Soil Engineers Ltd.
CONSULTING ENGINEERS
GEOTECHNICAL • ENVIRONMENTAL • HYDROGEOLOGICAL • BUILDING SCIENCE
90 WEST BEAVER CREEK ROAD, SUITE 100, RICHMOND HILL, ONTARIO L4B 1E7 · TEL: (416) 754-8515 · FAX: (905) 881-8335

BARRIE	MISSISSAUGA	OSHAWA	NEWMARKET	MUSKOKA	HAMILTON
TEL: (705) 721-7863	TEL: (905) 542-7605	TEL: (905) 440-2040	TEL: (905) 853-0647	TEL: (705) 721-7863	TEL: (905) 777-7956
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March 3, 2026 Reference No. 2405-S038

Alcan Holdings Inc.
122 Romina Drive
Concord, Ontario
L4K 4Z7

Attention: Mr. Luis Correia

Re: Slope Stability Assessment
Proposed Stormwater Management Pond
12879 The Gore Road
Town of Caledon

Dear Sir:

As requested, Soil Engineers Ltd. (SEL) has carried out a slope stability assessment to delineate the Long-Term Stable Top of Slope (LTSTOS) for the captioned property to the south of the stormwater management (SWM) pond of the proposed development. The findings and the results of the slope stability assessment are presented in this report.

SITE DESCRIPTIONS

The property, encompassing an approximate area of 40.5 hectares, is located at the southeast quadrant of Healey Road and The Gore Road in the Town of Caledon. It is bounded by Healey Road to the north, The Gore Road to the west and other farm lands to the east and south. The property is currently being used for agricultural purposes. The site gradient is relatively flat and generally descends towards the southeast.

It is understood that the proposed development will consist of residential subdivision with a SWM facility at the southern portion of the site abutting an existing valley slope, located to the north bank of the Lindsay Creek. The existing slope has an overall height ranging from approximately 16 to 18 m, and slope gradients ranging from 1 to 3.4H:1V.The creek channel, measuring to be approximately 5 to 10+ m in width, located at a distance greater than 15 m from the toe of slope.

The location of the slope is illustrated on Drawing No. 1. The LiDAR data with elevation contours was provided by the client and was utilized for the slope stability assessment. In

addition, a topographic survey was also prepared by R-PE Surveying Ltd. dated June 13, 2024, which was used for comparison in this study. Based on the surveyed data and the LiDAR data, the elevation contours from the two sources are consistent with each other with minimal difference. Given the survey does not extend into the woodlots where the slope continues, the slope stability assessment relied on the elevator contours illustrated on the LiDAR entirely for consistency.

SUBSURFACE CONDITIONS

Two boreholes were carried out for the proposed SWM facility near the valley slope. The locations of the boreholes are illustrated on Drawing No. 1. The borehole logs are also included in the appendix of this report.

Based on the borehole logs, the subsoil in the vicinity of the slope consist of a stratum of silty clay till overlying a deposit of silt. The consistency of the silty clay till is generally stiff to hard with the firm soil generally restricted to the surficial weathered zone; the compactness of the silt is generally very dense.

Groundwater was not recorded on completion of drilling at Borehole 101 due to the use of water and mud to assist drilling. Groundwater was recorded at El. 232.2 m on completion in Borehole 102. Monitoring wells were installed in both boreholes, and the recorded groundwater are noted between El. 232.3 m and El. 234.1 m during the period of January 22 and February 12, 2026.

SLOPE STABILITY ASSESSMENT

Modeling

A total of 3 cross-sections (Cross-Sections A-A to C-C) were selected for the slope stability assessment. The surface profiles of the cross-sections are interpreted from the LiDAR elevation contours and the locations of the cross-sections are illustrated on Drawing No. 1.

The subsurface profiles are interpreted from the aforementioned borehole logs. Relevant groundwater level measured upon completion of field work were incorporated into the analysis as a phreatic surface.

The slope stability was analyzed using limit-equilibrium criteria of the Bishop Method using a computer-aided software, SLIDE 2, developed by Roscience Inc., with the effective soil strength parameters shown in the following table.

Strength Parameters For Slope Stability Analysis			
	γ (kN/m^3)	c' (kPa)	ϕ' (degrees)
Silty Clay Till	22.0	5	30
Silt	21.0	0	30

Slope Stability Results

The slope stability analysis results are summarized in the table below. The results indicate that the slope at Cross-Sections has a minimum factor of safety (FOS) 1.08 to 1.34 respectively, which fails to meet the Ontario Ministry of Natural Resources (OMNR) guideline requirements for active land use (minimum FOS 1.5). The results of the existing condition of the slope at the cross-sections are illustrated on Drawing Nos. 2a, 3a and 4a.

