TATHAM ENGINEERING

Enhancing our communities

Camperdown Condominiums

FUNCTIONAL SERVICING REPORT

2220740 Ontario Inc. c/o Romspen Investment Corp.

File 117304 | November 6, 2019

Document Control

File:

117304

Date:

November 6, 2019

Prepared by:

Tatham Engineering Limited

115 Sandford Fleming Drive,
Suite 200
Collingwood, Ontario L9Y 5A6

T 705-444-2565
tathameng.com

Prepared for:

2220740 Ontario Inc. c/o Romspen Investment Inc.
162 Cumberland Street, Suite 302
Toronto, Ontario M5R 3N5

Authored by:	Reviewed by:
	
Andrew Schoof, B.A.Sc., M.A.Sc. Intern Engineer	Randy Simpson, B.A.Sc., P.Eng. Director, Group Leader

Disclaimer	Copyright
The information contained in this document is solely for the use of the Client identified on the cover sheet for the purpose for which it has been prepared and Tatham Engineering Limited undertakes no duty to or accepts any responsibility to any third party who may rely upon this document.	

Issue	Date	Description
2	November 6, 2019	Draft Plan Submission

Document Contents

1 Introduction 1

1.1 Site Description 1

1.2 Geotechnical Investigation & Reports 1

1.3 Existing Land Use 1

1.4 Proposed Land Use 2

2 Sanitary Sewage System 3

2.1 Camperdown Servicing Area Existing Sanitary Sewer Infrastructure 3

2.2 Proposed Sanitary Sewer System 3

3 Potable Water Requirements 5

4 Stormwater Management 6

4.1 Stormwater Management Criteria 6

4.2 Siltation and Erosion Controls 6

5 Transportation 7

6 Utility Network 8

7 Summary 9

Figures

Figure 1: Site Location 10

Appendices

Appendix A: Supporting Information

List of Drawings

DRAFT-1: Conceptual Draft Plan of Subdivision
SS-1: Site Servicing Plan
SAN-1: Sanitary Servicing Plan
DE-1: Details & Notes

1 Introduction

Tatham Engineering Limited has been retained by 222074 Ontario Inc.to provide engineering services in support of a proposed residential development located on Old Lakeshore Road and Camperdown Road in the Town of The Blue Mountains. Specifically, this report has been prepared to demonstrate the preferred site servicing strategy and provide information relating to stormwater management, municipal sanitary sewage disposal and potable water requirements for the proposed development.

1.1 SITE DESCRIPTION

The site is located on Old Lakeshore Road within the Craigleith Camperdown sub-watershed study area in the Town of The Blue Mountains. Currently, the site is zoned Residential Hold (R3-H), Public Open Space (OS1) and Hazard (H) in accordance with Town By-law 2006-22. It is legally described as Part Lot 26 Concession 6 in the former Collingwood Township. A portion of the proposed development resides within the Nipissing Ridge geological region of the Georgian Bay Peninsula. We have enclosed a Site Location Plan (Fig.1) for your reference.

1.2 GEOTECHNICAL INVESTIGATION & REPORTS

Based on the Soil Survey of Grey County Map No. 17 (North), the on-site soils are Tecumseth Sand Loam (TS), Waterloo Sand Loam (Wsl) and Dunedin Clay (Duc). The soil material is characterized as poorly sorted outwash sand and clay. Tecumseth Sand Loam, Waterloo Sand Loam and Dunedin Clay have hydrologic soil group classifications of ‘AB’, ‘A’ and ‘D’ respectively. Soils of this nature are categorized as having ‘good to imperfect’ drainage which results in moderate infiltration.

Background reports prepared by C.F. Crozier & Associates Inc. obtained from the Grey County and Town of The Blue Mountains website suggests that Peto MacCallum Ltd. completed five test pit investigations on site to review the existing soil conditions in June of 2004. The report suggests that a uniform layer of topsoil (0.10 m depth) generally covers the site with underlying subsurface soil material consisting of native silty-clay overlaying weathered bedrock at a depth of between 0.8 m to 2.0 m.

Further geotechnical investigations were completed on May 10, 2019 by Central Earth Engineering. The investigation included excavating 8 test pits across the site to provide recommendations for foundations, slab on grade, pavement structure, soil excavation, compaction and ground water control.

The test pits encountered a topsoil layer at the ground surface between 250 mm to 400 mm thick. Underlying the topsoil, the test pits encountered undisturbed native soils that extended down to

the bedrock surface. The undisturbed soil primarily consisted of silt and clay with trace sand extending to elevations ranging from 190.1 to 188.8 m). Bedrock was encountered beneath the overburden soils in each test pit at elevations ranging from 188.5 to 190.1 m. The upper 0.3 to 1.0 m of the bedrock is considered rippable, and the excavations were advanced until bucket refusal on bedrock at elevations of 189.5 to 188.2 m.

The geotechnical report has been submitted under separate cover.

1.3 EXISTING LAND USE

The site is located at the base of the Nipissing Ridge formation on a flat plateau containing forested and open space areas with the land sloping from southwest to northeast between 2% and 5%.

1.4 PROPOSED LAND USE

The current site plan prepared by Innovative Planning Solutions (IPS) illustrates the proposed development consisting of 34 residential units, an 18.0 m ROW, open space (non-developable land), and a stormwater management block.

2 Sanitary Sewage System

The primary access to the development site fronts Old Lakeshore Road within the Camperdown Service Area. Old Lakeshore Road is not serviced with a sanitary sewer main, however, it connects to Camperdown Road which is fully serviced. Upon review of the 'As-Constructed' drawings for Camperdown Sewer Service project prepared by Drexler Construction and Skelton Brumwell & Associates Inc., the sanitary sewer on Camperdown Road is a 200 mm dia. PVC sewer installed at 0.75%.

2.1 CAMPERDOWN SERVICING AREA EXISTING SANITARY SEWER INFRASTRUCTURE

The 200 mm dia. sanitary sewer installed on Camperdown Road connects to a 375 mm dia. gravity sewer along Highway 26 and flows east to the Delphi pumping station on the north side of Highway 26, approximately 1.34 km east of Camperdown Road.

From the Delphi pumping station, the sewage is pumped south across Highway 26 and west through a 200 mm dia. PVC forcemain. The forcemain outlets into a sanitary maintenance structure located within the intersection of Highway 26 and Grey Road 40 approximately 0.91 km west of Camperdown Road. From this maintenance structure, the sewage continues to flow west through a 375 mm dia. PVC and 450 mm dia. gravity sewer to the Lakeshore Road pumping station approximately 2.78 km west of Camperdown Road.

In 2002, the Town of The Blue Mountains completed a Comprehensive Environmental Study Report for the Lora Bay, Clarksburg, Thornbury and Camperdown Service areas. This report recommended that the Town undertake upgrades to the Thornbury Wastewater Treatment Plant (WWTP) to accommodate the additional anticipated development of the study areas noted above.

To-date, it is our understanding the required upgrades to the WWTP have been completed, and sanitary infrastructure has been constructed within the Highway 26 corridor to service the Camperdown Service Area. It is understood that the installed infrastructure has the capacity to support the proposed 34-unit development within the Camperdown Service Area.

2.2 PROPOSED SANITARY SEWER SYSTEM

The 200 mm dia. sanitary sewer servicing for the proposed development will be installed on Old Lakeshore Road to a sanitary maintenance structure installed at the west intersection of Old Lakeshore Road and the internal road. This stretch of sanitary sewer has been designed to convey the sanitary flows for future development along Old Lakeshore Road (see the Special Policy Area as per the Town of the Blue Mountains Official Plan Schedule 'A-3' Camperdown, attached) as shown on the Sanitary Catchment Plan (SAN-1). Gravity conveyance of the development areas

east of the site is impractical due to the lower elevation along Old Lakeshore Road. A pumping solution or alternative outlet should be investigated when those lots are developed. The Special Policy Area continues north of Highway 26 and terminates at Georgian Bay. This section of land is described as Part Lot 26, Concession 6 – Blue Mountain Beach by the Town of the Blue Mountains Official Plan (June 2016) – Section B3.8.6.1. It may only be used for a private recreational beach club and associated uses that may include small scale accessory eating facilities, gift shop, service and maintenance facilities. Sanitary flows from Blue Mountain Beach should be conveyed to the existing sanitary sewer along Highway 26.

