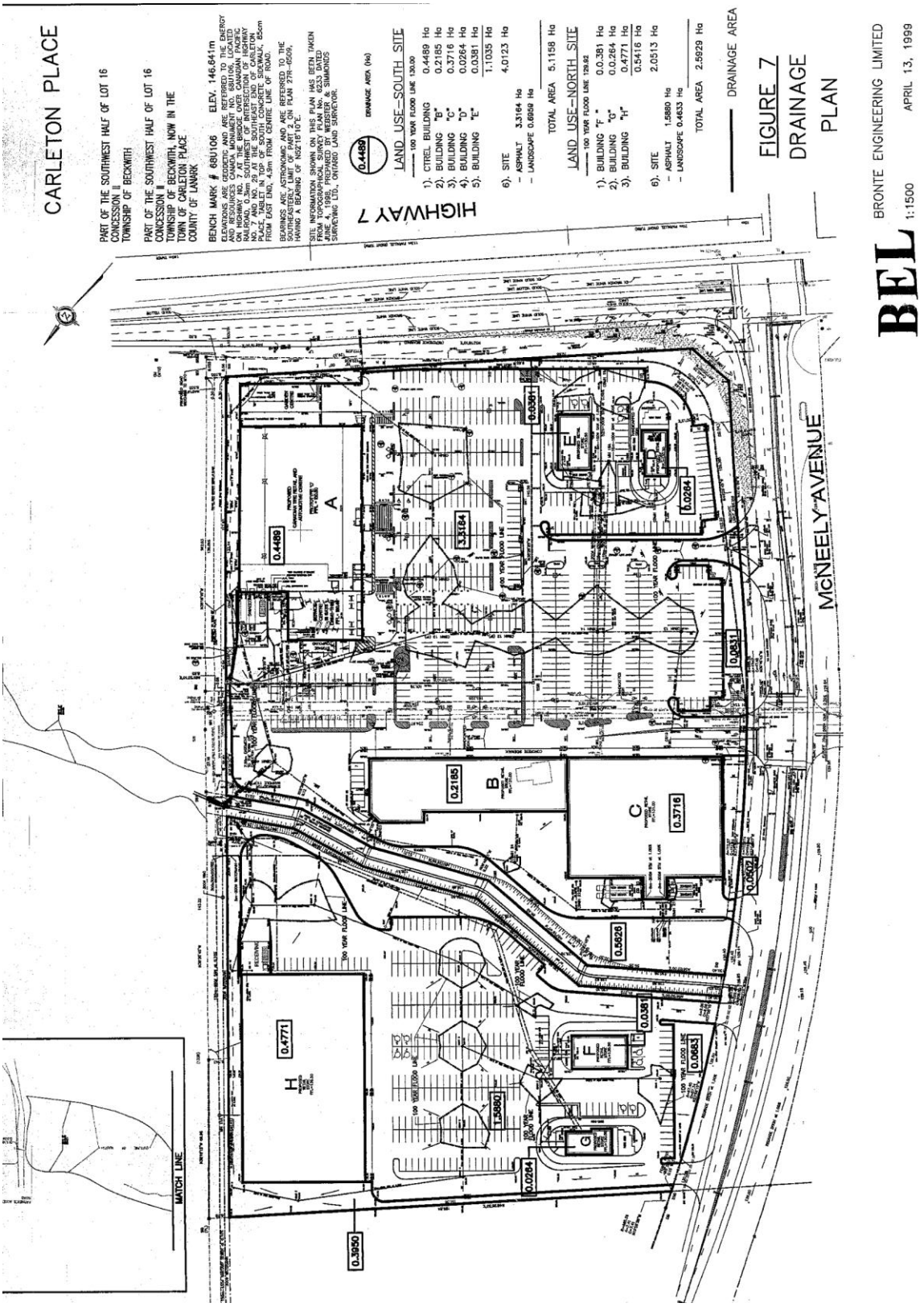


Exhibit B – Post Development Storm Tributary Area Plan – BEL - Original Development -

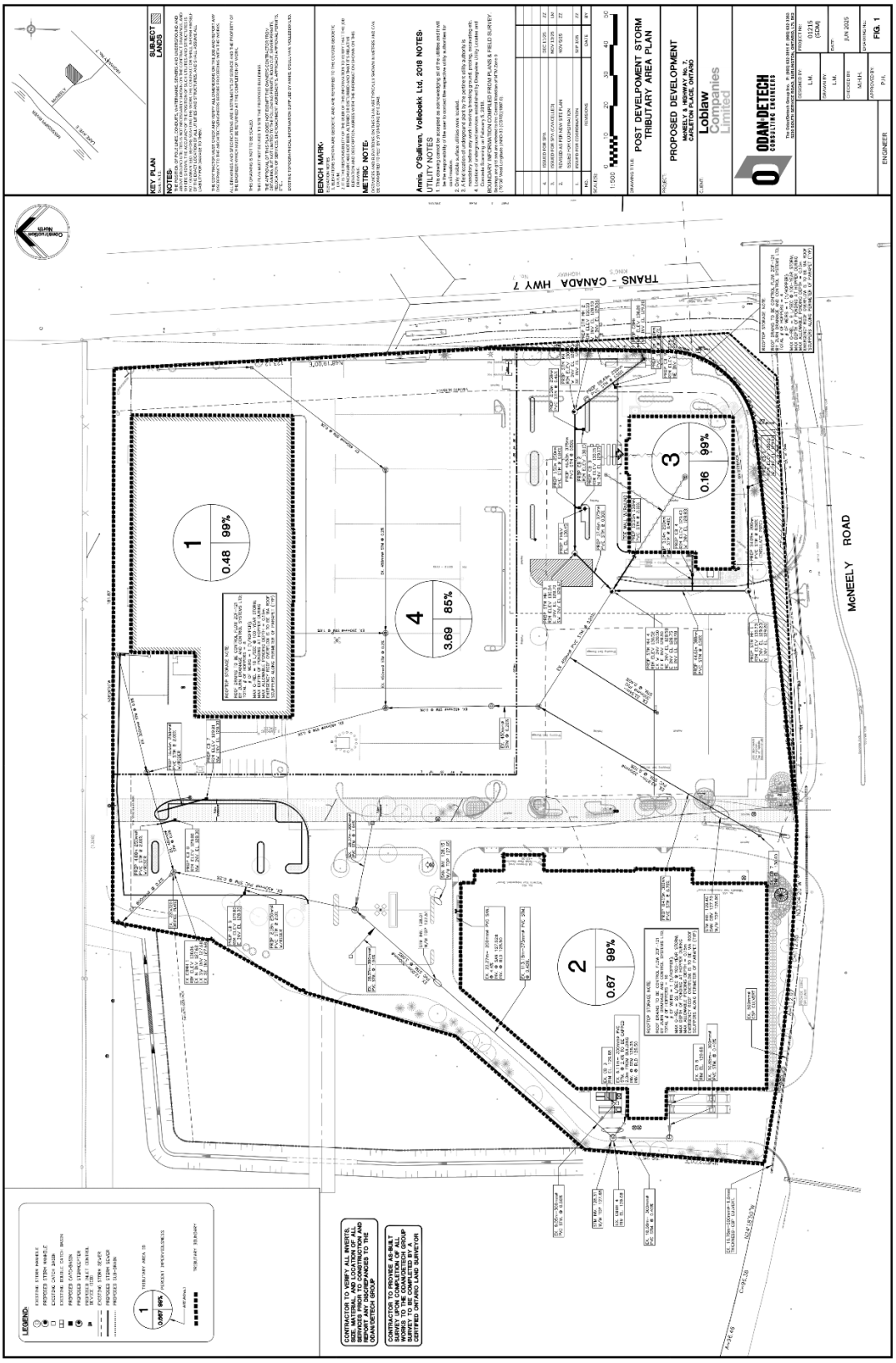


Exhibit C – Post Development Storm Tributary Plan – Retail Pad C –

POST DEVELOPMENT ANALYSIS

To control the post development flows to the allowable flow rates, on-site storage will be required in the form of above and below ground storage and rooftop storage. Visual OTTHYMO will be used to model and establish the post development flows and determine the detention volume required. The following Table 3 summarizes the parameters used in OTTHYMO to characterize the post development catchment areas.

TABLE 3 - Catchment Characteristics for the Post-Developed Site

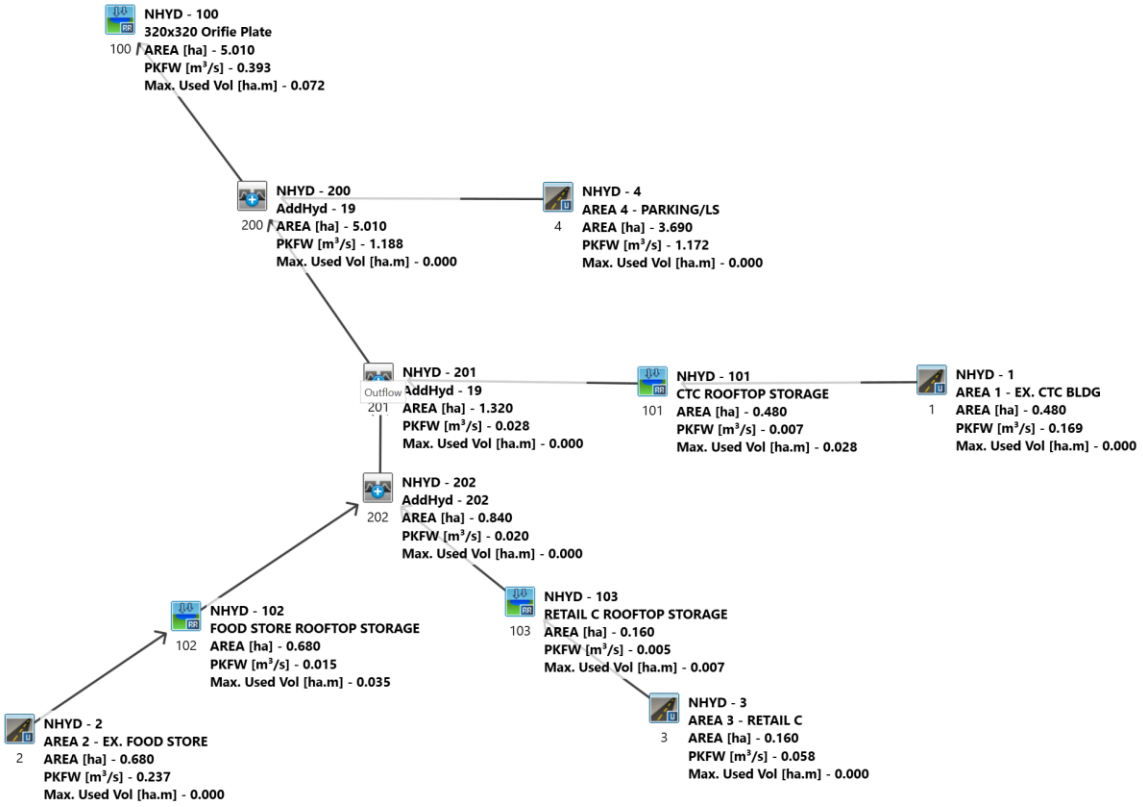
Area ID Description	Area (ha)	Hydrograph Method	% impervious	imperviousness directly connected %	Loss Method for Pervious Area	CN for Pervious Area	Initial Abstraction for Pervious Area (mm)	Time to peak (T_p)
1	0.48	StandHyd	99	99	SCS	99	1	-
2	0.67	StandHyd	99	99	SCS	99	1	-
3	0.16	StandHyd	99	99	SCS	99	1	-
4	3.69	StandHyd	85	85	SCS	99	1	-
TOTAL	**5.00**							

All flows will be collected via area drains, trench drains, catch basins and rooftop drains and routed through storm sewers and appurtenances to downstream orifice device. Flows captured by these structures will be conveyed via storm sewer pipes by to the orifice device where they will back up into the storm sewers system and surface storage parking lot areas and oversized stormwater pipes for additional storage.

Refer to Appendix D for Stage-Storage-Discharge parameters of the noted orifice plate 320mm x 320mm as designed by Bronte Engineering Limited.

Refer to Site Servicing and Grading Plan for orifice location and ponding storage areas.

Post-Development Otthymo Model – 100 Design Storm -



The following Table 4 summarizes the post development stormwater flows and required storage volumes.

		TABLE 4 – Post Development Flows and Storage					
Tributary Area ID	**Area (ha.)**	**Qall 5 Year (l/sec)**	**Qcalc 5 Year (l/sec)**	**Qall 100 Year (l/sec)**	**Qcalc 100 Year Flow (l/sec)**	**Storage Volume Provided (cu.m.)**	**Storage Volume Required (cu.m.)**
1-4	5.00	380.1	380	650.1	393	824	**720**

As demonstrated above the post development flows and storage volumes are at or below the allowable flows and provided storage.

6. STORM WATER QUALITY

Storm water quality for the development was provided via an oil/grit separator STC 6000 during the original development. As the hardscape area has remained similar to the original design parameters no changes to this device area proposed.

7. SOILS REPORT

A current geotechnical study is not available for the development at this time.

Based on previous Geotechnical Investigations the site has bedrock near the surface. This should be considered for any construction activies related to the installation of deep services.

8. EROSION AND SEDIMENT CONTROL

Since the new construction will utilize excavation, erosion control must be utilized. Silt fencing will be incorporated around the site as ths site is located within an urban boundary that is bounded by existing roads and commercial developments. In order to prevent erosion silt fencing, silt sacks, dust suppression and scarification of exposed soil can be utilized. In addition, a mud mat will be utilized at the construction entrance. A plan for erosion and sediment control has been prepared in accordance with Town and current Erosion and Sediment Control Guidelines for Urban Development. See servicing drawings for ESC plan and details.

9. CONCLUSIONS

From our investigation the site is serviceable with sanitary and storm sewers & water supply for domestic and firefighting purposes. There is adequate access from McNeely Ave. The site is favourable for the proposed development of Retail Pad C and related parking as shown on the Site Plan.

SUMMARY OF SERVICING

The foregoing report has demonstrated that there are existing mains available to provide sanitary, storm and water service to the subject development.

TABLE 5 - Summary Of Servicing Information		
Stormwater Management		
	Allowable 5 Year (l/sec)	Actual 5 Year (l/sec)
Allowable Discharge Rate (Stormwater Quantity)	380.1	380
Sanitary & Water Servicing		
Total Fire-Domestic Flow Required	36.7 l/sec	
Peak Sanitary Discharge Rate	3.65 L/sec	

Respectfully Submitted;
The Odan Detech Group Inc.

LICENSED PROFESSIONAL ENGINEER
P.J. HECIMOVIC
100126980
PROVINCE OF ONTARIO
Dec. 19/25

Paul Hecimovic, P.Eng

Mark Harris
Digitally signed by Mark Harris
DN: C=CA, E=mark@odandetech.com, O=The Odan/Detech Group Inc., CN=Mark Harris
Date: 2025.12.22 10:29:58-05'00'

Mark Harris, Dipl.Tech.

10. REFERENCES:

1. Storm water Management Planning and Design Manual, Ontario Ministry of the Environment, March 2003.

2. New Jersey Storm Water Best Management Practices Manual, April 2004.

3. EPA SWMM 5, Build 5.0.022, Manual.

4. **LOW IMPACT DEVELOPMENT STORMWATER MANAGEMENT MANUAL**, 2008, by Credit Valley Conservation Authority and Toronto Region Conservation Authority.

5. **THE EROSION AND SEDIMENTATION CONTROL GUIDELINES FOR URBAN CONSTRUCTION** prepared by the Greater Golden Horseshoe Area Conservation Authorities.

6. **ENGINEERING REPORT, APRIL 1999**, by Bronte Engineering Limited.