As such, in order to determine the LTSTOS, the slope sections were remodelled using stable slope gradient varying between 2.5H to 3.0H:1V. It should be noted that given the bottom of slope is more than 15 m away from the creek bank, thus, a Toe Erosion Allowance is not required.

After applying the remodelled slope gradient, the cross-sections were reanalyzed and yielded minimum FOSs of 1.51 to 1.53 meeting the OMNR requirements. The results of the stable condition of the slope at the cross-sections are illustrated on Drawing Nos. 2b, 3b and 4b.

Slope Stability Analysis Results

Cross-Section	Existing Gradient (H:V)	Existing FOS	Stable Gradient (H:V)	Stable FOS	Toe Erosion Allowance (m)
A-A	1.0 to 3.2:1	1.14[b]	2.8:1	1.51[b]	N/A
B-B	1.9 to 4.3:1	1.13[a]/1.34[b]	3:1	1.51[a]/1.53[b]	N/A
C-C	1.4 to 3.4:1	1.08[a]/1.15[b]	2.5:1	1.51[b]	N/A

[a] Local failure FOS
[b] Global failure FOS

The resulting LTSTOS, incorporating the specified stable gradient component is established and illustrated on Drawing No. 1.

Lastly, a development setback buffer for man-made and environmental degradation of the bank will be required. This is subject to the discretion of the Toronto and Region Conservation Authority (TRCA).

In order to prevent the disturbance of the existing bank, the following geotechnical constraints should be stipulated:

1. The prevailing vegetative cover must be maintained, since its extraction would deprive the bank of the rooting system that is reinforcement against soil erosion by weathering. If for any reason the vegetation cover is stripped during construction, it must be reinstated to its original, or better than its original, protective condition.
2. The topsoil cover on the bank face should not be disturbed, since this provides insulation and screening against frost wedging and rainwash erosion.
3. Grading of the land adjacent to the bank must be such that concentrated runoff is not allowed to drain onto the bank face. Landscaping features which may cause runoff to pond at the top of the bank and/or saturate the crown of the bank must not be permitted.
4. Where development is carried out near the top of the slope, there are other factors to be considered related to possible human environmental abuse. These include, but not limited to, soil saturation from maintenance of landscaping features, stripping of topsoil or vegetation and dumping of loose fill over the bank. These actions must be prohibited.

The above recommendations are subject to the approval and requirements of the TRCA.

We trust this letter satisfies your present requirements; however, should any queries arise, please feel free to contact this office.

Yours truly,
SOIL ENGINEERS LTD.