The 200 mm dia. sanitary sewer system internal to the development has been preliminarily designed to maintain the Peak Flow velocity of 0.6 m/s in accordance with Town Standards to allow for self-flushing of the system and will be reviewed and finalized during final design. Lots 17 – 22 will be serviced by a forcemain complete with private grinder pumps which will then gravity flow via the proposed 200 mm dia. sanitary sewer to Old Lakeshore Road. Lots 24 and 25 will gravity flow to the proposed forcemain.

We have calculated the allowable sanitary sewage flow from the external development areas based on the allowable developable area for each property provided by the Town's planning department. We obtained the allowable unit densities from the Town of The Blue Mountains Official Plan for Residential/Recreation development areas (Section B3.7) with a maximum density per gross hectare of 10 units. The Sanitary Catchment Area Plan (SAN-1) is enclosed at the back of the report for reference.

The total sanitary sewage flow for the development (including the future external developments) directed to the existing sewer on Camperdown Road is anticipated to be 9.59 L/s. We have included the Sanitary Sewer Design Sheet in Appendix A for reference.

3 Potable Water Requirements

A 200 mm dia. water main exists to service the properties along Old Lakeshore Road. It is anticipated that there is adequate capacity to service the proposed 34 residential units.

In accordance with Town of The Blue Mountains standards, we have calculated the maximum daily design flow for the 34 units to be 5.80 L/s and the peak hour demand to be 8.75 L/s, excluding fire flow.

The requirements for fire flow have been calculated based on the Fire Underwriters Survey of Canada (1999) in accordance with Town Standards. For this calculation, we have assumed the average house will be 2,700 ft^2 or 250 m^2. For the proposed 34-unit development, it is anticipated that the Maximum Daily Flow plus Fire Flow will be 92.91 L/s.

The development will be serviced by a 200 mm dia. water main loop internal to the site complete with a backflow device and flow meter at both connections. Upon completion and testing of the water main (including curb stop valves and hydrants) internal to the site, the Town of The Blue Mountains will ultimately assume the system and complete future maintenance should it be required.

The 200 mm dia. water main will have sufficient capacity to provide potable water to the development including fire flow requirements in accordance with the Fire Underwriters insurance criteria. We have enclosed a copy of the water demand calculations in Appendix A and a copy of the Site Servicing Plan (SS-1) enclosed at the rear of this report for reference.

4 Stormwater Management

A *Preliminary Stormwater Management Report (November 2019)* that reviews the existing and proposed stormwater conditions for the development has been completed by Tatham under separate cover and should be read in conjunction with this report.

4.1 STORMWATER MANAGEMENT CRITERIA

The Stormwater Management (SWM) Report demonstrates the development complies with the following design criteria:

- the SWM plan safely conveys the Regional Storm event to an existing intermittent watercourse;
- the SWM plan achieves Level 1 "Enhanced" stormwater runoff treatment including 80% removal of Total Suspended Solids (TSS) through the use of lot level controls and a SWM facility; and
- the SWM plan achieves post to pre-development peak flow rate matching through the use of minor and major systems culminating in an end-of-pipe stormwater management facility.

4.2 SILTATION AND EROSION CONTROLS

Siltation and erosion controls will be implemented for all construction activities; including vegetation clearing, topsoil stripping, material stockpiling, road construction activities and grading operations. The detailed sediment and erosion control measures proposed will be implemented during and after construction and will be provided during final design. Sediment and erosion controls may include the following:

- Heavy duty silt fence erected around the perimeter of the site prior to any grading operations to control sediment movement;
- A construction vehicle entrance will be constructed and maintained consisting of a stone mud mat to reduce off-site tracking of material; and
- Rock check flow dams and straw bale check flow dams will be installed prior to construction and will be maintained and inspected throughout the course of construction as required to prevent transportation of sediment and deleterious materials offsite.

5 Transportation

A Transportation Brief was completed by Tatham Engineering Limited and will be submitted under separate cover.

6 Utility Network

It has been acknowledged that the following utility regulators have services in the immediate area:

- Bell Canada;
- Union Gas;
- Hydro One; and
- Rogers Cable.

Each of these companies will be contacted in advance of the final design to ensure that sufficient capacity exists within the current installations to support the proposed development.

7 Summary

The proposed Functional Servicing Report demonstrates the development will meet the established criteria with respect to general servicing and stormwater management and can proceed without negatively impacting the existing infrastructure and the local drainage system. Water quality control in the form of 80% TSS removal and water quantity control in the form of post to pre-development peak runoff flow rate matching will be satisfied utilizing a stormwater management facility in accordance with the MECP Guidelines. Sediment and erosion control measures will be implemented during and after construction to prevent transport of deleterious materials downstream.

In conclusion, the proposed Functional Servicing Report supports the concept of an environmentally sustainable development and will mitigate stormwater impacts associated with the construction of the proposed development.

TATHAM ENGINEERING

CAMPERDOWN CONDOMINIUMS

SITE LOCATION PLAN

SCALE: N.T.S.	DATE: NOV/19	DWG NO. FIG. 1

Drawing Name: 117304-FIG01.dwg, Plotted: Nov 06, 2019

Appendix A:
Supporting Information

The Blue Mountains
Official Plan Schedule 'A-3'
Camperdown

Designations

- Niagara Escarpment Plan Boundary
- Special Study Area Subject to B3.13.5
- Agricultural
- Escarpment
- Future Secondary Plan Area
- Hazard
- Institutional Area
- Major Open Space
- Recreational Commercial Area
- Recreational Ski
- Residential Recreational Area
- Rural
- Special Agricultural

0 250 500 750 1,000 Metres

N W E S

Note: This Schedule forms part of the Official Plan and must be read and interpreted in conjunction with the text. The information depicted on this Schedule has been compiled from various sources. While every effort has been made to accurately depict the information, data/mapping errors may exist.

Download PDF: www.thebluemountains.ca

June 2016

TOWN OF THE BLUE MOUNTAINS

Subject to Section B3.8.6.1

Eastwind Lane
Woodland Park Rd
Lakewood Dr
Woodland Park Rd
Grey Road 40
Timber Leif Ridge
Aberdeen Crt
Indian Circle
Hoover Lane
Hoover Lane
Teskey Dr
7th Line
Camperdown Rd
Stone Zack Lane
George McRae Road
Dorothy Drive
Old Lakeshore Rd
Peaks Rd
Wensley Dr
Highway 26
Ellis Drive
Delphi Lane
Wards Rd
Barclay Blvd
James St
Hidden Lake Rd

SANITARY SEWER DESIGN SHEET

Approved:

TATHAM ENGINEERING

FLOW CRITERIA

Average Flow Rate:	450	l/cap/d
Infiltration Rate:	0.23	l/s/ha
Population:	2.3	cap/unit
Peaking Factor:		(Harmon)

Project Name:	Camperdown Condominiums
Project Number:	117304
Municipality:	Town of Blue Mountains
Designed By:	AS
Date:	March 2018
Checked By:	RS
Date:	March 2018
Revised By:	AS
Date:	June 2018
Revised By:	AC
Date:	November 2019