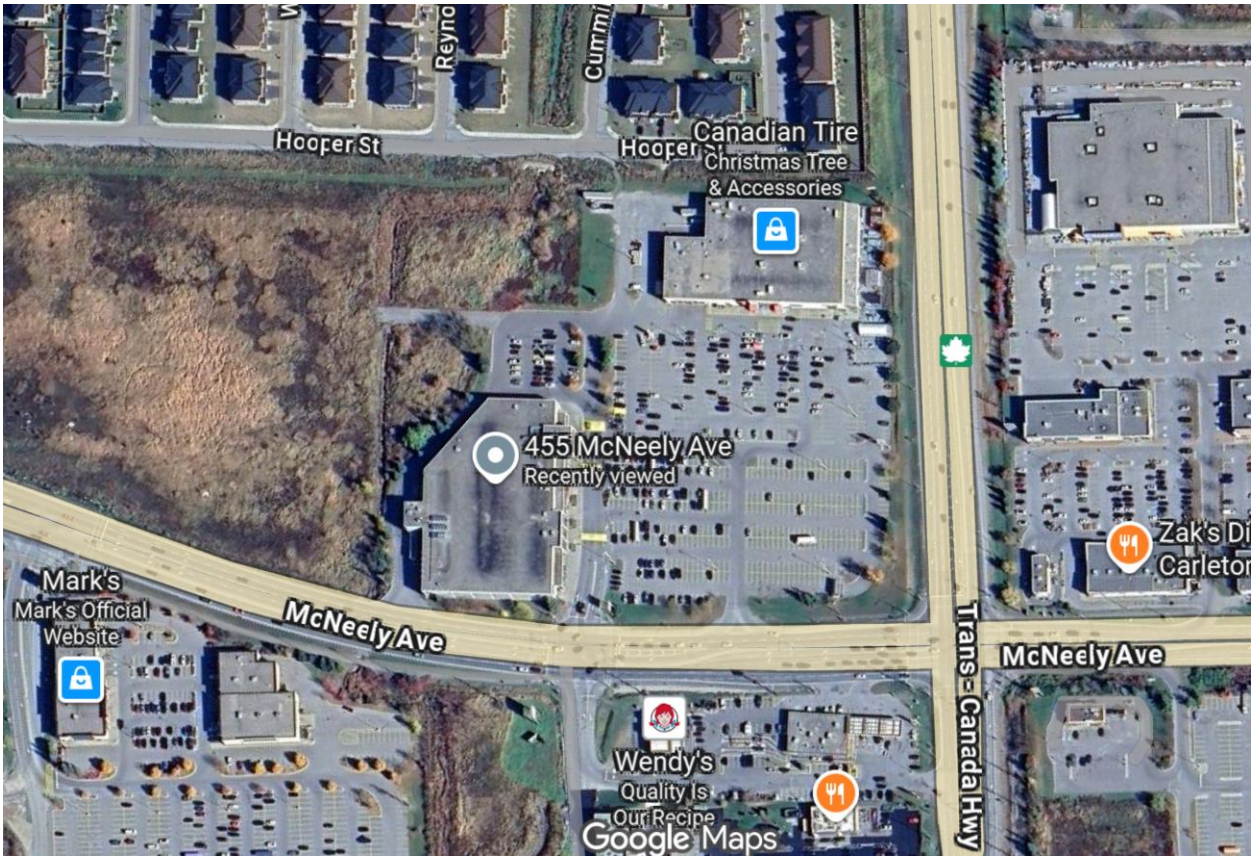
7. Town of Carleton Place 2021 WaterCAD Model Update by J.L. Richards dated March 11 2021.

8. Carleton Place Water & Wastewater Master Plan – Phase 1 Report – Final prepared by Stantec date April 29 2022.

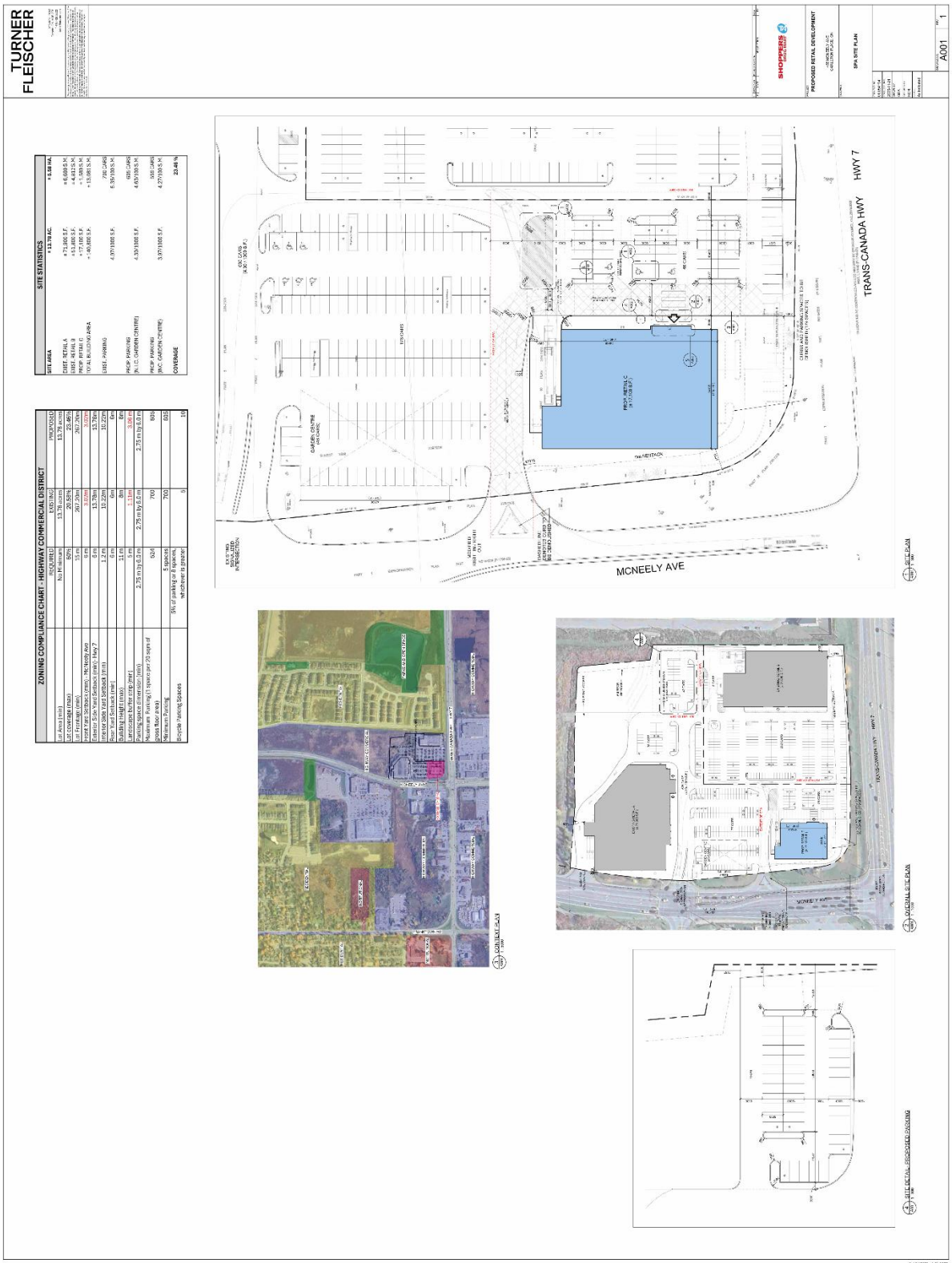
APPENDIX A - SITE

- Aerial Photo of Site
- Site Plan prepared By Turner Fleischer Architects Inc.

Aerial Photo of Site



SITE PLAN


TURNER FLEISCHER
PROPOSED RETAIL DEVELOPMENT
SPA SITE PLAN
A001
SITE STATISTICS
SITE AREA
± 11.79 HA.
EXIST. RETAIL A
± 71,496 S.F.
± 6,669.6 S.M.
EXIST. RETAIL B
± 11,485 S.F.
± 1,067.2 S.M.
EXIST. RETAIL C
± 43,725 S.F.
± 4,062.5 S.M.
TOTAL BUILDING AREA
± 140,885 S.F.
± 13,089.3 S.M.
EXIST. PARKING
730 SPACES
PROP. PARKING
(INCL. GARDEN CENTRE)
4,397,008 S.F.
408,534.6 S.M.
PROP. PARKING
(INCL. GARDEN CENTRE)
4,397,008 S.F.
408,534.6 S.M.
PROP. PARKING
(INCL. GARDEN CENTRE)
3,971,668 S.F.
369,046.2 S.M.
COVERAGE
23.48 %
ZONING COMPLIANCE CHART - HIGHWAY COMMERCIAL DISTRICT
REQUIRED
EXISTING
PROPOSED
Lot Area (min)
No Minimum
13.79 acres
13.79 acres
Lot Coverage (max)
30%
23.48%
23.48%
Lot Frontage (min)
55 m
267.29m
267.29m
Front Yard Setback (min) - McNeely Ave
6 m
3.07m
3.07m
Interior Side Yard Setback (min) - Hwy 7
6 m
13.79m
13.79m
Rear Yard Setback (min)
12 m
132.23m
132.23m
Building Height (max)
11 m
8m
8m
Landscape buffer strip (min)
6 m
1.37m
3.08 m
Parking Space Dimension (min)
2.75 m by 6.0 m
2.75 m by 6.0 m
2.75 m by 6.0 m
Minimum # of Parking Spaces required per 20 sqm of gross floor area)
920
700
699
Maximum Parking
5 spaces
700
699
Bicycle Parking Spaces
5% of parking or 8 spaces, whichever is greater
5
19
GARDEN CENTRE
(NIC)
PROP. RETAIL C
± 43,725 S.F.
± 4,062.5 S.M.
EXIST. RETAIL A
± 71,496 S.F.
± 6,669.6 S.M.
EXIST. RETAIL B
± 11,485 S.F.
± 1,067.2 S.M.
CROSS AND PARKING RIGHTS TO BE REGISTERED
TRANS-CANADA HWY
HWY 7
MCNEELY AVE
1 SITE PLAN
2 OVERALL SITE PLAN
3 LOCATION PLAN
4 SITE DETAIL - PROPOSED PARKING

APPENDIX B - SANITARY

- Not Used

APPENDIX C - WATER

- Not Used

APPENDIX D – STORM & STORMWATER

- Post Development Tributary Area Plan
- Rooftop Stage/Storage/Discharge Rating Curve(s)
- Orifice Stage/Storage/Discharge Rating Curve(s)
- OTTYMO Input/Output.

LEGEND:

- EXISTING STORM MANHOLE
- PROPOSED STORM MANHOLE
- EXISTING CATCH BASIN
- EXISTING DOUBLE CATCH BASIN
- PROPOSED CATCHBASIN
- PROPOSED STORMCEPTOR
- PROPOSED INLET CONTROL DEVICE (ICD)
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- PROPOSED SUB-DRAIN

1 — TRIBUTARY AREA ID
0.667 | 98% — PERCENT IMPERVIOUSNESS
AREA(ha.)
TRIBUTARY BOUNDARY

CONTRACTOR TO VERIFY ALL INVERTS, SIZE, MATERIAL, AND LOCATION OF ALL SERVICES PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ODAN/DETECH GROUP

CONTRACTOR TO PROVIDE AS-BUILT SURVEY UPON COMPLETION OF ALL WORKS TO THE ODAN/DETECH GROUP SURVEY TO BE COMPLETED BY A CERTIFIED ONTARIO LAND SURVEYOR

Construction North

(1326)

N38°26'50"W 181.87

EX. 600mmø @ 0.2%

PROP 4.88m 250mmø PVC STM @ 2.00% W/RISER

14m MTO SETBACK

EX. 300mmø STM @ 0.5%

EX. 320x320 ORIFICE PLATE

EX. 450mmø STM @ 0.2%

PROP 16.66m 250mmø PVC STM @ 2.00% W/RISER

EX CBMH 1
RIM ELEV 130.06
EX N INV 127.62
EX SW INV 127.68
EX SE INV 127.68

PROP CB 8
RIM ELEV 129.80
NW INV EL 128.30

PROP CB 7
RIM ELEV 129.81
NW INV EL 128.30

7.5m EASEMENT

PROP CB 5
RIM ELEV 129.80
E INV EL 128.30

PROP 2.18m 250mmø PVC STM @ 2.0% W/RISER

EX. 450mmø PVC STM @ 0.2%

3 HACKNEY CRES

ROOFTOP STORAGE NOTE:

ROOF DRAINS TO BE CONTROL FLOW ZCF-121 BY ZURN DRAINAGE AND CONTROL SYSTEMS LTD;
TOTAL # OF HOPPERS = 8
OF WEIRS = 1 (1/HOPPER);
MAX Q-REL = 18 L/SEC @ 100-YEAR STORM;
MAX DEPTH OF PONDING AT HOPPER DURING
MAX ALLOWABLE PONDING DEPTH = 0.15m
EMERGENCY ROOF OVERFLOW IS TO BE VIA ROOF SCUPPERS ALONG PERIMETER OF PARAPET (TYP)

1
0.48 | 99%

EX. 28.37m-300mmø PVC STM. @ 1.94%

EX. 28.37m-300mmø PVC STM. @ 1.94%

7.5m EASEMENT

EX. 450mmø STM @ 0.2%

EX. 250mmø STM @ 1.0%

EX. 450mmø STM @ 0.2%

EX. 450mmø STM @ 0.2%

EX. 450mmø STM @ 0.2%

EX. 12.00m-300mmø PVC STM @ 3.00%

STM INV. 128.01
W/M TOP 127.51

SAN INV. 128.15
W/M TOP 127.65

4
3.69 | 85%

EX. 22.27m- 200mmø PVC SAN. @ 4.4%
INV. @ SAN 127.52±
INV. @ BLD 128.50

EX. 113.18m-375mmø PVC STM. @ 0.40%.

EX. 450mmø STM @ 0.20%

PROP STM MH 3
RIM ELEV 130.34
E INV EL 128.70
SW INV EL 128.67

PROP 1.50n 250mm PVC STM @ 0.84%

PROP 2.58n 250mm PVC STM @ 0.46%

PROP FH&V
FL EL 130.45

PROP 46.52m 375mm PVC STM @ 0.50%

PROP STM MH 1
RIM ELEV 130.15
W INV EL 128.93
SE INV EL 128.66

PROP CB 2
RIM ELEV 130.15

PROP CB 3
RIM ELEV 130.15
N INV EL 129.07

PROP 17.46m 375mm PVC STM @ 0.50%

PROP STM MH 2
RIM ELEV 130.33
W INV EL 128.93
SE INV EL 129.06

EX. 9.05m-300mmø PVC STM. @ 0.50%

STM INV. 128.31
W/M TOP 127.68

EX. CBMH 4
RIM EL. 129.68

EX. CB 3
RIM EL. 129.68

EX. 6.11m- 300mmø PVC STM. @ 2.4% TO BE CAPPED 2.0m FROM BUILDING
INV. @ STM 128.35
INV. @ BLD 128.50

EX. 18.59m- 300mmø PVC STM. @ 0.40%

ROOFTOP STORAGE NOTE:

ROOF DRAINS TO BE CONTROL FLOW ZCF-121 BY ZURN DRAINAGE AND CONTROL SYSTEMS LTD;
TOTAL # OF HOPPERS = 10
OF WEIRS = 1 (1/HOPPER);
MAX Q-REL = 22 L/SEC @ 100-YEAR STORM;
MAX DEPTH OF PONDING AT HOPPER DURING
MAX ALLOWABLE PONDING DEPTH = 0.15m
EMERGENCY ROOF OVERFLOW IS TO BE VIA ROOF SCUPPERS ALONG PERIMETER OF PARAPET (TYP)

2
0.67 | 99%

PROP 84.19m 300mm PVC STM @ 0.70%

EX. CB 5
RIM EL. 129.68

EX. 10.85m- 300mmø PVC STM. @ 0.40%

STM INV. 129.40
SAN OBV 127.70
W/M TOP 128.90

EX. 83.97m- 300mmø PVC STM @ 0.40%

EX. 37.54m-375mmø PVC STM. @ 0.40%

PROP STM MH 4
RIM ELEV 130.52
EX E INV 128.50
NE INV EL 128.58
E INV EL 128.75
S INV EL 128.98

TOE WALL W/RAILING

PROP 13.55m 150mm PVC STM @ 2.00%

PROP 5.14m 200mm PVC STM @ 0.40%

PROP CB 4
RIM ELEV 129.43
W INV EL 128.83

3
0.16 | 99%

PROP 44.61m 300mm PVC STM @ 0.50%

PROP CBMH
RIM ELEV 130.20
W INV EL 129.20

PROP 1.50n 250mm PVC STM @ 0.67%

PROP CB 1
RIM ELEV 130.25
NE INV EL 129.25

EX. 16.78m-500mmø-1.6mm THICKNESS-CSP CULVERT.

A=96.46
C=96.38
N24°18'50"W

EX. 500mmø CSP CULVERT

EX. CB 7
RIM EL. 130.60

JOB BENCHMARK
Fire Hydrant-
Top of Spindle
Elevation=131.65

PROP STM MH 1
RIM ELEV 130.73
E INV EL 129.23
N INV EL 129.20

PROP 34.09m 200mm PVC STM @ 0.50% (INSULATE PIPE)

PROP CB 6
RIM ELEV 130.10
W INV EL 129.30

ROOFTOP STORAGE NOTE:

ROOF DRAINS TO BE CONTROL FLOW ZCF-121 BY ZURN DRAINAGE AND CONTROL SYSTEMS LTD;
TOTAL # OF HOPPERS = 4
OF WEIRS = 1 (1/HOPPER);
MAX Q-REL = 9 L/SEC @ 100-YEAR STORM;
MAX DEPTH OF PONDING AT HOPPER DURING
MAX ALLOWABLE PONDING DEPTH = 0.15m
EMERGENCY ROOF OVERFLOW IS TO BE VIA ROOF SCUPPERS ALONG PERIMETER OF PARAPET (TYP)

6m SETBACK

50.29m

A=112.97
C=112.85
N33°04'20"W

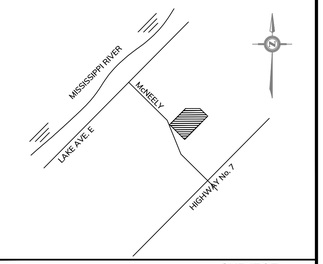
PROVIDE CONC. SPILLWAY

N48°19'00"E 123.12

14m MTO SETBACK

TRANS - CANADA HWY 7
HIGHWAY No. 7
KING'S

McNEELY ROAD



KEY PLAN Scale : N.T.S. — **SUBJECT LANDS**

NOTES:

THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND UNDERGROUND AND ABOVE GROUND UTILITIES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING THE WORK THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

THE CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO THE ARCHITECTS/ENGINEERS BEFORE PROCEEDING WITH THE WORKS.

ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE ENGINEER WHICH MUST BE RETURNED AT THE COMPLETION OF WORK.

THIS DRAWING IS NOT TO BE SCALED.

THIS PLAN MUST NOT BE USED TO SITE THE PROPOSED BUILDINGS.

THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S CONTRACTOR FROM OBTAINING, BUT NOT LIMITED TO THE FOLLOWING PERMITS: ROAD CUT, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, APPROACH APPROVAL PERMITS, ETC...

EXISTING TOPOGRAPHICAL INFORMATION SUPPLIED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD.

BENCH MARK:

ELEVATION NOTES
1. ELEVATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO THE CGVD28 GEODETIC DATUM.
2. IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE JOB BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT IT'S RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION SHOWN ON THIS DRAWING.

METRIC NOTE:

DISTANCES AND ELEVATIONS ON THIS PLAN ARE TYPICALLY SHOWN IN METRES AND CAN BE CONVERTED TO FEET BY BY DIVIDING BY 0.3048.

Annis, O'Sullivan, Vollebekk Ltd, 2018 NOTES:

UTILITY NOTES
1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
2. Only visible surface utilities were located.
3. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.
4. Location of underground services estabilished by Deepview Utility Locates and Concrete Scanning on February 5, 2018.

BOUNDARY INFORMATION COMPILED FROM PLANS & FIELD SURVEY.
Bearings are grid and are referred to the Central Meridian of MTM Zone 9 (76°30' West Longitude) NAD-83 (CSRS)(1997.0).

NO.	REVISIONS	DATE	BY
4.	ISSUED FOR SPA	DEC 11/25	ZZ
3.	ISSUED FOR SPA (CANCELLED)	NOV 13/25	LM
2.	REVISED AS PER NEW SITE PLAN ISSUED FOR COORDINATION	NOV 5/25	ZZ
1.	ISSUED FOR COORDINATION	SEP 3/25	ZZ

SCALE(S): 1:500 (0 10 20 30 40 50)

DRAWING TITLE: **POST DEVELPOMENT STORM TRIBUTARY AREA PLAN**

PROJECT: **PROPOSED DEVELOPMENT**
McNEELY & HIGHWAY No. 7, CARLETON PLACE, ONTARIO

CLIENT: **Loblaw Companies Limited**

ODAN·DETECH CONSULTING ENGINEERS
The Odan/Detech Group Inc. P: (905) 632-3811 F: (905) 632-2363
5230 SOUTH SERVICE ROAD, BURLINGTON, ONTARIO, L7L 5K2

DESIGNED BY:	PROJECT No:
L.M.	01215 (SDM)
DRAWN BY: L.M.	DATE: JUN 2025
CHECKED BY: M.H.H.	DRAWING No.: FIG. 1
APPROVED BY: P.H.	
ENGINEER	

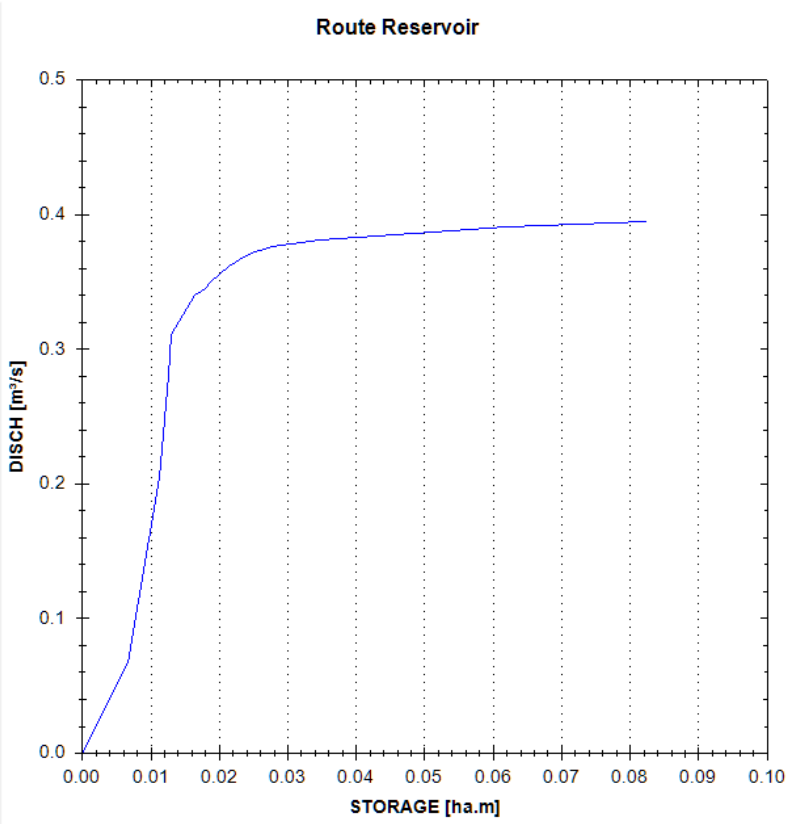
2378-7378 PLAN 5 PART

Existing 320mm x 320mm Orifice Stage-Storage-Discharge Table

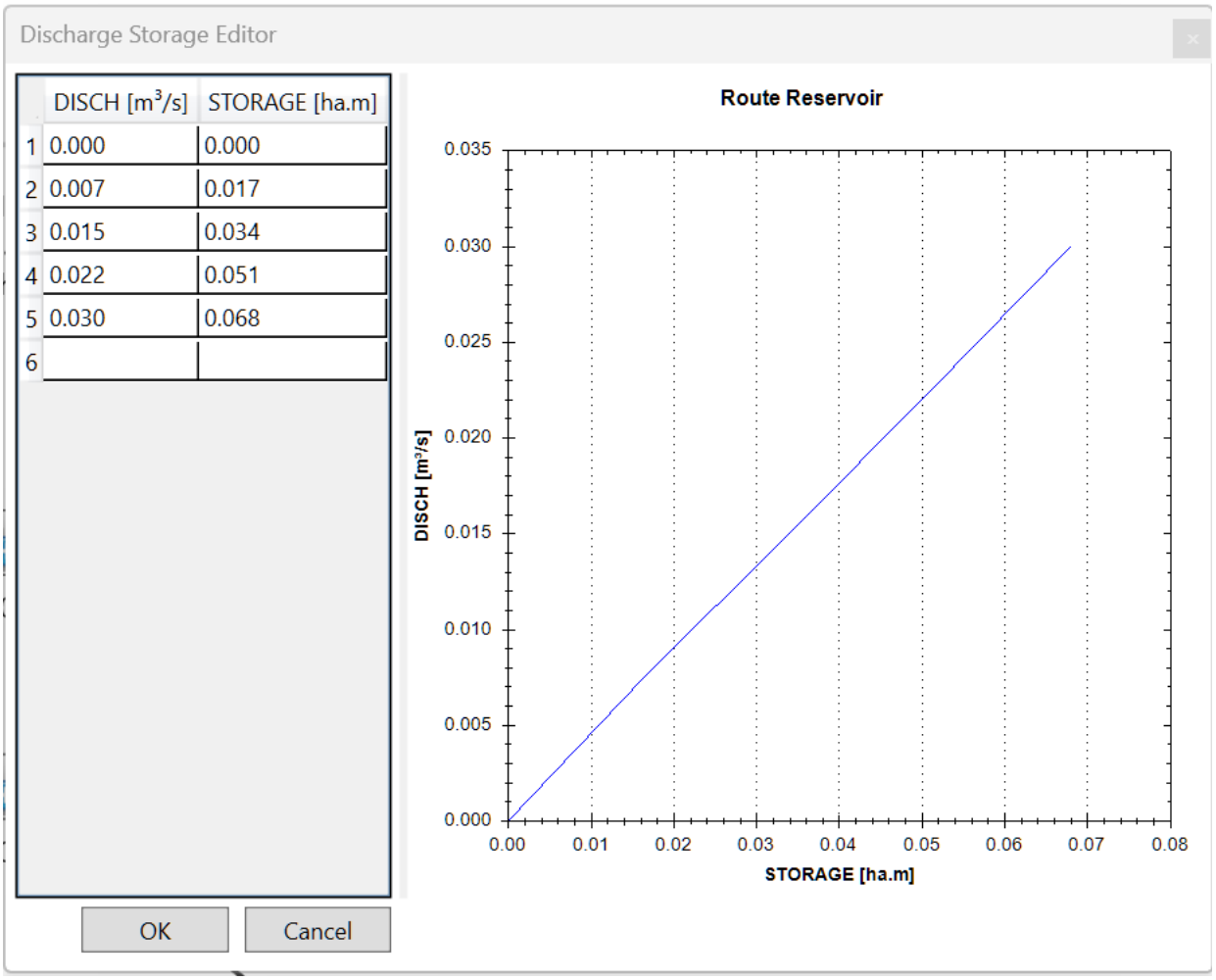
Discharge Storage Editor

	DISCH [m³/s]	STORAGE [ha.m]
1	0.000	0.000
2	0.067	0.007
3	0.204	0.011
4	0.280	0.013
5	0.311	0.013
6	0.340	0.016
7	0.345	0.018
8	0.350	0.019
9	0.356	0.020
10	0.361	0.022
11	0.366	0.023
12	0.371	0.025
13	0.376	0.028
14	0.381	0.035
15	0.386	0.048
16	0.391	0.062
17	0.395	0.082
18		

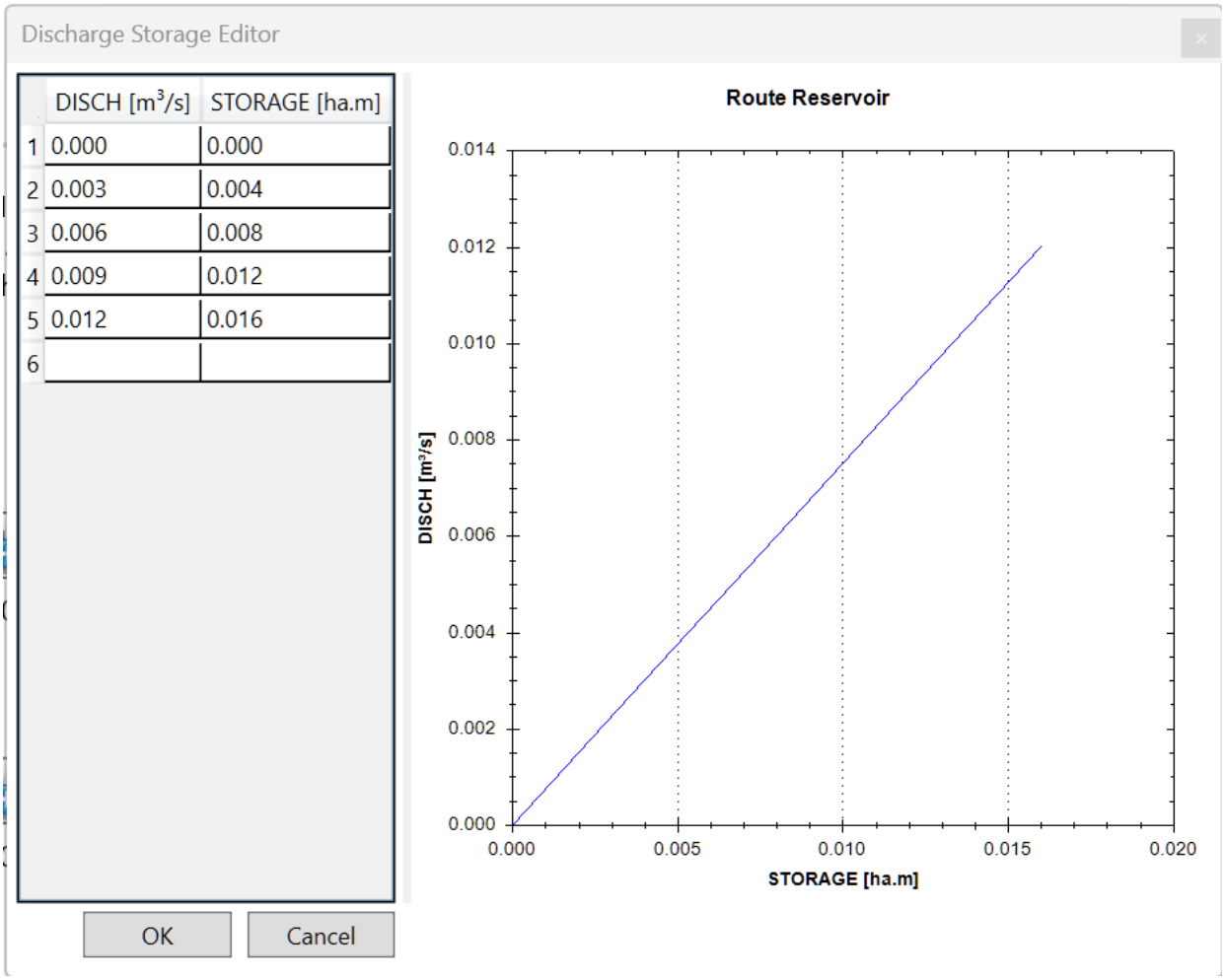
OK Cancel



Existing Food Store Stage-Storage-Discharge Table



Retail Pad C Stage-Storage-Discharge Table

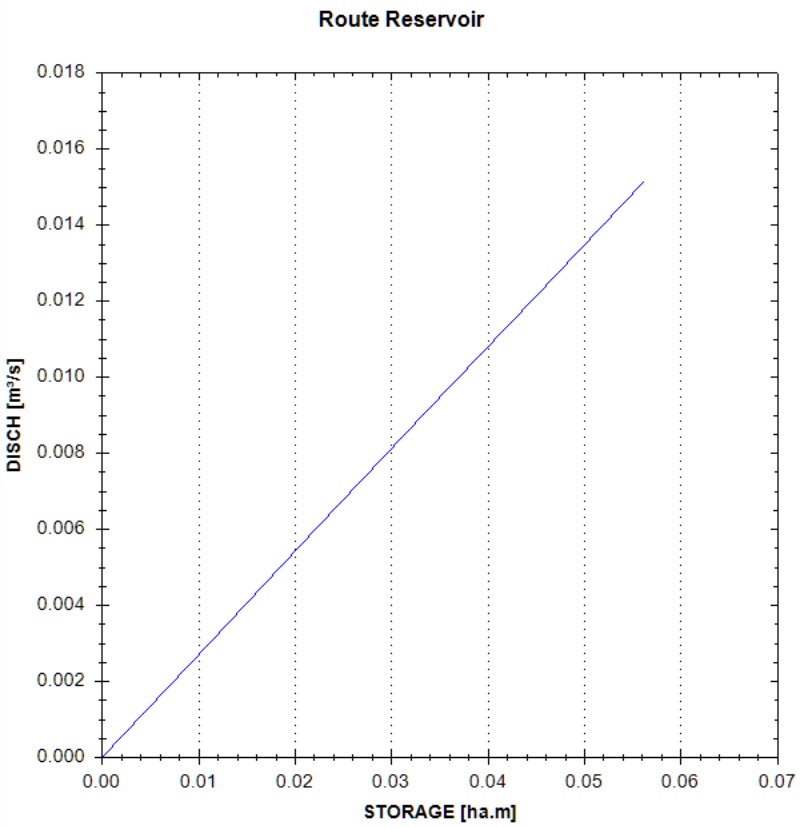


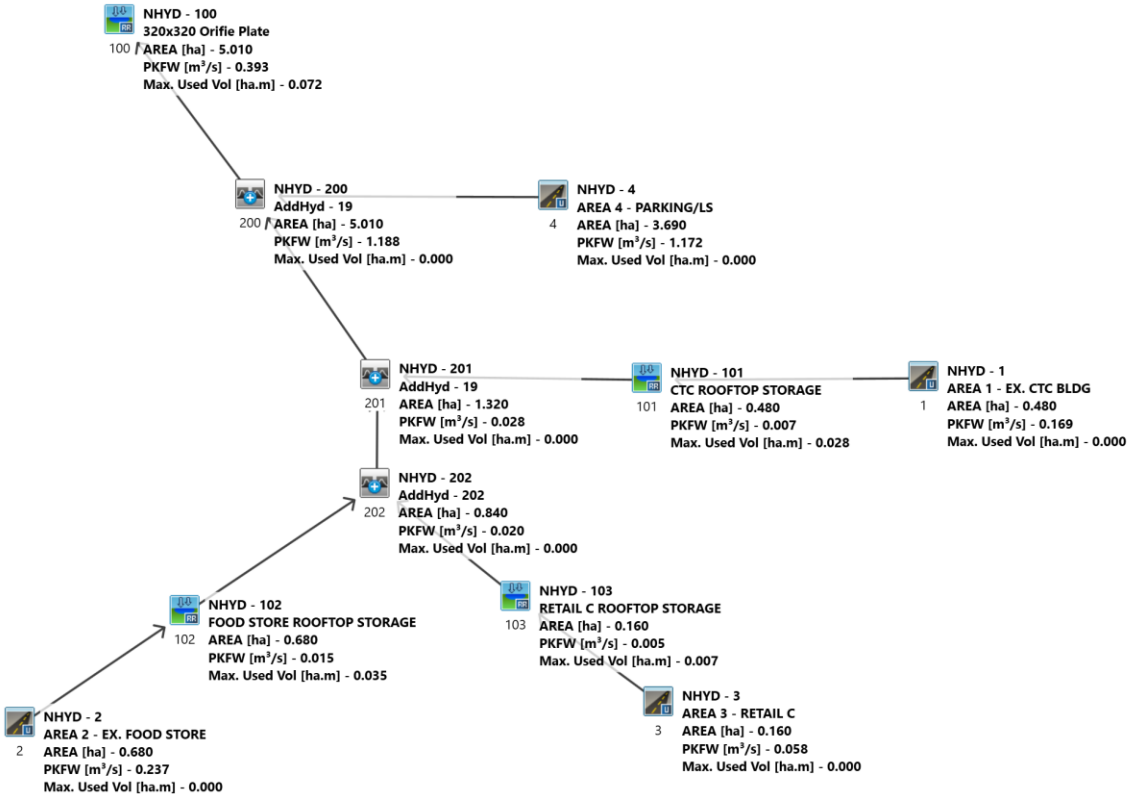
Existing Canadian Tire Stage-Storage-Discharge Table