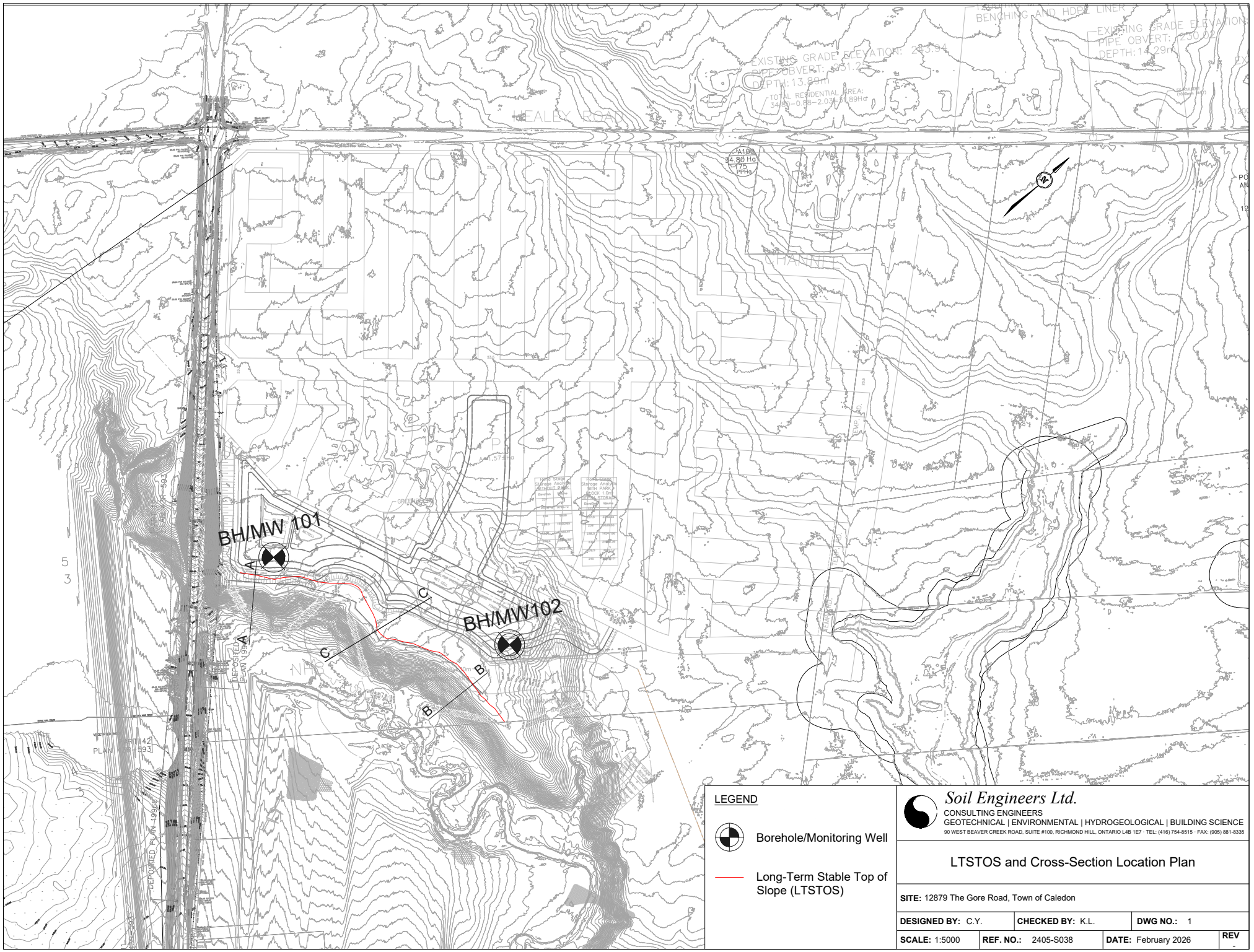
Sze Wing Yu, B.Eng.
SY/KFL

Kin Fung Li, P.Eng.

LICENSED PROFESSIONAL ENGINEER
March 3, 2026
K F LI
100169280
PROVINCE OF ONTARIO

ENCLOSURES

Borehole and Cross-Section Location Plan	Drawing No. 1
Slope Stability Analysis	Drawing Nos. 2 to 4
Borehole Logs	Appendix



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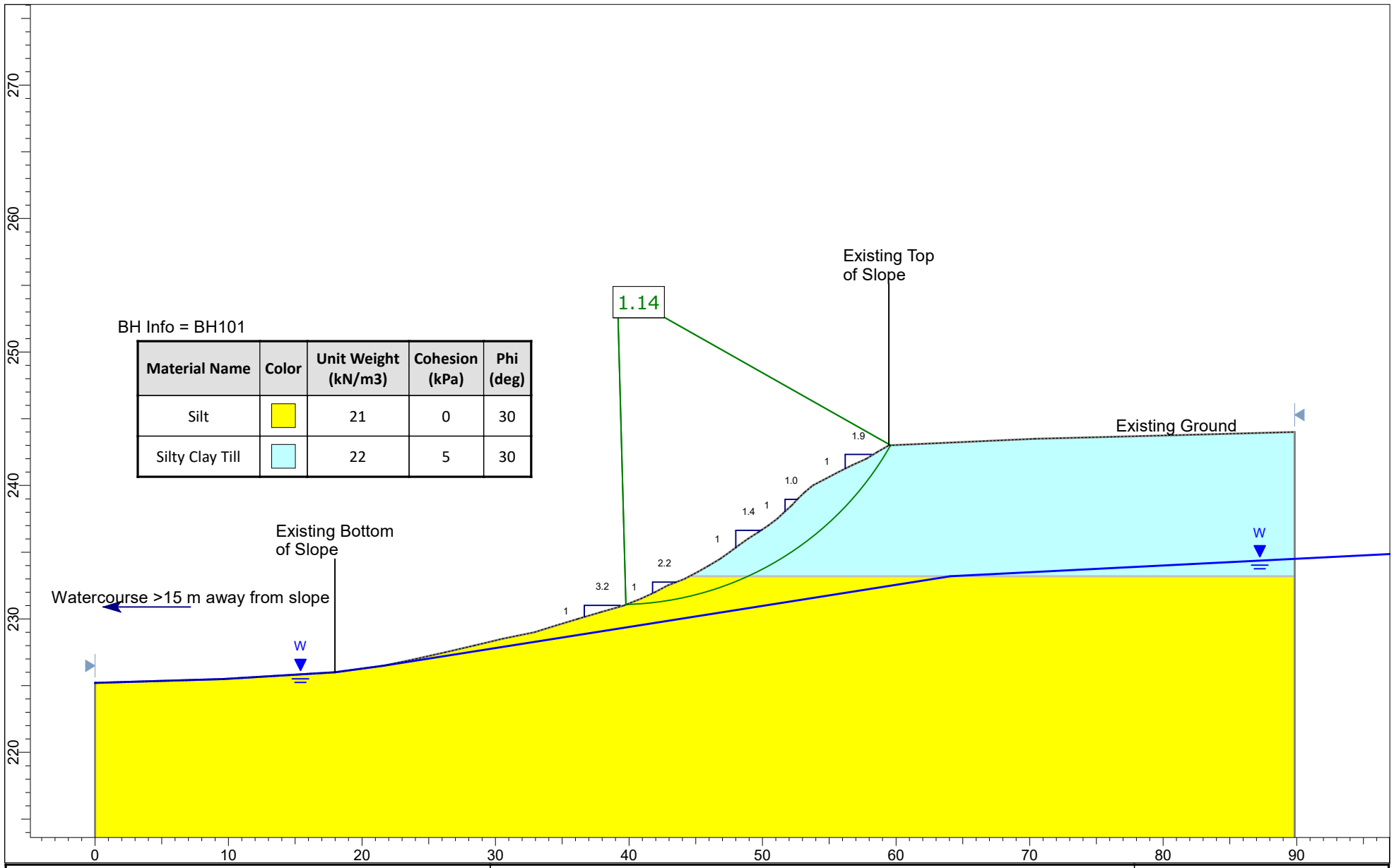
LTSTOS and Cross-Section Location Plan

