



ENGINEERING
CONSULTANTS LTD

SERVICING OPTIONS STUDY

**345 and 355 Balmy Beach Road
Plan 447, Lots 51, 52 and 52A
Township of Georgian Bluffs
Dr. Mehran Shahabi**

November, 2020

19-001

Prepared for:

Dr. Mehran Shahabi
Township of Georgian Bluffs

TABLE OF CONTENTS

1.0	Introduction	1
2.0	Water Supply and Distribution Options	2
3.0	Wastewater Servicing Options	3
4.0	Stormwater Servicing Options	4

List of Figures

Figure A Proposed Plan of Subdivision Servicing Options Study

Appendices

Appendix A October 2020 Subdivision Drawings

Servicing Options Study
345 and 355 Balmy Beach Road, Plan 447 Lots 51, 52 & 52a
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1.0 INTRODUCTION

The subject property is located along the shores of Georgian Bay, on Balmy Beach Road in the Township of Georgian Bluffs. The existing property consists of 3 lots. The northern end of the subject lands consists of a large lot and a small wedge-shaped triangle lot. The street number of the northern and triangle lot is 355 Balmy Beach Road, and the legal description is Plan 447 Lot 52 Lot 52A. The southern lot is located at 345 Balmy Beach Road with a legal description of Plan 447 Part Lot 51.

The total property contains historic garages, cottages and various other buildings. These buildings are currently in various states of condition with some having recent renovations and others appear to have been abandoned for a considerable amount of time. The subject lands are adjacent to a municipally owned shore road allowance along Georgian Bay. The shore road allowance contains various structures including a boathouse, tennis court, shuffleboard pad and concrete retaining walls.

This report evaluates potable water and wastewater servicing options for the proposed subdivision. Figure A shows the overall location of the property, the proposed six lots and the proposed watermain. Each lot is to support one residential dwelling.

The following sections of the report reviews options for Water Supply and Distribution Options (section 2.0) and Wastewater Servicing Options (section 3.0). Section 4 provides an overview of storm management.

2.0 WATER SUPPLY AND DISTRIBUTION OPTIONS

The proposed subdivision is located adjacent to the shore of Georgian Bay in the Township of Georgian Bluffs. Options for potable water supply for the proposed subdivision could include:

- 1) Individual, private shore wells from Georgian Bay
- 2) Individual private drilled wells
- 3) Individual private dug wells
- 4) Construct a new, private communal water system servicing the subdivision
- 5) Connect to an existing municipal water system.

In this case, the local area is serviced by the East Linton and Area Water System owned and operated by the Township of Georgian Bluffs. As per Figure A, there is an existing 200 mm diameter water main from the East Linton water system ending at the north end of the subject property.

Past discussions with the former CAO of Georgian Bluffs (Mr. Rick Winters) indicated that a) the municipality would only support the planned subdivision if the new lots were serviced from the East Linton water system b) the East Linton water system has sufficient, uncommitted reserve capacity to adequately service the six new residential lots and c) the developer would be required to extend the 200 mm diameter watermain to the southern limit of the overall property as shown on Figure A.

As noted, six, single family residential dwellings are proposed in total. Assuming 2.5 persons per dwelling, a total of 15 persons would be serviced. Assuming an average water demand of 450 liters per person per day (MOE municipal water system design guidelines), the average potable water demand would be 6.75 cubic meters per day. As above, the Township previously advised that the East Linton water system has sufficient, uncommitted reserve capacity to supply this additional, average day water demand.

As part of extending the 200 mm diameter watermain to the south end of the subject property, two new additional hydrants will be provided to provide fire protection to the new subdivision.

As water supply is to be provided by the municipal water system, there will be no increased use of groundwater for water supply. No impact to local properties in terms of water supply will occur.

3.0 WASTEWATER SERVICING OPTIONS

The proposed subdivision is located adjacent to the shore of Georgian Bay in the Township of Georgian Bluffs. Options for wastewater servicing could include:

- 1) Individual, private septic systems
- 2) Construct a new, private communal wastewater collection and treatment system
- 3) Connect to an existing municipal wastewater (sewer) system.

