Project: 23-487-602 Revised

February 25, 2026

Alinea Land Corporation
4480 Paletta Court
Burlington, Ontario, L7L 5R2

Attention: Mr. James Doracin
Via email: james@doracintsl.com

RE: Preliminary Slope Stability Assessment Near Block 12
Proposed Mixed-Use Development
1200 King Road, Burlington, Ontario

Dear Sir:

1. INTRODUCTION

Based on the design information (Concept Master Plan – Revised), the proposed development Block 12 is near the existing Falcon Creek/slope. Long-Term Stable Top of Slope (LTSTOS) line is required for the proposed development at the locations near Block 12. A Slope Location Plan is shown on **Drawing 1**.

Block 12 is located at the west parcel of the site where is currently densely populated with trees (forested). Falcon Creek/slope is located along the west boundary of Block 12. Site visits were made on March 15, 2024 and September 9, 2025 by a senior geotechnical engineer from DS Consultants Ltd. (DS) to visually inspect the site/slope conditions.

In 2024, DS conducted a geotechnical investigation at the east parcel of the site for the proposed mixed-use development, documented in the Geotechnical Report (No. 23-487-602-R2) dated February 18, 2026. Boreholes BH24-7 and BH24-8 were located east of Block 12. Locations and logs of BH24-7 and BH24-8 are included in **Appendix B** of this letter.

Based on borehole information from boreholes BH24-7 and BH24-8, the subsurface soils consisted of topsoil and fill material (0.2-1.5m), underlain by native soils varying from stiff to hard clayey silt to silty clay (till), very dense sandy silt till, compact sand and gravel to gravelly sand, and till/shale complex. Shale bedrock was encountered at a depth of 12.3 m (Elev.101.0 m) in BH24-7 and at a depth of 13.6 m (Elev. 90.8 m) in BH24-8.

2. SLOPE STABILITY ASSESSMENT

The Falcon Creek/slope is located along the west boundary of the Block 12, as shown on **Drawing 1.**

2.1. Slope Conditions and Profiles

A total of Five (5) slope profiles (A-A to E-E) are derived from the provided survey drawing. The locations of the slope profiles A-A to E-E are shown on **Drawing 1**. The slope profiles A-A to E-E are presented on **Drawing 2** to **Drawing 6**. Selected photographs (Photos 1 to 15) taken during our site visits are presented in **Appendix A**, showing the slope and creek conditions.

Based on our site observations, the site and slope conditions are described as follows:

- As indicated in the slope profiles (**Drawings 2** to **6**), The height of the slope was typically 1.5 to 5.0 m.
- The steepness of the slope/bank ranged from approximately 1.96H:1V at Cross-Section E-E to 5.68H:1V at Cross-Section D-D.
- The slopes were covered with grasses, trees/bushes and other vegetation (see Photos in **Appendix A**).
- Creek bank erosion and local slope surficial failure were observed as shown on photographs **Photos 8** and **15** in **Appendix A.**

2.2. Erosion Conditions

In accordance with the Provincial Guidelines entitled "Understanding Natural Hazards" and according to the soil and creek conditions observed at the site, it is our opinion that a toe erosion allowance of 8 m is required for the creek bank/slope toe to determine the setback of the long-term stable slope at Sections A-A, B-B, D-D and E-E.

At Section C-C, slope toe erosion allowance is not required as the creek is more than 8 m away from the toe of slope.

2.3. Long-Term Stable Slope

The height of slopes along west boundary of Block 12 is typically ranging from 1.5 to 5 m, and the inclination of slope is of 1.96H:1V to 5.68H:1V. Based on the general soil conditions in the project area and as a preliminary input, without detailed slope stability analyses, the long-term stable top of slope can be assumed by applying 8 m of slope toe erosion allowance starting from the bottom of creek bed then drawn up using an imaginary 2 horizontal to 1 vertical (2H:1V) line to intersect the existing slope. The intersecting point is considered the long-term stable top of slope point. The long-term stable top of slope using 2H:1V with 8 m slope toe erosion allowance must be confirmed by detailed slope stability analyses when boreholes close to creek slope are available.

The long-term stable top of slope at the cross sections are as follows.

- Point 'S1' on **Drawing 2** represents the long-term stable top of slope at Section A-A
- Point 'S2' on **Drawing 3** represents the long-term stable top of slope at Section B-B
- Point 'S3' on **Drawing 4** represents the long-term stable top of slope at Section C-C
- Point 'S4' on **Drawing 5** represents the long-term stable top of slope at Section D-D
- Point 'S5' on **Drawing 6** represents the long-term stable top of slope at Section E-E

Based on the long-term stable top of slope at Sections A-A to F-F, and according to our field observations, the long-term stable top of slope (LTSTOS) Line S1-S2-S3-S4-S5 is shown on **Drawing 1**.

The above preliminary recommendations and the preliminary LTSTOS are sufficient for OPA/ZBA feasibility and natural hazard policy compliance. Detailed boreholes and quantitative slope stability analyses can be deferred to the site plan approval stage, subject to Conservation Halton confirmation, while maintaining the preliminary LTSTOS line and associated setbacks until confirmed.

3. CLOSURE

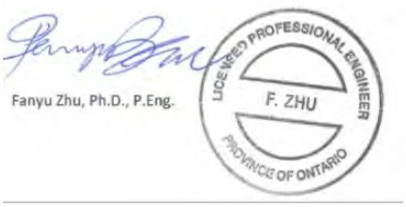
We trust that the information contained in this letter is satisfactory. Should you have any questions, please do not hesitate to contact this office.

Yours Very Truly,

DS Consultants Ltd.