SITE: 12879 The Gore Road, Town of Caledon

DESIGNED BY: C.Y.	**CHECKED BY:** K.L.	**DWG NO.:** 1	
SCALE: 1:5000	**REF. NO.:** 2405-S038	**DATE:** February 2026	**REV** -

BH Info = BH101

Material Name	Color	Unit Weight (kN/m3)	Cohesion (kPa)	Phi (deg)
Silt		21	0	30
Silty Clay Till		22	5	30



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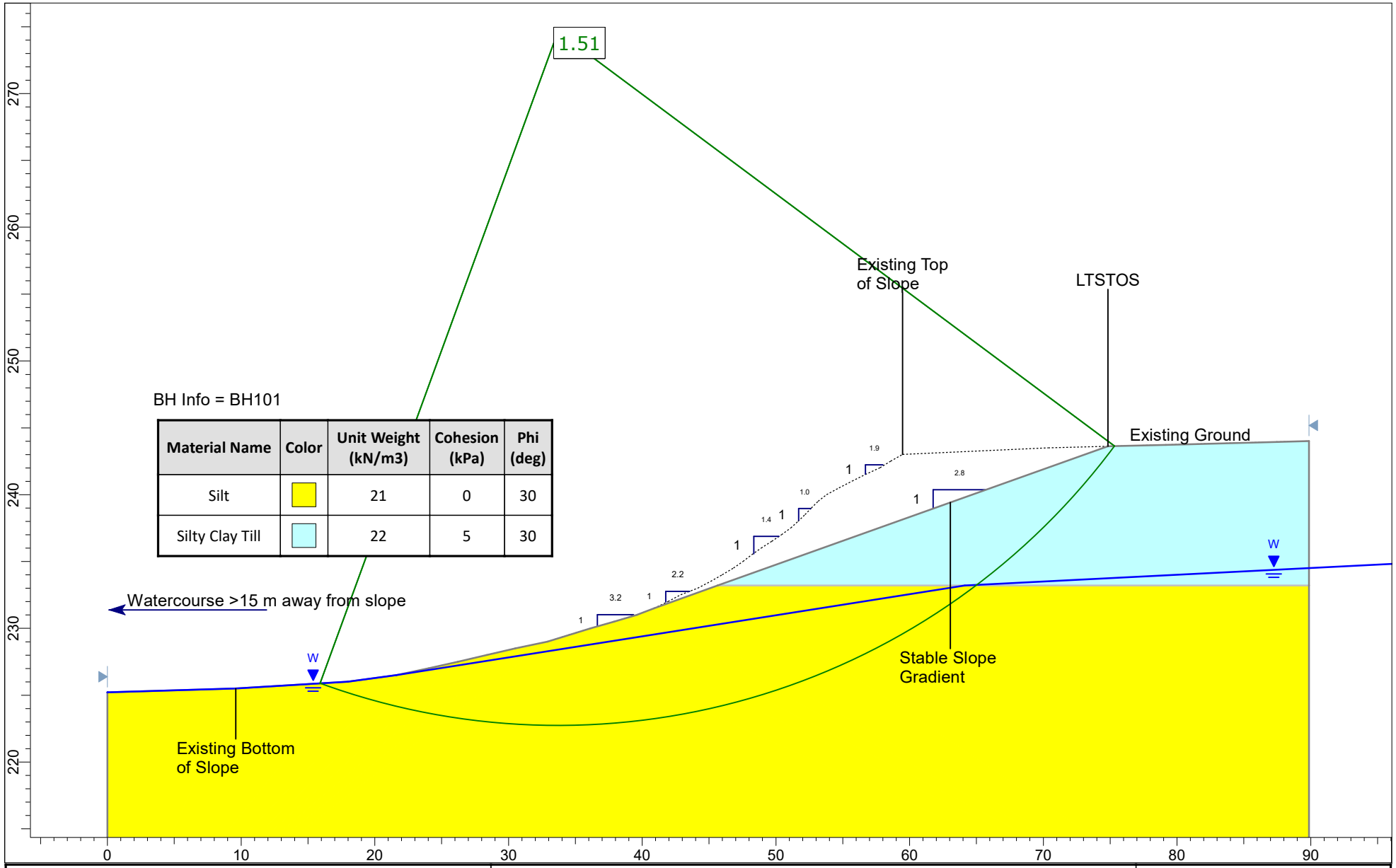
Project Title: Slope Stability Analysis: Cross Section A-A			Load Case: Existing Condition
Location: 12879 The Gore Road, Town of Caledon			
Drawn By: C.Y.	Checked By:	Scale: 1:400	Revision: -
Date: February 2026		Reference No.: 2405-S038	Drawing No.: 2a