There is no available, public sewer system to connect to in this part of Georgian Bluffs. As well, the cost to construct a new, communal private wastewater collection and treatment system would be extremely high for only six new residential lots. In addition, the municipality would have to agree to become the operator and owner of the communal sewage system in the event the individual property owners no longer were willing or capable of operating a communal sewage system.

As such, individual private septic systems are recommended. Soil testing was completed during the design phase to confirm suitable soils for private septic systems. Design of the subdivision confirmed that lot size was adequate to construct the septic systems and meet all building code requirements (including setback requirements).

An evaluation of impacts of the septic systems on the local groundwater was previously completed, and in particular a review of nitrate loadings on the local groundwater. While some elevation of local groundwater nitrates could occur, the concern is minimal as a) groundwater flux will be to the east and discharge immediately to Georgian Bay which will easily dilute nitrates and b) all local residents do, or will, obtain their drinking water from the East Linton municipal water system.

No post development monitoring of the septic systems is felt required for this subdivision.

4.0 STORMWATER SERVICING OPTIONS

Though not normally required in a Servicing Options Study, this submission provides an overview of stormwater management for the subdivision.

Stormwater design features are more thoroughly described in the August, 2020 Functional Servicing and Stormwater Management Report. In this report, individual, lot level infiltration trenches are proposed to maximize stormwater infiltration and detention on each property.

As well, earlier reports and drawings indicated two stormwater easements granted in favor of the Township of Georgian Bluffs across the proposed subdivision. These easements would allow pathways for stormwater generated off the Grey Road 1 road allowance (and potentially additional surface water on the west side of Grey Road 1) to migrate across the subdivision into Georgian Bay.

The most up to date drawings for the subdivision are included in Appendix A of this report. As per these drawings, one 6 m wide drainage easement is proposed between lots 1 and 2.

A second, 6 m wide easement was previously proposed at the south end of the property. A 3 m wide portion of the easement would have been located along the south limit of Lot 6 and a further 3 m wide portion of the easement width was located on the north edge of the adjacent property to the south.

However, the two landowners involved did not wish to pursue a shared, 6 m wide drainage easement at the boundary of their respective properties. The next landowner to the south, to our knowledge, has made a similar provision for a 6 m wide drainage easement through his property. Therefore, two 6 m wide drainage easements will be provided from Grey Road 1 to Georgian Bay over a total north/south property length of approximately of 400 m (0.4 km). Provision of these two drainage easements should be suitable to support future drainage projects, if required, along this stretch of Grey Road 1.

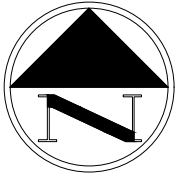
Prepared by;

GSS Engineering Consultants Ltd.



Jeff Graham, P. Eng., President
Designated Engineering Consultant

JTG/nc



EXISTING 200mmØ WATERMAIN

PROPOSED 200mmØ
WATERMAIN EXTENSION

BALMY BEACH ROAD

LOT 1

LOT 2

LOT 3

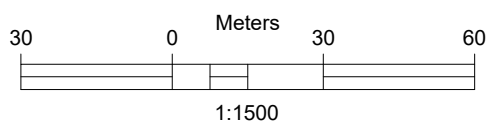
LOT 4

LOT 5

LOT 6

GEORGIAN BAY

LIMIT OF SUBDIVISION



PROPOSED PLAN OF SUBDIVISION
SERVICING OPTIONS STUDY
345/355 BALMY BEACH ROAD
TOWNSHIP OF GEORGIAN BLUFFS
DR. MEHRAN SHAHABI



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Design:	JTG
Drawn:	TDL
APPROVED:	JTG
Date:	OCT. 2020
Scale:	1:1500
FILE No.	19-001
FIG. No.	Fig. A