Derek Wang, P.Eng.
Senior Geotechnical Engineer



Fanyu Zhu, Ph.D., P.Eng.
Principal Geotechnical Engineer



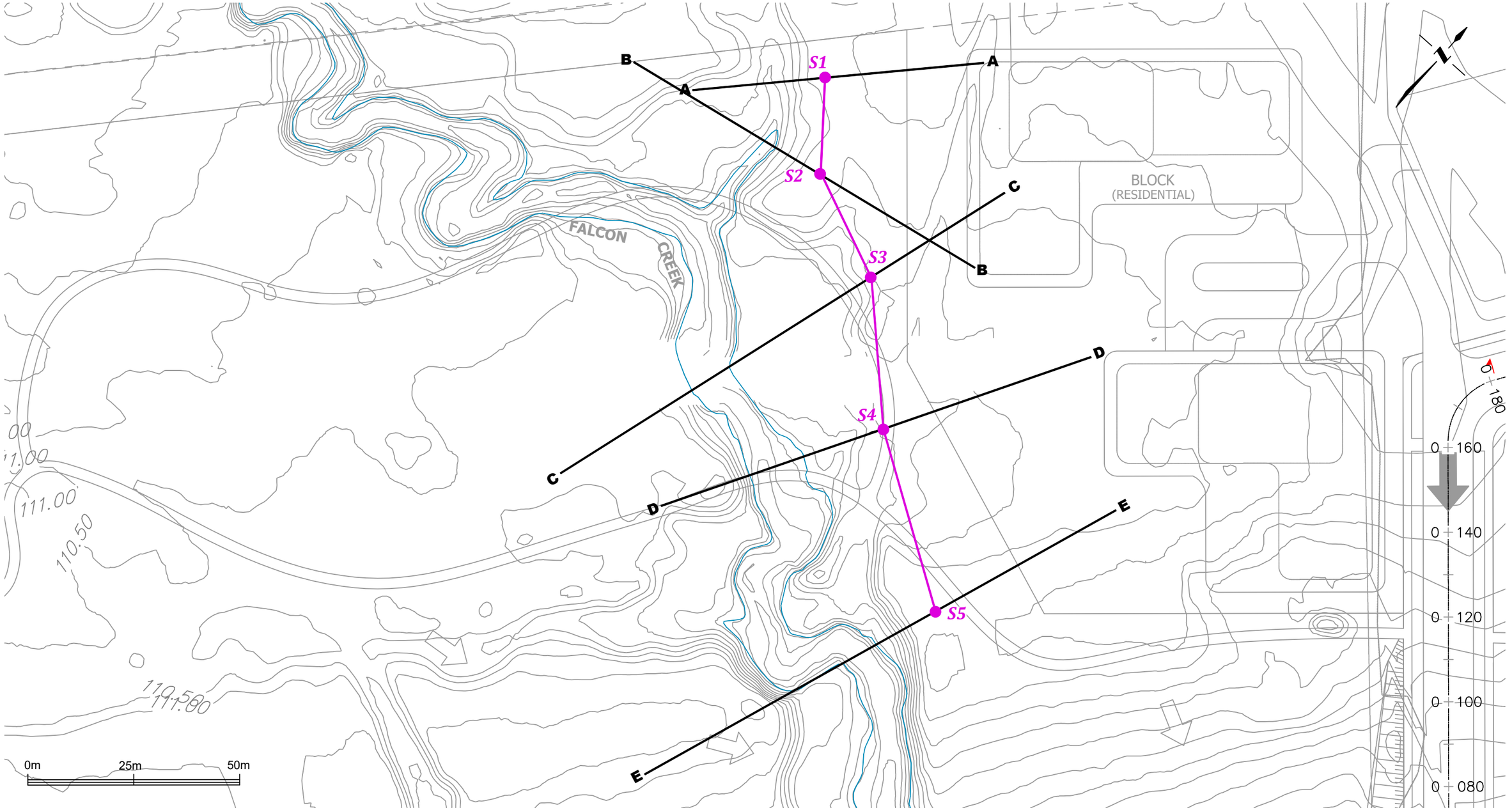
Alka Sangar, M.Eng., P.Eng
Principal Engineer

Attachments:

Drawing 1: Slope Location Plan

Drawings 2 to 7: Slope Profiles at Section A-A to E-E

Appendix A: Slope Site Photographs Near Block 12



S1, S2, S3, S4, & S5
Long-Term Stable Top of Slope Line (LTSTOS Line)

DS CONSULTANTS LTD.
6221 Highway 7, UNIT 16
Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9393
www.dsconsultants.ca