Discharge Storage Editor

	DISCH [m³/s]	STORAGE [ha.m]
1	0.000	0.000
2	0.003	0.011
3	0.006	0.022
4	0.009	0.034
5	0.012	0.045
6	0.015	0.056
7		

OK Cancel




NHYD - 100
320x320 Orifie Plate
100
AREA [ha] - 5.010
PKFW [m³/s] - 0.393
Max. Used Vol [ha.m] - 0.072
NHYD - 200
AddHyd - 19
200
AREA [ha] - 5.010
PKFW [m³/s] - 1.188
Max. Used Vol [ha.m] - 0.000
NHYD - 4
AREA 4 - PARKING/LS
4
AREA [ha] - 3.690
PKFW [m³/s] - 1.172
Max. Used Vol [ha.m] - 0.000
NHYD - 201
AddHyd - 19
201
AREA [ha] - 1.320
PKFW [m³/s] - 0.028
Max. Used Vol [ha.m] - 0.000
NHYD - 101
CTC ROOFTOP STORAGE
101
AREA [ha] - 0.480
PKFW [m³/s] - 0.007
Max. Used Vol [ha.m] - 0.028
NHYD - 1
AREA 1 - EX. CTC BLDG
1
AREA [ha] - 0.480
PKFW [m³/s] - 0.169
Max. Used Vol [ha.m] - 0.000
NHYD - 202
AddHyd - 202
202
AREA [ha] - 0.840
PKFW [m³/s] - 0.020
Max. Used Vol [ha.m] - 0.000
NHYD - 102
FOOD STORE ROOFTOP STORAGE
102
AREA [ha] - 0.680
PKFW [m³/s] - 0.015
Max. Used Vol [ha.m] - 0.035
NHYD - 103
RETAIL C ROOFTOP STORAGE
103
AREA [ha] - 0.160
PKFW [m³/s] - 0.005
Max. Used Vol [ha.m] - 0.007
NHYD - 2
AREA 2 - EX. FOOD STORE
2
AREA [ha] - 0.680
PKFW [m³/s] - 0.237
Max. Used Vol [ha.m] - 0.000
NHYD - 3
AREA 3 - RETAIL C
3
AREA [ha] - 0.160
PKFW [m³/s] - 0.058
Max. Used Vol [ha.m] - 0.000

```
================================================================================================================

       V    V   I    SSSSS  U   U    A    L             (v 6.2.2015)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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DATE: 12/18/2025                          TIME: 04:50:24

USER:


COMMENTS: _____________________________________________________

----------------------------------------------------------------------------------------------------------------
  ************************************************
  ** SIMULATION : 5 Year  Carleton Place (Smith **
  ************************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 508.860
| Ptotal= 43.99 mm |                          B=   3.000
--------------------                          C=   0.698
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.00    3.83 |  1.00   20.82 |  2.00    7.82 |  3.00    4.43
                0.17    4.29 |  1.17   84.93 |  2.17    6.85 |  3.17    4.16
                0.33    4.92 |  1.33   26.24 |  2.33    6.13 |  3.33    3.93
                0.50    5.84 |  1.50   15.41 |  2.50    5.57 |  3.50    3.73
                0.67    7.33 |  1.67   11.38 |  2.67    5.12 |  3.67    3.55
                0.83   10.29 |  1.83    9.21 |  2.83    4.74 |  3.83    3.39


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0001)|   Area    (ha)=   0.48
|ID= 1 DT= 3.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.48         0.00
     Dep. Storage     (mm)=       1.00         1.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      56.57        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   3.0 MIN. TIME STEP.


                           ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
```

0.050	3.83	1.050	20.82	2.050	7.82	3.05	4.43
0.100	3.83	1.100	20.82	2.100	7.82	3.10	4.43
0.150	3.83	1.150	20.82	2.150	7.82	3.15	4.43
0.200	4.14	1.200	63.56	2.200	7.17	3.20	4.25
0.250	4.29	1.250	84.93	2.250	6.85	3.25	4.16
0.300	4.29	1.300	84.93	2.300	6.85	3.30	4.16
0.350	4.50	1.350	65.37	2.350	6.61	3.35	4.09
0.400	4.92	1.400	26.24	2.400	6.13	3.40	3.93
0.450	4.92	1.450	26.24	2.450	6.13	3.45	3.93
0.500	4.92	1.500	26.24	2.500	6.13	3.50	3.93
0.550	5.84	1.550	15.41	2.550	5.57	3.55	3.73
0.600	5.84	1.600	15.41	2.600	5.57	3.60	3.73
0.650	5.84	1.650	15.41	2.650	5.57	3.65	3.73
0.700	6.83	1.700	12.73	2.700	5.27	3.70	3.61
0.750	7.33	1.750	11.38	2.750	5.12	3.75	3.55
0.800	7.33	1.800	11.38	2.800	5.12	3.80	3.55
0.850	8.31	1.850	10.66	2.850	4.99	3.85	3.50
0.900	10.29	1.900	9.21	2.900	4.74	3.90	3.39
0.950	10.29	1.950	9.21	2.950	4.74	3.95	3.39
1.000	10.29	2.000	9.21	3.000	4.74	4.00	3.39

Max.Eff.Inten.(mm/hr)=	84.93	72.92		
over (min)	6.00	6.00		
Storage Coeff. (min)=	1.94 (ii)	3.41 (ii)		
Unit Hyd. Tpeak (min)=	6.00	6.00		
Unit Hyd. peak (cms)=	0.32	0.26		
			TOTALS	
PEAK FLOW (cms)=	0.11	0.00	0.107 (iii)	
TIME TO PEAK (hrs)=	1.30	1.35	1.30	
RUNOFF VOLUME (mm)=	42.99	40.57	42.96	
TOTAL RAINFALL (mm)=	43.99	43.99	43.99	
RUNOFF COEFFICIENT =	0.98	0.92	0.98	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0101)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 3.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0091	0.0337
	0.0030	0.0112	0.0121	0.0449
	0.0060	0.0225	0.0151	0.0561

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0001)	0.480	0.107	1.30	42.96
OUTFLOW: ID= 1 (0101)	0.480	0.004	4.00	41.00

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.14
TIME SHIFT OF PEAK FLOW (min)=162.00
MAXIMUM STORAGE USED (ha.m.)= 0.0164

CALIB			
STANDHYD (0002)	Area (ha)= 0.68		
ID= 1 DT= 3.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	0.67	0.01	
Dep. Storage (mm)=	1.00	1.00	
Average Slope (%)=	1.00	1.00	
Length (m)=	67.33	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 3.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.050	3.83	1.050	20.82	2.050	7.82	3.05	4.43

```
                0.100    3.83 | 1.100   20.82 | 2.100    7.82 |  3.10    4.43
                0.150    3.83 | 1.150   20.82 | 2.150    7.82 |  3.15    4.43
                0.200    4.14 | 1.200   63.56 | 2.200    7.17 |  3.20    4.25
                0.250    4.29 | 1.250   84.93 | 2.250    6.85 |  3.25    4.16
                0.300    4.29 | 1.300   84.93 | 2.300    6.85 |  3.30    4.16
                0.350    4.50 | 1.350   65.37 | 2.350    6.61 |  3.35    4.09
                0.400    4.92 | 1.400   26.24 | 2.400    6.13 |  3.40    3.93
                0.450    4.92 | 1.450   26.24 | 2.450    6.13 |  3.45    3.93
                0.500    4.92 | 1.500   26.24 | 2.500    6.13 |  3.50    3.93
                0.550    5.84 | 1.550   15.41 | 2.550    5.57 |  3.55    3.73
                0.600    5.84 | 1.600   15.41 | 2.600    5.57 |  3.60    3.73
                0.650    5.84 | 1.650   15.41 | 2.650    5.57 |  3.65    3.73
                0.700    6.83 | 1.700   12.73 | 2.700    5.27 |  3.70    3.61
                0.750    7.33 | 1.750   11.38 | 2.750    5.12 |  3.75    3.55
                0.800    7.33 | 1.800   11.38 | 2.800    5.12 |  3.80    3.55
                0.850    8.31 | 1.850   10.66 | 2.850    4.99 |  3.85    3.50
                0.900   10.29 | 1.900    9.21 | 2.900    4.74 |  3.90    3.39
                0.950   10.29 | 1.950    9.21 | 2.950    4.74 |  3.95    3.39
                1.000   10.29 | 2.000    9.21 | 3.000    4.74 |  4.00    3.39

     Max.Eff.Inten.(mm/hr)=      84.93        72.92
               over (min)        6.00         6.00
     Storage Coeff.  (min)=      2.15 (ii)    3.63 (ii)
     Unit Hyd. Tpeak (min)=      6.00         6.00
     Unit Hyd. peak  (cms)=      0.31         0.25
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.15         0.00          0.149 (iii)
     TIME TO PEAK    (hrs)=      1.30         1.35          1.30
     RUNOFF VOLUME    (mm)=     42.99        40.57         42.96
     TOTAL RAINFALL   (mm)=     43.99        43.99         43.99
     RUNOFF COEFFICIENT   =      0.98         0.92          0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0102)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  3.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0224     0.0510
                          0.0075     0.0165   |   0.0299     0.0680
                          0.0150     0.0340   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)      0.680     0.149      1.30      42.96
   OUTFLOW: ID= 1 (  0102)      0.680     0.009      2.90      42.14

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.22
                  TIME SHIFT OF PEAK FLOW          (min)= 96.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0207

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--------------------
| CALIB            |
| STANDHYD (  0003)|   Area    (ha)=   0.16
|ID= 1 DT= 3.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.16         0.00
     Dep. Storage     (mm)=       1.00         1.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      32.66        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   3.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.050    3.83 | 1.050   20.82 | 2.050    7.82 |  3.05    4.43
               0.100    3.83 | 1.100   20.82 | 2.100    7.82 |  3.10    4.43
```

0.150	3.83	1.150	20.82	2.150	7.82	3.15	4.43
0.200	4.14	1.200	63.56	2.200	7.17	3.20	4.25
0.250	4.29	1.250	84.93	2.250	6.85	3.25	4.16
0.300	4.29	1.300	84.93	2.300	6.85	3.30	4.16
0.350	4.50	1.350	65.37	2.350	6.61	3.35	4.09
0.400	4.92	1.400	26.24	2.400	6.13	3.40	3.93
0.450	4.92	1.450	26.24	2.450	6.13	3.45	3.93
0.500	4.92	1.500	26.24	2.500	6.13	3.50	3.93
0.550	5.84	1.550	15.41	2.550	5.57	3.55	3.73
0.600	5.84	1.600	15.41	2.600	5.57	3.60	3.73
0.650	5.84	1.650	15.41	2.650	5.57	3.65	3.73
0.700	6.83	1.700	12.73	2.700	5.27	3.70	3.61
0.750	7.33	1.750	11.38	2.750	5.12	3.75	3.55
0.800	7.33	1.800	11.38	2.800	5.12	3.80	3.55
0.850	8.31	1.850	10.66	2.850	4.99	3.85	3.50
0.900	10.29	1.900	9.21	2.900	4.74	3.90	3.39
0.950	10.29	1.950	9.21	2.950	4.74	3.95	3.39
1.000	10.29	2.000	9.21	3.000	4.74	4.00	3.39

Max.Eff.Inten.(mm/hr)=	84.93	72.92		
over (min)	6.00	3.00		
Storage Coeff. (min)=	1.39 (ii)	2.87 (ii)		
Unit Hyd. Tpeak (min)=	6.00	3.00		
Unit Hyd. peak (cms)=	0.35	0.37		
			TOTALS	
PEAK FLOW (cms)=	0.04	0.00	0.037 (iii)	
TIME TO PEAK (hrs)=	1.30	1.30	1.30	
RUNOFF VOLUME (mm)=	42.99	40.57	42.96	
TOTAL RAINFALL (mm)=	43.99	43.99	43.99	
RUNOFF COEFFICIENT =	0.98	0.92	0.98	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0103)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 3.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0090	0.0120
	0.0030	0.0040	0.0120	0.0160
	0.0060	0.0080	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0003)	0.160	0.037	1.30	42.96
OUTFLOW: ID= 1 (0103)	0.160	0.003	2.25	40.87

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.87
TIME SHIFT OF PEAK FLOW (min)= 57.00
MAXIMUM STORAGE USED (ha.m.)= 0.0044

ADD HYD (0202)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0102):	0.68	0.009	2.90	42.14
+ ID2= 2 (0103):	0.16	0.003	2.25	40.87
ID = 3 (0202):	0.84	0.012	2.65	41.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0201)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0101):	0.48	0.004	4.00	41.00
+ ID2= 2 (0202):	0.84	0.012	2.65	41.90
ID = 3 (0201):	1.32	0.017	2.90	41.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0004)	Area (ha)= 3.69
ID= 1 DT= 3.0 min	Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.14	0.55
Dep. Storage	(mm)=	1.00	1.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	156.84	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 3.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.050	3.83	1.050	20.82	2.050	7.82	3.05	4.43
0.100	3.83	1.100	20.82	2.100	7.82	3.10	4.43
0.150	3.83	1.150	20.82	2.150	7.82	3.15	4.43
0.200	4.14	1.200	63.56	2.200	7.17	3.20	4.25
0.250	4.29	1.250	84.93	2.250	6.85	3.25	4.16
0.300	4.29	1.300	84.93	2.300	6.85	3.30	4.16
0.350	4.50	1.350	65.37	2.350	6.61	3.35	4.09
0.400	4.92	1.400	26.24	2.400	6.13	3.40	3.93
0.450	4.92	1.450	26.24	2.450	6.13	3.45	3.93
0.500	4.92	1.500	26.24	2.500	6.13	3.50	3.93
0.550	5.84	1.550	15.41	2.550	5.57	3.55	3.73
0.600	5.84	1.600	15.41	2.600	5.57	3.60	3.73
0.650	5.84	1.650	15.41	2.650	5.57	3.65	3.73
0.700	6.83	1.700	12.73	2.700	5.27	3.70	3.61
0.750	7.33	1.750	11.38	2.750	5.12	3.75	3.55
0.800	7.33	1.800	11.38	2.800	5.12	3.80	3.55
0.850	8.31	1.850	10.66	2.850	4.99	3.85	3.50
0.900	10.29	1.900	9.21	2.900	4.74	3.90	3.39
0.950	10.29	1.950	9.21	2.950	4.74	3.95	3.39
1.000	10.29	2.000	9.21	3.000	4.74	4.00	3.39