APPENDIX A

October 2020 Subdivision Drawings

CONTRACT 19001

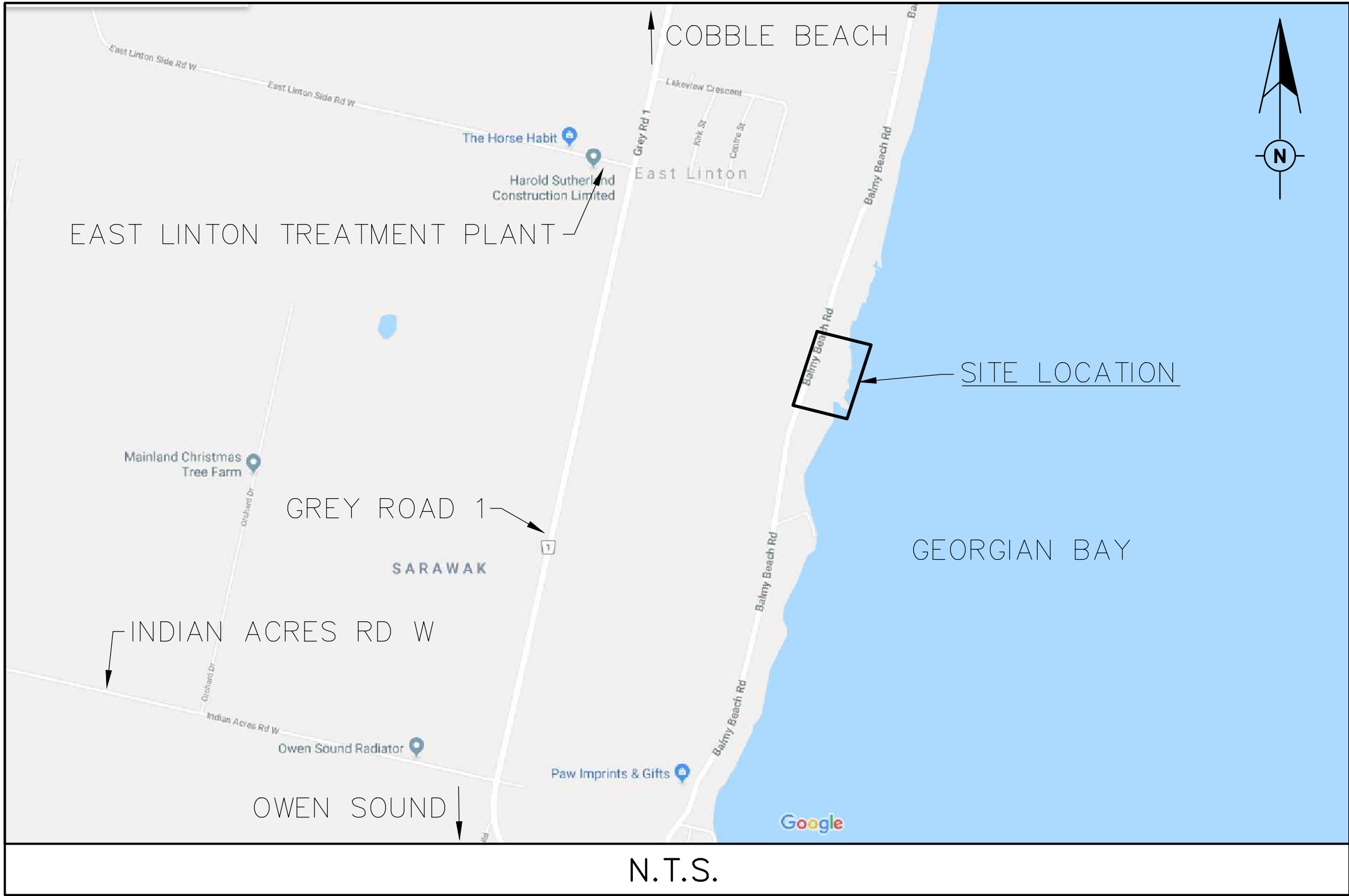
PLAN 447 LOTS 51, 52 & 52A SEVERANCE

345 & 355 BALMY BEACH ROAD (EAST LINTON)