Project: SLOPE STABILITY ASSESSMENT
1200 King Road, Burlington, ON

Title: **SLOPE LOCATION PLAN**

Client: ALINEA LAND CORPORATION

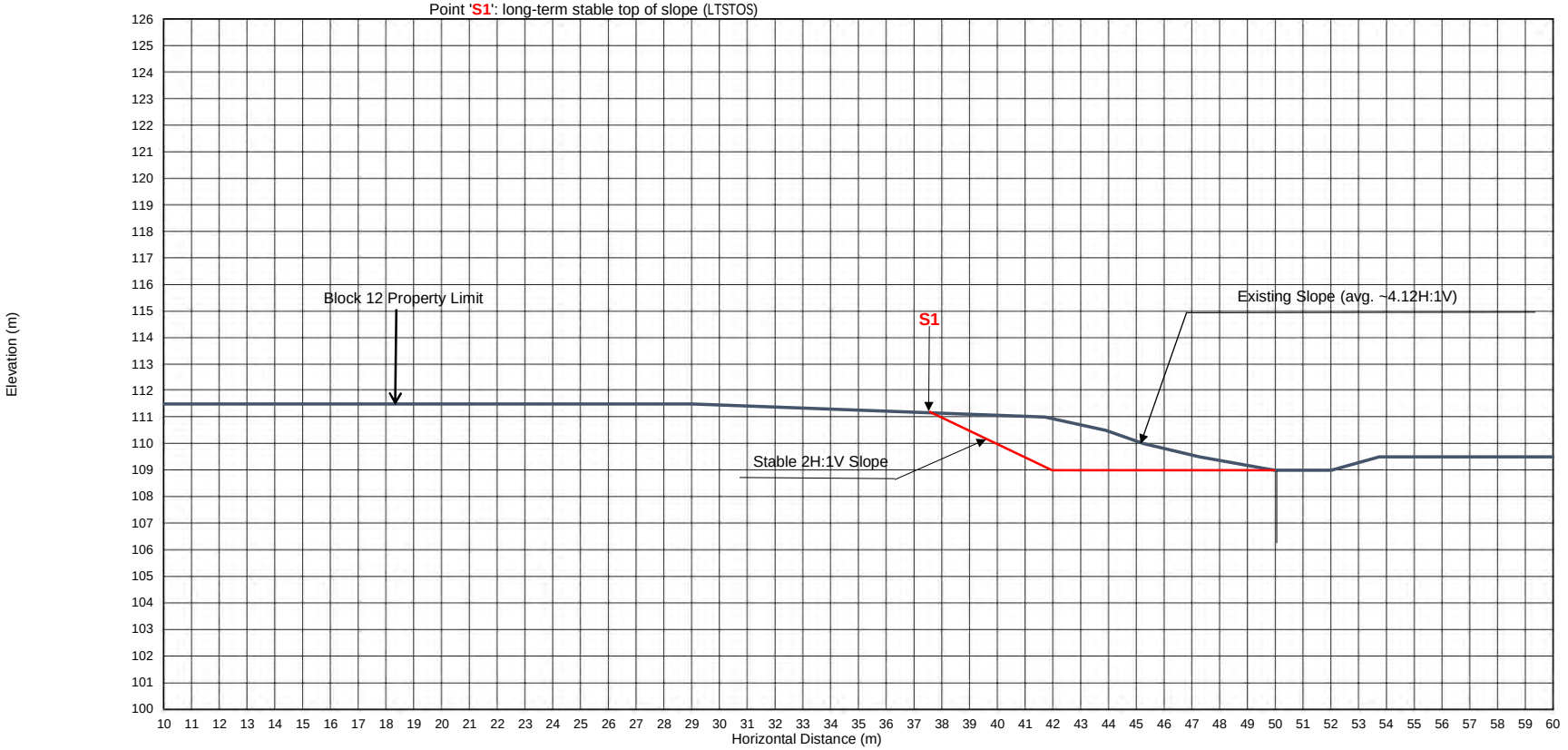
Size:	Approved By:	Drawn By:	Date:
11 X 17	D.W	S.Y	February 2026
Rev.	Scale: As Shown	Project No: 23-487-602	Figure No. 1

Path:j:\-gis\2023 projects\23-487-602 - 1200 king road, burlington, on\7-misc\cad\drawing 1 - slope and borehole location plan.dwg

Project: 23-487-602 - **Drawing 2**

Slope Profile at **Section A-A** (See Drawing 1 for Location Plan)

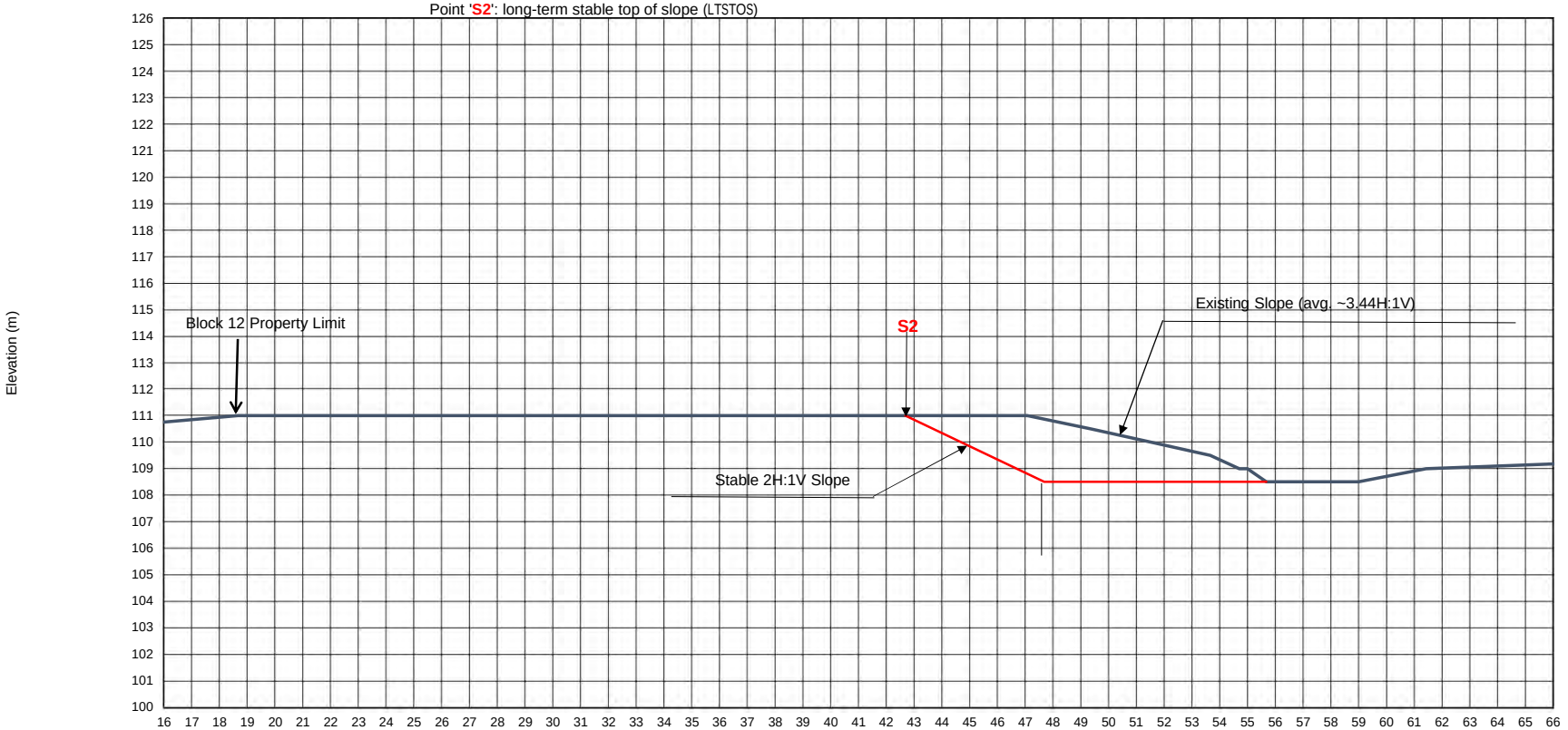
Point '**S1**': long-term stable top of slope (LTSTOS)