				TOTALS
Max.Eff.Inten.(mm/hr)=		84.93	72.92	
over (min)		6.00	9.00	
Storage Coeff. (min)=		3.57 (ii)	8.21 (ii)	
Unit Hyd. Tpeak (min)=		6.00	9.00	
Unit Hyd. peak (cms)=		0.25	0.13	
PEAK FLOW	(cms)=	0.65	0.09	0.733 (iii)
TIME TO PEAK	(hrs)=	1.35	1.40	1.35
RUNOFF VOLUME	(mm)=	42.99	40.57	42.62
TOTAL RAINFALL	(mm)=	43.99	43.99	43.99
RUNOFF COEFFICIENT	=	0.98	0.92	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0200)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0201):	1.32	0.017	2.90	41.57
	+ ID2= 2 (0004):	3.69	0.733	1.35	42.62
	ID = 3 (0200):	5.01	0.743	1.35	42.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0100)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 3.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3610	0.0215

```
                          0.0670     0.0067   |   0.3660      0.0231
                          0.2040     0.0114   |   0.3710      0.0248
                          0.2800     0.0126   |   0.3760      0.0278
                          0.3110     0.0130   |   0.3810      0.0347
                          0.3400     0.0165   |   0.3860      0.0484
                          0.3450     0.0180   |   0.3910      0.0621
                          0.3500     0.0188   |   0.3950      0.0824
                          0.3560     0.0201   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0200)      5.010     0.743      1.35      42.35
   OUTFLOW: ID= 1 (  0100)      5.010     0.380      1.50      42.34

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.22
                  TIME SHIFT OF PEAK FLOW         (min)=  9.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0339

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 FINISH
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       V    V   I    SSSSS  U   U    A    L             (v 6.2.2015)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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DATE: 12/18/2025                          TIME: 04:50:24

USER:


COMMENTS: _____

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  ************************************************
  ** SIMULATION : 100 Year Carleton Place (Smit **
  ************************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 643.574
| Ptotal= 73.11 mm |                          B=   1.501
--------------------                          C=   0.649
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  4.00 hrs
                        Storm time step    = 10.00 min
                        Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.00    7.20 |  1.00   32.49 |  2.00   13.75 |  3.00    8.23
                0.17    8.00 |  1.17  131.88 |  2.17   12.21 |  3.17    7.78
                0.33    9.06 |  1.33   39.95 |  2.33   11.04 |  3.33    7.38
                0.50   10.57 |  1.50   25.06 |  2.50   10.12 |  3.50    7.04
                0.67   12.97 |  1.67   19.19 |  2.67    9.38 |  3.67    6.73
                0.83   17.53 |  1.83   15.90 |  2.83    8.76 |  3.83    6.45


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--------------------
| CALIB            |
| STANDHYD (  0001)|   Area    (ha)=   0.48
|ID= 1 DT= 3.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.48         0.00
     Dep. Storage     (mm)=       1.00         1.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      56.57        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   3.0 MIN. TIME STEP.


                           ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
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```
                0.050    7.20 | 1.050   32.49 | 2.050   13.75 |  3.05    8.23
                0.100    7.20 | 1.100   32.49 | 2.100   13.75 |  3.10    8.23
                0.150    7.20 | 1.150   32.49 | 2.150   13.75 |  3.15    8.23
                0.200    7.73 | 1.200   98.75 | 2.200   12.72 |  3.20    7.93
                0.250    8.00 | 1.250  131.88 | 2.250   12.21 |  3.25    7.78
                0.300    8.00 | 1.300  131.88 | 2.300   12.21 |  3.30    7.78
                0.350    8.35 | 1.350  101.24 | 2.350   11.82 |  3.35    7.65
                0.400    9.06 | 1.400   39.95 | 2.400   11.04 |  3.40    7.38
                0.450    9.06 | 1.450   39.95 | 2.450   11.04 |  3.45    7.38
                0.500    9.06 | 1.500   39.95 | 2.500   11.04 |  3.50    7.38
                0.550   10.57 | 1.550   25.06 | 2.550   10.12 |  3.55    7.04
                0.600   10.57 | 1.600   25.06 | 2.600   10.12 |  3.60    7.04
                0.650   10.57 | 1.650   25.06 | 2.650   10.12 |  3.65    7.04
                0.700   12.17 | 1.700   21.15 | 2.700    9.63 |  3.70    6.83
                0.750   12.97 | 1.750   19.19 | 2.750    9.38 |  3.75    6.73
                0.800   12.97 | 1.800   19.19 | 2.800    9.38 |  3.80    6.73
                0.850   14.49 | 1.850   18.10 | 2.850    9.17 |  3.85    6.63
                0.900   17.53 | 1.900   15.90 | 2.900    8.76 |  3.90    6.45
                0.950   17.53 | 1.950   15.90 | 2.950    8.76 |  3.95    6.45
                1.000   17.53 | 2.000   15.90 | 3.000    8.76 |  4.00    6.45

     Max.Eff.Inten.(mm/hr)=     131.88       114.85
               over (min)        6.00         3.00
     Storage Coeff.  (min)=      1.62 (ii)    2.86 (ii)
     Unit Hyd. Tpeak (min)=      6.00         3.00
     Unit Hyd. peak  (cms)=      0.34         0.37
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.17         0.00         0.169 (iii)
     TIME TO PEAK    (hrs)=      1.30         1.30          1.30
     RUNOFF VOLUME    (mm)=     72.11        69.63         72.08
     TOTAL RAINFALL   (mm)=     73.11        73.11         73.11
     RUNOFF COEFFICIENT   =      0.99         0.95          0.99

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0101)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  3.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0091      0.0337
                          0.0030     0.0112   |   0.0121      0.0449
                          0.0060     0.0225   |   0.0151      0.0561

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0001)      0.480      0.169      1.30      72.08
   OUTFLOW: ID= 1 (  0101)      0.480      0.007      4.00      70.12

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.39
                  TIME SHIFT OF PEAK FLOW         (min)=162.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0276

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0002)|   Area    (ha)=   0.68
|ID= 1 DT= 3.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.67         0.01
     Dep. Storage     (mm)=       1.00         1.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      67.33        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   3.0 MIN. TIME STEP.


                           ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.050    7.20 | 1.050   32.49 | 2.050   13.75 |  3.05    8.23
```

```
                0.100    7.20 | 1.100   32.49 | 2.100   13.75 |  3.10    8.23
                0.150    7.20 | 1.150   32.49 | 2.150   13.75 |  3.15    8.23
                0.200    7.73 | 1.200   98.75 | 2.200   12.72 |  3.20    7.93
                0.250    8.00 | 1.250  131.88 | 2.250   12.21 |  3.25    7.78
                0.300    8.00 | 1.300  131.88 | 2.300   12.21 |  3.30    7.78
                0.350    8.35 | 1.350  101.24 | 2.350   11.82 |  3.35    7.65
                0.400    9.06 | 1.400   39.95 | 2.400   11.04 |  3.40    7.38
                0.450    9.06 | 1.450   39.95 | 2.450   11.04 |  3.45    7.38
                0.500    9.06 | 1.500   39.95 | 2.500   11.04 |  3.50    7.38
                0.550   10.57 | 1.550   25.06 | 2.550   10.12 |  3.55    7.04
                0.600   10.57 | 1.600   25.06 | 2.600   10.12 |  3.60    7.04
                0.650   10.57 | 1.650   25.06 | 2.650   10.12 |  3.65    7.04
                0.700   12.17 | 1.700   21.15 | 2.700    9.63 |  3.70    6.83
                0.750   12.97 | 1.750   19.19 | 2.750    9.38 |  3.75    6.73
                0.800   12.97 | 1.800   19.19 | 2.800    9.38 |  3.80    6.73
                0.850   14.49 | 1.850   18.10 | 2.850    9.17 |  3.85    6.63
                0.900   17.53 | 1.900   15.90 | 2.900    8.76 |  3.90    6.45
                0.950   17.53 | 1.950   15.90 | 2.950    8.76 |  3.95    6.45
                1.000   17.53 | 2.000   15.90 | 3.000    8.76 |  4.00    6.45

     Max.Eff.Inten.(mm/hr)=     131.88       114.85
               over (min)         6.00         6.00
     Storage Coeff.  (min)=       1.80 (ii)    3.04 (ii)
     Unit Hyd. Tpeak (min)=       6.00         6.00
     Unit Hyd. peak  (cms)=       0.33         0.27
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.24         0.00          0.237 (iii)
     TIME TO PEAK    (hrs)=       1.30         1.35           1.30
     RUNOFF VOLUME    (mm)=      72.11        69.63          72.08
     TOTAL RAINFALL   (mm)=      73.11        73.11          73.11
     RUNOFF COEFFICIENT   =       0.99         0.95           0.99

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0102)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  3.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0224     0.0510
                          0.0075     0.0165   |   0.0299     0.0680
                          0.0150     0.0340   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)      0.680     0.237      1.30      72.08
   OUTFLOW: ID= 1 (  0102)      0.680     0.015      3.20      71.26

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.40
                  TIME SHIFT OF PEAK FLOW          (min)=114.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0345

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0003)|   Area    (ha)=   0.16
|ID= 1 DT= 3.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.16         0.00
     Dep. Storage     (mm)=       1.00         1.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      32.66        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   3.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.050    7.20 | 1.050   32.49 | 2.050   13.75 |  3.05    8.23
               0.100    7.20 | 1.100   32.49 | 2.100   13.75 |  3.10    8.23
```

```
                0.150    7.20 | 1.150   32.49 | 2.150   13.75 |  3.15    8.23
                0.200    7.73 | 1.200   98.75 | 2.200   12.72 |  3.20    7.93
                0.250    8.00 | 1.250  131.88 | 2.250   12.21 |  3.25    7.78
                0.300    8.00 | 1.300  131.88 | 2.300   12.21 |  3.30    7.78
                0.350    8.35 | 1.350  101.24 | 2.350   11.82 |  3.35    7.65
                0.400    9.06 | 1.400   39.95 | 2.400   11.04 |  3.40    7.38
                0.450    9.06 | 1.450   39.95 | 2.450   11.04 |  3.45    7.38
                0.500    9.06 | 1.500   39.95 | 2.500   11.04 |  3.50    7.38
                0.550   10.57 | 1.550   25.06 | 2.550   10.12 |  3.55    7.04
                0.600   10.57 | 1.600   25.06 | 2.600   10.12 |  3.60    7.04
                0.650   10.57 | 1.650   25.06 | 2.650   10.12 |  3.65    7.04
                0.700   12.17 | 1.700   21.15 | 2.700    9.63 |  3.70    6.83
                0.750   12.97 | 1.750   19.19 | 2.750    9.38 |  3.75    6.73
                0.800   12.97 | 1.800   19.19 | 2.800    9.38 |  3.80    6.73
                0.850   14.49 | 1.850   18.10 | 2.850    9.17 |  3.85    6.63
                0.900   17.53 | 1.900   15.90 | 2.900    8.76 |  3.90    6.45
                0.950   17.53 | 1.950   15.90 | 2.950    8.76 |  3.95    6.45
                1.000   17.53 | 2.000   15.90 | 3.000    8.76 |  4.00    6.45

     Max.Eff.Inten.(mm/hr)=     131.88       114.85
                 over (min)       6.00         3.00
     Storage Coeff.  (min)=       1.17 (ii)    2.41 (ii)
     Unit Hyd. Tpeak (min)=       6.00         3.00
     Unit Hyd. peak  (cms)=       0.36         0.40
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.00          0.058 (iii)
     TIME TO PEAK    (hrs)=       1.30         1.30           1.30
     RUNOFF VOLUME    (mm)=      72.11        69.63          72.08
     TOTAL RAINFALL   (mm)=      73.11        73.11          73.11
     RUNOFF COEFFICIENT   =       0.99         0.95           0.99

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0103)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  3.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0090     0.0120
                          0.0030     0.0040   |   0.0120     0.0160
                          0.0060     0.0080   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0003)      0.160     0.058      1.30      72.08
   OUTFLOW: ID= 1 (  0103)      0.160     0.005      2.35      70.00

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.22
                  TIME SHIFT OF PEAK FLOW         (min)= 63.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0071

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0202)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0102):     0.68   0.015     3.20    71.26
      + ID2= 2 (  0103):     0.16   0.005     2.35    70.00
        ==================================================
        ID = 3 (  0202):     0.84   0.020     2.90    71.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0201)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0101):     0.48   0.007     4.00    70.12
      + ID2= 2 (  0202):     0.84   0.020     2.90    71.02
        ==================================================
        ID = 3 (  0201):     1.32   0.028     3.20    70.69
```

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0004)|   Area    (ha)=   3.69
|ID= 1 DT= 3.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.14         0.55
     Dep. Storage     (mm)=       1.00         1.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     156.84        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   3.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.050    7.20 | 1.050   32.49 | 2.050   13.75 |  3.05    8.23
               0.100    7.20 | 1.100   32.49 | 2.100   13.75 |  3.10    8.23
               0.150    7.20 | 1.150   32.49 | 2.150   13.75 |  3.15    8.23
               0.200    7.73 | 1.200   98.75 | 2.200   12.72 |  3.20    7.93
               0.250    8.00 | 1.250  131.88 | 2.250   12.21 |  3.25    7.78
               0.300    8.00 | 1.300  131.88 | 2.300   12.21 |  3.30    7.78
               0.350    8.35 | 1.350  101.24 | 2.350   11.82 |  3.35    7.65
               0.400    9.06 | 1.400   39.95 | 2.400   11.04 |  3.40    7.38
               0.450    9.06 | 1.450   39.95 | 2.450   11.04 |  3.45    7.38
               0.500    9.06 | 1.500   39.95 | 2.500   11.04 |  3.50    7.38
               0.550   10.57 | 1.550   25.06 | 2.550   10.12 |  3.55    7.04
               0.600   10.57 | 1.600   25.06 | 2.600   10.12 |  3.60    7.04
               0.650   10.57 | 1.650   25.06 | 2.650   10.12 |  3.65    7.04
               0.700   12.17 | 1.700   21.15 | 2.700    9.63 |  3.70    6.83
               0.750   12.97 | 1.750   19.19 | 2.750    9.38 |  3.75    6.73
               0.800   12.97 | 1.800   19.19 | 2.800    9.38 |  3.80    6.73
               0.850   14.49 | 1.850   18.10 | 2.850    9.17 |  3.85    6.63
               0.900   17.53 | 1.900   15.90 | 2.900    8.76 |  3.90    6.45
               0.950   17.53 | 1.950   15.90 | 2.950    8.76 |  3.95    6.45
               1.000   17.53 | 2.000   15.90 | 3.000    8.76 |  4.00    6.45

     Max.Eff.Inten.(mm/hr)=     131.88       114.85
                 over (min)        6.00         9.00
     Storage Coeff.  (min)=       3.00 (ii)    6.88 (ii)
     Unit Hyd. Tpeak (min)=       6.00         9.00
     Unit Hyd. peak  (cms)=       0.27         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.03         0.14          1.172 (iii)
     TIME TO PEAK    (hrs)=       1.35         1.40           1.35
     RUNOFF VOLUME    (mm)=      72.11        69.63          71.74
     TOTAL RAINFALL   (mm)=      73.11        73.11          73.11
     RUNOFF COEFFICIENT   =       0.99         0.95           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0200)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)      (mm)
        ID1= 1 (  0201):     1.32   0.028     3.20    70.69
      + ID2= 2 (  0004):     3.69   1.172     1.35    71.74
        ================================================
        ID = 3 (  0200):     5.01   1.188     1.35    71.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0100)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  3.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |    (cms)     (ha.m.)
```

```
                          0.0000     0.0000   |   0.3610      0.0215
                          0.0670     0.0067   |   0.3660      0.0231
                          0.2040     0.0114   |   0.3710      0.0248
                          0.2800     0.0126   |   0.3760      0.0278
                          0.3110     0.0130   |   0.3810      0.0347
                          0.3400     0.0165   |   0.3860      0.0484
                          0.3450     0.0180   |   0.3910      0.0621
                          0.3500     0.0188   |   0.3950      0.0824
                          0.3560     0.0201   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
  INFLOW : ID= 2 (  0200)      5.010     1.188      1.35       71.46
  OUTFLOW: ID= 1 (  0100)      5.010     0.393      1.60       71.46

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.05
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0716

--------------------------------------------------------------------------------
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APPENDIX E – DRAWINGS

- Civil Engineering Plans prepared by The Odan/Detech Group Inc.

SERVICING LEGEND:

- EXISTING STORM MANHOLE
- PROPOSED STORM MANHOLE
- EXISTING CATCH BASIN
- EXISTING DOUBLE CATCH BASIN
- PROPOSED CATCHBASIN
- PROPOSED STORMCEPTOR
- PROPOSED INLET CONTROL DEVICE (ICD)
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- PROPOSED SUB-DRAIN
- EXISTING SANITARY MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED DETECTOR CHECK VALVE IN CHAMBER
- PROPOSED HYDRANT
- EXISTING HYDRANT
- PROPOSED WATER VALVE & BOX
- EXISTING WATER VALVE & BOX
- PROPOSED WATER METER
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- PROPOSED SIAMESE CONNECTION
- PROPOSED CAP FOR SANITARY, STORM AND/OR WATER AS NOTED
- PROPOSED ENTRANCE LOCATION
- PROPOSED LIMIT OF CONSTRUCTION
- DUTY ASPHALT AREA
- WATERMAIN PIPE INSULATION

CONTRACTOR TO VERIFY ALL INVERTS, SIZE, MATERIAL, AND LOCATION OF ALL SERVICES PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ODAN/DETECH GROUP

CONTRACTOR TO PROVIDE AS-BUILT SURVEY UPON COMPLETION OF ALL WORKS TO THE ODAN/DETECH GROUP SURVEY TO BE COMPLETED BY A CERTIFIED ONTARIO LAND SURVEYOR

Construction North

EX. CANADIAN TIRE
F.F.E. 130.41

EX. FOOD STORE
FIN. FL. EL. 131.00m

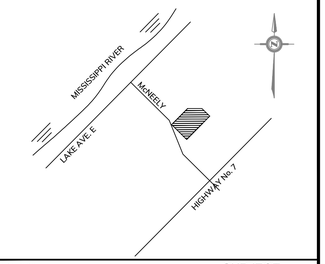
REFER TO DRAWING 2 FOR SITE GRADING OF PARKING ADDITION

REFER TO DRAWING 2 FOR SITE GRADING OF RETAIL C

ROOFTOP STORAGE NOTE:
ROOF DRAINS TO BE CONTROL FLOW ZCF-121 BY ZURN DRAINAGE AND CONTROL SYSTEMS LTD; TOTAL # OF HOPPERS = 4
OF WEIRS = 1 (1/HOPPER);
MAX Q-REL = 9 L/SEC @ 100-YEAR STORM;
MAX DEPTH OF PONDING AT HOPPER DURING MAX ALLOWABLE PONDING DEPTH = 0.15m
EMERGENCY ROOF OVERFLOW IS TO BE VIA ROOF SCUPPERS ALONG PERIMETER OF PARAPET (TYP.)