DR. MEHRAN SHAHABI

TOWNSHIP OF GEORGIAN BLUFFS

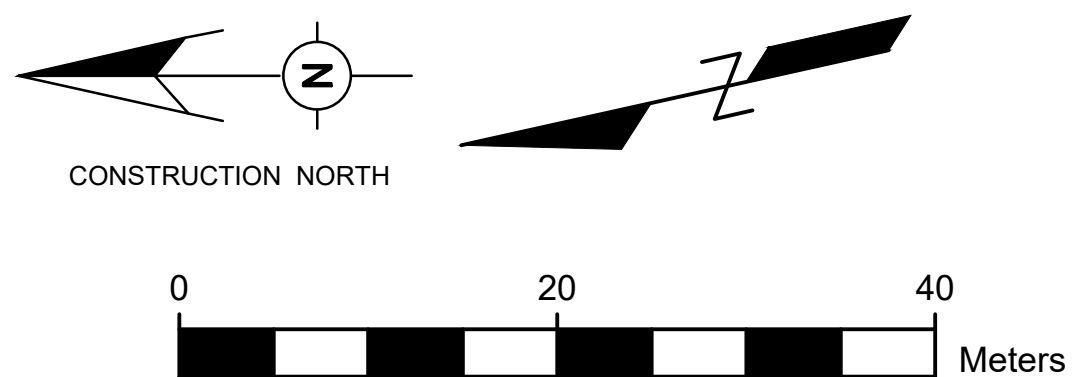
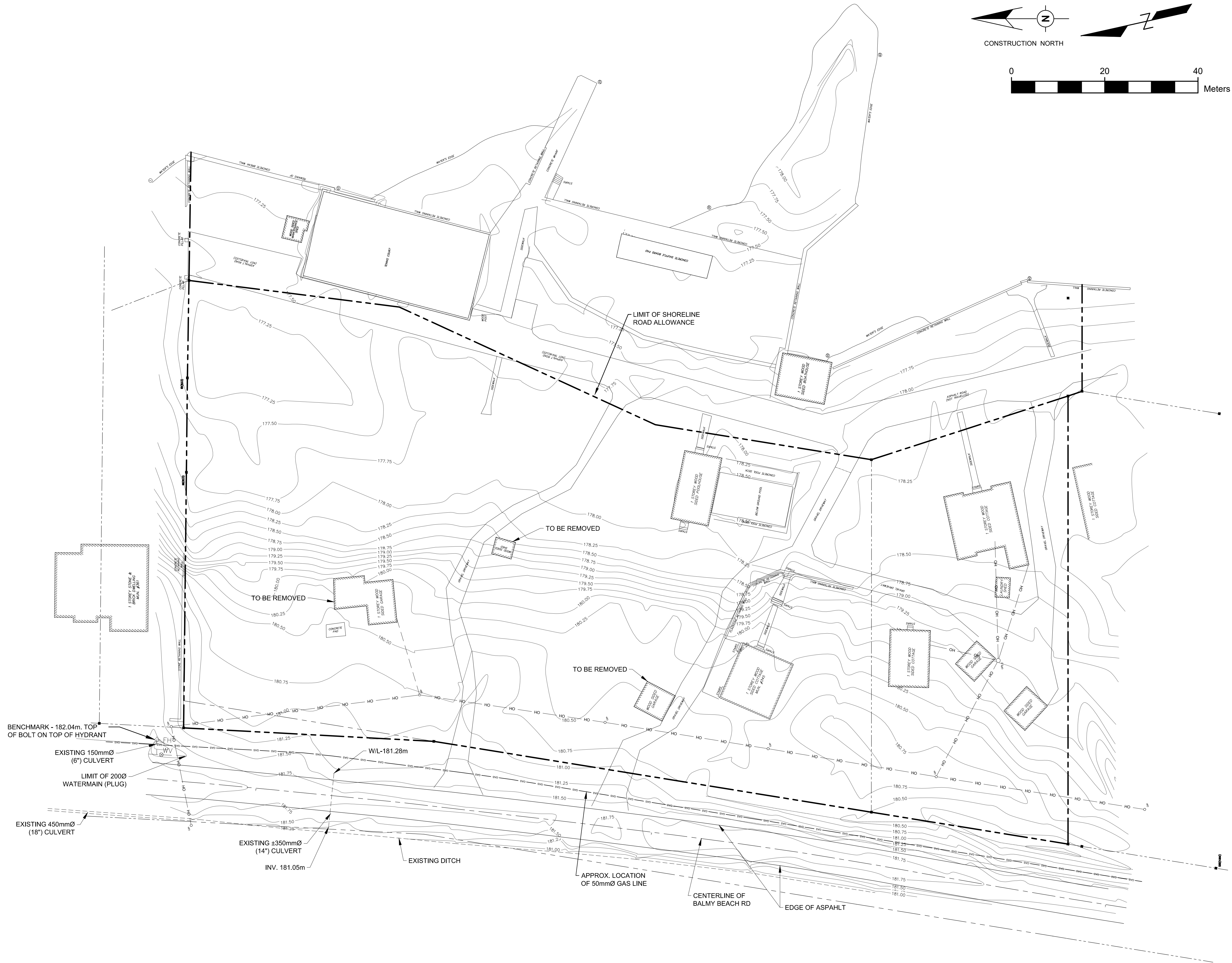
OCTOBER 2020