LOCATION OF SECTION	AREA LABEL	UPSTREAM MAINTENANCE HOLE	DOWNSTREAM MAINTENANCE HOLE	NO. UNITS	POPULATION	ACCUMULATED POPULATION	PEAKING FACTOR	AREA	ACCUMULATED AREA	AVERAGE FLOW			PEAK FLOW			PROPOSED FLOW					
										RESIDENTIAL	INFILTRATION	TOTAL	RESIDENTIAL	INFILTRATION	TOTAL	LENGTH OF PIPE	PIPE DIAMETER	GRADE	FULL FLOW CAPACITY	FULL FLOW VELOCITY	PEAK FLOW VELOCITY (ZERO INFILTRATION)
		MH No.	MH No.	No.	cap.	cap.		ha	ha	l/s	l/s	l/s	l/s	l/s	l/s	m	mm	%	l/s	m/s	m/s
External Catchment Area 'A'	'A'	-	SAN MH13	68	156.4	156.4	4.19	9.40	9.40	0.81	2.16	**2.98**	3.41	2.16	**5.57**	0.00	200	1.00%	**32.80**	1.04	0.65
Old Lakeshore Road	110a	SAN MH16	SAN MH1b	2	4.6	4.6	4.44	0.30	0.30	0.02	0.07	**0.09**	0.11	0.07	**0.18**	76.00	200	1.00%	**32.80**	1.04	0.26
Condo Road 'A'	110	SAN MH1	SAN MH2	8	18.4	23.0	4.37	0.81	1.11	0.12	0.26	**0.38**	0.52	0.26	**0.78**	15.60	200	2.00%	**46.38**	1.48	0.51
Condo Road 'A'	113a	SAN MH2	SAN MH3	1	2.3	25.3	4.37	0.11	1.22	0.13	0.28	**0.41**	0.58	0.28	**0.86**	20.70	200	0.60%	**25.40**	0.81	0.33
Condo Road 'A'	113	SAN MH3	SAN MH4	7	16.1	41.4	4.33	0.78	2.00	0.22	0.46	**0.68**	0.93	0.46	**1.39**	100.00	200	0.60%	**25.40**	0.81	0.38
Condo Road 'A'	114	SAN MH4	SAN MH5	8	18.4	59.8	4.30	0.88	2.88	0.31	0.66	**0.97**	1.34	0.66	**2.00**	95.52	200	0.60%	**25.40**	0.81	0.42
Condo Road 'A'	115	SAN MH5	SAN MH6	7	16.1	75.9	4.27	0.68	3.56	0.40	0.82	**1.21**	1.69	0.82	**2.51**	65.70	200	0.60%	**25.40**	0.81	0.45
Condo Road 'A'	116	SAN MH6	SAN MH7	1	2.3	78.2	4.27	0.09	3.65	0.41	0.84	**1.25**	1.74	0.84	**2.58**	17.20	200	1.20%	**35.93**	1.14	0.58
Condo Road 'A'	-	SAN MH7	SAN MH13	0	0.0	78.2	4.27	0.00	3.65	0.41	0.84	**1.25**	1.74	0.84	**2.58**	41.50	200	2.96%	**56.42**	1.80	0.81
External Catchment Area	120a	SAN MH13	SAN MH14	3	6.9	241.5	4.12	0.44	13.5	1.26	3.10	**4.36**	5.18	3.10	**8.28**	76.70	200	2.26%	**49.30**	1.57	0.98
External Catchment Area 'B'	'B'	SAN MH14	SAN MH15	17	39.1	280.6	4.09	2.22	15.7	1.46	3.61	**5.07**	5.98	3.61	**9.59**	70.00	200	0.50%	**23.19**	0.74	0.59
External Catchment Area		SAN MH15	EX.SAN MH3	0	0.0	280.6	4.09	0.00	15.7	1.46	3.61	**5.07**	5.98	3.61	**9.59**	72.00	200	0.50%	**23.19**	0.74	0.59

Notes:
1. Refer to SANITARY PLAN SAN-1 prepared by Tatham Engineering Limited.

TATHAM ENGINEERING	Project: Camperdown Condominiums	Date: Nov 2019
	File No.: 117304	Designed: AS
	Subject: Water Supply Calculation	Checked: RS

Fire Underwriters Survey of The Insurance Bureau of Canada
Potable Water Supply & Fire Flow Calculations

Design Criteria:

Population Density	=	2.30	ppl/unit	Town Standards (Section 4.4)
Average Daily per cap. Flow	=	450	L/cap./d	MOECC, 2008
Maximum Day Factor	=	7.12		Table 3-3, MOECC, 2008
Peak Hour Factor	=	10.74		Table 3-3, MOECC, 2008

Residential Development:

Number of Units	=	34	
Equivalent Population	=	78.20	ppl
Average Daily Demand	=	35.19	cu.m/day

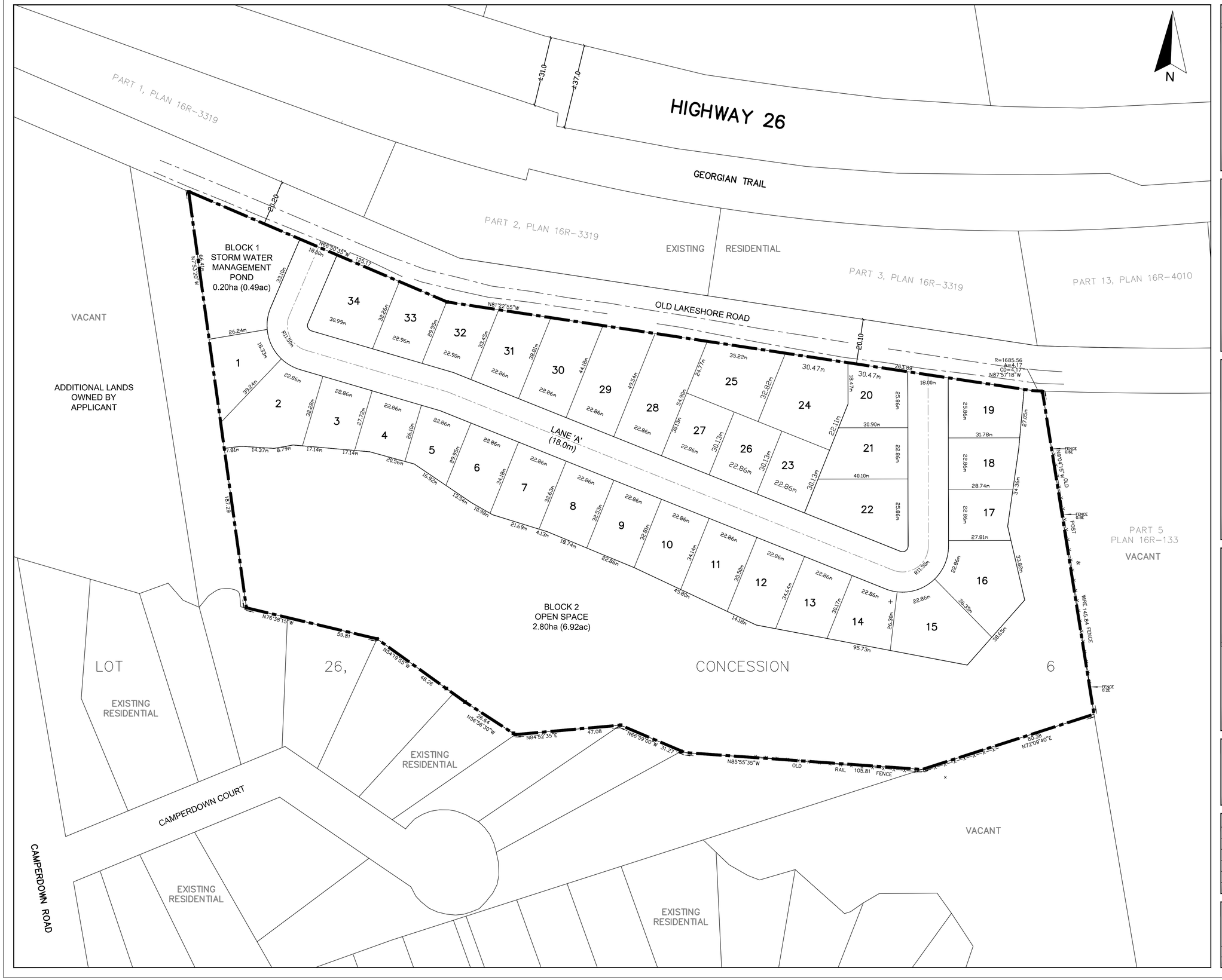
Fire Flow Calculations - Fire Underwrites Survey of the Insurance Bureau of Canada (1999)