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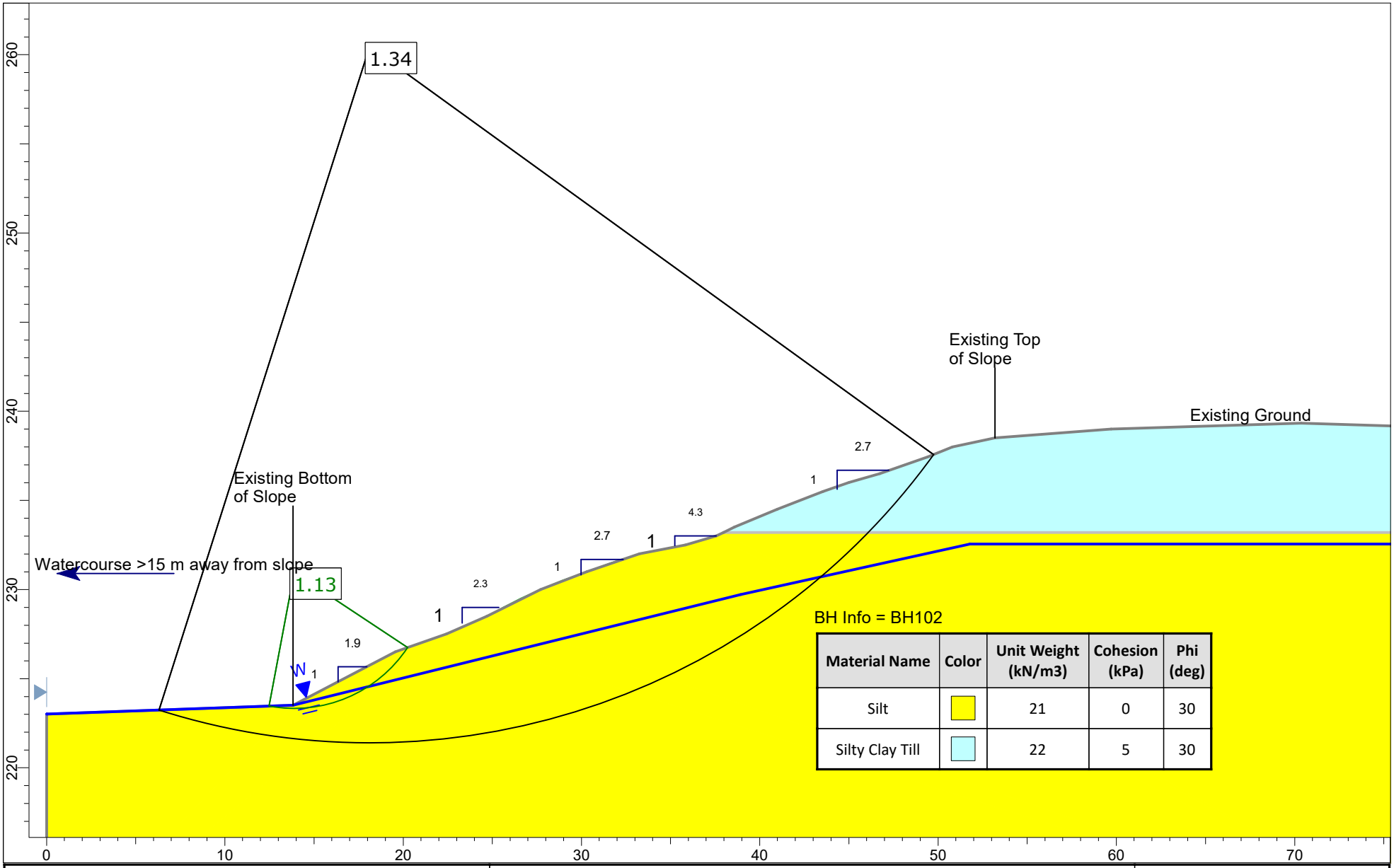
Project Title: Slope Stability Analysis: Cross Section A-A			Load Case: Stable Condition
Location: 12879 The Gore Road, Town of Caledon			
Drawn By: C.Y.	Checked By:	Scale: 1:400	Revision: -
Date: February 2026		Reference No.: 2405-S038	Drawing No.: 2b