N.T.S.

DRAWING INDEX	
DRAWING No.	DRAWING NAME
19001-01	TITLE SHEET AND INDEX
19001-02	EXISTING CONDITIONS AND REMOVALS
19001-03	PROPOSED SEVERANCES
19001-04	TEST PIT LOCATIONS
19001-05	TREE RETENTION AREA
19001-06	DRAINAGE & STORMWATER MANAGEMENT

30/10/20	SOUTHERLY 6m DRAINAGE EASEMENT REMOVED
10/08/20	REVISED LOT DIMENSIONS
DD/MM/YY	REVISION / ISSUE
Seal not valid unless signed and dated	
Unit 104D 1010 9th Avenue West, Owen Sound, ON, N4K 5R7 Telephone: (519) 372-4828	
Title: TITLE SHEET AND INDEX PLAN 447 LOTS 51, 52 & 52A BALMY BEACH RD GEORGIAN BLUFFS	
Client: DR. MEHRAN SHAHABI	
Design: JTG	Scale: NTS
Drawn: TDL	Approved:
Checked: JTG	
Date: OCT. 2020	
Drawing No. 19001-01	



LEGEND

- IB IRON BAR
- SIB STANDARD IRON BAR
- PROPERTY LINE
- - - FENCELINE
- ROAD CENTERLINE
- EX. BUILDING LAYOUT
- OVERHEAD WIRES
- UP UTILITY POLE (HYDRO)

GEORGIAN BAY WATER LEVEL = 177.05m. SURVEYED 24/05/19

ORIGINAL SURVEY PRODUCED BY EPLETT WROBEC RAIKES SURVEYING LTD, ONTARIO LAND SURVEYORS. COMPLETED NOVEMBER 29th 2018

CAUTION: THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS, PROPERTY LINES AND OTHER UNDERGROUND AND OVERGROUND UTILITIES ARE STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES, PROPERTY LINES & STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES, PROPERTY LINES & STRUCTURES, AND SHOULD ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

30/10/20	SOUTHERLY 6m DRAINAGE EASEMENT REMOVED
10/08/20	REVISED LOT DIMENSIONS
DD/MM/YY	DESCRIPTION
	REVISION / ISSUE
Seal not valid unless signed and dated	

ENGINEERING CONSULTANTS LTD

Unit 104D 1010 9th Avenue West, Owen Sound, ON, N4K 5R7
Telephone: (519) 372-4828