Construction Coeficient (C)	=	1.50	(Wood Framed Construction)
Average Dwelling Area (A)(sq.m)	=	250.83	(Assumed construction of 2700.00 sq.ft)
Required Fire Flow (F)(L/mir	=	5,226.41	
Required Fire Flow (L/s)	=	87.11	

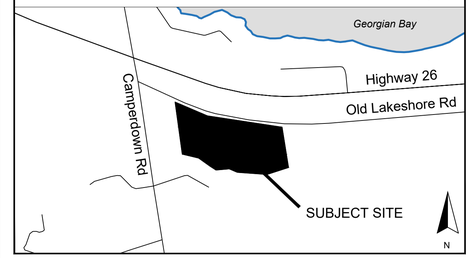
$$F = 220C\sqrt{A}$$

Design Flow Calculations:

Maximum Daily Demand	=	250.55	cu.m/day	or	**5.80**	**L/s**
Peak Hour Demand	=	377.94	cu.m/day	or	**8.75**	**L/s**
Max Daily plus Fire Flow	=	**92.91**	**L/s**			



KEY MAP Scale 1:10,000



DRAFT PLAN OF SUBDIVISION

PART OF LOT 26, CONCESSION 6
(FORMER TOWNSHIP OF COLLINGWOOD)
IN THE
TOWN OF THE BLUE MOUNTAINS
COUNTY OF GREY

Scale 1:750

0 5 10 15 20 30 40 60 80m

LEGEND

SUBJECT SITE

LAND USE SCHEDULE

	BLOCKS	UNITS	ha	ac	%
RESIDENTIAL	1-34	34	2.83	7.00	42.8
STORMWATER MANAGEMENT	Block 1		0.20	0.49	3.0
OPEN SPACE	Block 2		2.80	6.92	42.4
18.0m LANE			0.78	1.93	11.8
TOTAL		34	6.61	16.34	100

OWNER'S CERTIFICATE

I HEREBY AUTHORIZE INNOVATIVE PLANNING SOLUTIONS TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION FOR APPROVAL.

DATE SIGNING OFFICER

SURVEYOR'S CERTIFICATE

I CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

DATE DINO R.S. ASTRI, O.L.S.

ADDITIONAL INFORMATION REQUIRED UNDER **SECTION 51(17)** OF THE PLANNING ACT

a) SHOWN ON PLAN
b) SHOWN ON PLAN
c) SHOWN ON PLAN
d) RESIDENTIAL & OPEN SPACE
e) SHOWN ON PLAN
f) SHOWN ON PLAN
f1) NONE
g) SHOWN ON PLAN
h) MUNICIPAL WATER
i) TECUMSETH SAND
j) SHOWN ON PLAN
k) ALL MUNICIPAL SERVICES
l) NONE

SCHEDULE OF REVISIONS

No.	Date	Description	By
1	July 8, 2019	New S.W.M Pond location and revised lane width	AS

IPS INNOVATIVE PLANNING SOLUTIONS
PLANNERS • PROJECT MANAGERS • LAND DEVELOPERS
150 DUNLOP STREET EAST, SUITE 201, BARRIE, ONTARIO L4M 1B1
tel: 705 • 812 • 3281 fax: 705 • 812 • 3434 e: info@ipsconsultinginc.com www.ipsconsultinginc.com

Date:	January 11, 2019	Drawn By:	AM
File:	17-699	Checked By:	DV

TABLE 'A'

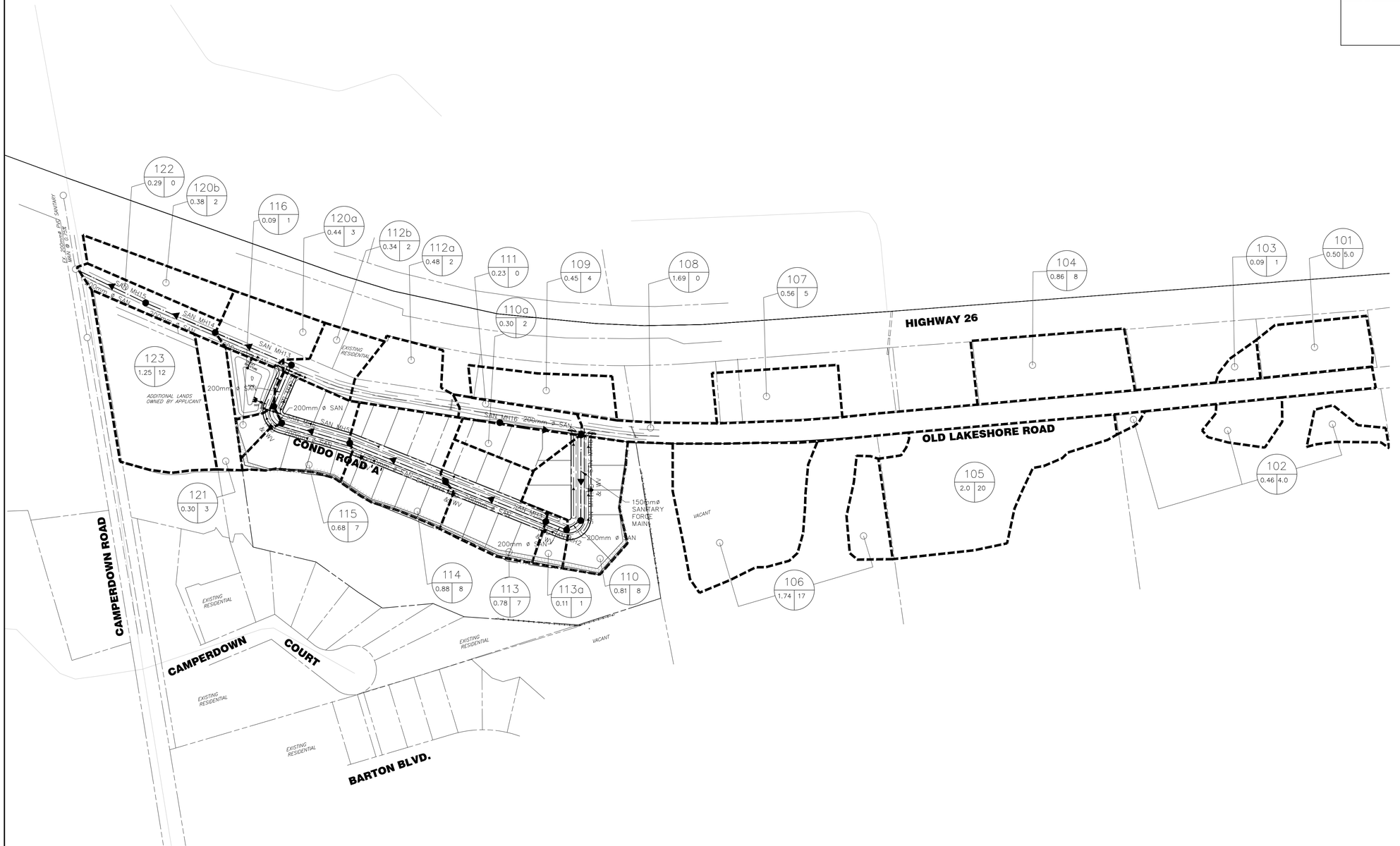
AREA ID	AREA (ha)	RESIDENTIAL UNITS
101	0.50	5
102	0.46	4
103	0.09	1
104	0.86	8
105	2.00	20
106	1.74	17
107	0.56	5
108	1.69	0
109	0.45	4
111	0.23	0
112a	0.48	2
112b	0.34	2
TOTAL 'A'	9.40	68

TABLE 'B'

AREA ID	AREA (ha)	RESIDENTIAL UNITS
120b	0.38	2
121	0.30	3
122	0.29	0
123	1.25	12
TOTAL 'B'	2.22	17

KEY PLAN

N.T.S.