BH Info = BH102

Material Name	Color	Unit Weight (kN/m3)	Cohesion (kPa)	Phi (deg)
Silt		21	0	30
Silty Clay Till		22	5	30

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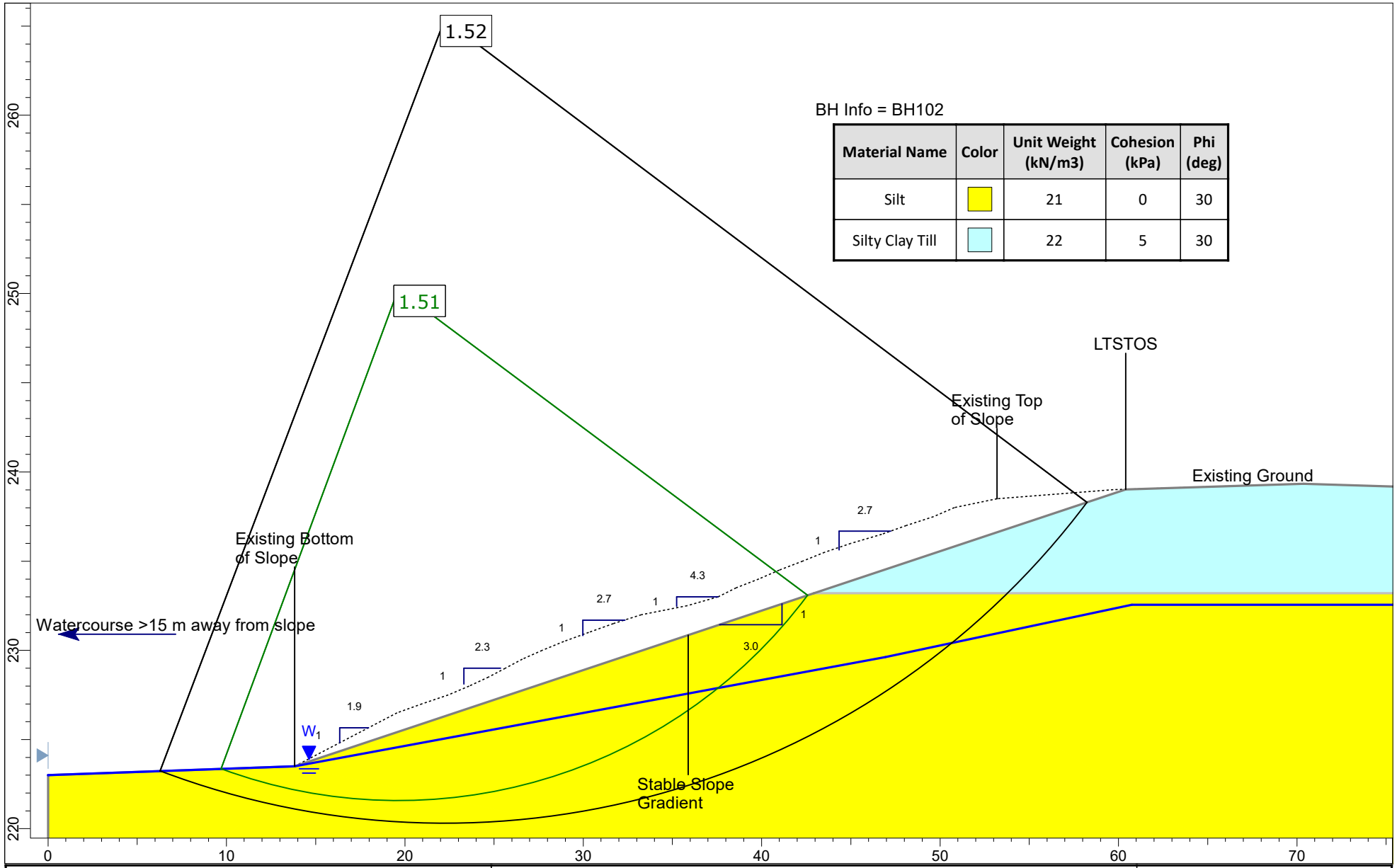
Project Title: Slope Stability Analysis: Cross Section B-B			Load Case: Existing Condition
Location: 12879 The Gore Road, Town of Caledon			
Drawn By: C.Y.	Checked By:	Scale: 1:300	Revision: -
Date: February 2026		Reference No.: 2405-S038	Drawing No.: 3a