McNEELY ROAD

TRANS - CANADA HWY 7



KEY PLAN
Scale : N.T.S.

SUBJECT LANDS

NOTES:

THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND UNDERGROUND AND ABOVE GROUND UTILITIES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING THE WORK THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

THE CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO THE ARCHITECTS/ENGINEERS BEFORE PROCEEDING WITH THE WORKS.

ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE ENGINEER WHICH MUST BE RETURNED AT THE COMPLETION OF WORK.

THIS DRAWING IS NOT TO BE SCALED.

THIS PLAN MUST NOT BE USED TO SITE THE PROPOSED BUILDINGS.

THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S CONTRACTOR FROM OBTAINING, BUT NOT LIMITED TO THE FOLLOWING PERMITS: ROAD CUT, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, APPROACH APPROVAL PERMITS, ETC.,

EXISTING TOPOGRAPHICAL INFORMATION SUPPLIED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD.

BENCH MARK:

ELEVATION NOTES
1. ELEVATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO THE CGVD28 GEODETIC DATUM.
2. IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE JOB BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT IT'S RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION SHOWN ON THIS DRAWING.

METRIC NOTE:

DISTANCES AND ELEVATIONS ON THIS PLAN ARE TYPICALLY SHOWN IN METRES AND CAN BE CONVERTED TO FEET BY BY DIVIDING BY 0.3048.

Annis, O'Sullivan, Vollebekk Ltd, 2018 NOTES:

UTILITY NOTES
1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
2. Only visible surface utilities were located.
3. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.
4. Location of underground services established by Deepview Utility Locates and Concrete Scanning on February 5, 2018.

BOUNDARY INFORMATION COMPILED FROM PLANS & FIELD SURVEY.
Bearings are grid and are referred to the Central Meridian of MTM Zone 9 (76°30' West Longitude) NAD-83 (CSRS)(1997.0).

NO.	REVISIONS	DATE	BY
5.	ISSUED FOR SPA	DEC 19/25	LM
4.	~~ISSUED FOR SPA~~ (CANCELLED)	DEC 11/25	ZZ
3.	~~ISSUED FOR SPA~~ (CANCELLED)	NOV 13/25	LM
2.	REVISED AS PER NEW SITE PLAN ISSUED FOR COORDINATION	NOV 5/25	ZZ
1.	ISSUED FOR COORDINATION	SEP 3/25	ZZ

SCALE(S):
1:500 (0 10 20 30 40 50)

DRAWING TITLE:
SITE SERVICING PLAN

PROJECT:
PROPOSED DEVELOPMENT
McNEELY & HIGHWAY No. 7, CARLETON PLACE, ONTARIO

CLIENT:
Loblaw Companies Limited

ODAN·DETECH CONSULTING ENGINEERS
The Odan/Detech Group Inc. P: (905) 632-3811 F: (905) 632-3363
5230 SOUTH SERVICE ROAD, BURLINGTON, ONTARIO, L7L 5K2

LICENSED PROFESSIONAL ENGINEER
Dec. 19/25
P.J. HECIMOVIC
100128560
PROVINCE OF ONTARIO
ENGINEER

DESIGNED BY:	PROJECT No:
L.M.	01215 (SDM)
DRAWN BY: L.M.	DATE: JUN 2025
CHECKED BY: M.H.H.	DRAWING No.: 1 OF 4
APPROVED BY: P.H.	

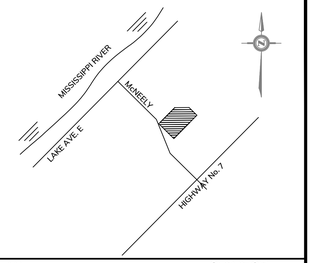
CONTRACTOR TO VERIFY ALL INVERTS, SIZE, MATERIAL, AND LOCATION OF ALL SERVICES PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ODAN/DETECH GROUP

CONTRACTOR TO PROVIDE AS-BUILT SURVEY UPON COMPLETION OF ALL WORKS TO THE ODAN/DETECH GROUP SURVEY TO BE COMPLETED BY A CERTIFIED ONTARIO LAND SURVEYOR

Construction North

GRADING LEGEND:

- EXISTING STORM MANHOLE
- PROPOSED STORM MANHOLE
- EXISTING CATCH BASIN MANHOLE
- PROPOSED CATCH BASIN MANHOLE
- PROPOSED STORMCEPTOR
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- PROPOSED AREA DRAIN
- EXISTING SANITARY MANHOLE
- PROPOSED SANITARY MANHOLE
- EXISTING HYDRANT
- PROPOSED HYDRANT
- EXISTING WATER VALVE & BOX
- PROPOSED WATER VALVE & BOX
- EXISTING VALVE CHAMBER
- BOREHOLE LOCATION
- PROPOSED VALVE CHAMBER
- × 100.00 EXISTING SPOT ELEVATION
- × (100.00) PROPOSED ELEVATION
- × (100.00)TC PROPOSED TOP OF CURB ELEVATION
- × (100.00)GL PROPOSED GUTTER LINE ELEVATION
- × (100.00)HP PROPOSED HIGH POINT
- × (100.00)LP PROPOSED LOW POINT
- × (100.00) PROPOSED SWALE INVERT ELEVATION
- 1.0% PROPOSED FLOW ARROW AND SLOPE
- PROPOSED EMERGENCY OVERLAND FLOW
- SUBDIVISION MAJOR OVERLAND FLOW
- 195.50 EXISTING CONTOUR
- PROPOSED SLOPE (3:1 OR HIGHER)
- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- PROPOSED HEAVY DUTY ASPHALT
- PROPOSED SWALE
- EXISTING PONDING AREA



KEY PLAN
Scale : N.T.S.

SUBJECT LANDS

NOTES:

THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND UNDERGROUND AND ABOVE GROUND UTILITIES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING THE WORK THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

THE CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO THE ARCHITECTS/ENGINEERS BEFORE PROCEEDING WITH THE WORKS.

ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE ENGINEER WHICH MUST BE RETURNED AT THE COMPLETION OF WORK.

THIS DRAWING IS NOT TO BE SCALED.

THIS PLAN MUST NOT BE USED TO SITE THE PROPOSED BUILDINGS.

THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S CONTRACTOR FROM OBTAINING, BUT NOT LIMITED TO THE FOLLOWING PERMITS: ROAD CUT, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, APPROACH APPROVAL PERMITS, ETC...

EXISTING TOPOGRAPHICAL INFORMATION SUPPLIED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD.

BENCH MARK:

ELEVATION NOTES
1. ELEVATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO THE CGVD28 GEODETIC DATUM.
2. IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE JOB BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT IT'S RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION SHOWN ON THIS DRAWING.

METRIC NOTE:

DISTANCES AND ELEVATIONS ON THIS PLAN ARE TYPICALLY SHOWN IN METRES AND CAN BE CONVERTED TO FEET BY BY DIVIDING BY 0.3048.

Annis, O'Sullivan, Vollebekk Ltd, 2018 NOTES:

UTILITY NOTES
1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
2. Only visible surface utilities were located.
3. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.
4. Location of underground services established by Deepview Utility Locates and Concrete Scanning on February 5, 2018.

BOUNDARY INFORMATION COMPILED FROM PLANS & FIELD SURVEY.
Bearings are grid and are referred to the Central Meridian of MTM Zone 9 (76°30' West Longitude) NAD-83 (CSRS)(1997.0).

NO.	REVISIONS	DATE	BY
5.	ISSUED FOR SPA	DEC 19/25	LM
4.	~~ISSUED FOR SPA~~ (CANCELLED)	DEC 11/25	ZZ
3.	~~ISSUED FOR SPA~~ (CANCELLED)	NOV 13/25	LM
2.	REVISED AS PER NEW SITE PLAN ISSUED FOR COORDINATION	NOV 5/25	ZZ
1.	ISSUED FOR COORDINATION	SEP 3/25	ZZ

SCALE(S): 1:250 (0, 5, 10, 15, 20, 25)

DRAWING TITLE:
SITE GRADING PLAN

PROJECT:
PROPOSED DEVELOPMENT
McNEELY & HIGHWAY No. 7, CARLETON PLACE, ONTARIO

CLIENT:
Loblaw Companies Limited

ODAN·DETECH CONSULTING ENGINEERS
The Odan/Detech Group Inc. P: (905) 632-3811 F: (905) 632-3363
5230 SOUTH SERVICE ROAD, BURLINGTON, ONTARIO, L7L 5K2

LICENCED PROFESSIONAL ENGINEER — Dec. 19/25 — P.J. HECIMOVIC — 100128960 — PROVINCE OF ONTARIO

DESIGNED BY:	L.M.
DRAWN BY:	L.M.
CHECKED BY:	M.H.H.
APPROVED BY:	P.H.
ENGINEER	
PROJECT No:	01215 (SDM)
DATE:	JUN 2025
DRAWING No.:	2 OF 4

GENERAL NOTES

1). DRAWINGS ARE NOT TO BE SCALED.
2). DO NOT SITE BUILDINGS WITH THIS DRAWING.
3). ALL DIMENSIONS TO BE CHECKED AND VERIFIED ON THE SITE PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER BEFORE PROCEEDING.
4). UNLESS OTHERWISE NOTED ON THE DRAWINGS THE STANDARD TOWN, REGION/TOWN, MTO AND OPSD AND OPSS ARE TO CONSTITUTE PART OF THIS CONTRACT AND SITE PLAN DRAWINGS.
5). REFER TO TOWN STANDARDS AND SPECIFICATIONS FOR LIST OF APPROVED MANUFACTURERS AND MATERIALS.
6). EXISTING STRUCTURES ARE NOT TO BE DISTURBED, NOR ENCROACHMENT ON ADJACENT PROPERTIES UNLESS INSTRUCTED BY THE ENGINEER.
7). THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNERS CONTRACTOR FROM OBTAINING AND PAYING FOR, BUT NOT LIMITED TO THE FOLLOWING PERMITS, ROAD CUTS, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, APPROACH APPROVAL PERMITS, ETC. AS RESTORATION AS PER TOWN STANDARDS.
8). PRIOR TO CONSTRUCTION, THE ENGINEER IS TO BE NOTIFIED BY THE OWNER AND THE CONTRACTOR AS TO THE EXTENT OF THE CONSTRUCTION LIMITS THEY PROPOSE. THE TOWN IS TO BE NOTIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
9). THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE SITE PLAN, LANDSCAPE PLAN, SITE ELECTRICAL PLANS, AND ANY OTHER PLANS OR DRAWINGS WHICH DEPICT WORKS THAT ARE PROPOSED FOR THIS SITE.
10). THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS. ALL SIGNS, ETC. SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS FOR THE TOWN AND THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR ONTARIO.
11). THE CONTRACTOR SHALL ENDEAVOR TO PREVENT MUD TRACKING ONTO EXISTING RIGHT-OF-WAYS AND SHALL PROVIDE FOR CLEANUP AT HIS OWN EXPENSE AS DIRECTED BY THE TOWN. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CONTROL DUST ON THE PROJECT AND HE SHALL PROVIDE AT HIS OWN EXPENSE, CONTROLLING MEASURES AS DIRECTED BY THE TOWN.
12). THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES PRIOR TO AND DURING CONSTRUCTION. LOCATION OF EXISTING UTILITIES TO BE VERIFIED IN THE FIELD.
13). THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE TOWN.
14). BLASTING WILL NOT BE ALLOWED UNLESS AUTHORIZED BY THE TOWN.
15). ANY UTILITY RELOCATIONS DUE TO THIS DEVELOPMENT TO BE UNDERTAKEN AT THE EXPENSE OF THE OWNER/DEVELOPER.
16). ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE ENGINEER WHICH MUST BE RETURNED AT THE COMPLETION OF WORK.
17). DRIVEWAYS SHALL BE SETBACK A MINIMUM CLEARANCE OF 1.0 m. FROM ALL ABOVEGROUND SERVICES OR OTHER OBSTRUCTIONS.
18). ALL CONSTRUCTION WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
19). CONSTRUCTION ACCESS SHALL BE CONSTRUCTED WITH A MIN. OF 450mm THICK CRUSHED STONE BASE FROM MUNICIPAL CURB OR EDGE OF PAVEMENT TO THE PROPERTY LINE TO THE SATISFACTION OF THE TOWN. LOCATION SHALL BE AS PER THE TOWN.
20). MINIMUM CLEARANCE OF 1.0m FROM ALL ABOVE GROUND SERVICES AND UTILITIES.
21). OUTSIDE LIGHTING TO BE DIRECTED DOWNWARD AS WELL AS INWARD AND DESIGNED TO MAINTAIN ZERO CUTOFF LIGHT DISTRIBUTION AT THE PROPERTY LINE.
22). ALL WORKS WITHIN TOWN RIGHT-OF-WAY TO BE PERFORMED BY TOWN FORCES OR AN APPROVED CONTRACTOR AS PER TOWN ACCEPTANCE, UNLESS OTHERWISE DIRECTED BY THIS ENGINEER.
24). ALL EXISTING SEWERS ARE TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION INCLUDING SEWER INVERTS, MATERIAL TYPE, AND SIZE. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
25). ALL RELOCATION, RECONSTRUCTION AND RESTORATION TO BE PERFORMED TO THE SATISFACTION OF THE DIRECTOR OF ENGINEERING.

GRADING

1). THE GRADING PLAN IS TO BE READ WITH THE SITE SERVICES DRAWING AND THE SITE PLAN. FOR BUILDING DETAILS REFER TO THE LATEST REVISION OF THE SITE PLAN AS PER THE ARCHITECT.
2). CONTRACTOR TO RESTORE ALL DISTURBED AREAS (I.E. PUBLIC R.O.W., ADJACENT LANDS) WHICH HAVE BEEN DISTURBED DURING CONSTRUCTION TO PREVIOUS OR BETTER CONDITION.
3). ALL DRIVEWAY AND GRADING MATERIAL AND CONSTRUCTION METHODS MUST CONFORM TO CURRENT TOWN STANDARDS AND SPECIFICATIONS.
4). ALL FILL WITHIN THE SITE TO BE COMPACTED TO A MIN. OF 100% STD. PROCTOR DENSITY. THE SUITABILITY OF ALL FILL MATERIALS ARE TO BE CONFIRMED BY A RECOGNIZED SOILS CONSULTANT TO THE DIRECTOR OF ENGINEERING PRIOR TO INSTALLATION OF ANY ROAD BASE MATERIALS.
5). LANDSCAPE SHALL NOT ENCROACH ON BOULEVARD NOR SHALL BOULEVARD GRADES BE ALTERED.
6). SILT FENCE(S) TO BE INSTALLED AND MAINTAINED TO PREVENT SILT FLOWING ONTO ADJACENT LANDS SILTATION CONTROL METHODS SUCH AS ENVIROFENCE OR APPROVED EQUAL SHALL BE ERECTED PRIOR TO ANY GRADING OR CONSTRUCTION AND SHALL BE
7). ANY CHANGES IN GRADES OR CATCH BASINS REQUIRE THE APPROVAL OF THE ODAN/DETECH GROUP INC.
8). THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE TOWN.
9). ALL LANDSCAPING TO BE INSTALLED AS SOON AS POSSIBLE OR PRIOR TO THE END OF THE FIRST GROWING SEASON. LANDSCAPING TO BE MAINTAINED UNTIL IT IS ESTABLISHED.
10). ALL CONNECTIONS WITH PAVED PORTIONS OF EXISTING ROADS TO BE BACKFILLED WITH GRANULAR 'A' MATERIAL OR LATEST TOWN SPECIFICATIONS AND COMPACTED TO 100 % SPD.
11). CONSTRUCTION ACCESS SHALL BE CONSTRUCTED WITH A MIN. OF 450mm THICK CRUSHED STONE BASE FROM MUNICIPAL CURB OR EDGE OF PAVEMENT TO THE PROPERTY LINE TO THE SATISFACTION OF THE TOWN.
12). ALL CURBS ARE TO BE 150mm ABOVE THE PROPOSED GUTTER LINE (G/L) UNLESS NOTED OTHERWISE.
13). PAVEMENT GRADE (MIN. 0.5%, MAX. 5%).
14). DRAINAGE SWALES WITH GRADES (MIN. 2%, MAX. 5%).
15). SLOPES IN LANDSCAPE AREAS AND ON BERMS SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL.
16). THE PARKING AREAS AND DRIVEWAY HAVE BEEN DESIGNED ACCORDING TO A FROST SUSCEPTIBILITY FACTOR OF 3. THIS FACTOR IS TO BE VERIFIED BY A SOILS CONSULTANT.