LEGEND

- PROPERTY LINE
- EXISTING CENTERLINE
- EXISTING EDGE OF ASPHALT
- EXISTING SANITARY SEWER — 200ø SAN
- PROPOSED SANITARY SEWER/SIZE/FLOW — 200ø SAN
- EXISTING SANITARY MAINTENANCE HOLE — EX. SAN MH
- PROPOSED SANITARY MAINTENANCE HOLE — SAN MH2
- PROPOSED AREA BOUNDARY
- PROPOSED AREA ID — 101
- PROPOSED AREA (ha) — 0.5
- RESIDENTIAL UNITS — 5

DISCLAIMER AND COPYRIGHT

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

BENCHMARKS

TBM1 – ELEVATION 211.950
TOP NUT FIRE HYDRANT LOCATED AT THE SOUTH WEST CORNER OF LOT 11.

NOTES

LEGAL SURVEY, TOPOGRAPHIC INFORMATION AND LOT DIMENSIONS SHOWN ON THIS PLAN ARE TAKEN FROM A SURVEY PLAN PREPARED BY ZUBEK, EMO, PATTEN & THOMSEN, WHICH MAY NOT BE FINAL AND ARE NOT GUARANTEED. THE FINAL REGISTERED PLAN OF SUBDIVISION SHALL BE REFERRED TO FOR CONFIRMATION OF THE DATA.

No.	REVISION DESCRIPTION	DATE
1.	SUBMISSION FOR DRAFT PLAN APPROVAL	NOV/2019

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
19 11 06
R. S. SIMPSON
PROVINCE OF ONTARIO

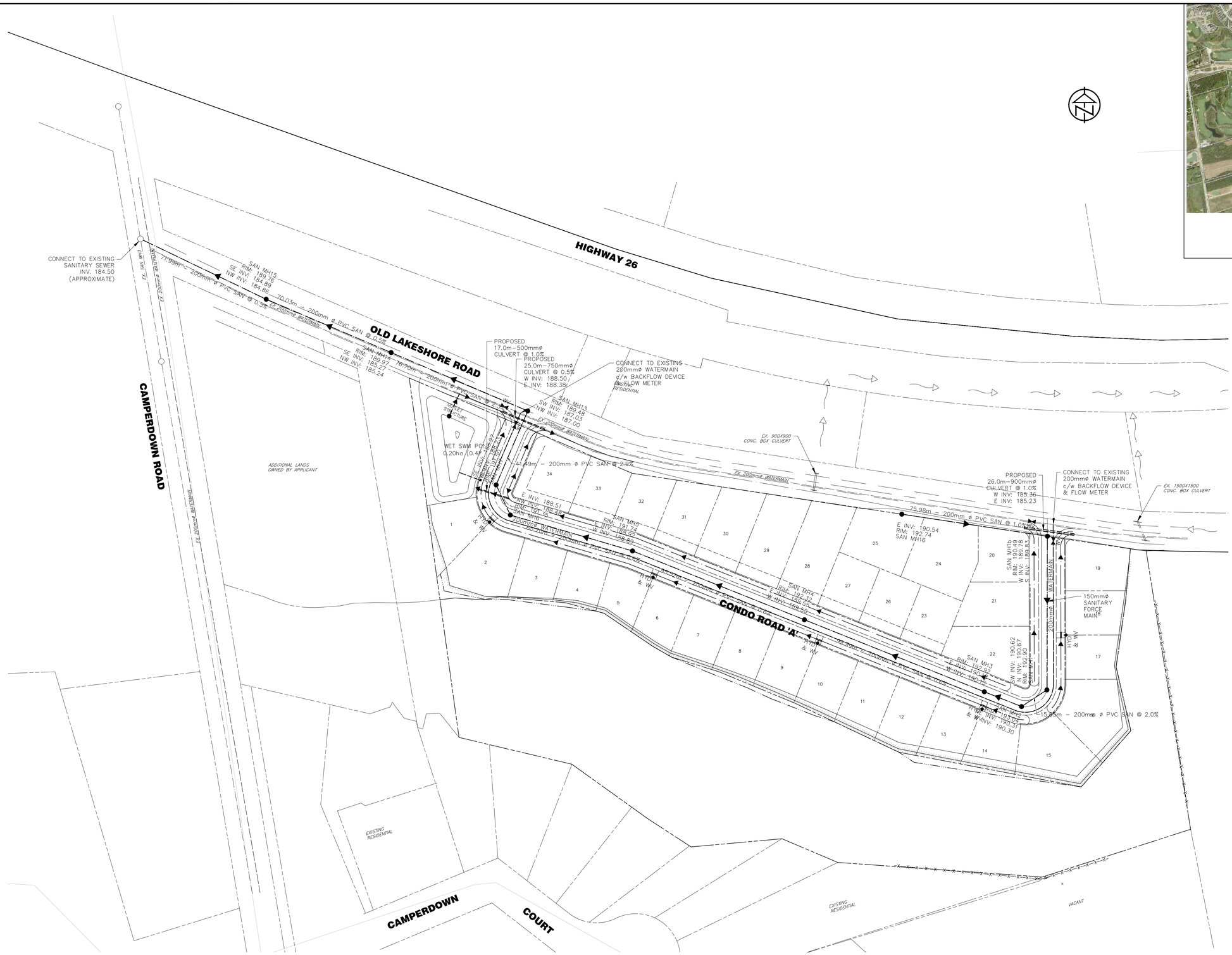
CAMPERDOWN CONDOMINIUMS
TOWN OF THE BLUE MOUNTAINS

TATHAM ENGINEERING

SANITARY CATCHMENT PLAN

DESIGN: AS	FILE: 117304	DWG:
DRAWN: RD	DATE: DEC., 2017	SAN-1
CHECK: RS	SCALE: 1:2000	

Drawing Name: 117304-SAN01.dwg, Plotted: Nov 08, 2019



KEY PLAN
N.T.S.

LEGEND

- PROPERTY LINE
- EXISTING CENTERLINE
- EXISTING EDGE OF ASPHALT
- EXISTING WATERMAIN
- EXISTING SANITARY SEWER — 200ø SAN
- EXISTING SANITARY MAINTENANCE HOLE — SAN MH
- PROPOSED WATERMAIN/SIZE
- PROPOSED WATER VALVE — WV
- PROPOSED HYDRANT & VALVE — HYD & WV
- PROPOSED STORM MAINTENANCE HOLE — STM MH
- PROPOSED CATCH BASIN — CB
- PROPOSED CATCH BASIN MAINTENANCE HOLE — CBMH
- PROPOSED DOUBLE CATCH BASIN MH — DCBMH
- PROPOSED STORM SEWER/SIZE — 375ø STM
- PROPOSED SANITARY MAINTENANCE HOLE — SAN MH2
- PROPOSED SANITARY SEWER/SIZE — 200ø SAN

DISCLAIMER AND COPYRIGHT

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

BENCHMARKS

TBM1 – ELEVATION 211.950
TOP NUT FIRE HYDRANT LOCATED AT THE SOUTH WEST CORNER OF LOT 11.

NOTES

LEGAL SURVEY, TOPOGRAPHIC INFORMATION AND LOT DIMENSIONS SHOWN ON THIS PLAN ARE TAKEN FROM A SURVEY PLAN PREPARED BY ZUBEK, EMO, PATTEN & THOMSEN, WHICH MAY NOT BE FINAL AND ARE NOT GUARANTEED. THE FINAL REGISTERED PLAN OF SUBDIVISION SHALL BE REFERRED TO FOR CONFIRMATION OF THE DATA.