Project: 23-487-602 - **Drawing 3**

Slope Profile at **Section B-B** (See Drawing 1 for Location Plan)

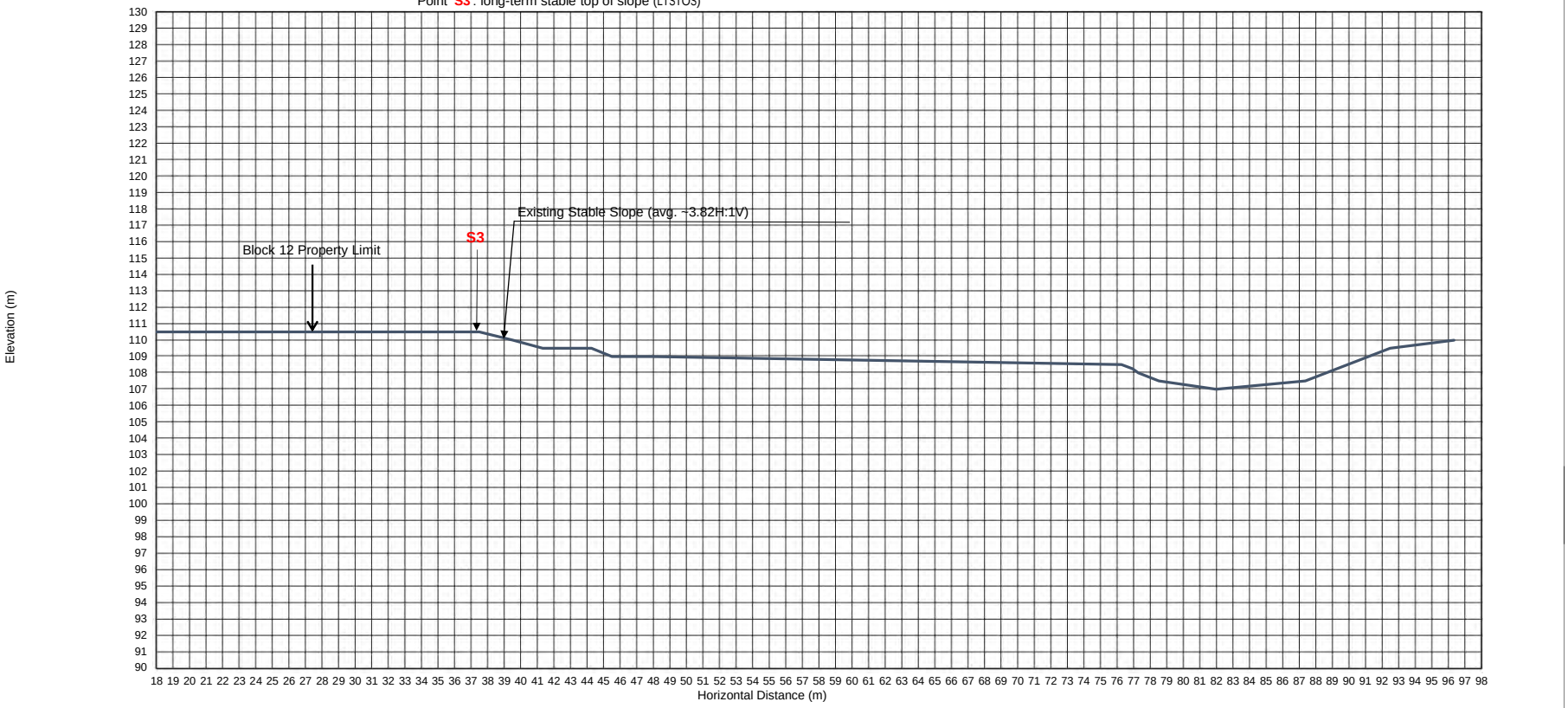
Point '**S2**': long-term stable top of slope (LTSTOS)



Project: 23-487-602 - **Drawing 4**

Slope Profile at **Section C-C** (See Drawing 1 for Location Plan)

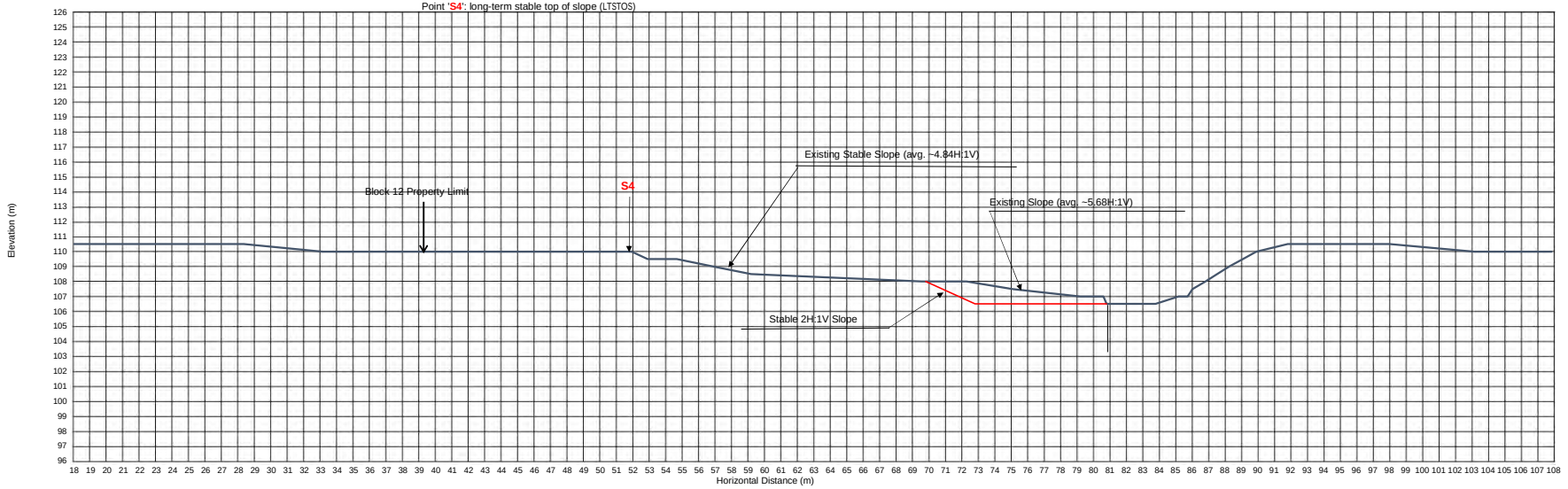
Point '**S3**': long-term stable top of slope (LTSTOS)