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CONTRACTOR TO PROVIDE AS-BUILT SURVEY UPON COMPLETION OF ALL WORKS TO THE ODAN/DETECH GROUP SURVEY TO BE COMPLETED BY A CERTIFIED ONTARIO LAND SURVEYOR

SERVICING NOTES

STORM SEWERS

1). ALL STORM SEWERS 450mmø AND SMALLER TO BE PVC SDR 35 IN ACCORDANCE WITH CSA-B182.2, ASTM D-2779 AND ASTM D-3034 OR LATEST REVISIONS UNLESS OTHERWISE NOTED. 525mmø AND LARGER TO BE CONCRETE IN ACCORDANCE WITH CSA A257.2, CLASS 65D OR LATEST REVISIONS. UNLESS OTHERWISE NOTED. ROOF TOP STORM LEADS 150mmø AND SMALLER TO BE PVC SDR 28.
2). ULTRA RIBBED PVC PIPE SHALL NOT BE USED, UNLESS OTHERWISE DIRECTED BY THIS ENGINEER.
3). ALL CATCH BASIN LEADS TO BE A MINIMUM OF 300mmø PVC SDR 35 IN ACCORDANCE WITH CSA-B182.2, ASTM D-2779 AND ASTM D-3034 OR LATEST REVISIONS, UNLESS OTHERWISE NOTED.
4). BEDDING AND COVER FOR PVC SEWERS (FLEXIBLE PIPE) AS PER OPSD 802.010, GRANULAR "A" COMPACTED TO 100% SPD.
5). BEDDING AND COVER FOR CONCRETE SEWERS (RIGID PIPE) AS PER OPSD 802.030, CLASS B, GRANULAR 'A', COMPACTED TO 100% SPD. UNLESS OTHERWISE SPECIFIED.
6). ALL STORM SERVICES TO BUILDINGS SHALL BE AT A MINIMUM SLOPE OF 1.0%
7). THE CONTRACTOR IS TO CAP ALL STORM SERVICES 2.0 METRES AWAY FROM THE PROPOSED BUILDING LINES UNLESS OTHERWISE NOTED.
8). CULVERT THICKNESS SHALL BE 1.6mm MINIMUM WITH LENGTHS IN STANDARD INCREMENTS OF 3, 6, AND 7 METRES.
9). STORM MANHOLES SHALL BE AS PER OPSD-701.010, 701.011, 701.012, 701.013 AS SPECIFIED. BENCHING TO SPRINGLINE OF PIPE AS PER OPSD-701.021. FRAME & COVER AS PER OPSD-401.01, (TYPE A CLOSED COVER)
10). ALL CATCH BASIN MANHOLES AS PER OPSD 701.010. FRAME AND GRATE AS PER OPSD 400.02.
11). ALL MANHOLE AND CATCH BASIN ADJUSTMENTS SHALL BE AS PER OPSD-704.010. MAXIMUM OF THREE (3) UNITS AND 300mm HIGH, WHERE EXCEED CAST-IN-PLACE OR PRE-CAST RISER SECTIONS SHALL BE PROVIDED.
12). ALL SAFETY GRATES AS PER OPSD 404.020 FOR MANHOLES > 5.0m DEPTH.
13). EXISTING STORM MANHOLE(S) TO BE RE-BENCHED AS REQUIRED, AS PER OPSD-701.021.
14). ALL CATCH BASINS SHALL BE INSTALLED IN ACCORDANCE WITH OPSD 705.010, INCLUDE GOSS TRAP IF REQUIRED BY TOWN. ALL CATCH BASIN FRAMES AND COVERS AS PER OPSD 400.02.
15). ALL DOUBLE CATCH BASINS SHALL BE INSTALLED IN ACCORDANCE WITH OPSD-705.020, INCLUDE GOSS TRAP IF REQUIRED BY TOWN. ALL CATCH BASIN FRAMES AND COVERS AS PER OPSD 400.02.
16). ALL DITCH INLET CATCH BASINS SHALL BE AS PER OPSD-705.030, WITH RIP-RAP TREATMENT AS PER OPSD-810.02, WITH GEOTEXTILE (MIRAFI P-140N).
17). ALL CATCH BASIN CONNECTIONS SHALL BE AS PER OPSD-708.01 (RIGID PIPE) AND OPSD-708.03 (FLEXIBLE PIPE).
18). ALL CATCH BASINS CONSTRUCTED IN FILL AREAS TO BE SUPPORTED IN 14MPa. CONCRETE.
19). AT ALL CATCH BASIN & CATCH BASIN MANHOLE SAG POINTS INCLUDE FOUR (4) 5.0m LONG, 100mmø PVC SUBDRAINS WITH FILTER CLOTH, CAP ONE END AND CONNECT THE OTHER TO THE CATCH BASIN OR CATCH BASIN MANHOLE.
20). ALL SEWER SERVICE CONNECTIONS FOR RIGID PIPE SHALL BE AS PER OPSD-1006.01.
21). ALL SEWER SERVICE CONNECTIONS FOR FLEXIBLE PIPE SHALL BE AS PER OPSD-1006.02.
22). ALL CONCRETE OUTLETS AS PER OPSD 605.030 WITH ASPHALT SPILLWAY AND RIP-RAP.
23). ALL RIP-RAP TREATMENT FOR SEWER AND CULVERT OUTLETS SHALL BE AS PER OPSD-810.01, TYPE "B" WITH GEOTEXTILE (MIRAFI P-140N).
24). ALL PAVEMENT REINSTATEMENT SHALL BE AS PER OPSD-509.010, FOR UTILITY CUTS, BACKFILL AS PER TOWN STD.
25). ALL TESTING OF STORM SERVICES TO BE IN ACCORDANCE WITH ONTARIO PROVINCIAL STANDARD SPECIFICATIONS.
26). CONTRACTOR SHALL PROVIDE COLOUR VIDEO OF STORM SEWER UPON COMPLETION TO THE ENGINEER.

SANITARY

1). ALL SANITARY SEWERS 200mmø AND GREATER ARE TO BE PVC-SDR 35 IN ACCORDANCE WITH CSA-B182.2, ASTM D-2779 AND ASTM D-3034 OR LATEST REVISIONS, RUBBER GASKET.
2). ALL SANITARY SEWERS 150mmø AND LESS ARE TO BE PVC-SDR 28 IN ACCORDANCE WITH CSA-B182.2, ASTM D-2779 AND ASTM D-3034 OR LATEST REVISIONS, RUBBER GASKET.
3). BEDDING AND COVER FOR PVC SANITARY SEWERS AS PER OPSD 802.010, GRANULAR "A" COMPACTED TO 100% SPD.
4). THE CONTRACTOR IS TO CAP ALL SANITARY SERVICES 2.0 METRES AWAY FROM THE PROPOSED BUILDING LINES UNLESS OTHERWISE NOTED.
5). ALL SANITARY SERVICES TO BUILDINGS SHALL BE AT A MINIMUM SLOPE OF 1.0%
6). SANITARY MANHOLES SHALL BE AS PER OPSD-701.010, 701.011, 701.012, 701.013 AS SPECIFIED. BENCHING TO SPRINGLINE OF PIPE AS PER OPSD-701.021. FRAME & COVER AS PER OPSD-401.01 (TYPE A CLOSED COVER)
7). ALL SAFETY GRATES AS PER OPSD 404.020 FOR MANHOLES > 5.0m DEPTH.
8). ALL MANHOLE DROP STRUCTURES SHALL BE AS PER OPSD-1003.01 (TEE) AND 1003.02 (WYE) AS SPECIFIED.
9). ALL MANHOLE ADJUSTMENTS SHALL BE AS PER OPSD-704.010. MAXIMUM OF THREE (3) UNITS AND 300mm HIGH, WHERE EXCEED CAST-IN-PLACE OR PRE-CAST RISER SECTIONS SHALL BE PROVIDED.
10). PROVIDE WATER TIGHT COVERS FOR SANITARY MANHOLES LOCATED IN PONDING AREAS.
11). ALL SEWER SERVICE CONNECTIONS FOR FLEXIBLE PIPE SHALL BE AS PER OPSD-1006.02.
12). ALL PAVEMENT REINSTATEMENT SHALL BE AS PER OPSD-509.010, FOR UTILITY CUTS, BACKFILL AS PER TOWN STD.
13). ALL TESTING OF SANITARY SERVICES TO BE IN ACCORDANCE WITH ONTARIO PROVINCIAL STANDARD SPECIFICATIONS.
14). CONTRACTOR SHALL PROVIDE COLOUR VIDEO OF SANITARY SEWER UPON COMPLETION TO THE ENGINEER.
15). CONTRACTOR SHALL PROVIDE INSULATION FOR SANITARY SEWERS WITH LESS THAN 1.7m OF COVER.

WATER

1). WATERMAIN PIPE TO BE PVC-SDR 18 CL 150 CONFORMING TO CSA B137.3, INCLUDING No. 8 TRACER WIRE BETWEEN HYDRANTS OR OTHER CONDUCTING APPURTENANCES. PIPE SHALL HAVE A MINIMUM COVER OF 1.7m. ALL WATER MAIN JOINTS TO BE APPROVED PUSH-ON. MECHANICAL OR FLANGE TYPE JOINTS AS REQUIRED FOR 1000 kPa RATED PRESSURE. CORROSION PROTECTION FOR ALL FITTINGS, VALVES AND HYDRANTS (HYPROTEC OR EQUAL).
2). ALL DOMESTIC WATER SERVICES SHALL BE TYPE "K" SOFT COPPER AND INSTALLED AS PER OPSD-1104.01 (20mm&25mm) AND OPSD-1104.02 (32mm, 38mm AND 50mm), SIZE AS PER PLAN.
3). BEDDING AND COVER AS PER OPSD 802.010, TYPE 1 & 2, GRANULAR 'A' COMPACTED TO 100% SPD.
4). ALL WATER MAIN FITTINGS AND APPURTENANCES TO BE SELECTED FROM TOWN APPROVED MATERIAL LIST FOR WATER.
5). WATER MAINS SHALL HAVE A MINIMUM VERTICAL SEPARATION OF 0.50m BELOW AND 0.30m ABOVE AND A HORIZONTAL SEPARATION OF 2.5m BETWEEN ANY SEWER OR MANHOLE.
6). EXISTING WATER MAIN SHALL BE DEFLECTED BELOW PROPOSED GRADES TO MEET 1.7m COVER AS PER TOWN STANDARDS AND SPECIFICATIONS. REPLACE WATER MAIN IF NECESSARY.
7). CONTRACTOR TO CONFIRM THE SIZE AND MATERIAL TYPE OF EXISTING WATER SERVICE AND WATER MAIN PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER.
8). EXISTING WATER MAIN OBVERTS TO BE CONFIRMED ON SITE AT THE TIME OF CONSTRUCTION.
9). WATER MAIN AND SERVICES SHALL BE CAPPED 2.0m FROM BUILDING, UNLESS OTHERWISE NOTED.
10). ALL TAPPING SLEEVES TO BE STAINLESS STEEL SIMILAR TO MUELLER TYPE, COMPLETE WITH VALVE.
11). ALL VALVE AND BOX ASSEMBLIES SHALL BE INSTALLED AS PER OPSD--1101.02.
12). ALL HYDRANTS SHALL BE INSTALLED AS PER OPSD 1105.01, WITH CATHODIC PROTECTION AS PER TOWN STANDARDS. ALL HYDRANTS SHALL CONFORM TO AWWA SPECIFICATIONS C502-64. THE DIRECTION SHALL BE COUNTER CLOCKWISE AND THEY SHALL HAVE 2 63.5mm NOZZLES AND 1 100mm STORTZ CONNECTION.
13). ALL THRUST BLOCKING SHALL BE AS PER OPSD--1103.01 (HORIZONTAL) AND OPSD--1103.02 (VERTICAL).
14). FROST COLLARS ARE TO BE PROVIDED ON CURB STOPS AND VALVE BOXES WHEN LOCATED WITHIN THE LIMITS OF THE DRIVEWAY.
15). ALL WATER CHAMBERS SHALL BE AS PER OPSD--1101.010
16). ALL WATER MAIN BLOW-OFF ASSEMBLIES SHALL BE AS PER OPSD--1104.03, 25mmø.
17). ALL PAVEMENT REINSTATEMENT SHALL BE AS PER OPSD-509.010, FOR UTILITY CUTS, BACKFILL AS PER TOWN STD.
18). FLUSHING, SWABBING, AND TESTING OF WATER MAIN AS PER ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS.

CURBING/SIDEWALKS/ASPHALT

1). ALL PROPOSED INTERNAL CURBING TO BE BARRIER TYPE AS PER ARCHITECT DETAIL. ALL TOPS OF CURBS TO BE 150mm ABOVE PROPOSED GUTTER LINE, UNLESS OTHERWISE NOTED.
2). PROPOSED CURB AND GUTTER ON TRAVELED ROADWAY AS PER CURRENT TOWN STD.
3). ALL REQUIRED CURB CUTTING AT ENTRANCE AND CURB DEPRESSIONS AT SIDEWALK CROSSINGS SHALL BE INSTALLED TO THE SATISFACTION OF THE TOWN AND AS PER TOWN DRAWING
4). CURB CUTS WITHIN THE PUBLIC R.O.W. TO BE PERFORMED TO THE SATISFACTION OF THE TOWN.
5). ALL PROPOSED ROAD CUTS TO BE PERFORMED AND RESTORED TO THE SATISFACTION OF THE TOWN , AND IN ACCORDANCE WITH TOWN STANDARDS & SPECIFICATIONS.
6). CONCRETE SIDEWALK WITHIN PUBLIC R.O.W. AS PER OPSD--310.010 AND OPSD--310.020 (ADJACENT TO CURB) ALL RAMPS SHALL BE AS PER OPSD--310.031, ALL SIDEWALKS SHALL BE 30MPa WITH 7% AIR. ALL CONCRETE SIDEWALKS TO BE MINIMUM 150mm THICK AT RESIDENTIAL DRIVEWAYS AND 200mm THICK THROUGH COMMERCIAL/INDUSTRIAL ENTRANCES HAVE 150mm GRANULAR 'A' BASE, COMPACTED TO 100% SPD.
7). ALL CONCRETE CURB FROM EXISTING ROAD CURB TO STREET LINE SHALL BE AS PER TOWN STD. ALL CONCRETE CURB HEIGHTS SHALL BE 150mm UNLESS OTHERWISE NOTED. DRIVEWAY CURB TO BE DISCONTINUOUS AT SIDEWALK AND TAPERED BACK 450mm MINIMUM WHERE SIDEWALK CONTINUES THROUGH THE ENTRANCE AS PER OPSD--350.01.
8). APPROPRIATE CONSTRUCTION DETAILS SHOULD BE PROVIDED FOR RETAINING WALLS HIGHER THAN 1.0m. DETAILS SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER UPON APPROVAL. HANDRAIL IS REQUIRED WHEN HEIGHT EXCEEDS 0.60m AND SHALL BE AS PER OPSD--980.101.
9). ALL CURBS ARE TO BE 150mm ABOVE THE PROPOSED GUTTER LINE (G/L) UNLESS NOTED OTHERWISE.
10). DRIVEWAY ENTRANCE SHALL BE CONSTRUCTED WITH HEAVY DUTY ASPHALT FROM THE BACK OF THE MUNICIPAL CURB OR EDGE OF PAVEMENT TO THE PROPERTY LINE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS OR CURRENT TOWN STD.:

    40mm COMPACTED DEPTH OF HL3 ASPHALT – TOP COURSE
    40mm COMPACTED DEPTH OF HL8 ASPHALT – BINDER COURSE
    150mm COMPACTED (100% SPD) GRANULAR "A"
    400mm COMPACTED (100% SPD) GRANULAR "B"

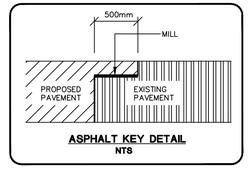
11). ALL HEAVY DUTY ASPHALT WITHIN THE SITE SHALL BE AS PER THE FOLLOWING SPECIFICATIONS:

    40mm COMPACTED DEPTH OF HL3 ASPHALT – TOP COURSE
    40mm COMPACTED DEPTH OF HL8 ASPHALT – BINDER COURSE
    150mm COMPACTED (100% SPD) GRANULAR "A"
    150mm COMPACTED (100% SPD) GRANULAR "B"

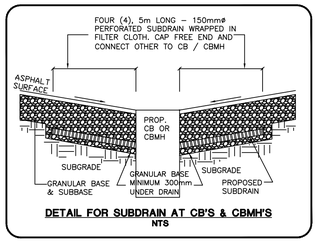
12). ALL LIGHT DUTY ASPHALT WITHIN THE SITE SHALL BE AS PER THE FOLLOWING SPECIFICATIONS:

    50mm COMPACTED DEPTH OF HL3 ASPHALT – TOP COURSE
    150mm COMPACTED (100% SPD) GRANULAR "A"
    300mm COMPACTED (100% SPD) GRANULAR "B"

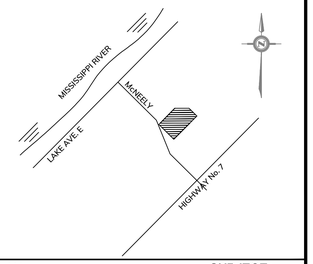
13). ALL CONCRETE TOE WALLS SHALL BE AS PER OPSD 3120.100 TYPE I
14). ALL DEAD END BARRICADES SHALL BE AS PER OPSD--912.532.
15). ALL TEMPORARY STEEL BEAM GUIDE RAILS SHALL BE AS PER OPSD--912.532
16). ALL SECTIONAL PRE-CAST CONCRETE CURBING AS PER OPSD--603.02.
17). PERIMETER SUBDRAINS SHOULD BE PROVIDED AROUND PARKING AREAS AND ALONG DRIVEWAYS.