No.	REVISION DESCRIPTION	DATE
1.	SUBMISSION FOR DRAFT PLAN APPROVAL	NOV/2019

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER 19106 R. S. SIMPSON PROVINCE OF ONTARIO

CAMPERDOWN CONDOMINIUMS

TOWN OF THE BLUE MOUNTAINS

TATHAM ENGINEERING

SITE SERVICING PLAN

DESIGN: AS	FILE: 117304	DWG:
DRAWN: RD	DATE: DEC., 2017	**SS-1**
CHECK: RS	SCALE: 1:1000	

Drawing Name: 117304-SS01.dwg, Plotted: Nov 07, 2019

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH TOWN OF THE BLUE MOUNTAINS STANDARDS AND OPSS. WHERE INCONSISTENCY OCCURS, TOWN STANDARDS GOVERN.
3. CLEAR STONE WRAPPED IN FILTER FABRIC MAY BE SUBSTITUTED FOR PIPE BEDDING MATERIAL IF APPROVED BY THE ENGINEER.
4. DEWATERING TO BE CARRIED OUT IN ACCORDANCE WITH OPSS-517 AND 518. THE OWNER IS RESPONSIBLE FOR OBTAINING DEWATERING PERMITS AS REQUIRED TO MAINTAIN DRY TRENCH CONDITIONS.
5. UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
6. HYDRO POLES TO BE SUPPORTED AND PROTECTED BY THE CONTRACTOR DURING CONSTRUCTION AS DIRECTED BY WASAGA DISTRIBUTION INC. AND BELL CANADA.
7. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH UTILITIES WHICH MAY ALSO BE UNDER CONSTRUCTION.
8. EXISTING GAS MAIN TO BE PROTECTED IN ACCORDANCE WITH ENBRIDGE GAS SPECIFICATIONS.
9. ALL EXISTING PAVED PRIVATE ENTRANCES TO BE REINSTATED WITH 50mm HL3 SURFACE COURSE AND 150mm GRANULAR 'A' BASE TO LIMITS OF CONSTRUCTION.
10. ALL EXISTING GRAVEL OR GRASSED PRIVATE ENTRANCES TO BE REINSTATED WITH 150mm GRANULAR 'A' BASE TO LIMITS OF CONSTRUCTION AND 50mm HL3 TO 2.8m BEHIND CURB.
11. ALL COMMERCIAL ENTRANCES TO BE REINSTATED WITH 50mm HL3 SURFACE COURSE, MATCH EXISTING ASPHALT BASE COURSE(S), 150mm GRANULAR 'A' BASE AND 150mm GRANULAR 'B' SUBBASE TO LIMITS OF CONSTRUCTION.
12. JOINTS WITH EXISTING ASPHALT TO BE SAW CUT PRIOR TO PLACING NEW ASPHALT; DENSO REINSTATEMENT TAPE SHALL BE USED AT THE JOINT. SURFACE ASPHALT JOINTS TO HAVE MIN. 0.5m WIDE LAP JOINT.
13. ALL BOULEVARDS AND DISTURBED AREAS TO HAVE 100mm SCREENED TOPSOIL AND NURSERY SOD UNLESS OTHERWISE NOTED.
14. PAVED BOULEVARD AREAS TO BE REINSTATED WITH 50mm HL3 SURFACE COURSE ASPHALT AND 150mm GRANULAR 'A' WHERE NOTED.
15. ACCESS TO BUSINESS AND RESIDENTIAL PROPERTIES MUST BE MAINTAINED AT ALL TIMES.
16. THE CONTRACTOR MUST GIVE MIN. 48 HOURS NOTICE TO THE TOWN OF THE BLUE MOUNTAINS PUBLIC WORKS DEPARTMENT THROUGH THE TOWN ENGINEER FOR OFFICIALS TO BE PRESENT FOR THE OPERATION OF VALVES, TESTING, DISINFECTION AND CONNECTION OF WATER MAIN AND TESTING OF SEWERS.
17. EARTH FILL MATERIAL UP TO AND INCLUDING SUBGRADE TO BE COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD). GRANULAR BASE AND SUB-BASE TO BE COMPACTED TO 100% SPMDD. HOT-MIX ASPHALT TO BE COMPACTED TO 97% SPMDD.
18. MINIMUM VERTICAL SEPARATION OF 150mm BETWEEN SEWERS AT CROSSINGS.
19. TRENCH BACKFILL (TO OPSD - 802.010) TO BE SELECT NATIVE SAND OR IMPORTED SELECT SUBGRADE.
20. PIPE COVER TO BE SELECT NATIVE SAND OR IMPORTED SELECT SUBGRADE WITH NO AGGREGATE LARGER THAN 25mm.
21. ALL ENGINE DRIVEN PUMPS TO BE ADEQUATELY SILENCED, SUITABLE FOR OPERATION IN A RESIDENTIAL DISTRICT.
22. DISTURBED AREAS TO BE REINSTATED TO PREVIOUS CONDITION OR BETTER.
23. UNLESS OTHERWISE IDENTIFIED, ALL MANHOLES ARE 1200mm DIAMETER.
24. MANHOLE FRAMES AND COVERS ARE TO BE SET TO BASE COURSE HL8 ASPHALT ELEVATION AND RAISED BY ADDING PRE-CAST CONCRETE ADJUSTMENT UNITS PRIOR TO PLACING SURFACE COURSE HL3 ASPHALT. (OPSD 704.010).
25. TRENCHES FOR UTILITIES TO BE MINIMUM 600mm WIDE BACKFILLED WITH APPROVED NATIVE GRANULAR MATERIAL OR IMPORTED SELECT SUBGRADE AND COMPACTED ALL TO THE SATISFACTION OF WASAGA HYDRO AND THE ENGINEER.

SANITARY SEWER AND SANITARY FORCE MAIN:

1. ALL MATERIALS SHALL BE CSA CERTIFIED.
2. SANITARY SEWER TO BE SDR 35 PVC, SDR 28 PVC FOR DEPTHS GREATER THAN 8.0m.
3. BEDDING AND BACKFILL AS PER OPSD-802.010 (TYPE 3 SOIL) USING GRANULAR 'A' COMPACTED TO 95% MAXIMUM DRY DENSITY. SELECT NATIVE SAND MAY BE USED FOR BACKFILL COMPACTED TO 95% MAXIMUM DRY DENSITY IF APPROVED BY THE ENGINEER.
4. 125mmø AND 150mmø SANITARY SERVICE LATERALS TO BE SDR 28 PVC PIPE. CLEANOUT TO BE INSTALLED AT ALL 125mmø SERVICES OVER 15m IN LENGTH AND AT ALL 150mmø SERVICE CONNECTIONS. 200mmø CLEANOUT CHAMBER AT PROPERTY LINE.
5. LOT SERVICE LOCATIONS TO BE VERIFIED BY CONTRACTOR.
6. MH'S PER OPSD-701.010 WITH FROST STRAPS PER OPSD 701.100 WITH "QUICK ANCHORED" BOLTS.
7. FRAMES AND COVERS PER OPSD-401.010 TYPE 'A' CLOSED COVER.
8. MH BENCHING PER OPSD-701.021 AND STEPS PER OPSD-405.010 CIRCULAR ALUMINUM.
9. SANITARY SEWER TESTING SHALL INCLUDE INFILTRATION, EXFILTRATION, DEFLECTION (MANDREL) AND CCTV.
10. ALL WORK TO BE IN ACCORDANCE WITH OPSS 410.
11. SAFETY PLATFORM TO OPSD 404.020.