Project: 23-487-602 - **Drawing 5**

Slope Profile at **Section D-D** (See Drawing 1 for Location Plan)

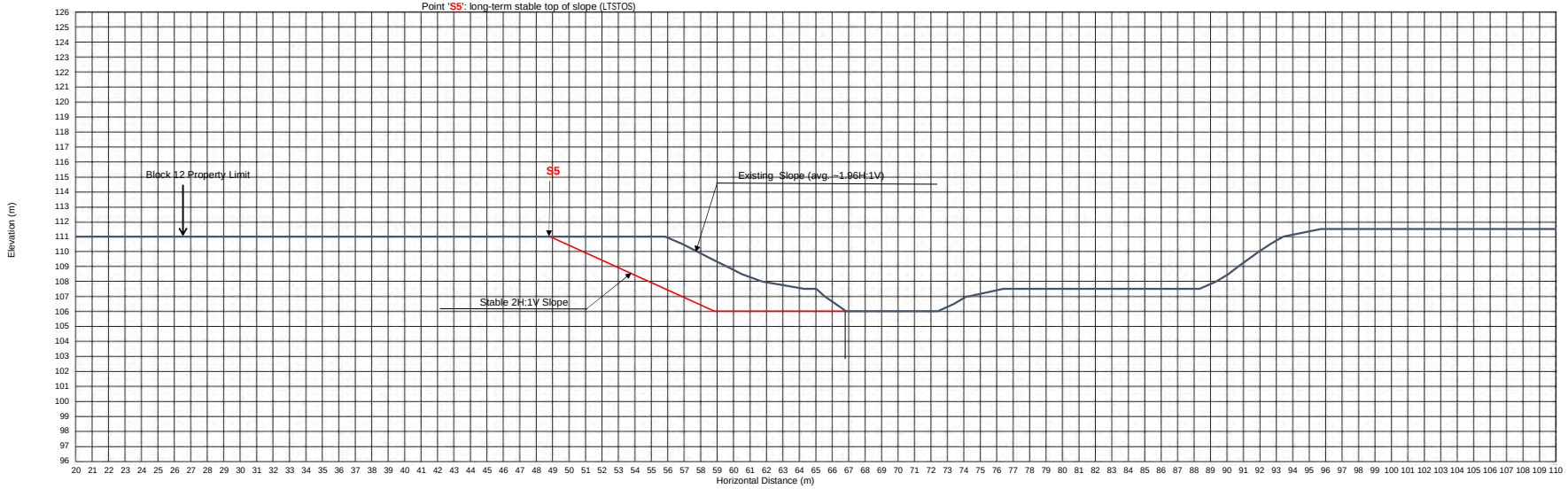
Point '**S4**': long-term stable top of slope (LTSTOS)



Project: 23-487-602 - **Drawing 6**

Slope Profile at **Section E-E** (See Drawing 1 for Location Plan)

Point '**S5**': long-term stable top of slope (LTSTOS)



Appendix A
Slope Site Photographs Near Block 12
(Photos 1 to 15, taken on September 9, 2025 and March 15, 2024)