Title: **EXISTING CONDITIONS & REMOVALS**

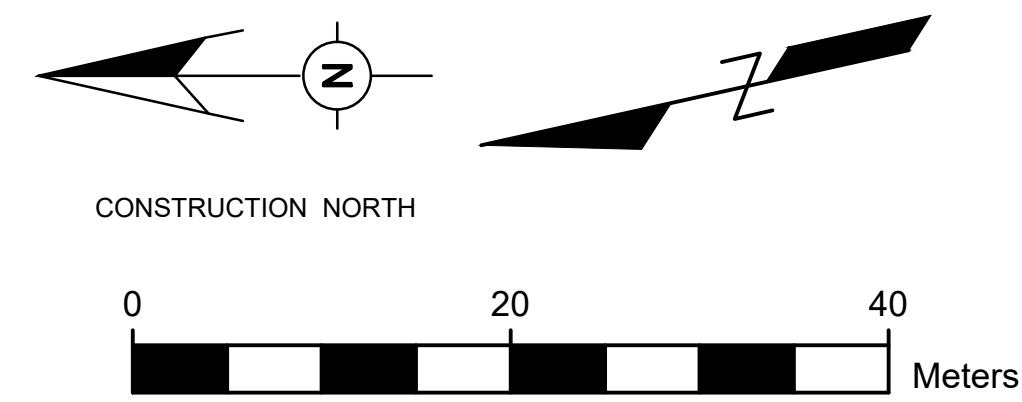
BALMY BEACH RD - GEORGIAN BLUFFS

Client: **DR. MEHRAN SHAHABI**

Design: JTG	Scale: 1:400
Drawn: TDL	Approved: Design Engineer
Checked: JTG	
Date: OCT. 2020	

Drawing No. 19001-02

PLOTTED: Wednesday, November 4, 2020 10:37:07 AM



LEGEND	
■ IB	IRON BAR
■ SIB	STANDARD IRON BAR
---	PROPERTY LINE
- - - -	FENCELINE
---	ROAD CENTERLINE
---	EX. BUILDING LAYOUT
---	OVERHEAD WIRES
○ UP	UTILITY POLE (HYDRO)
■	PROPOSED BUILDING ENVELOPE

GEORGIAN BAY WATER LEVEL = 177.05m. SURVEYED 24/05/19

ORIGINAL SURVEY PRODUCED BY EPLETT WOROBEC RAIKES SURVEYING LTD, ONTARIO LAND SURVEYORS. COMPLETED NOVEMBER 29th 2018

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30/10/20	SOUTHERLY 6m DRAINAGE EASEMENT REMOVED
10/08/20	REVISED LOT DIMENSIONS
DD/MM/YY	DESCRIPTION
	REVISION / ISSUE

Seal not valid unless signed and dated

ENGINEERING
CONSULTANTS LTD

Unit 104D 1010 9th Avenue West, Owen Sound, ON, N4K 5R7
Telephone: (519) 372-4828