WATER MAIN:

1. ALL MATERIALS SHALL BE CSA CERTIFIED.
2. ALL WATER MAIN TO HAVE MINIMUM 1.7m COVER OR APPROVED EQUIVALENT FROST PROTECTION WITH INSULATION.
3. BEDDING AND BACKFILL IN ACCORDANCE WITH OPSS-701.
4. WATER MAIN TO BE PVC DR18.
5. PVC PIPE INSTALLATION TO INCLUDE 12AWG THH SOLID PLASTIC COVERED TRACER WIRE, TWU 75°C 600V OR APPROVED EQUAL. TRACER WIRE CONTINUITY MUST BE TESTED & CERTIFIED BY PUBLIC WORKS STAFF.
6. CATHODIC PROTECTION (S-12 ZINC ANODES @ 30m SPACING) TO BE PROVIDED IN ACCORDANCE WITH OPSS-702 AS REQUIRED BY THE GEOTECHNICAL REPORT.
7. CLASS 'B' BEDDING AS PER OPSD-802.030 (RIGID PIPE) OR BEDDING AS PER OPSD-802.010 (FLEXIBLE PIPE) USING GRANULAR 'A"
8. THRUST PROTECTION SHALL BE PROVIDED USING MECHANICAL JOINT FITTINGS AND RESTRAINERS.
9. VALVES TO BE MUELLER '55' RESILIENT SEATED OR APPROVED EQUAL, LEFT HAND OPENING COMPLETE WITH SLIDE TYPE VALVE BOXES 125mm DIA. WITH LIDS MARKED WATER.
10. WATER SERVICES TO BE PE160 OR TYPE 'K' COPPER COMPLETE WITH MAIN STOP;
    MAIN STOP (CANADIAN BRASS 102 COMPRESSION, MUELLER H15008 OR EQUAL),
    19mmø CURB STOP (MUELLER H15008 COMPRESSION OR EQUAL), 25mmø CURB STOP (MUELLER MARK II ORISEAL), SERVICE BOXES (MUELLER A-726 AS PER OPSO-1104.010.)
    SERVICES TO INCLUDE TRACER WIRE TO PROPERTY LINE AND BROUGHT TO SURFACE ON THE OUTSIDE OF THE WATER VALVE.
11. WHERE RESIDENTIAL WATER SERVICES ARE TO BE ABANDONED, EXPOSE MAIN STOP, CLOSE AND DISCONNECT SERVICE PIPE, AND SALVAGE THE CURB STOP AND RETURN TO PUBLIC WORKS YARD.
12. ALL WATER MAINS AND SERVICES SHALL BE BACKFILLED WITH APPROVED SITE MATERIAL.
    ALL BACKFILL SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY AS PER OPSS 514.
    ALL GRANULAR ROAD BASE SHALL BE COMPACTED TO 100% MAXIMUM DRY DENSITY.
13. EXISTING SERVICE LOCATIONS TO BE VERIFIED IN THE FIELD.
14. HYDRANT TO BE CANADA VALVE "CENTURY" TYPE AKV 2780, OR CLOW "PREMIER D-67-M" WITH MECHANICAL JOINT ENDS WITH 2-50mm PORTS AND FACTORY INSTALLED STORZ FITTING PER OPSD-1105.010, INCLUDING GALVANIZED CHAIN CONNECTION FOR CAPS AND HAVE A FLEXSTAKE KYDRANT MARKER AS PER TOWN OF BLUE MOUNTAIN STANDARDS.
15. TESTING CONNECTION TO THE MUNICIPAL WATER SYSTEM SHALL BE PER TOWN STD. DWG. No.13.
16. MINIMUM VERTICAL SEPARATION 500mm BETWEEN WATER MAINS AND SEWERS.
    MINIMUM HORIZONTAL SEPARATION OF 2.5m BETWEEN WATER MAINS AND SEWERS.
17. WATER MAINS SHALL BE SWABBED, FLUSHED, DISINFECTED AND TESTED IN ACCORDANCE WITH OPSS 701 WITH TOWN OFFICIALS PRESENT.
18. DISINFECTING OF WATER MAINS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF AWWA C651-05 SPECIFICATIONS.
19. MIN. 50mmø BLOWOFF TO BE USED PER OPSD 1104.030. MECHANICAL THRUST RESTRAINERS SHALL BE USED AT ALL VALVES AND FITTINGS.
20. SERVICE CONNECTION TO OPSD 1104.010. CONCRETE SLAB UNDER CURB STOP TO BE MINIMUM 600x600mm AND INCLUDE 2"x4" MARKER PAINTED BLUE.
21. ALL PIPE JOINTS IN HYDRANT LEADS TO BE RESTRAINED.
22. ALL PVC WATER SERVICE PIPE JOINTS TO BE RESTRAINED.

STORM SEWER

1. ALL MATERIALS SHALL BE CSA CERTIFIED.
2. STORM SEWER SHALL BE CONCRETE 100-D, OR PVC 320 KPa PIPE STIFFNESS.
3. BEDDING AS PER OPSD-802.031 FOR RIGID PIPE OR BEDDING AS PER OPSD-802.010 (TYPE 3 SOIL) FOR FLEXIBLE PIPE. SELECT NATIVE SAND COMPACTED TO 95% MAXIMUM DRY DENSITY MAY BE USED FOR COVER MATERIAL IF APPROVED BY THE ENGINEER.
4. CATCHBASINS & MANHOLES TO BE BACKFILLED WITH SELECT NATIVE MATERIAL AND COMPACTED TO 95% MAXIMUM DRY DENSITY.
5. MH AND CBMH TO OPSD 701.010, 701.011, 701.012, 701.013, 701.030, 701.040, 701.050 OR 701.060.
6. CB'S TO OPSD 705.010 OR 705.020, WITH 600mm SUMP.
7. PIPE SUPPORT AT MH, CBMH AND CB TO OPSD 708.020.
8. PROTECTION DURING CONSTRUCTION TO OPSD 808.010.
9. STEPS AS PER OPSD-405.010 HOLLOW CIRCULAR ALUMINUM.
10. CATCHBASIN LEADS; - 300mm DIA. FOR SINGLE AND DOUBLE CATCHBASINS.
11. CATCHBASIN FRAMES AND COVERS PER OPSD 400.020.
12. STORM SEWER SHALL BE CCTV INSPECTED.
13. ALL WORK TO BE IN ACCORDANCE WITH OPSS 410.
14. DITCHES/SWALES CONSTRUCTED AT LESS THAN 1% SHALL HAVE MIN. 150mmø SUBDRAIN, BEDDED IN A 300x300mm CLEAR STONE TRENCH AND WRAPPED IN FILTER FABRIC. (SEE DETAIL ON DE-2).

SEDIMENT & EROSION CONTROL NOTES:

1. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED. SEDIMENT AND EROSION CONTROL MEASURES THAT ARE DESIGNED TO CONTROL RUNOFF FROM SPECIFIC AREAS MUST BE INSTALLED PRIOR TO ANY DISTURBANCE OF THAT PART OF THE SITE.
2. THE CONTRACTOR MAY CONSIDER ALTERNATIVE SEDIMENT AND EROSION CONTROL MEASURES. SUCH MEASURES MUST BE PRESENTED IN WRITING FOR APPROVAL OF THE TOWN ENGINEER AND THE NOTTAWASAGA VALLEY CONSERVATION AUTHORITY.
3. THE CONTRACTOR SHALL HAVE MATERIALS AVAILABLE ON-SITE TO REPAIR SEDIMENT AND EROSION CONTROL MEASURES IN THE EVENT OF UNFORESEEN CONDITIONS: HIGH WATER, EXTREME RAINFALL EVENTS, ETC.
4. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSPECTED BY THE ENGINEER BI-WEEKLY AND AFTER EACH MAJOR STORM EVENT. INSPECTION REPORTS TO BE FORWARDED TO THE TOWN ENGINEER BI-WEEKLY. AREAS THAT ARE UNDEVELOPED FOR AN EXTENDED PERIOD OF TIME SHALL BE RE-VEGETATED WITH TOPSOIL AND HYDRAULIC SEED AND MULCH AS DIRECTED BY THE TOWN.