Photo 1: Google Earth image, Falcon Creek/slope

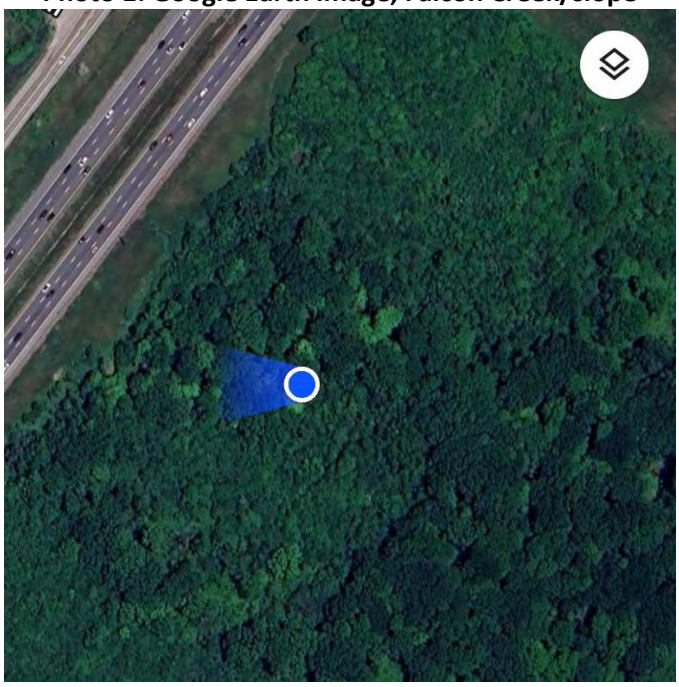


Photo 2: Falcon Creek/slope



Photo 3: Google Earth image, Falcon Creek/slope

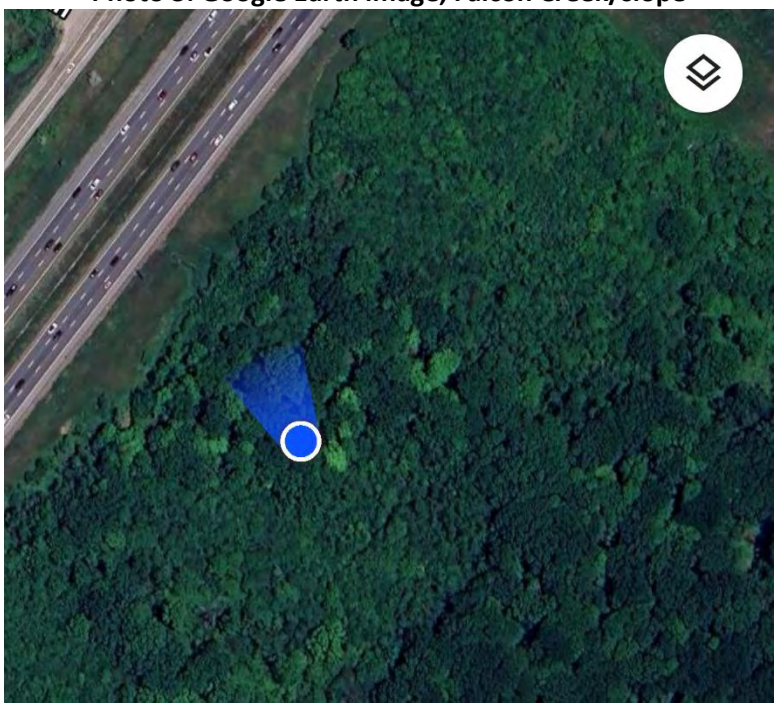


Photo 4: Falcon Creek/slope



Photo 5: Falcon Creek/slope



Photo 6: Falcon Creek/slope



Photo 7: Google Earth image, Falcon Creek/slope

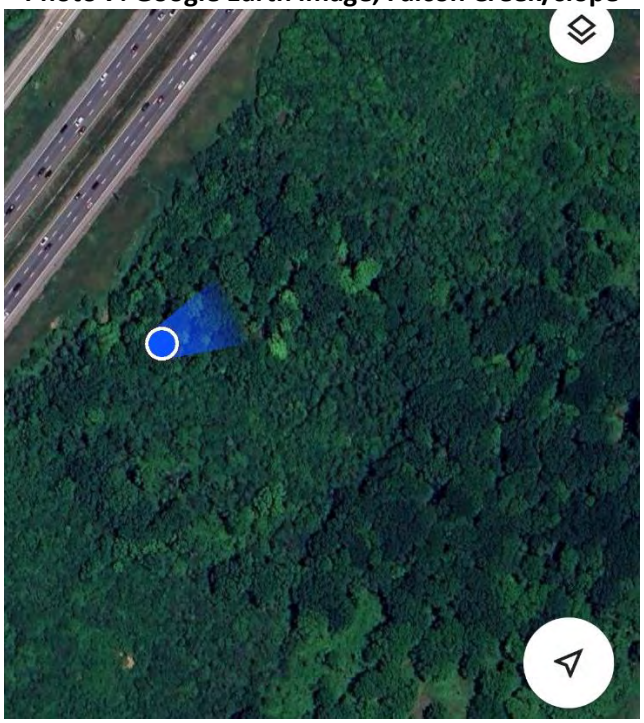


Photo 8: Falcon Creek/slope



Photo 9: Falcon Creek/slope



Photo 10: Falcon Creek/slope



Photo 11: Google Earth image, Falcon Creek/slope

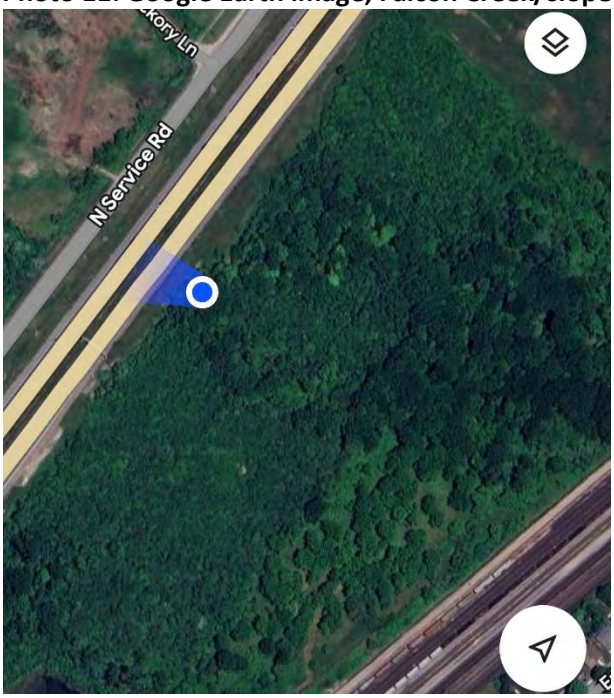


Photo 10: Falcon Creek/slope



Photo 11: Falcon Creek/slope



Photo 12: Falcon Creek/slope



Photo 13: Google Earth image, Falcon Creek/slope

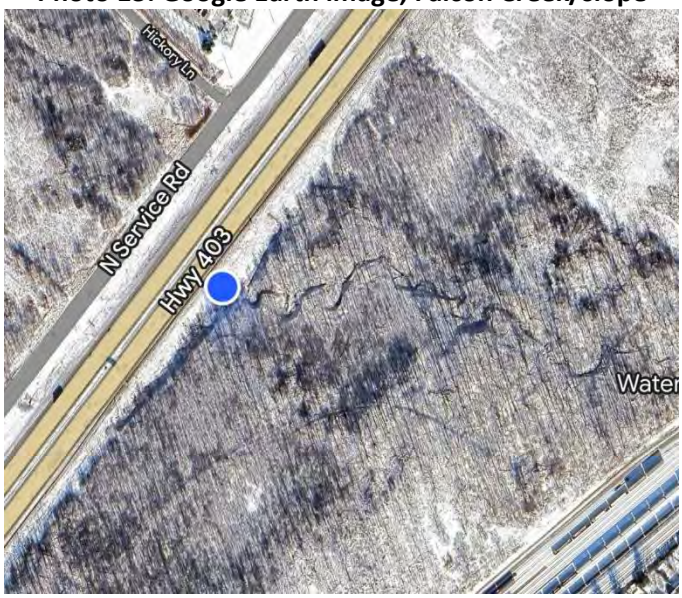


Photo 14: North end of Falcon Creek/slope (looking southeast)