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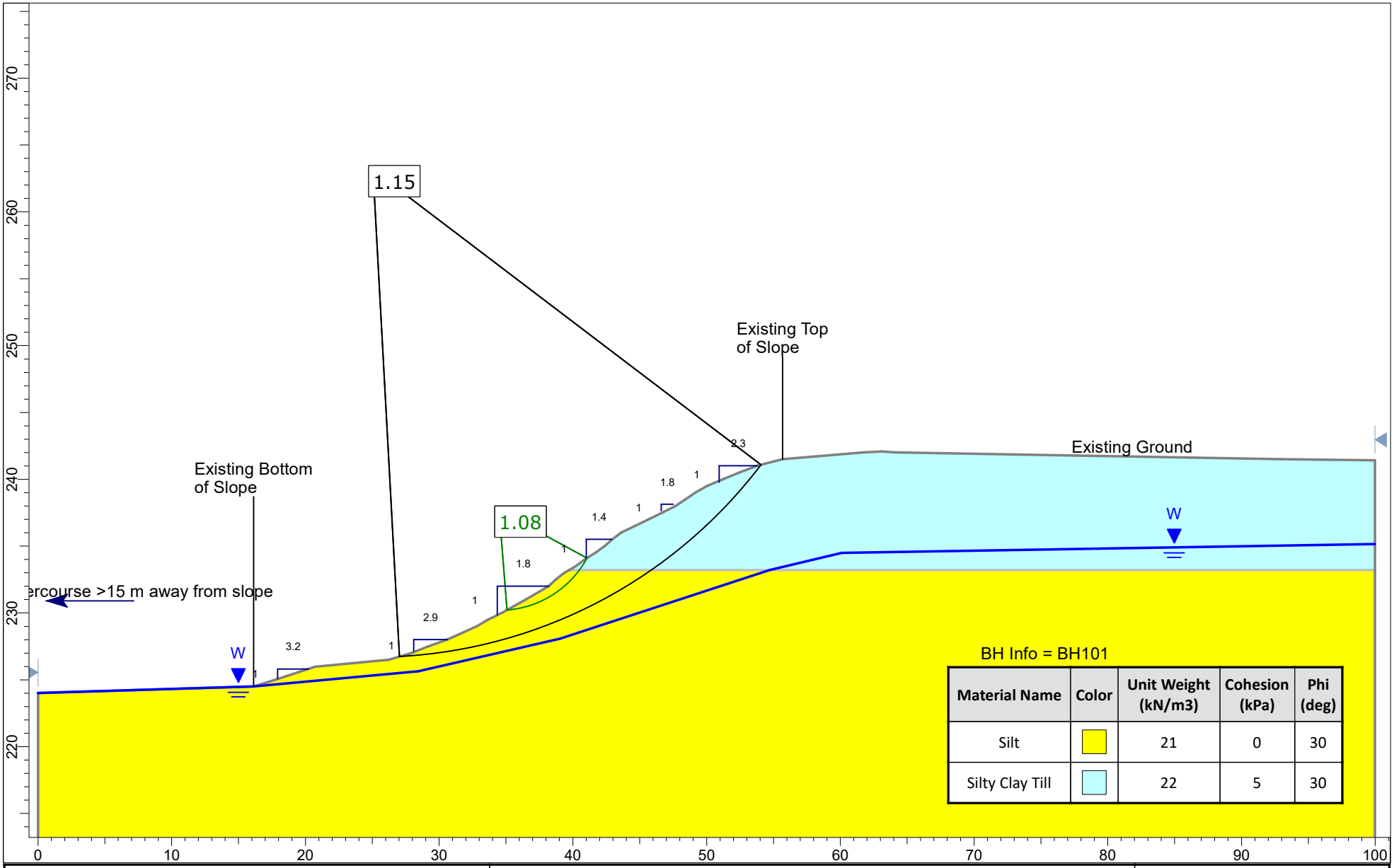
Project Title: Slope Stability Analysis: Cross Section B-B			Load Case: Stable Condition
Location: 12879 The Gore Road, Town of Caledon			
Drawn By: C.Y.	Checked By:	Scale: 1:300	Revision: -
Date: February 2026		Reference No.: 2405-S038	Drawing No.: 3b