ROADWAY:

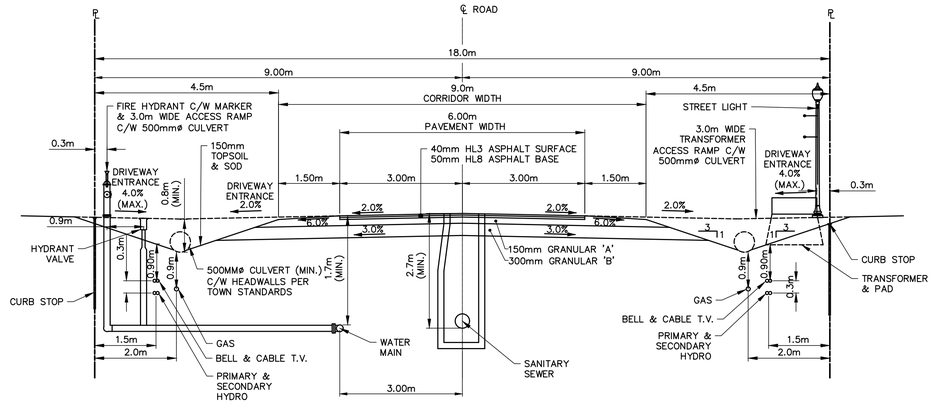
1. STOP SIGNS AND STREET SIGNS TO TOWN STANDARD. HIGH INTENSITY REFLECTIVE GRADE FINISH.
2. SUBGRADE TO BE COMPACTED TO A MINIMUM DRY DENSITY OF 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
3. GRANULAR 'A' AND 'B' BASE TO BE COMPACTED TO 100% OF MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
4. BOULEVARD COMPACTION TO 95% OF MATERIAL'S SPMDD.
5. ROAD SURFACES TO BE BUILT TO TOWN OF THE BLUE MOUNTAINS ENGINEERING STANDARDS.
6. CURBS TO OPSD 600.040.
7. ROADCUTS AND SECTIONS MATCHING EXISTING ASPHALT TO HAVE DENSO REINSTATEMENT TAPE OR APPROVED EQUIVALENT AT SURFACE ASPHALT JOINT.
8. UTILITY PEDESTALS TO BE INSTALLED AT 300mm FROM PROPERTY LINE OR BESIDE HYDRO TRANSFORMERS AS APPLICABLE.
9. CONCRETE SIDEWALK TO OPSD 310.010.
   CONCRETE SIDEWALK RAMPS AT INTERSECTIONS TO OPSD 310.033 AND 310.039.

MATERIALS:

1. ALL MATERIALS TO BE CSA CERTIFIED.
2. SANITARY SEWER - SDR-35 PVC, SDR-28 PVC DEPTHS GREATER THAN 8.0m.
3. SANITARY SERVICES - SDR28 PVC C/W 200mmø CLEANOUT CHAMBER AT PROPERTY LINE AS PER TOWN OF THE BLUE MOUNTAINS STANDARDS.
4. SANITARY FORCEMAIN - 350mmø PE DR11, 150mmø PE DR11.
5. STORM SEWER - PVC DR35 OR CONCRETE CLASS 100-D.
   - CSP CULVERTS - 2mm THICKNESS
6. WATERMAIN - DR18 PVC INCLUDING 12 AWG THH TRACER WIRE.
7. WATERMAIN SERVICES - 19mmø PE-160.
8. VALVES - RESILIANT SEAT "OPEN LEFT" WITH MECHANICAL JOINT ENDS WITH CAN VAL 5SL 1.2m SLIDING VALVE BOX FOR VALVES LESS THAN 450ø.
9. HYDRANTS ARE TO BE CANADA VALVE - CENTURY TYPE.
10. HYDRANTS TO BE PAINTED YELLOW BARREL WITH SILVER TOP AND CONNECTION CAPS.
11. STREET AND TRAFFIC SIGNS TO TOWN STANDARD. HIGH INTENSITY REFLECTIVE GRADE FINISH.
12. PERFORATED PIPE SUBDRAINS - BIG-O WITH GEOTEXTILE FILTER SOCK.
13. FILTER FABRIC - TERRAFIX 270 R FOR SLOPE STABILIZATION
    - TERRAFIX 240 R FOR WRAP ON PERFORATED PIPE SUBDRAINS.
14. WATERMAIN SERVICES CURB STOPS - MUELLER H15219 or H15217.

MECHANICAL RESTRAINT:

1. ALL TEES, BENDS, DEAD ENDS, VALVES AND REDUCERS ARE TO BE RESTRAINED WITH MECHANICAL JOINT RETAINER GLANDS AND BELL RESTRAINT HARNESSES, FIELD LOCK GASKETS OR OTHER ENGINEER APPROVED METHODS IN ACCORDANCE WITH TABLE 1.
2. THRUST BLOCKS AS A METHOD OF RESTRAINT WILL BE USED ONLY AT THE DIRECTION OF THE ENGINEER. UNLESS DIRECTED OTHERWISE, ALL RESTRAINED JOINTS SHALL BE MECHANICAL.
3. TABLE 1 (SEE DE-1) HAS BEEN DEVELOPED BASED ON THE FOLLOWING CRITERIA:
   - INTERNAL PRESSURE: 1035 kPa (150 PSI)
   - PIPE DEPTH: 1.7m DEPTH
   - BEDDING MATERIAL: SAND
   - SAFETY FACTOR: 1.5
   - TRENCH TYPE: 5
4. SEE FIGURES 1 THROUGH 5 (SEE DE-1) FOR GRAPHIC DEFINITION OF THE LETTER 'R' (LENGTH OF PIPE RESTRAINT) VALUE GIVEN IN TABLE 1.
5. PIPE RESTRAINT FOR VALUES SHALL BE A MINIMUM OF THE FOLLOWING:
   - RESTRAINED TO THE NEAREST FITTING (BEND, TEE OR CROSS)
   - RESTRAINED TO A DISTANCE EQUAL TO THAT FOR A DEAD END (IF REQUIRED TO WITHSTAND TEST PRESSURE)
   - RESTRAINED TO A DISTANCE 1/2 (50%) OF THAT FOR A DEAD END FOR VALVES THAT ARE NOT TO BE TESTED AGAINST. (BASED ON AN INTERNAL DESIGN PRESSURE OF 75 PSI)
   - RESTRAINED TO THE LIMITS OF THE PROJECT



NOTES
1. TOPSOIL TO BE REMOVED TO ITS FULL DEPTH ALONG ENTIRE WIDTH OF ROAD ALLOWANCE BY CONTRACTOR.
2. DITCHES & BOULEVARD - 150mm TOPSOIL AND SOD.
3. DEPTH FOR ALL UTILITIES 0.9m MIN.
4. STREET LIGHTS AND TRANSFORMERS ONE SIDE ONLY.
5. ENTRANCE TO BE IN ACCORDANCE WITH TOWN OF THE BLUE MOUNTAINS RURAL ENTRANCE PROFILE GUIDELINES.

DISCLAIMER AND COPYRIGHT

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

BENCHMARKS

TBM1 - ELEVATION 211.950
TOP NUT FIRE HYDRANT LOCATED AT THE SOUTH WEST CORNER OF LOT 11.

NOTES

LEGAL SURVEY, TOPOGRAPHIC INFORMATION AND LOT DIMENSIONS SHOWN ON THIS PLAN ARE TAKEN FROM A SURVEY PLAN PREPARED BY ZUBEK, EMO, PATTEN & THOMSEN, WHICH MAY NOT BE FINAL AND ARE NOT GUARANTEED. THE FINAL REGISTERED PLAN OF SUBDIVISION SHALL BE REFERRED TO FOR CONFIRMATION OF THE DATA.

No.	REVISION DESCRIPTION	DATE
1.	SUBMISSION FOR DRAFT PLAN APPROVAL	NOV/2019

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
19 11 06
R. S. SIMPSON
PROVINCE OF ONTARIO

CAMPERDOWN CONDOMINIUMS
TOWN OF THE BLUE MOUNTAINS

DETAILS & NOTES

TATHAM ENGINEERING

DESIGN: AS	FILE: 117304	DWG: DE-1
DRAWN: RD	DATE: DEC., 2017	
CHECK: RS	SCALE: 1:75	

Drawing Name: 117304-DE01.dwg, Plotted: Nov 07, 2019