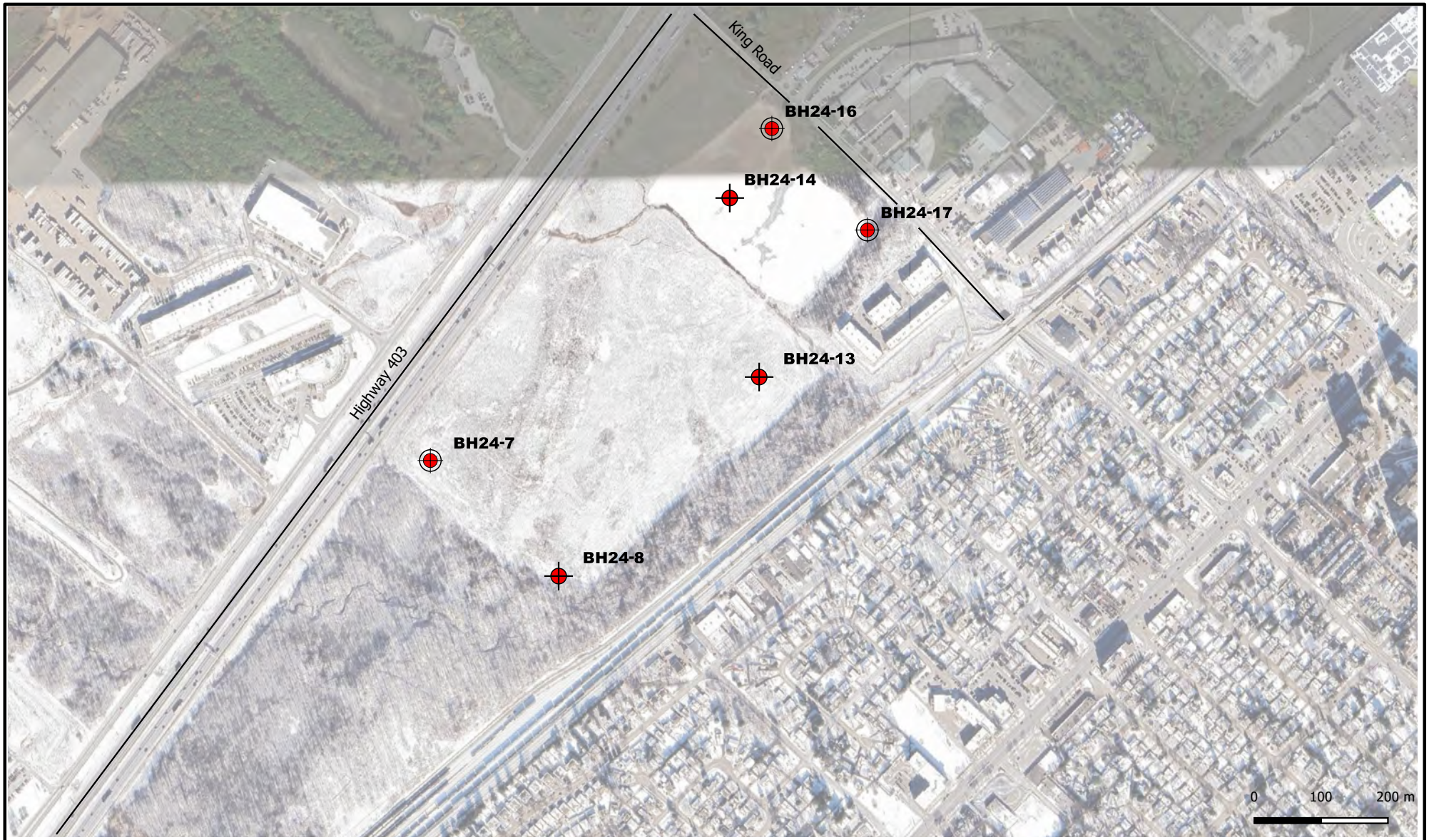


Photo 15: North end of Falcon Creek/slope (looking south)



Appendix B
Loctions and Logs of Boreholes BH24-7 and BH24-8

J:\2023 Projects\23-487-602 Geo - 1200 King Road, Burlington, ON\Geotechnical\QGIS\1-QGIS\Figure 1 Borehole Location Plan.qgs Mar-08 10:59



Legend

- Borehole
- Monitoring Well

DS CONSULTANTS LTD.
6221 Highway 7, UNIT 16
Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9393
www.dsconsultants.ca

Client: ALINEA LAND CORPORATION

Project: PRELIMINARY GEOTECHNICAL INVESTIGATION
1200 King Road, Burlington, ON

Title: **BOREHOLE LOCATION PLAN**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	O.B	K.T	March 2024
Rev: 0	Scale: As Shown	Project No.: 23-487-602	Figure No.: 1

Image/Map Source: *Google Satellite Image*

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH24-7

PROJECT: Preliminary Geotechnical Investigation
CLIENT: Alinea Land Corporation
PROJECT LOCATION: 1200 King Road, Burlington, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4797296.61 E 593460