ASPHALT KEY DETAIL
NTS



DETAIL FOR SUBDRAIN AT CB'S & CBMH'S
NTS



KEY PLAN — **SUBJECT LANDS**
Scale : N.T.S.

NOTES:

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THE CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO THE ARCHITECTS/ENGINEERS BEFORE PROCEEDING WITH THE WORKS.

ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE ENGINEER WHICH MUST BE RETURNED AT THE COMPLETION OF WORK.

THIS DRAWING IS NOT TO BE SCALED.

THIS PLAN MUST NOT BE USED TO SITE THE PROPOSED BUILDINGS.

THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S CONTRACTOR FROM OBTAINING, BUT NOT LIMITED TO THE FOLLOWING PERMITS: ROAD CUT, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, APPROACH APPROVAL PERMITS, ETC.

EXISTING TOPOGRAPHICAL INFORMATION SUPPLIED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD.

BENCH MARK:

ELEVATION NOTES
1. ELEVATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO THE CGVD28 GEODETIC DATUM.
2. IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE JOB BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT IT'S RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION SHOWN ON THIS DRAWING.

METRIC NOTE:

DISTANCES AND ELEVATIONS ON THIS PLAN ARE TYPICALLY SHOWN IN METRES AND CAN BE CONVERTED TO FEET BY BY DIVIDING BY 0.3048.

Annis, O'Sullivan, Vollebekk Ltd, 2018 NOTES:

UTILITY NOTES
1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
2. Only visible surface utilities were located.
3. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.
4. Location of underground services established by Deepview Utility Locates and Concrete Scanning on February 5, 2018.

BOUNDARY INFORMATION COMPILED FROM PLANS & FIELD SURVEY.
Bearings are grid and are referred to the Central Meridian of MTM Zone 9 (76°30' West Longitude) NAD-83 (CSRS)(1997.0).

NO.	REVISIONS	DATE	BY
5.	ISSUED FOR SPA	DEC 19/25	LM
4.	~~ISSUED FOR SPA~~ (CANCELLED)	DEC 11/25	ZZ
3.	~~ISSUED FOR SPA~~ (CANCELLED)	NOV 13/25	LM
2.	REVISED AS PER NEW SITE PLAN ISSUED FOR COORDINATION	NOV 5/25	ZZ
1.	ISSUED FOR COORDINATION	SEP 3/25	ZZ

SCALE(S):

DRAWING TITLE:
NOTES AND DETAILS

PROJECT:
PROPOSED DEVELOPMENT
McNEELY & HIGHWAY No. 7, CARLETON PLACE, ONTARIO

CLIENT:
Loblaw Companies Limited

ODAN·DETECH CONSULTING ENGINEERS
The Odan/Detech Group Inc. P: (905) 632-3811 F: (905) 632-3363
5230 SOUTH SERVICE ROAD, BURLINGTON, ONTARIO, L7L 5K2

LICENSED PROFESSIONAL ENGINEER — Dec. 19/25 — P.J. HECIMOVIC — 100126860 — PROVINCE OF ONTARIO

ENGINEER

DESIGNED BY: L.M.	PROJECT No: 01215 (SDM)
DRAWN BY: L.M.	DATE: JUN 2025
CHECKED BY: M.H.H.	DRAWING No.: 3 OF 4
APPROVED BY: P.H.	

CONTRACTOR'S SCOPE OF WORK & SEQUENCING

1). ALL SEDIMENT CONTROLS ARE TO BE INSTALLED PRIOR TO COMMENCEMENT OF ANY SITE GRADING WORKS.

2). THE CONTRACTOR SHALL PROVIDE A SILT FENCE AS SHOWN ON THE PLANS AND AS PER DETAIL (THIS SHEET) THE SILT FENCE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

3). THE CONTRACTOR SHALL CONSTRUCT THE MUD MAT AS PER THE DETAIL SHOWN . MUD TRACKING ONTO THE MUNICIPAL R.O.W. IS STRICTLY PROHIBITED ANY MUD TRACKING OFF-SITE SHALL BE CLEANED IMMEDIATELY AT THE CONTRACTORS EXPENSE.

4). PRIOR TO STOCKPILING FILL, THE CONTRACTOR SHALL STRIP TOPSOIL ONLY WITHIN THE DESIGNATED STOCKPILE LOCATIONS AND REMOVE FROM SITE.

5). THE CONTRACTOR TO STOCKPILE FILL WITHIN THE DESIGNATED AREAS, WHILE AT ALL TIMES MAKING AN EFFORT TO MINIMIZE DISTURBANCE TO THE EXISTING VEGETATED AREAS. HAUL ROUTES PROPOSED BY THE CONTRACTOR ARE TO BE GIVEN TO THE CHIEF BUILDING OFFICIAL AT THE TOWN OF HAMILTON PRIOR TO BEGINNING IMPORT OF FILL.

6). IF STOCKPILES ARE TO BE LEFT FOR MORE THAN 45 DAYS THEY MUST BE STABILIZED BY HYDROSEEDING. CONTRACTOR TO CONFIRM WITH ODAN/DETECH IF STABILIZATION IS REQUIRED UPON COMPLETION OF STOCKPILING.

7). CONTRACTOR TO INSPECT THE INTEGRITY OF THE SILT FENCE ON A BI-WEEKLY SCHEDULE, AND AFTER EVERY HEAVY RAINFALL EVENT OR SNOW MELT EVENT. DEFICIENCIES ARE TO BE RECTIFIED IMMEDIATELY.

8). AT ALL TIMES THE SITE OPERATIONS SHALL SEQUENCE THE WORKS TO MINIMIZE THE DURATION THAT ANY PORTION OF THE SITE REMAINS IN AN UNVEGETATED STATE.

9). CONSTRUCTION SEQUENCE

1.) SEDIMENT CONTROLS

2.) SITE GRADING

3.) UNDERGROUND SERVICING

4.) BLDG. CONSTRUCTION

5.) FINAL GRADING/SODDING

10). IF SITE CONSTRUCTION IS INTERRUPTED AND/OR INACTIVITY EXCEEDS 30 DAYS, ALL STRIPPED AND/OR BARE AREAS WILL BE STABILIZED BY SEEDING.

11). ALL EROSION AND SEDIMENT CONTROL MEASURE ARE TO BE REGULARY INSPECTED AND MAINTAINED AS REQUIRED, TO THE SATISFACTION OF THE TOWN OF BRANT.

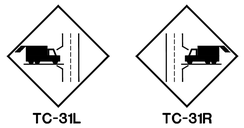
12). ALL EROSION AND SEDIMENT CONTROL MEASURE ARE TO BE REGULARLY INSPECTED AND MAINTAINED

13). THE OWNER IS RESPONSIBLE TO ENSURE THE MUNICIPAL ROADWAYS ARE CLEARED OF ALL SEDIMENTS FROM VEHICULAR TRACKING ETC. TO AND FROM THE SITE, AT THE END OF EACH WORKDAY.

THE ENGINNERING CONSULTANT SHALL REGULARILY INSPECT THE SITE TO ENSURE THE SITE SILT CONTROL DEVICES ARE FUNCTIONING PROPERLY.

DEFICIENCIES ARE TO BE RECORDED AND REPORTED TO THE CONTRACTOR IMMEDIATLY SUCH THAT THEY ARE PROMPTLY REPAIRED, REPLACED OR UPGRADED TO ACHIEVE ADEQUATE PERFORMANCE.

THE ENGINEERING CONSULTANT SHALL RECORD WHEN THE DEFICIENCES HAVE BEEN CORRECTED



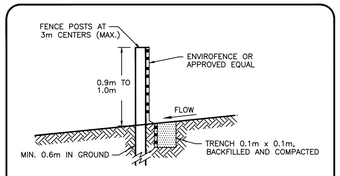
DUST CONTROL

1. CONTRACTOR TO MINIMIZE DUST ON-SITE WITH USE OF CALCIUM OR AN EQUIVALENT METHOD
2. CONTRACTOR TO CLEAN ROADWAY DAILY
3. CONTRACTOR TO WASH ROAD WEEKLY

CONSTRUCTION ACCESS NOTES:.

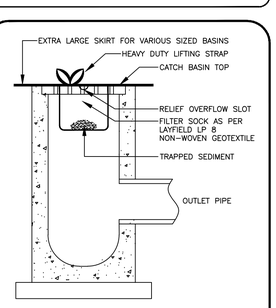
1. TEMPORARY "TRUCK ENTRANCE" SIGNS SHALL BE INSTALLED ON THE SHOULDER, 150m IN ADVANCE OF THE ACCESS (NOTE: SEE DETAILS ON USE OF THESE SIGNS IN THE M.T.O. UNIFORM TRAFFIC CONTROL DEVICES MANUAL.) THE APPLICANT WILL BE RESPONSIBLE FOR THE COST OF OBTAINING, ERECTING AND MAINTAINING THESE SIGNS.

2. TEMPORARY CONSTRUCTION ACCESS SHALL BE REMOVED FROM THE REGIONAL ROAD ALLOWANCE AND ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION.



NOTE: CONTRACTOR/OWNER TO MAINTAIN SILT CONTROL FENCE TO THE SATISFACTION OF THE TOWN/TOWN

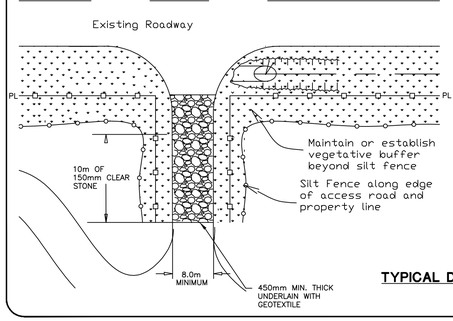
SILT CONTROL DETAIL
NTS



SEDIMENT CONTROL AT CATCH BASIN WITH FILTER SOCK
N.T.S.

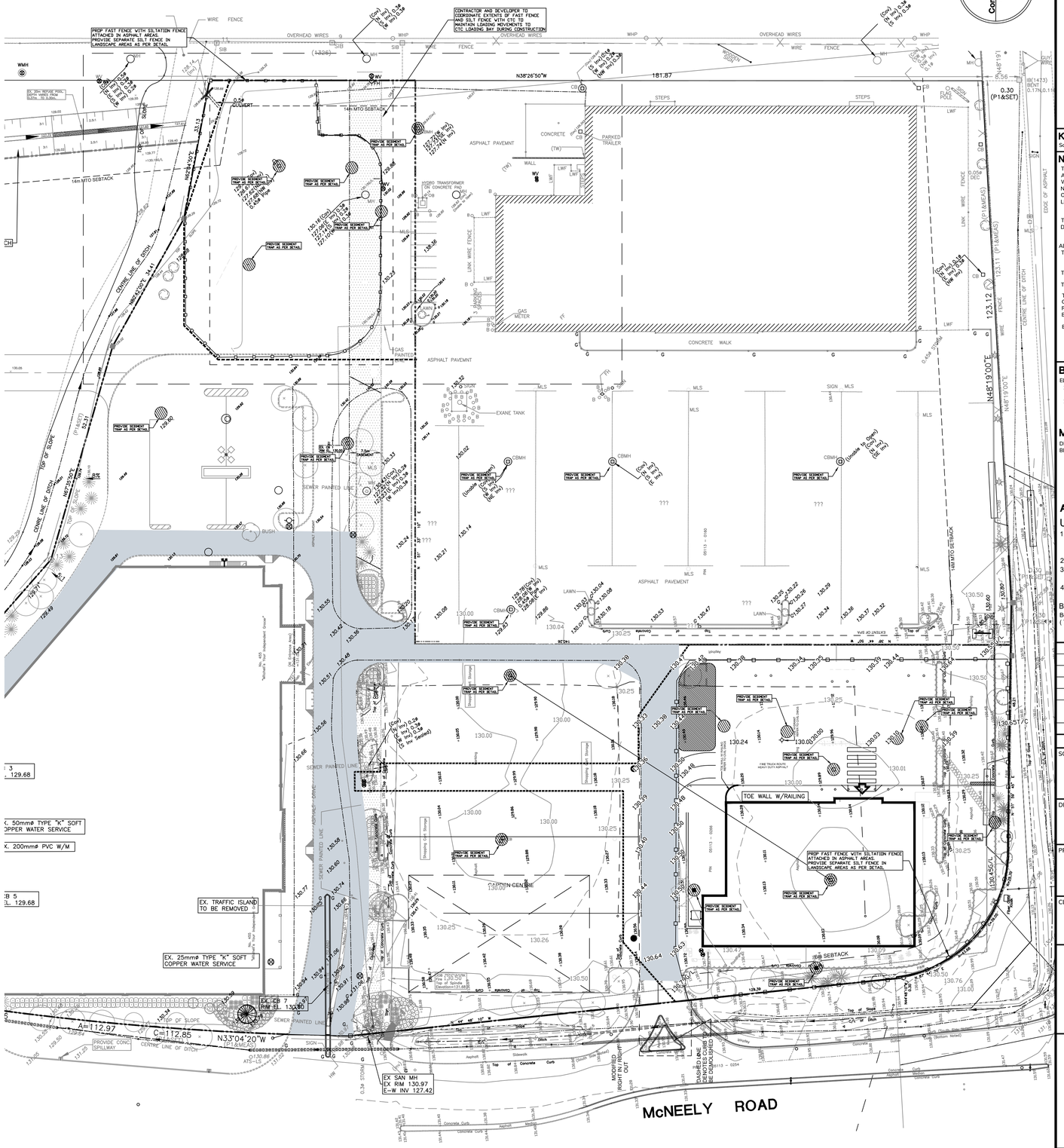
LEGEND:

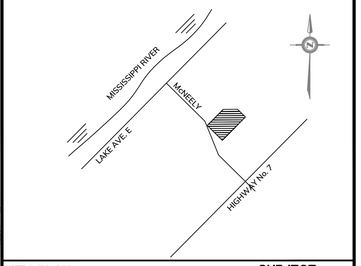
× (100.00)	DENOTES PRE-GRADE ELEVATION
× (100.00)	DENOTES PRE-GRADE SWALE INVERT ELEVATION
× 100.00	DENOTES EXISTING ELEVATION
1.0%	DENOTES PRE-GRADE FLOW ARROW AND SLOPE
	DENOTES PROPOSED SEDIMENT TRAP
—X—	DENOTES PROPOSED SILT FENCE



NOTES:
1. Purpose of Construction Mat is to minimize transportation of sediment onto roadways.
2. Construction mat is to be installed as the first step in the site alteration process.
3. Construction mats are required where paved roads are within 300 m of the site.

TYPICAL DETAIL OF MUD MAT
N.T.S.





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2.	REVISED AS PER NEW SITE PLAN ISSUED FOR COORDINATION	NOV 5/25	ZZ
1.	ISSUED FOR COORDINATION	SEP 3/25	ZZ

SCALE(S):
1: 500 (0 10 20 30 40 50)

DRAWING TITLE:
EROSION AND SEDIMENT CONTROL PLAN

PROJECT:
PROPOSED DEVELOPMENT
McNEELY & HIGHWAY No. 7, CARLETON PLACE, ONTARIO

CLIENT:
Loblaw Companies Limited

ODAN·DETECH CONSULTING ENGINEERS
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5230 SOUTH SERVICE ROAD, BURLINGTON, ONTARIO, L7L 5K2

LICENCED PROFESSIONAL ENGINEER — Dec. 19/25 — P.J. HECIMOVIC — 100128980 — PROVINCE OF ONTARIO

ENGINEER

DESIGNED BY:	L.M.
DRAWN BY:	L.M.
CHECKED BY:	M.H.H.
APPROVED BY:	P.H.
PROJECT No:	01215 (SDM)
DATE:	JUN 2025
DRAWING No.:	4 OF 4