BH Info = BH101

Material Name	Color	Unit Weight (kN/m3)	Cohesion (kPa)	Phi (deg)
Silt		21	0	30
Silty Clay Till		22	5	30

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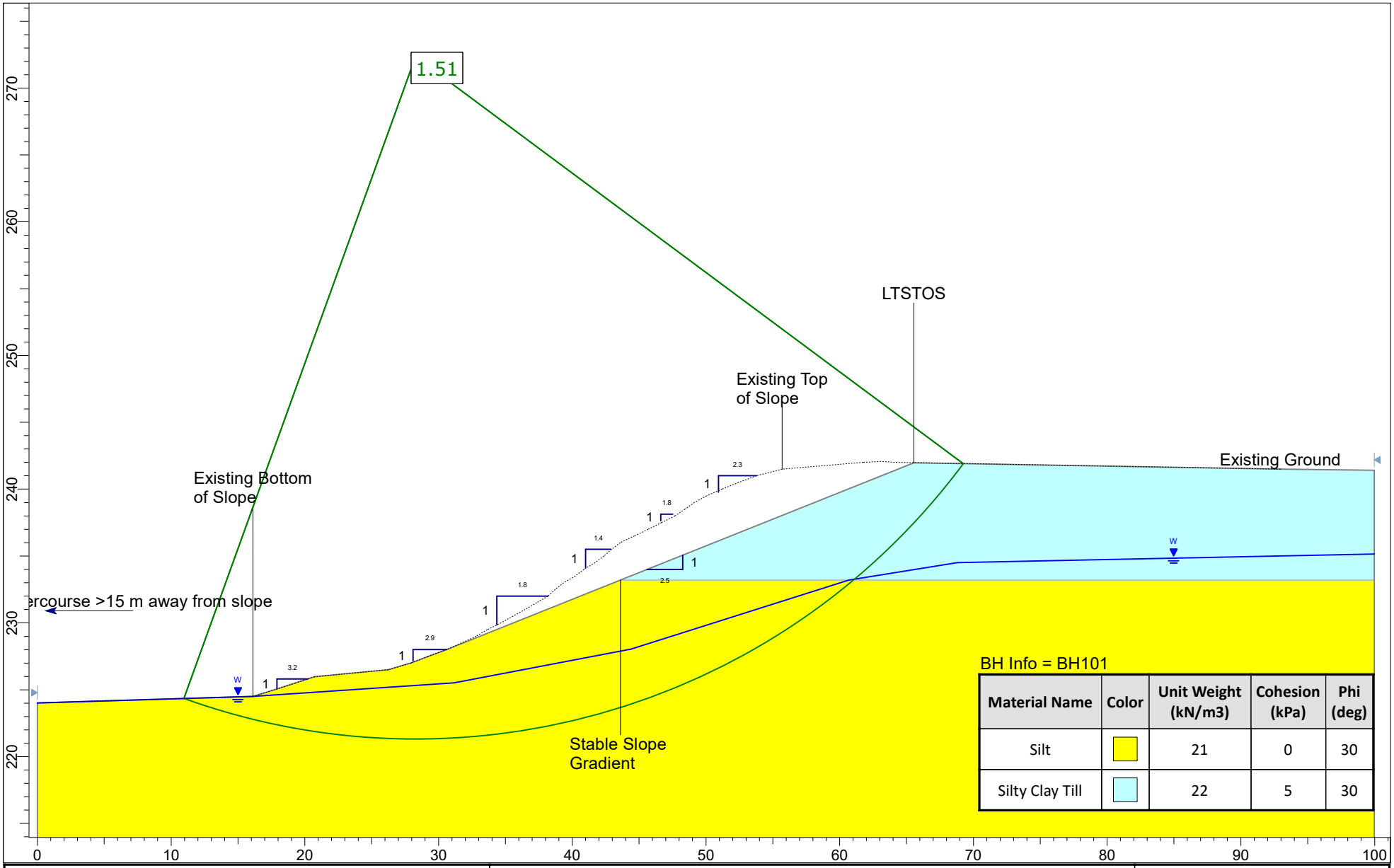
Project Title: Slope Stability Analysis: Cross Section C-C			Load Case: Existing Condition
Location: 12879 The Gore Road			
Drawn By: C.Y.	Checked By:	Scale: 1:400	Revision: -
Date: February 2026		Reference No.: 2405-S038	Drawing No.: 4a



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Project Title: Slope Stability Analysis: Cross Section C-C			Load Case: Stable Condition
Location: 12879 The Gore Road			
Drawn By: C.Y.	Checked By:	Scale: 1:400	Revision: -
Date: February 2026		Reference No.: 2405-S038	Drawing No.: 4b