Title:
**BLDG ENVELOPES FOR TREE RETENTION AREA
PLAN 447 LOTS 51, 52 & 52A
BALMY BEACH RD – GEORGIAN BLUFFS**

Client: **DR. MEHRAN SHAHABI**

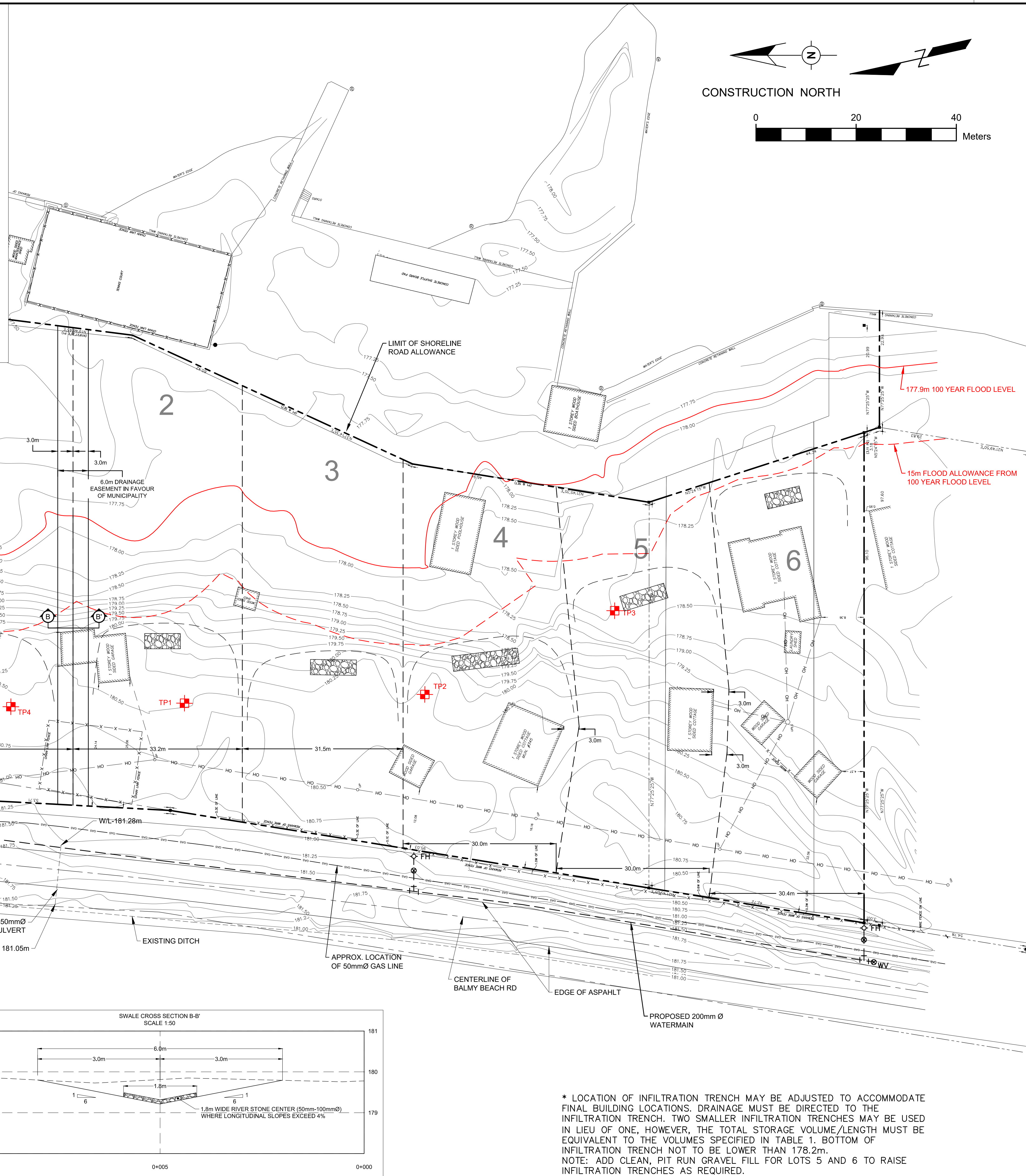
Design: JTG	Scale: 1:400
Drawn: TDL	Approved: Design Engineer
Checked: JTG	
Date: OCT. 2020	











Drawing No. **19001-05**

19-001

Lot Number	Width	Depth *	Area	Storage Volume Required **	Length of Infiltration Trench (based on 0.45 m³/m Storage Volume in Trench)
1	34.5 m	48 m	1,650 m²	4 m³	9 m
2	33.2 m	50 m	1,660 m²	3 m³	7 m
3	31.5 m	60 m	1,890 m²	4 m³	9 m
4	30 m	55 m	1,650 m²	6 m³	13 m
5	30 m	70 m	2,100 m²	4 m³	9 m
6	30.4 m	85 m	2,580 m²	3 m³	7 m
Total			11,530 m²	24 m³	

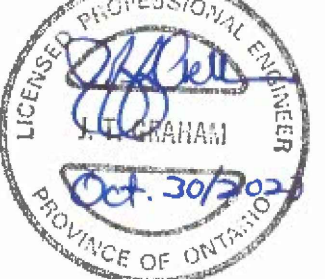
** Based on 25 m³/ha for infiltration system providing Enhanced Protection (Table 3.2 of Storm Water Management Planning and Design Manual – MOE 2003)



	IB	IRON BAR
	SIB	STANDARD IRON BAR
		PROPERTY LINE
		FENCELINE
		ROAD CENTERLINE
		EX. BUILDING LAYOUT
		OVERHEAD WIRES
	UP	UTILITY POLE (HYDRO)
	TP3	STAKED FIELD LOCATION FOR SEPTIC SYSTEM DESIGN (24/05/19)
		PROPOSED INFILTRATION TRENCH

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

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Telephone: (519) 372-4828

BALMY BEACH RD. GEORGIAN BLUFFS

Client: DR. MELBANI SHAHARI

Design: JTG Scale: 1: 400

checked:	JTG	
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ate: OCT. 2020

Drawing No. 19001-06