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Feb-22-2024

REF. NO.: 23-487-602
ENCL NO.: 2

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION
113.3							
0.0	**FILL:** silty clay to clayey silt, trace rootlets, trace brick pieces, reddish brown, moist, stiff trace slag-like & clay tile like pieces at 0.15m		1	SS	8		113
			2	SS	9		112
111.8							
1.5	**CLAYEY SILT TO SILTY CLAY:** trace sand, trace gravel, reddish brown, moist, stiff		3	SS	10		
			4	SS	8	▽	111
						W. L. 111.0 m Mar 05, 2024	
			5	SS	10		110
	trace black organic alluvial material at 4.8m		6	SS	10		109
107.3							108
6.0	**SILTY CLAY TILL:** trace to some sand, trace gravel, trace cobble/boulders, grey, moist, very stiff to hard		7	SS	23		107
			8	SS	37		106
							105

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

Continued Next Page

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

LOG OF BOREHOLE BH24-7

PROJECT: Preliminary Geotechnical Investigation
CLIENT: Alinea Land Corporation
PROJECT LOCATION: 1200 King Road, Burlington, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4797296.61 E 593460

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Feb-22-2024

REF. NO.: 23-487-602
ENCL NO.: 2

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
	SILTY CLAY TILL: trace to some sand, trace gravel, trace cobble/boulders, grey, moist, very stiff to hard(Continued)	9	SS	20	104
102.8					103
10.5	**SANDY SILT TILL:** trace clay, trace gravel, trace cobble fragment, reddish brown, moist, very dense	10	SS	50/ 50mm	
101.3					102
12.0	**CLAYEY SILT TILL/SHALE COMPLEX:** trace sand, trace	11	SS	50/ 100mm	
101.0	weathered shale pieces, trace	R1	RC		101
12.3	gravel, reddish brown, moist, hard				
100.7	**SHALE BEDROCK:** Queenstion Formation, reddish brown,	R2	RC		
12.6	weathered				
100.3	Limestone zone				
13.0	TCR=100%, SCR=50%, RQD=0% Hard layers=100%, Maximum hard layer thickness=250mm	R3	RC		100
99.7	TCR=0%, SCR=0%, RQD=0% Hard layers=0%, Maximum hard				
99.6	layer thickness=0mm	R4	RC		
13.7	no recovery				
	TCR=0%, SCR=0%, RQD=0% Hard layers=25%, Maximum hard	R5	RC		
99.1	layer thickness=0mm				
14.2	weathered shale with fractured limestone zone				99
	TCR=100%, SCR=75%, RQD=0% Hard layers=0%, Maximum hard layer thickness=0mm	R6	RC		
	TCR=23%, SCR=23%, RQD=0% Hard layers=28%, Maximum hard layer thickness=100mm (Limestone zone)				
97.8	TCR=100%, SCR=98%, RQD=82%				98
15.5	Hard layers=2%, Maximum hard layer thickness=25mm				
	END OF BOREHOLE:				
	Notes:				
	1) 50mm dia. monitoring well installed upon completion.				
	2) Water Level Readings:				
	Date: Water Level(mbgl):				
	Mar. 5, 2024 2.3				

DYNAMIC CONE PENETRATION RESISTANCE PLOT: 20 40 60 80 100
SHEAR STRENGTH (kPa): ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE; 20 40 60 80 100
PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%): 10 20 30

REMARKS AND GRAIN SIZE DISTRIBUTION (%)	GR	SA	SI	CL
	6	16	51	27

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ○ε=3% Strain at Failure

DS SOIL LOG-2021-FINAL 23-487-602.GPJ DS.GDT 24-3-12

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH24-8

PROJECT: Preliminary Geotechnical Investigation
CLIENT: Alinea Land Corporation
PROJECT LOCATION: 1200 King Road, Burlington, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4797123.47 E 593652.88

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Feb-14-2024

REF. NO.: 23-487-602
ENCL NO.: 3

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	BLOWS "N" 0.3 m	ELEVATION
104.4 / 0.0	**TOPSOIL:** 200mm				
104.2 / 0.2	**SILTY SAND:** trace clay, trace gravel, reddish brown, wet, loose	1	SS	7	104
103.6 / 0.8	**SAND AND GRAVEL TO GRAVELLY SAND:** trace silt, trace clay, brown to reddish brown, wet, compact	2	SS	29	103
102.5 / 1.9	**SILTY CLAY TILL:** some sand, trace gravel, brown to grey, moist, stiff to hard trace weathered shale fragments at 2.3m grey below 2.6m	3	SS	14	
		4	SS	22	102
		5	SS	32	101
		6	SS	12	100
		7	SS	15	99
		8	SS	27	98
95.2 / 9.2	**SANDY SILT TILL:** some clay, trace gravel, trace shale fragments, reddish brown, moist, very dense	9	SS	50/75mm	97
93.6 / 10.8	**SANDY SILT TILL/SHALE COMPLEX:** some clay, frequent weathred shale fragments, reddish brown, moist, very dense	10	SS	50/75mm	96
					95
					94
					93

GROUND WATER CONDITIONS

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)

SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)	GR	SA	SI	CL
	2	10	46	42
	3	19	49	29

Continued Next Page

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

DS SOIL LOG-2021-FINAL 23-487-602.GPJ DS.GDT 24-3-12

LOG OF BOREHOLE BH24-8

PROJECT: Preliminary Geotechnical Investigation
CLIENT: Alinea Land Corporation
PROJECT LOCATION: 1200 King Road, Burlington, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4797123.47 E 593652.88

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Feb-14-2024

REF. NO.: 23-487-602
ENCL NO.: 3

ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS "N" 0.3 m	GROUND WATER CONDITIONS	ELEVATION
	SANDY SILT TILL/SHALE COMPLEX: some clay, frequent weathred shale fragments, reddish brown, moist, very dense(Continued)		11	SS	100/ 130mm		92
90.8							91
90.6 13.6	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered		12	SS	100/ 75mm		
13.8	TCR=100%, SCR=100%, RQD=93% Hard layers=20%, Maximum hard layer thickness=50mm		R1	RC			90
89.1							
15.3	TCR=100%, SCR=98%, RQD=98% Hard layers=15%, Maximum hard layer thickness=50mm		R2	RC			89
87.6							88
16.8	**END OF BOREHOLE:**						

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)
REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure