REPORT ON

Slope Stability Assessment
Proposed Innis Lake Secondary Plan Area
Caledon, Ontario

PREPARED FOR:

Innis Lake Secondary Plan Area Landowners
c/o Mattamy (Innis Lake) Limited

Project No. 22-030-100/101 (Slope)
Date: February 27, 2026

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DRAWINGS

1. INTRODUCTION

DS Consultants Ltd. (DS) was retained by Innis Lake Secondary Plan Area Landowners c/o Mattamy (Innis Lake) Limited (the Client) to undertake a slope stability assessment for the proposed residential development located at Proposed Innis Lake Secondary Plan Area, Caledon, Ontario. At the time of writing this report, permission to enter was only obtained for the properties located at 12351 Innis Lake Road and 12250 Centreville Creek Road, Caledon, Ontario.

It is understood that stability assessment of two (2) slopes (West Slope and East Slope) to define the long-term stable top of slope (LTSTOS) at the site is required for the proposed development. The location of the West Slope is shown on **Drawing 1A,** and the location of the East Slope is shown on **Drawing 1B**.

DS carried out a preliminary geotechnical investigation for the proposed residential development, documented in the Geotechnical Report (No. 22-030-100/101) dated February 24, 2026. Twelve (12) boreholes (BH22-2, BH22-4 to BH22-7, BH22-9, BH22-10, BH25-5, BH25-7, BH25-9, BH25-14 and BH25-15) were drilled near the subject slopes. The borehole locations are shown on **Drawing 1A** and **Drawing 1B** and the logs of the boreholes (BH22-2, BH22-4 to BH22-7, BH22-9, BH22-10, BH25-5, BH25-7, BH25-9, BH25-14 and BH25-15) are attached in **Appendix I.**

The purpose of this study was to assess the stability of the existing slopes and long-term stable slopes based on the subsurface conditions at the borehole locations.

This report is provided on the basis of the terms of reference presented above and, on the assumption, that the design will be in accordance with the applicable codes and standards. If there are any changes in the design features relevant to the geotechnical analyses, or if any questions arise concerning the geotechnical aspects of the codes and standards, this office should be contacted to review the design. It may then be necessary to carry out additional borings and reporting before the recommendations of this office can be relied upon.

The site investigation and recommendations follow generally accepted practice for geotechnical consultants in Ontario. The format and contents are guided by client specific needs and economics. Laboratory testing for most part follows ASTM or CSA Standards or modifications of these standards that have become standard practice.

This report has been prepared for Innis Lake Secondary Plan Area Landowners c/o Mattamy (Innis Lake) Limited and its designers and Toronto and Region Conservation Authority (TRCA). Third party use of this report without DS consent is prohibited.

2. SOIL AND GROUNDWATER CONDITIONS

As indicated above, DS carried out a preliminary geotechnical investigation for the proposed residential development, documented in the Geotechnical Report (No. 22-030-100/101) dated February 24, 2026.

Twelve (12) boreholes (BH22-2, BH22-4 to BH22-7, BH22-9, BH22-10, BH25-5, BH25-7, BH25-9, BH25-14 and BH25-15) were drilled near the subject slopes. The subsurface conditions in these boreholes are presented in the individual borehole logs in **Appendix I**.

The soil and groundwater conditions in the boreholes (BH22-2, BH22-4 to BH22-7, BH22-9, BH22-10, BH25-5, BH25-7, BH25-9, BH25-14 and BH25-15) are briefly summarized as follows.

2.1 Soil Conditions

Topsoil and Fill

A layer of topsoil, varying in thickness from 200 to 300 mm, was present at the surface of all boreholes.

Fill material consisting of clayey silt to silty clay was encountered in all boreholes and extended to depths ranging from 0.8 to 2.9 m below existing grade. The fill material contained trace topsoil, wood pieces and organics. The SPT 'N' values measured in clayey silt to silty clay fills ranged from 5 to 15 blows per 300 mm of penetration indicating a firm to very stiff consistency.

Silty Clay to Clayey Silt Till:

Silty clay to clayey silt till deposits were encountered below fill material in all boreholes and extended to depths ranging from 2.3 to 6.6 m below existing grade. The silty clay to clayey silt till deposits were present in a stiff to hard consistency, with measured SPT 'N' values ranging from 8 to more than 50 blows per 300 mm of penetration. Cobbles/boulders were inferred within the till deposits during drilling.

Silty sand till (pocket) was encountered overlying clayey silt till/shale complex in BH22-10 and extended to a depth of 6.3 m below exiting grade, with a thickness of about 0.2 m. The silty sand till was present in a very dense state, with a measured SPT 'N' value of 62 blows per 300 mm of penetration.

Grain size analyses of five (5) soil samples from clayey till (BH22-10/SS5, BH25-5/SS2, BH25-5/SS6, BH25-9/SS6 and BH25-14/SS5) were conducted and the results are provided on the respective borehole logs, with the following fractions:

Clay: 38 to 54%
Silt: 38 to 46%
Sand: 7 to 13%
Gravel: 0 to 3%

Atterberg limits tests of three (3) soil samples from clayey till (BH22-10/SS5, BH25-5/SS2 and BH25-9/SS6) were conducted. The results are shown on the borehole logs and are summarized as follows:

Liquid limit (W_L): 32.7 to 43.5 %
Plastic limit (W_P): 16.3 to 20.5%
Plasticity index (PI): 16.4 to 23.0

Clayey Silt/Clayey Silt to Silt:

Clayey silt/clayey silt to silt was encountered below silty clay till in BH22-6, BH25-5, BH25-9 and BH25-15, extending to depths of 6.6 to 7.6 m below existing grade. The clayey silt/clayey silt to silt was present in a hard consistency, with measured SPT 'N' values of 37 to greater than 50 blows per 300 mm of penetration.

Grain size analysis of one (1) clayey silt to silt sample (BH25-15/SS7) was conducted and the results are provided on the respective borehole log, with the following fractions:

Clay: 18%
Silt: 80%
Sand: 2%
Gravel: 0

Clayey Silt Till / Shale Complex:

What is described as 'clayey silt till/shale complex' consists of a rather heterogeneous, hard silty clay matrix containing extensive broken bedrock (shale, limestone and siltstone) slabs and fragments. This stratum was reportedly difficult to auger due to the fragmented shale/limestone/siltstone content and given its hard condition. This complex is a transitional deposit between bedrock and the overlying clayey silt till or may be the completely to highly weathered bedrock. This deposit has characteristics of both the shale/limestone/siltstone bedrock and silty clay.

Clayey silt till/shale complex was found in boreholes BH22-2, BH22-4, BH22-5, BH22-9 and BH22-10. The clayey silt till/shale deposit was found to have generally a hard consistency, with measured SPT 'N' values over 50 blows per 300 mm of penetration.

Shale Bedrock:

Based on the observation of the shale fragments retrieved from sampler, probable weathered shale/shale bedrock was encountered in boreholes BH22-5, BH25-7 and BH25-14 at depths ranging from 2.3 m to 6.1 m below existing grade. Rock coring was conducted from depths of 9.2 to 12.2 m in borehole BH25-15. The approximated depths and elevations of shale bedrock surface are presented in **Table 1** below.

Table 1: Approximate Depth and Elevation of Shale Bedrock Surface

Borehole No.	Borehole Elevation	Depth of Shale Bedrock Surface below Existing Ground (m)	Approximate Elevation of Shale Bedrock Surface (m)	Notes
BH22-5	230.2	6.1	224.1	Bedrock was augered from 6.1 to 6.2 m
BH22-7	232.5	6.1	226.4	Bedrock was augered from 6.1 to 6.2 m
BH25-7	228.7	2.3	226.4	Bedrock was augered from 2.3 to 6.2 m
BH25-14	232.3	4.6	227.7	Bedrock was augered from 4.6 to 9.2 m
BH25-15	226.4	7.6	218.8	Bedrock was augered and cored from 7.6 to 12.2 m

2.2 Groundwater Conditions

Groundwater levels were recorded on March 31, 2022 and April 1, 2025, at depths ranging from 1.0 to 6.1 m below the existing grade, corresponding to Elevations 221.2 to 233.1 m. The monitoring well in BH25-5 were dry on April 1, 2025. The groundwater levels measured in the monitoring wells are summarized in **Table 2**.

Table 2: Summary of Groundwater Level Measurements in Monitoring Wells

Borehole No.		Ground Surface Elev. (m)	Date of Observation	Depth of Groundwater (m)	Elevation of Groundwater (m)
BH22-2		235.0	March 31, 2022 April 1, 2025	1.9 2.7	233.1 232.3
BH22-4		232.3	March 31, 2022	6.1	226.1
BH22-7		232.5	March 31, 2022 April 1, 2025	3.4 3.4	229.1 229.1
BH22-10		230.7	March 31, 2022 April 1, 2025	4.1 4.1	226.5 226.5
BH25-5		232.3	April 1, 2025	Dry	-
BH25-7		228.7	April 1, 2025	1.5	227.2
BH25-9		229.9	April 1, 2025	2.3	227.6
BH25-14	Deep Well	232.3	April 1, 2025	3.9	228.4
	Shallow Well			1.2	231.1
BH25-15	Deep Well	226.4	April 1, 2025	5.2	221.2
	Shallow Well			1.0	225.4

It should be noted that the groundwater levels can vary and are subject to seasonal fluctuations in response to major weather events. Further groundwater monitoring must be carried out to confirm the groundwater conditions.

3. SLOPE STABILITY ASSESSMENT

The locations of West Slope and East Slopes are shown on **Drawing 1A** and **Drawing 1B**. It is understood that assessment of the slopes to define the long-term stable top of slope is required for the proposed residential development.

3.1 Slope Conditions and Profiles

Site visits were made on October 27 and December 1, 2025 by a senior geotechnical engineer from DS Consultants Ltd. to visually inspect the slope conditions.

Selected photographs (Photos 1 to 18) for West Slope taken during our site visit are presented in **Appendix II**, showing the slope and creek conditions. Selected photographs (Photos 1 to 20) for East Slope taken during our site visit are presented in **Appendix III**, showing the slope and creek conditions.

For the purposes of discussion, the creek right bank/slope is considered as the side on the right hand when facing the upstream.

3.1.1 West Slope

No significant slope was observed at the creek right side and some locations of creek left side. The slope stability analyses were carried out at the locations where slopes were visible (steeper than 6H:1V).

A total of eight (8) slope profiles (A-A to H-H) of West Slope are derived from the provided survey drawing. The locations of the slope profiles A-A to H-H are shown on **Drawing 1A**. The slope profiles A-A to H-H are presented on **Drawing 2** to **Drawing 9.**

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

- A creek/watercourse was located near the West Slope, running from northwest to southeast. At the time of site visit/inspection, no water or a little water was observed in the creek/watercourse.
- Generally, no significant slope was observed at the creek right side and some locations of the creek left side.
- As indicated in the slope profiles (Drawings 2 to 9), the height of the slope at creek left side ranged from approximately 2.0 to 5.5 m. The typically heights of slopes were about 2.5 to 3.5 m. The steepness of the creek right bank/slope at the locations of Sections A-A to H-H varied from 2.07H:1V to 4.56H:1V
- The slopes were covered with trees, grasses and other vegetation (see Photos in Appendix II) and were generally well protected from surface erosion.
- No seepage from the slope surface was found during the site visit. No evidence of slope failures was observed during our site visit.

3.1.2 East Slope

A total of twenty (20) slope profiles (1-1 to 20-20) of East Slope are derived from the provided survey drawing. The locations of the slope profiles 1-1 to 20-20 are shown on **Drawing 1B**. The slope profiles 1-1 to 20-20 are presented on **Drawing 10** to **Drawing 29.**

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

- A creek/watercourse was located near the East Slope, running from north to south. At the time of site visit/inspection, no water or a little water was observed in the creek/watercourse.
- As indicated in the slope profiles (Drawings 10 to 29), the height of the slope varied from approximately 1.0 to 7.5 m. The typically heights of slopes were about 3 to 5 m. The steepness of the slope varied from approximately 1.73H:1V to flatter than 6H:1V.
- The slopes were covered with trees, grasses and other vegetation (see Photos in Appendix III) and were generally well protected from surface erosion.

- No seepage from the slope surface was found during the site visit. No evidence of slope failures was observed during our site visit.

3.2 Erosion Conditions

In accordance with the Provincial Guidelines entitled "Understanding Natural Hazards" and according to the soil/bedrock and creek conditions, it is our opinion that a toe erosion allowance of 5 m is required for slope toe consisting of very stiff to hard silty clay till or shale bedrock to determine the setback of the long-term stable slope.

3.2.1 West Slope

Based on the soil/bedrock and creek conditions encountered at West Slope, erosion allowance of 5 m is applied at all locations (Cross Sections A-A to H-H) where the slope toe consists of very stiff to hard silty clay till and/or shale bedrock.

3.2.2 East Slope

Based on the soil/bedrock and creek conditions encountered at East Slope, erosion allowance of 5 m is applied at the Cross-Sections 1-1, 5-5 (left side), 9-9 (left side), 10-10 (left side), 12-12 (left side), 14-14 (left side), 15-15 (left side), 17-17 (right side), 18-18 (left side), and 20-20 (left side), where the slope toe consists of very stiff to hard silty clay till and/or shale bedrock. Erosion allowance is not required at the remainder sections as the creek/water course is located more than 5 m away from the toe of slope.

3.3 Soil Parameters

Based on the boreholes (BH22-2, BH22-4 to BH22-7, BH22-9, BH22-10, BH25-5, BH25-7, BH25-9, BH25-14 and BH25-15, see **Appendix I**), soil parameters used in the slope stability analyses in the following sections are given on **Table 3**.

Table 3: Soil Parameters for Long-term Slope Stability Analyses

Soil Type	Unit Weight (kN/m^3)	Cohesion c' (kPa)	Friction Angle ϕ' (degree)
Clayey fill (clayey silt to silty clay soil)	19.5	1	28
Clayey soils (stiff to hard silty clay to clayey silt till, till/shale complex)	21	5	30
Shale bedrock	23	500	30

The cohesion of the shale bedrock presented on Table 3 is considered conservative, which is only used for the purpose of slope stability analyses in this report

3.4 Stability Analyses of Existing Slope

3.4.1 West Slope

Eight (8) slope profiles of the existing slopes at Sections A-A through H-H (see **Drawing 1A** for locations) were derived from the topographic drawing provided to us by the client. The slope profiles are shown in **Drawings 2** to **9.**

In order to assess the stability of the existing slopes at the site, stability analyses have been carried out for the typical (steepest) existing creek left bank/slope at Section C-C. The existing creek left bank/slope at Section C-C are about 2.07H:1V in steepness.

Long-term stability analyses of the existing creek left bank/slope at Section C-C have been carried out with the computer program SLIDE (Version 2018) using the Bishop method, Janbu method and Morgenstern-Price method. The analysis results are presented in **Drawing 30**.

The calculated factor of safety (FS) of the existing creek left bank/slope (about 2.07:1V) at Section C-C is FS=1.600 (see **Drawing 30**), which is greater than the minimum acceptable value of 1.5.

However, as previously noted, erosion allowance of 5 m is required at all Cross Section locations. The long-term stable slope analysis of Cross-Section C-C is carried out in the Section 3.5.1.

3.4.2 East Slope

Twenty (20) slope profiles of the existing slopes at Sections 1-1 through 20-20 (see **Drawing 1B** for locations) were derived from the topographic drawing provided to us by the client. The slope profiles are shown in **Drawings 10** to 2**9.**

In order to assess the stability of the existing slopes at the site, stability analyses have been carried out for the typical (steepest) existing creek left bank/slope at Section 9-9. The existing creek left bank/slope at Section 9-9 are about 1.73H:1V in steepness.

Long-term stability analyses of the existing creek left bank/slope at Section 9-9 have been carried out with the computer program SLIDE (Version 2018) using the Bishop method, Janbu method and Morgenstern-Price method. The analysis results are presented in **Drawing 31**.

The calculated factor of safety (FS) of the existing creek left bank/slope (about 1.73:1V) at Section 9-9 is FS=1.399 (see **Drawing 31**), which is less than the minimum acceptable value of 1.5. Therefore, the existing slope at Section 9-9 is considered not stable in terms of long-term stability based on TRCA's requirements

3.5 Analyses of Long-term Stable Slope

3.5.1 West Slope

In order to determine the long-term stable slopes at Cross-Sections C-C, analysis of the modified 2H:1V slope with 5 m of long-term toe erosion allowance at the Cross-Section C-C has been carried out. The results are presented in **Drawing 32**. The calculated factor of safety (FS) value of the slope in **Drawing 32** is FS=1.684, which is greater than the minimum acceptable value of 1.5. The 2H:1V slope with 5 m of long-term toe erosion allowance, as shown in **Drawing 32** (Section C-C), is considered stable in terms of long-term stability.

Based on the slope stability analysis results and the borehole information, it can be concluded that a 2H:1V slope with 5 m of long-term toe erosion allowance for West Slope is stable in terms of long-term stability.

3.5.2 East Slope

As discussed in **Section 3.4.2** above, the existing slope at Cross-Section 9-9 is considered not stable in terms of long-term stability.

In order to determine the long-term stable slopes at the site, analysis of the modified 2H:1V slope with 5m toe erosion allowance at Cross-Section 9-9 has been carried out. The results are presented in Drawing 33.

The long-term stability analysis results of the stable slope at Cross-Section 9-9 are presented on Drawing 33. The calculated factor of safety (FS) of the stable slope at Cross-Section 9-9 is FS=1.546 (see **Drawing 33**) at, which is greater than the minimum acceptable value of 1.5.

Based on the slope stability analysis results at Cross-Section 9-9, the slope of 2H:1V with 5 m of toe erosion allowance, as shown on **Drawing 33** (Cross-Section 9-9), is considered stable in terms of long-term stability.

3.6 Long-term Stable Top of Slope (LTSTOS)

3.6.1 West Slope

Based on the slope stability analysis results, the long-term stable top of slope at the cross sections of West Slope 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
- Point 'S6' on **Drawing 7** represents the long-term stable top of slope at Section F-F
- Point 'S7' on **Drawing 8** represents the long-term stable top of slope at Section G-G
- Point 'S8' on **Drawing 9** represents the long-term stable top of slope at Section H-H

Based on the long-term stable top of slope at Sections A-A to H-H, and according to our field observations, the long-term stable top of slope (LTSTOS) line (Line S1A-S1-S2-S3-…-S8-S8A) is shown on **Drawing 1A** for West Slope.

3.6.2 East Slope

Based on the slope stability analysis results, the long-term stable top of slope at the cross sections of East Slope are as follows:

- Point 'S9R' on **Drawing 10** represents the long-term stable top of slope at Section 1-1
- Point 'S10L' on **Drawing 11** represents the long-term stable top of slope at Section 2-2
- Points 'S11L' and 'S11R' on **Drawing 12** represent the long-term stable top of slope at Section 3-3
- Point 'S12R' on **Drawing 13** represents the long-term stable top of slope at Section 4-4
- Points 'S13L' and 'S13R' on **Drawing 14** represent the long-term stable top of slope at Section 5-5
- Points 'S14L' and 'S14R' on **Drawing 15** represents the long-term stable top of slope at Section 6-6
- Points 'S15L' and 'S15R' on **Drawing 16** represent the long-term stable top of slope at Section 7-7
- Points 'S16L' and 'S16R' on **Drawing 17** represent the long-term stable top of slope at Section 8-8
- Points 'S17L' and 'S17R' on **Drawing 18** represent the long-term stable top of slope at Section 9-9
- Points 'S18L' and 'S18R' on **Drawing 19** represent the long-term stable top of slope at Section 10-10
- Point 'S19L' on **Drawing 20** represents the long-term stable top of slope at Section 11-11
- Points 'S20L' and 'S20R' on **Drawing 21** represent the long-term stable top of slope at Section 12-12
- Points 'S21L' and 'S21R' on **Drawing 22** represent the long-term stable top of slope at Section 13-13
- Points 'S22L' and 'S22R' on **Drawing 23** represent the long-term stable top of slope at Section 14-14
- Points 'S23L' and 'S23R' on **Drawing 24** represent the long-term stable top of slope at Section 15-15
- Point 'S24L' on **Drawing 25** represents the long-term stable top of slope at Section 16-16

- Points 'S25L' and 'S25R' on **Drawing 26** represent the long-term stable top of slope at Section 17-17
- Point 'S26L' on **Drawing 27** represents the long-term stable top of slope at Section 18-18
- Points 'S27L' and 'S27R' on **Drawing 28** represent the long-term stable top of slope at Section 19-19
- Points 'S28L' and 'S28R' on **Drawing 29** represent the long-term stable top of slope at Section 20-20

Based on the long-term stable top of slope at Sections 1-1 to 20-20, and according to our field observations The long-term stable top of slope (LTSTOS) lines (Line S10L-S11L-S13L-S14L-S15L…-S28L-S28AL, Line S9R-S11R-S12R-S13R-S14R-S15R…-S18R-S18AR, and Line S20R-S21R-S22R-S23R-S25R-S27R-S28R-S28AR) are shown on **Drawing 1B** for East Slope.

This long-term stable top of slope (LTSTOS) lines must be reviewed by TRCA for their approval.

4. GENERAL COMMENTS AND LIMITATIONS OF REPORT

DS Consultants Ltd. (DS) should be retained for a general review of the final design and specifications to verify that this report has been properly interpreted and implemented. If not accorded the privilege of making this review, DS will assume no responsibility for interpretation of the recommendations in the report.

This report is intended solely for the Client named. The material in it reflects our best judgment in light of the information available to DS at the time of preparation. Unless otherwise agreed in writing by DS, it shall not be used to express or imply warranty as to the fitness of the property for a particular purpose. No portion of this report may be used as a separate entity, it is written to be read in its entirety.

The conclusions and recommendations given in this report are based on information determined at the test hole locations. The information contained herein in no way reflects on the environment aspects of the project, unless otherwise stated. Subsurface and groundwater conditions between and beyond the test holes may differ from those encountered at the test hole locations, and conditions may become apparent during construction, which could not be detected or anticipated at the time of the site investigation. The benchmark and elevations used in this report are primarily to establish relative elevation differences between the test hole locations and should not be used for other purposes, such as grading, excavating, planning, development, etc.

The design recommendations given in this report are applicable only to the project described in the text and then only if constructed substantially in accordance with the details stated in this report.

The comments made in this report on potential construction problems and possible methods are intended only for the guidance of the designer. The number of test holes may not be sufficient to determine all the factors that may affect construction methods and costs. For example, the thickness of surficial topsoil or fill layers may vary markedly and unpredictably. The contractors bidding on this project or undertaking

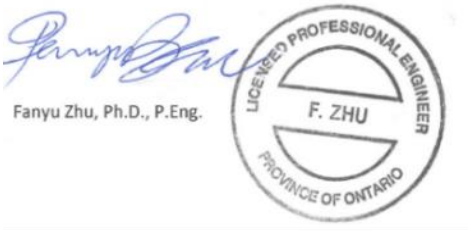
the construction should, therefore, make their own interpretation of the factual information presented and draw their own conclusions as to how the subsurface conditions may affect their work. This work has been undertaken in accordance with normally accepted geotechnical engineering practices.

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. DS accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. We accept no responsibility for any decisions made or actions taken as a result of this report unless we are specifically advised of and participate in such action, in which case our responsibility will be as agreed to at that time.

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

DS CONSULTANTS LTD

Derek Wang, P.Eng.
Senior Geotechnical Engineer



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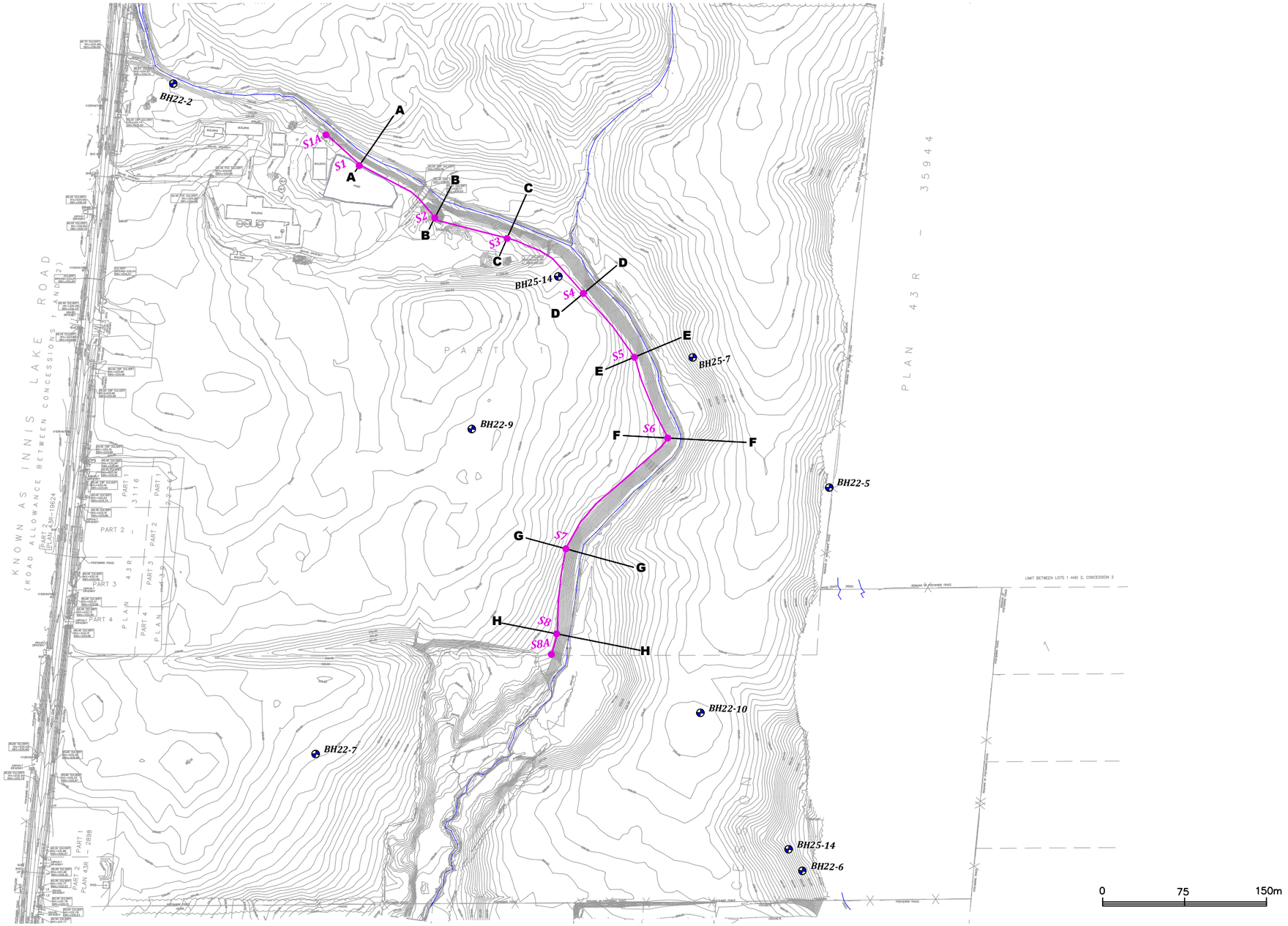
Principal Engineer

Drawings



S1A - S1..... - S8A
Long-Term Stable Top of Slope Line (LTSTOS Line)

Borehole/Monitoring Well Location

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Project: SLOPE STABILITY ASSESSMENT
Innis Lake Secondary Plan Area Landowners

Title: **SLOPE AND BOREHOLE LOCATION PLAN**

Client: INNIS LAKE SECONDARY PLAN AREA LANDOWNERS

Size:	Approved By:	Drawn By:	Date:
11 X 17	D.W	S.Y	February 2026
Rev.	Scale: As Shown	Project No: 22-030-100/101	Drawing No. 1A

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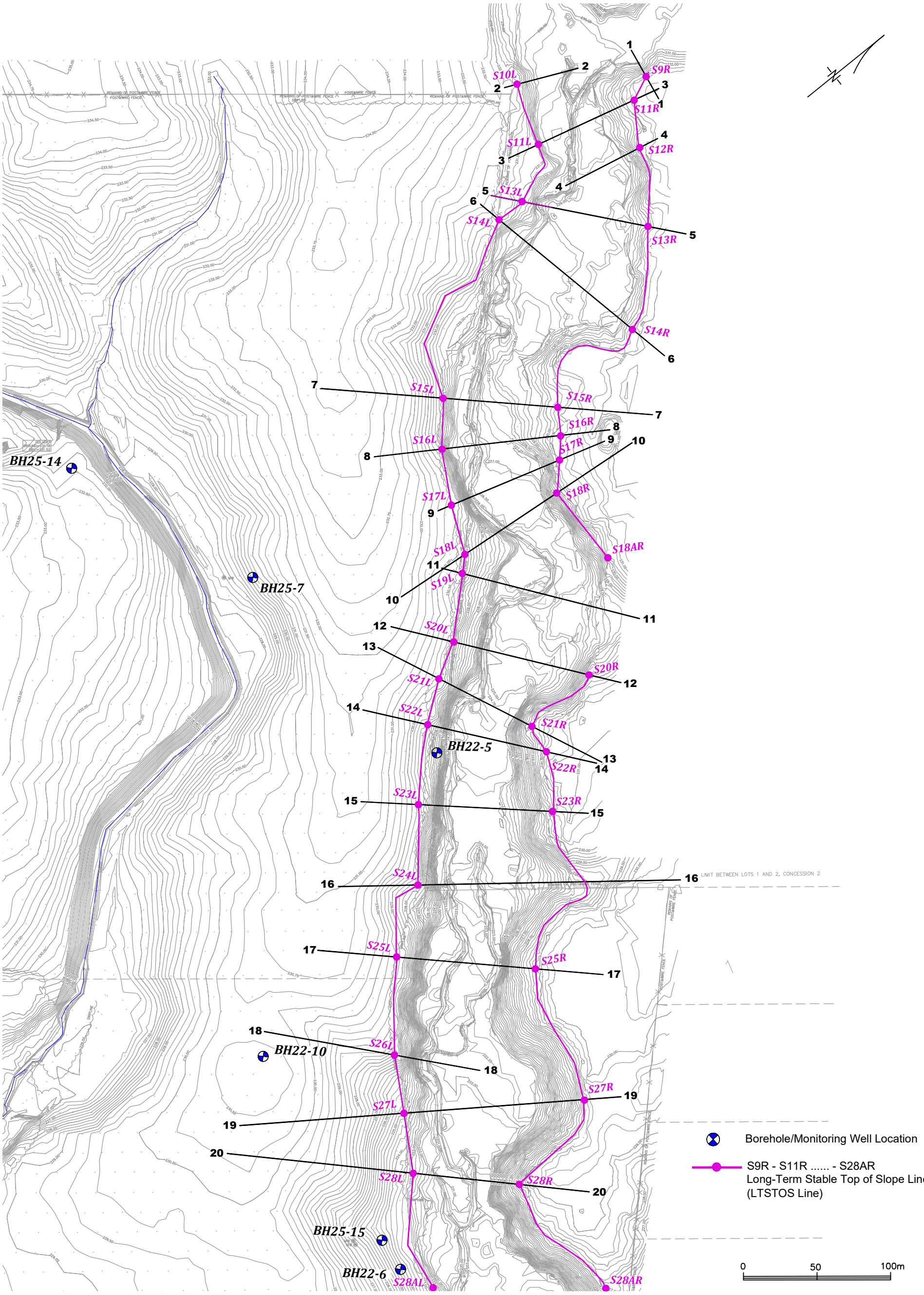

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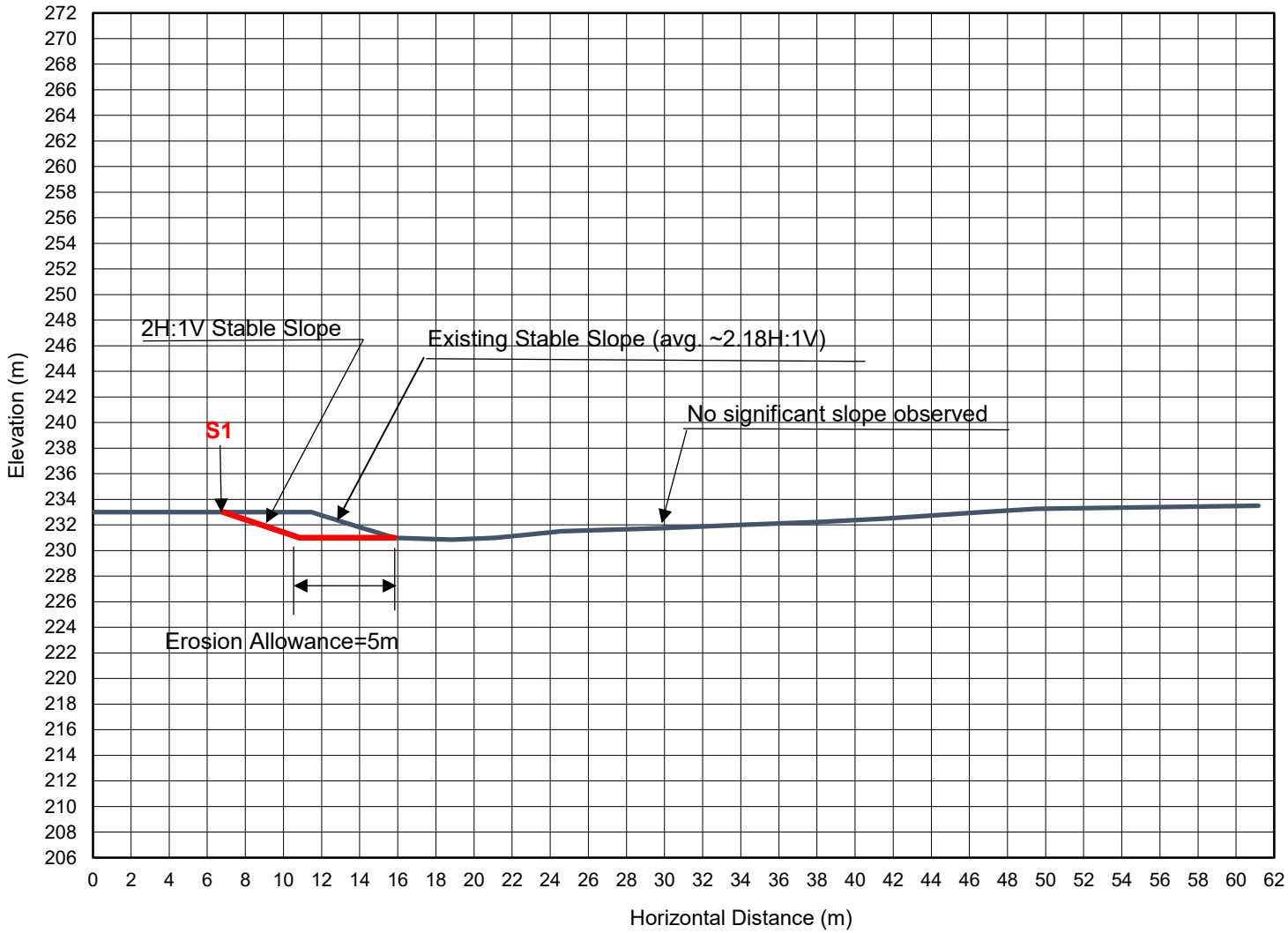
Project:
SLOPE STABILITY ASSESSMENT
Proposed Innis Lake Secondary Plan Area

Title:
SLOPE AND BOREHOLE LOCATION PLAN

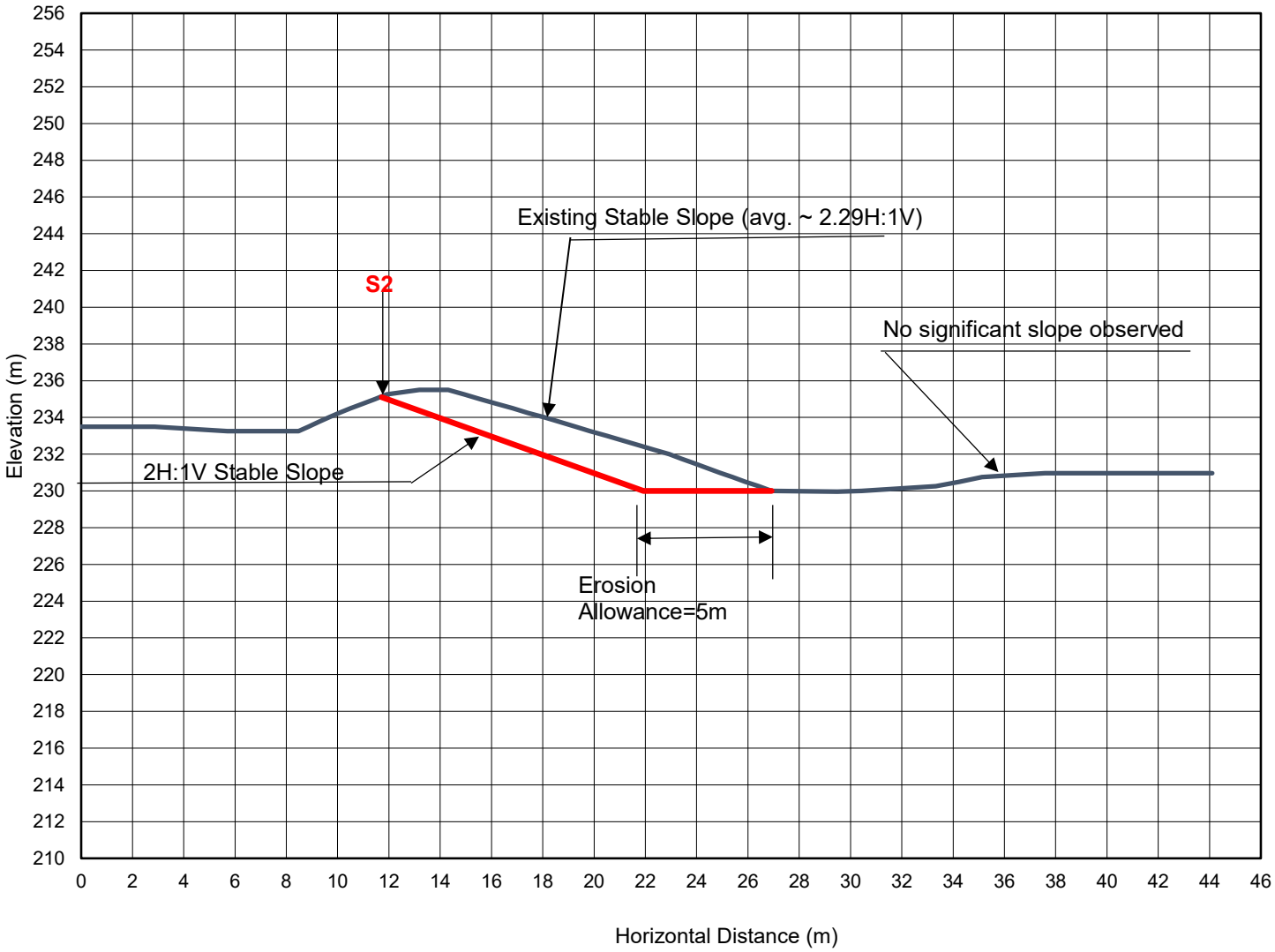
Client:
INNIS LAKE SECONDARY PLAN
AREA LANDOWNERS

Size:	Approved By:	Drawn By:	Date:
11 X 17	D.W	S.Y	February 2026
Rev.	Scale: As Shown	Project No: 22-030-100/101	Drawing No. 1B

Project: 22-030-100/101 - **Drawing 2**
Slope Profile at **Section A-A** (See Drawing 1A for Location Plan)
Point '**S1**': long-term stable top of slope (LTSTOS)



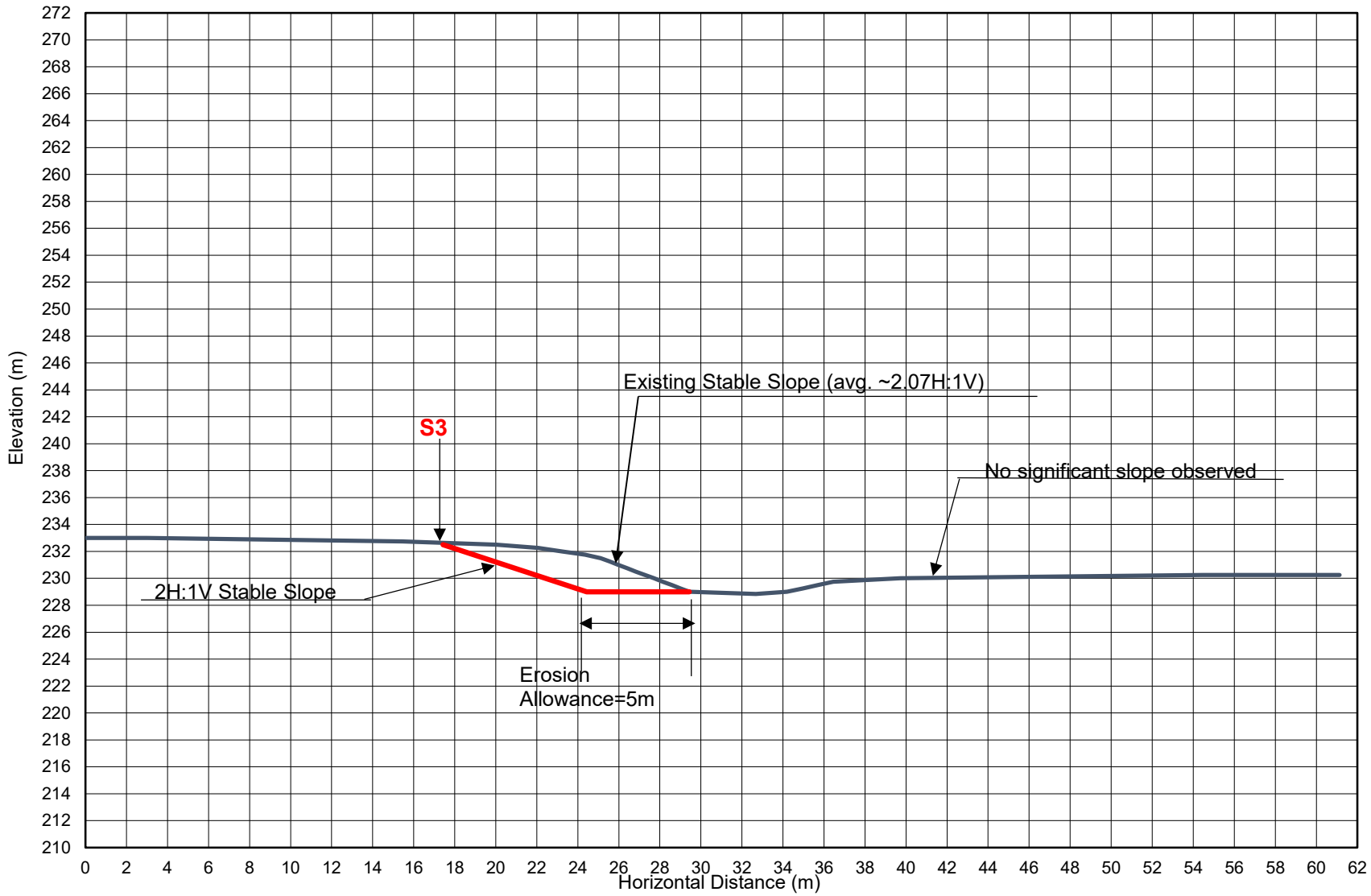
Project: 22-030-100/101 - **Drawing 3**
Slope Profile at **Section B-B** (See Drawing 1A for Location Plan)
Point **S2**': long-term stable top of slope (LTSTOS)



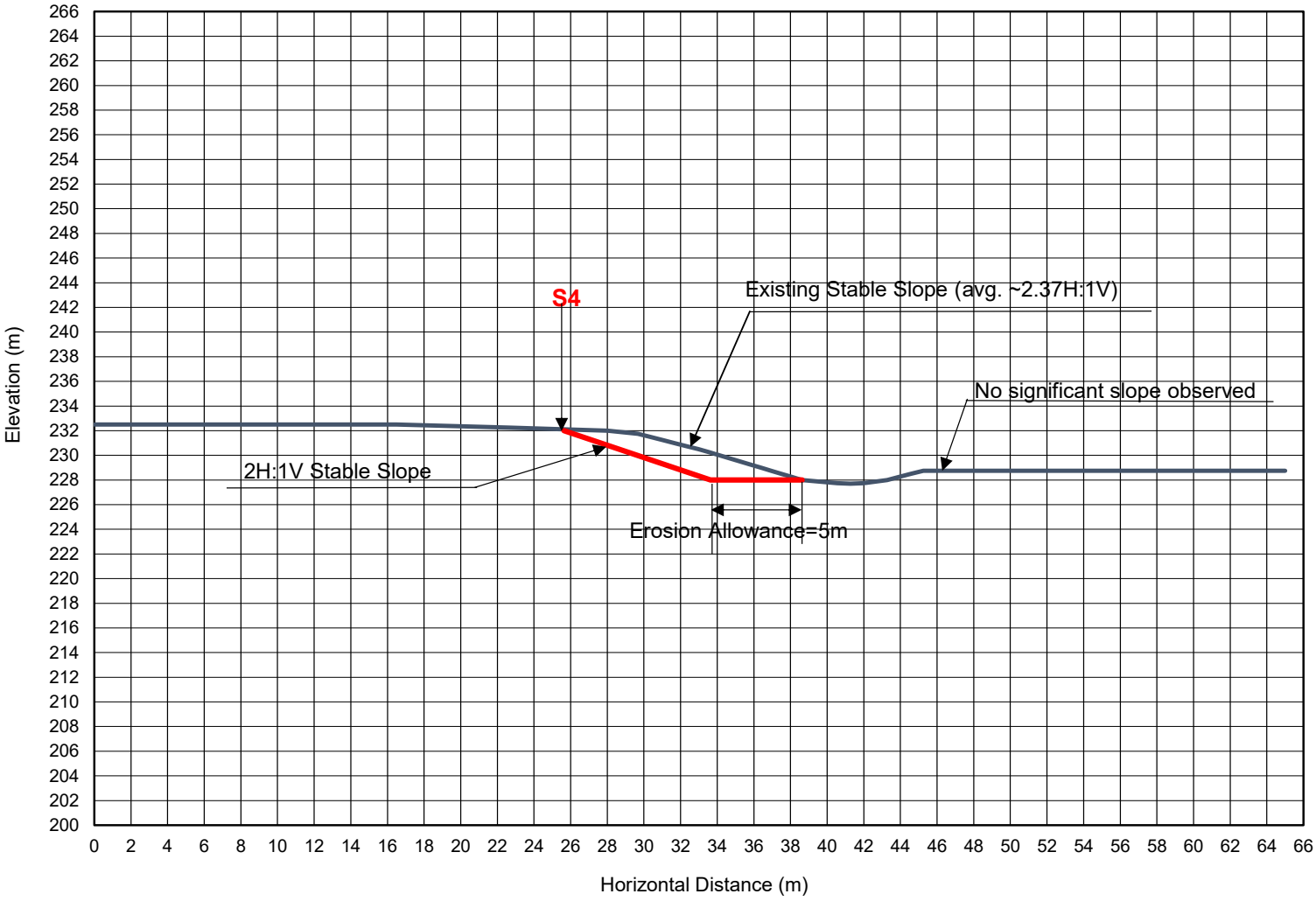
Project: 25-021-100/101 - **Drawing 4**

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

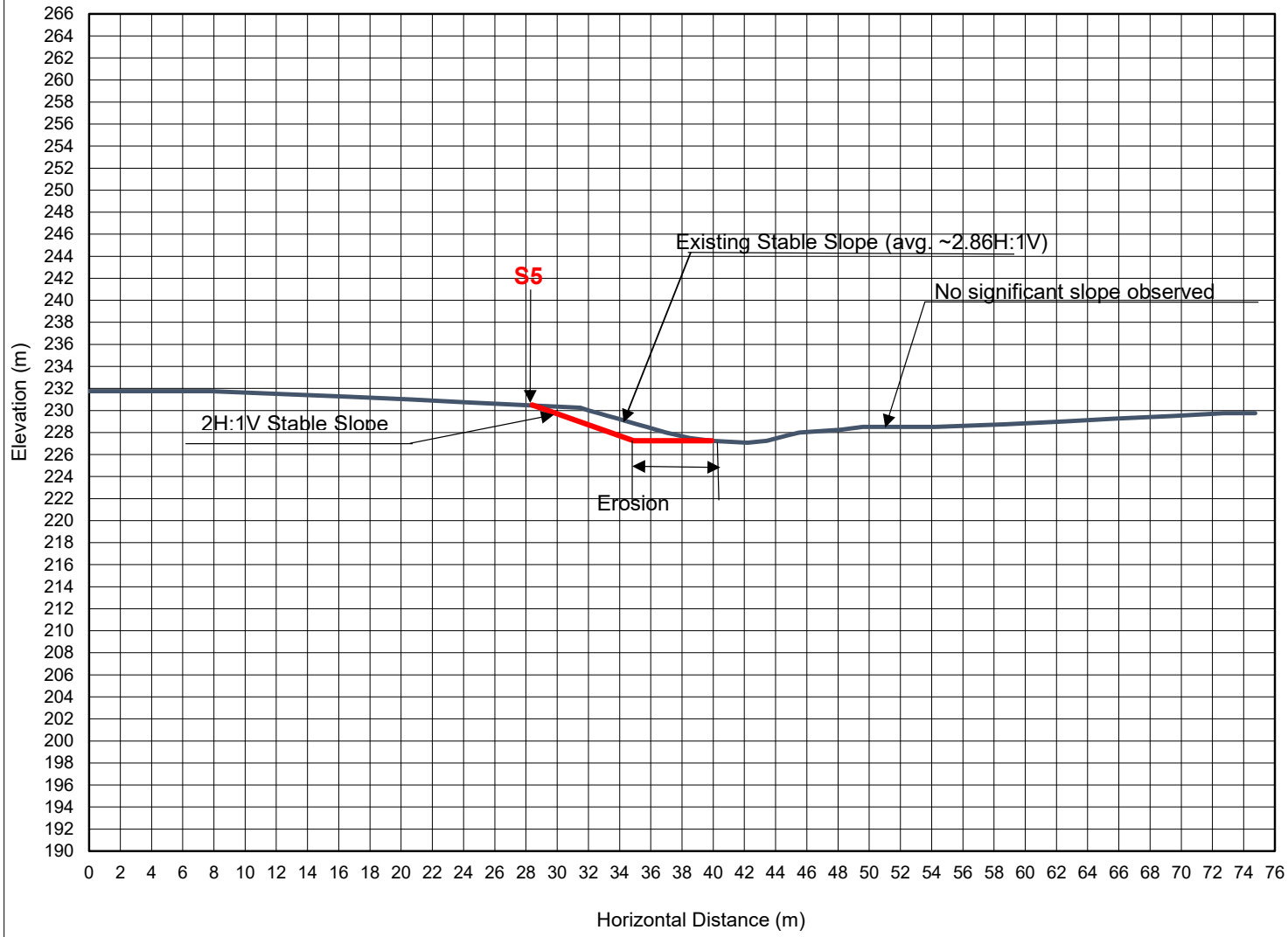
Point '**S3**': long-term stable top of slope (LTSTOS)

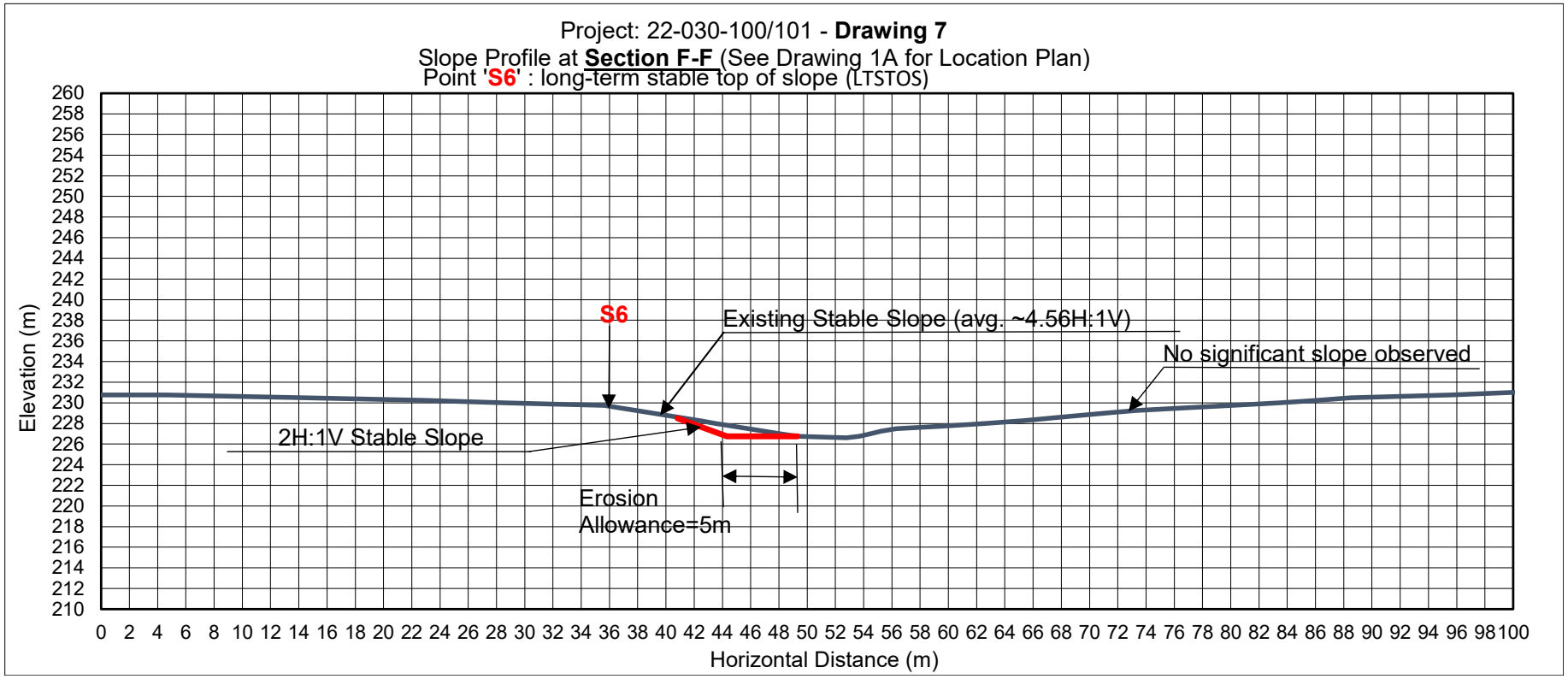


Project: 22-030-100/101 - **Drawing 5**
Slope Profile at **Section D-D** (See Drawing 1A for Location Plan)
Points '**S4**': long-term stable top of slope (LTSTOS)



Project: 22-030-100/101 - **Drawing 6**
Slope Profile at **Section E-E** (See Drawing 1A for Location Plan)
Point '**S5**': long-term stable top of slope (LTSTOS)

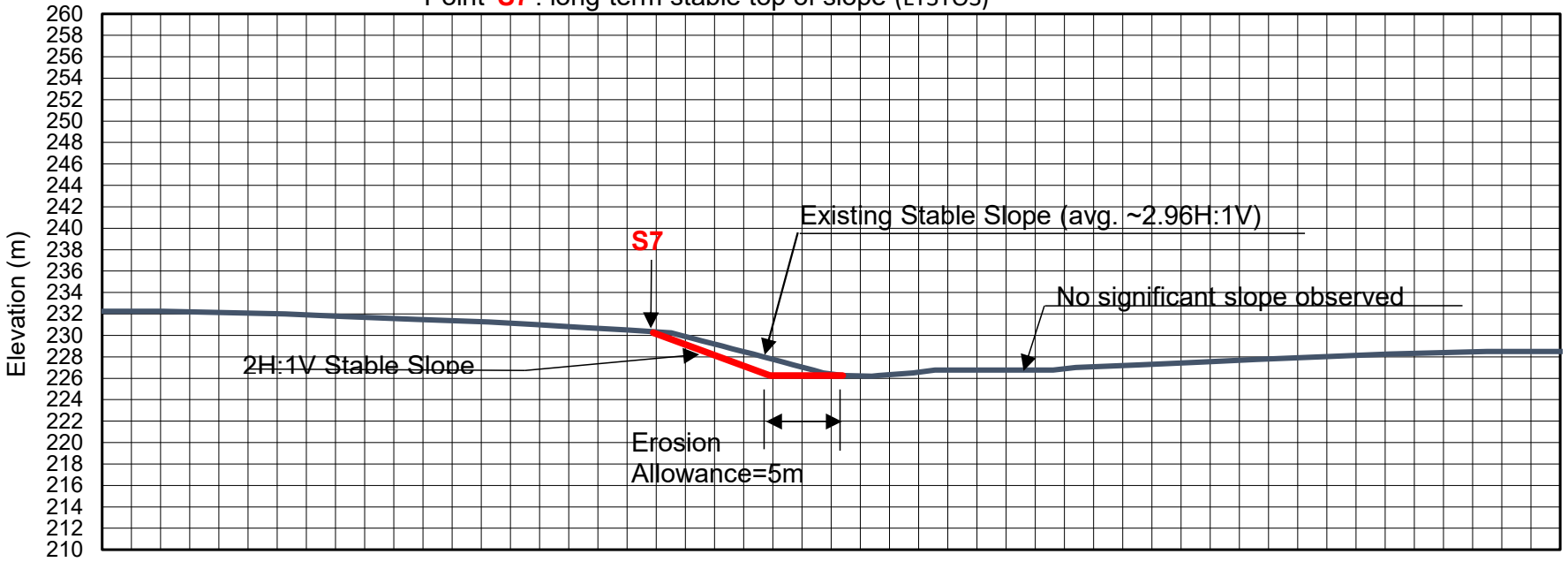



Project: 22-030-100/101 - **Drawing 7**
Slope Profile at **Section F-F** (See Drawing 1A for Location Plan)
Point 'S6' : long-term stable top of slope (LTSTOS)
Elevation (m)
260
258
256
254
252
250
248
246
244
242
240
238
236
234
232
230
228
226
224
222
220
218
216
214
212
210
S6
Existing Stable Slope (avg. ~4.56H:1V)
No significant slope observed
2H:1V Stable Slope
Erosion
Allowance=5m
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100
Horizontal Distance (m)

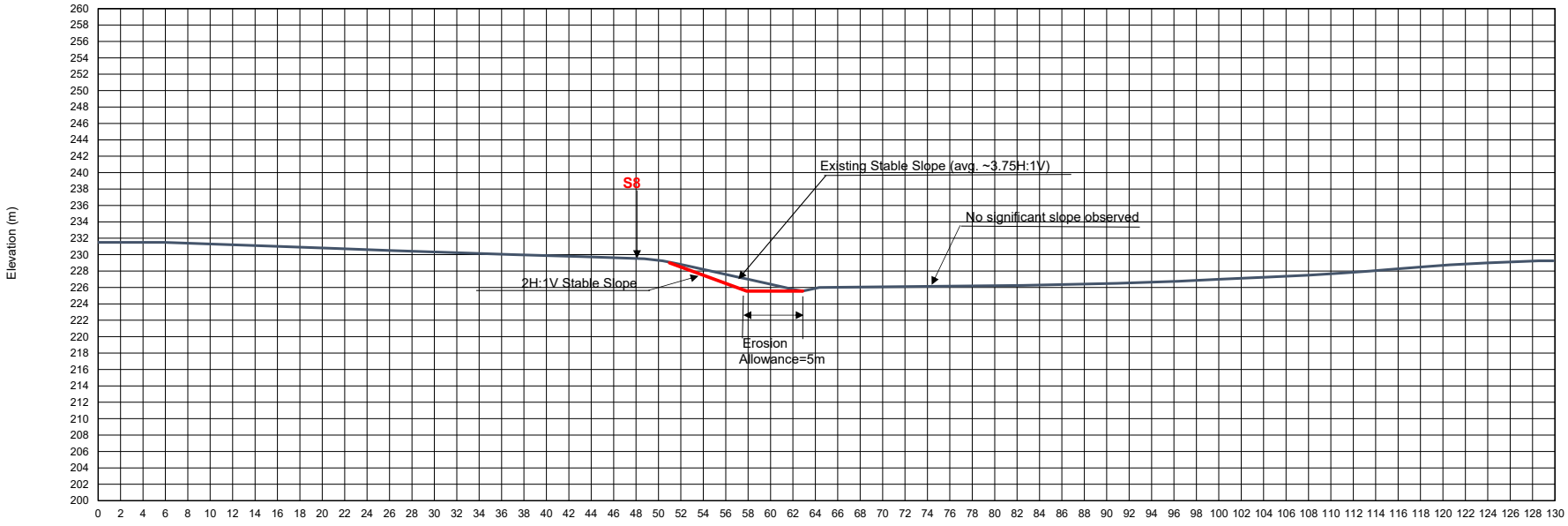
Project: 22-030-100/101 - **Drawing 8**

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

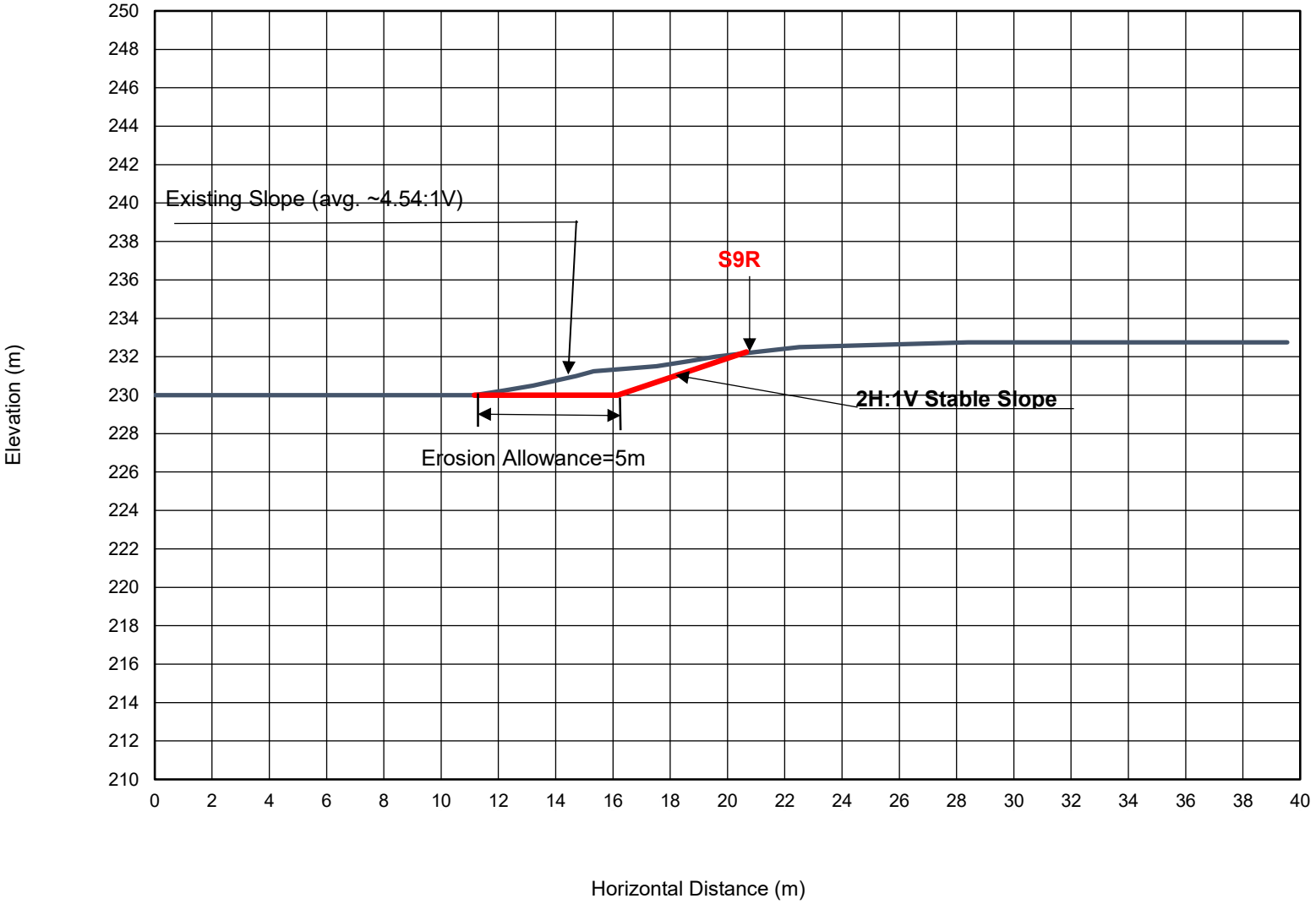
Point '**S7**': long-term stable top of slope (LTSTOS)



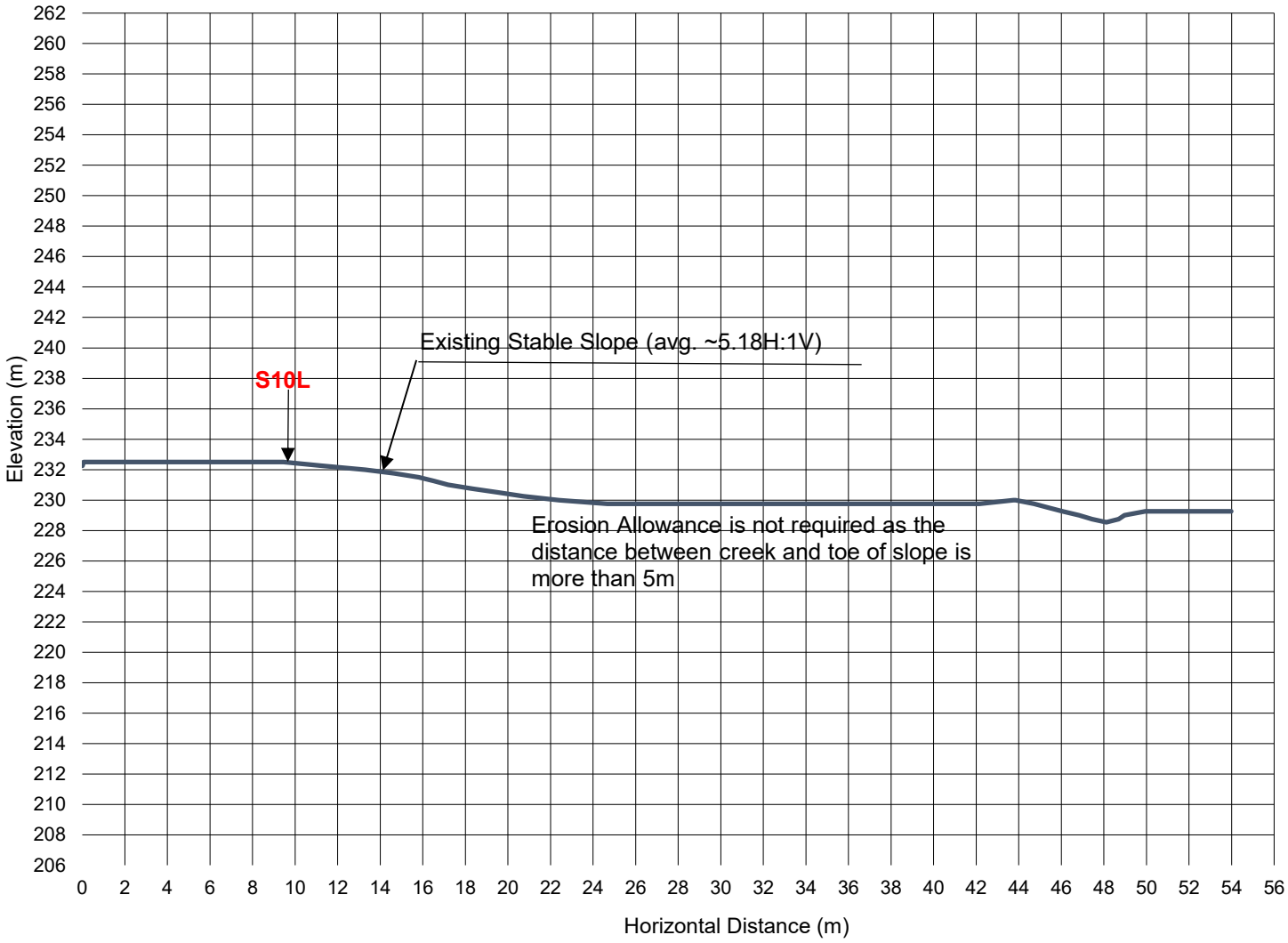
Project: 22-030-100/101 - **Drawing 9**
Slope Profile at **Section H-IH**(See Drawing 1A for Location Plan)
Point '**S8**': long-term stable top of slope (LTSTOS)



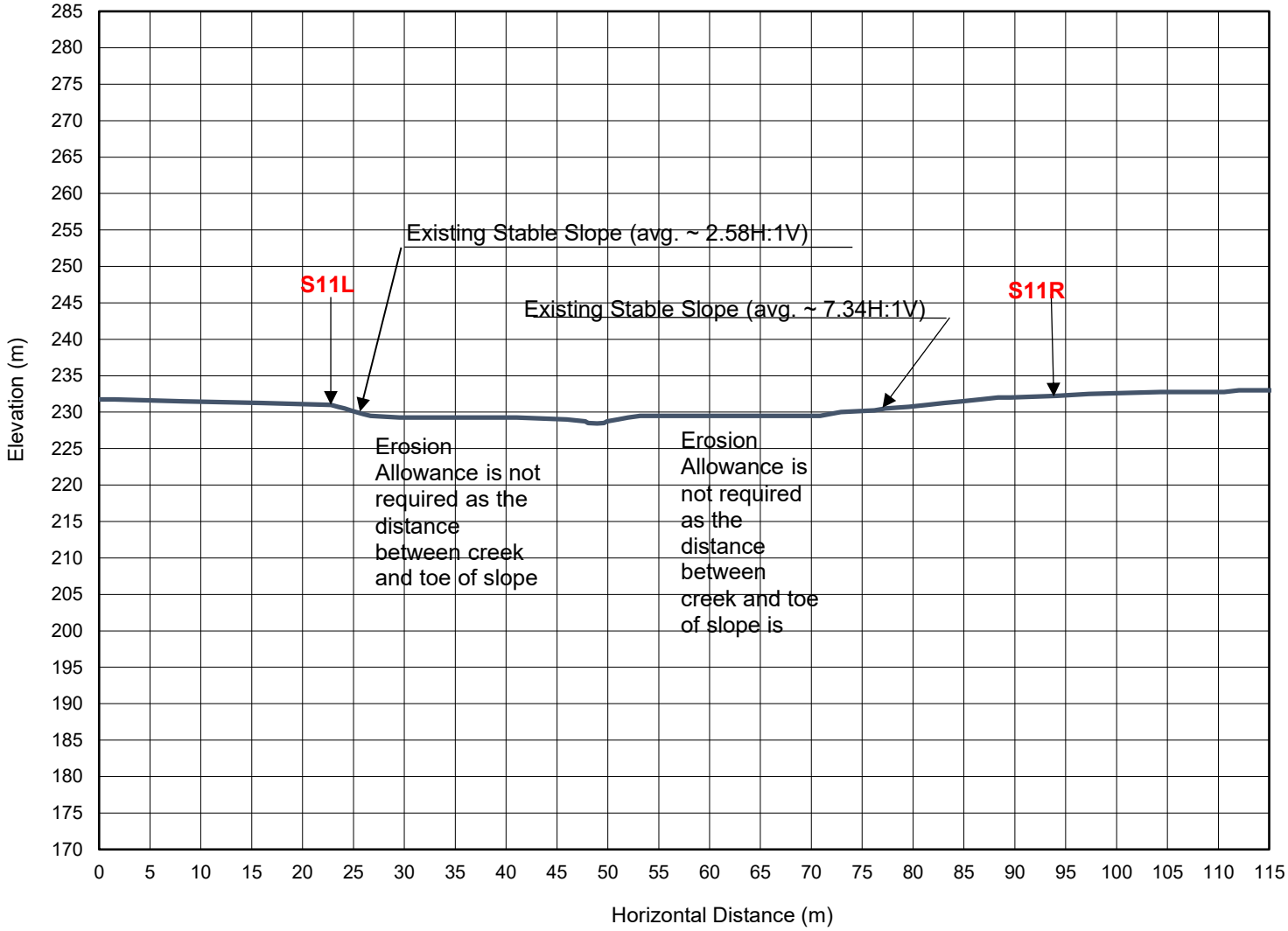
Project: 22-030-100/101 - **Drawing 10**
Slope Profile at **Section 1-1** (See Drawing 1B for Location Plan)
Point **'S9R'**: long-term stable top of slope (LTSTOS)



Project: 22-030-100/101 - **Drawing 11**
Slope Profile at **Section 2-2** (See Drawing 1B for Location Plan)
Point '**S10L**': long-term stable top of slope (LTSTOS)



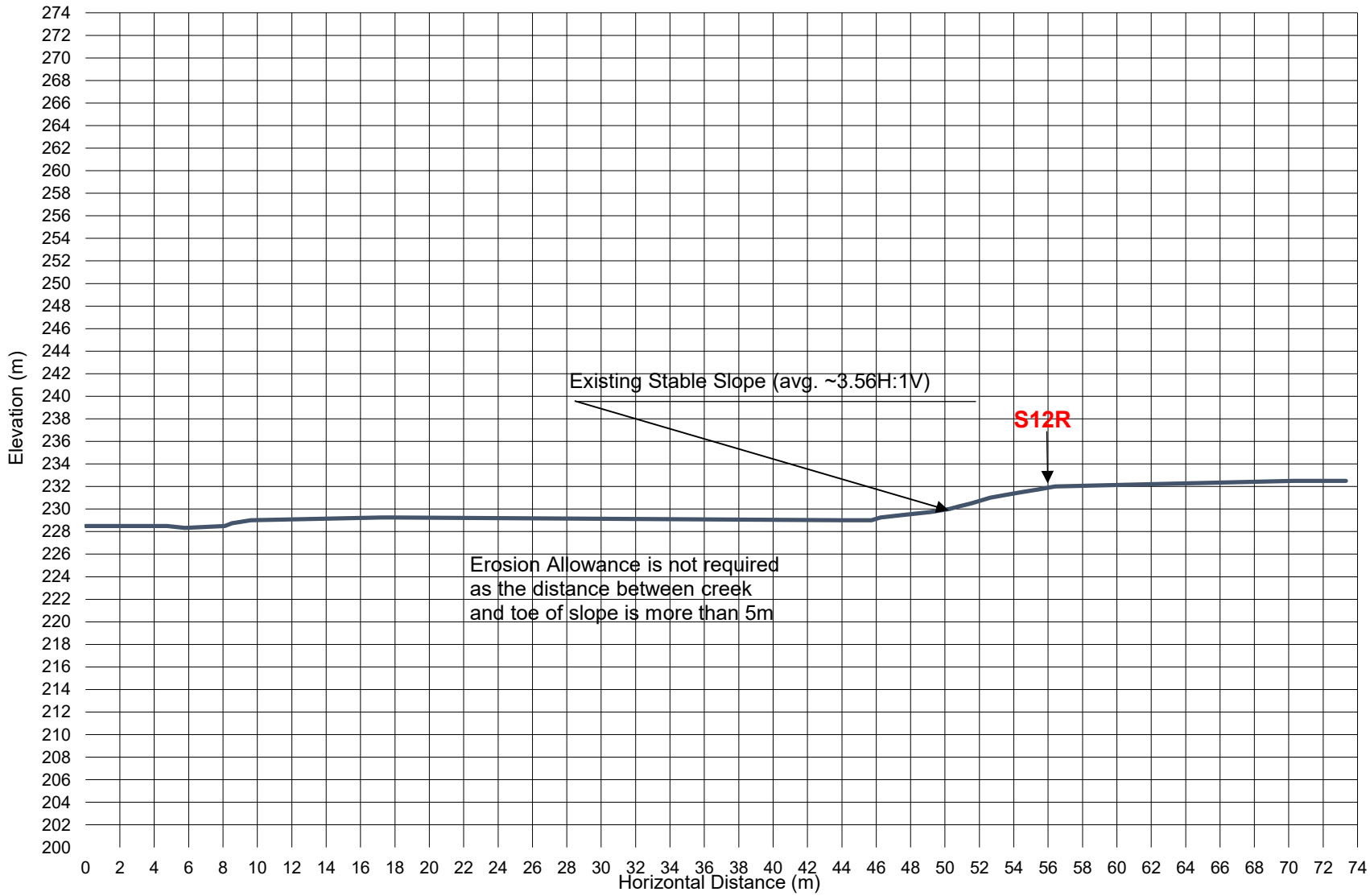
Project: 22-030-100/101 - **Drawing 12**
Slope Profile at **Section 3-3** (See Drawing 1B for Location Plan)
Points '**11L**' and '**S11R**': long-term stable top of slope (LTSTOS)



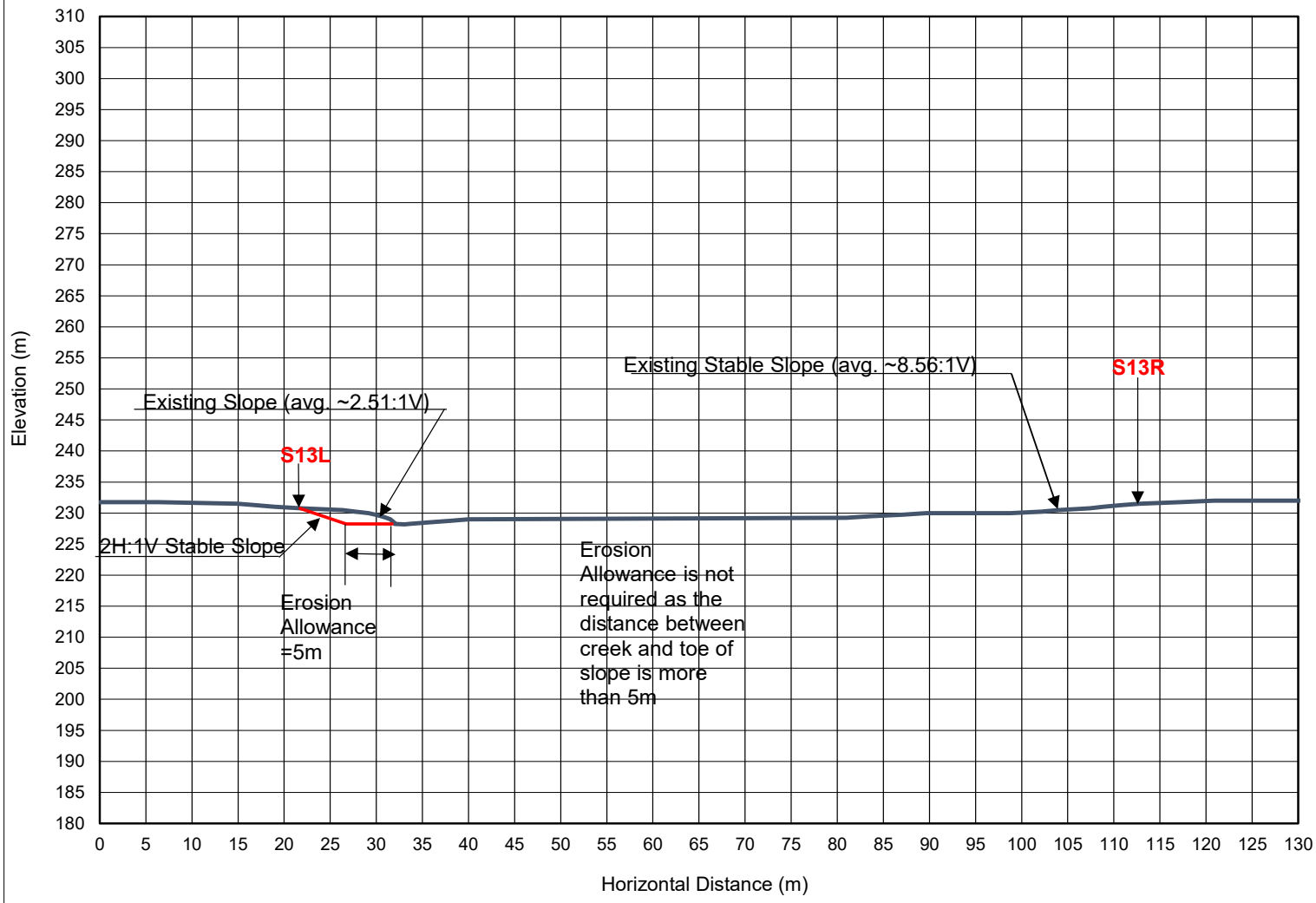
Project: 25-021-100/101 - **Drawing 13**

Slope Profile at **Section 4-4** (See Drawing 1B for Location Plan)

Point '**S12R**': long-term stable top of slope (LTSTOS)



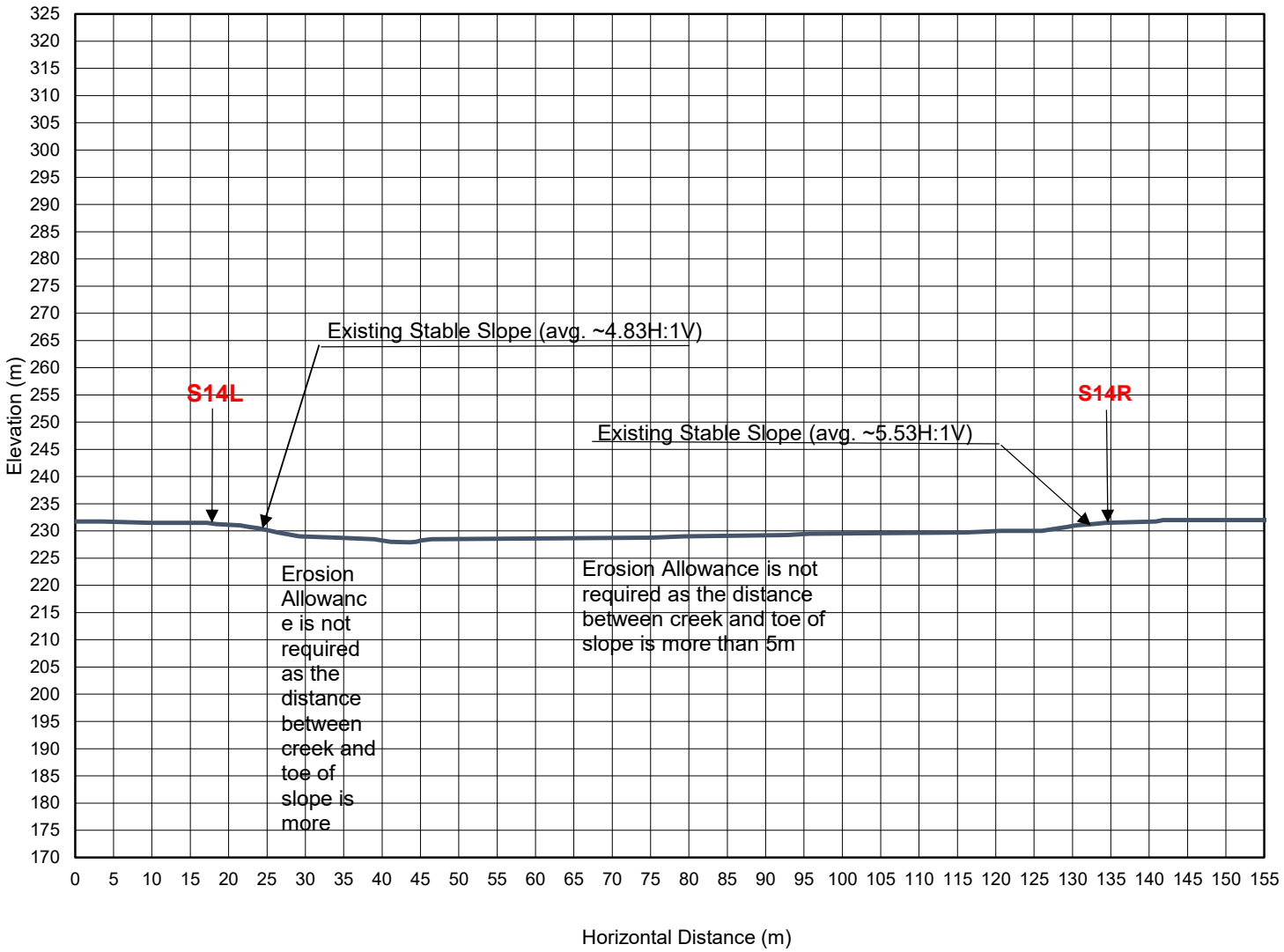
Project: 22-030-100/101 - **Drawing 14**
Slope Profile at **Section 5-5** (See Drawing 1B for Location Plan)
Points '**S13L**' and '**S13R**': long-term stable top of slope (LTSTOS)



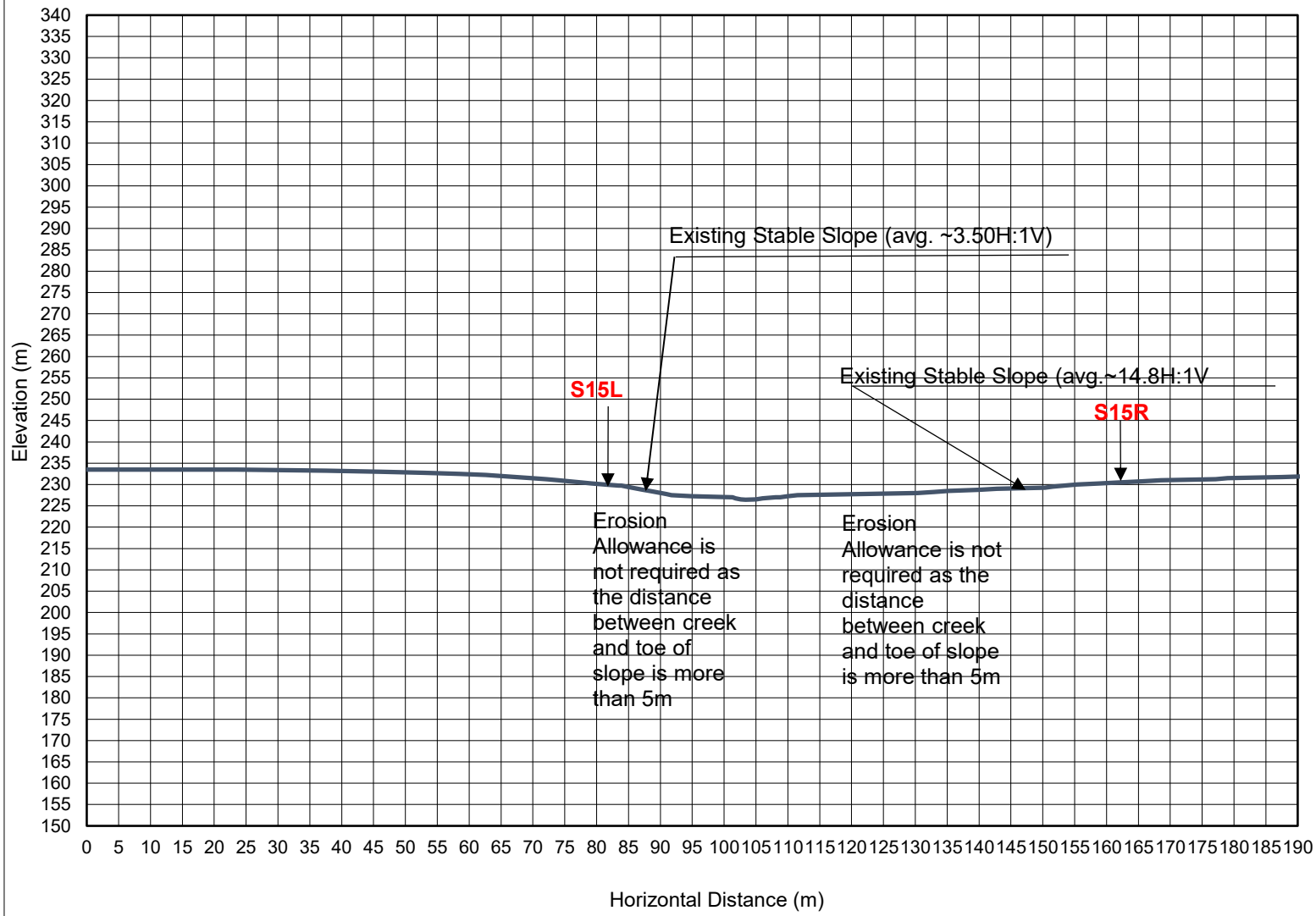
Project: 22-030-100/101 - **Drawing 15**

Slope Profile at **Section 6-6** (See Drawing 1B for Location Plan)

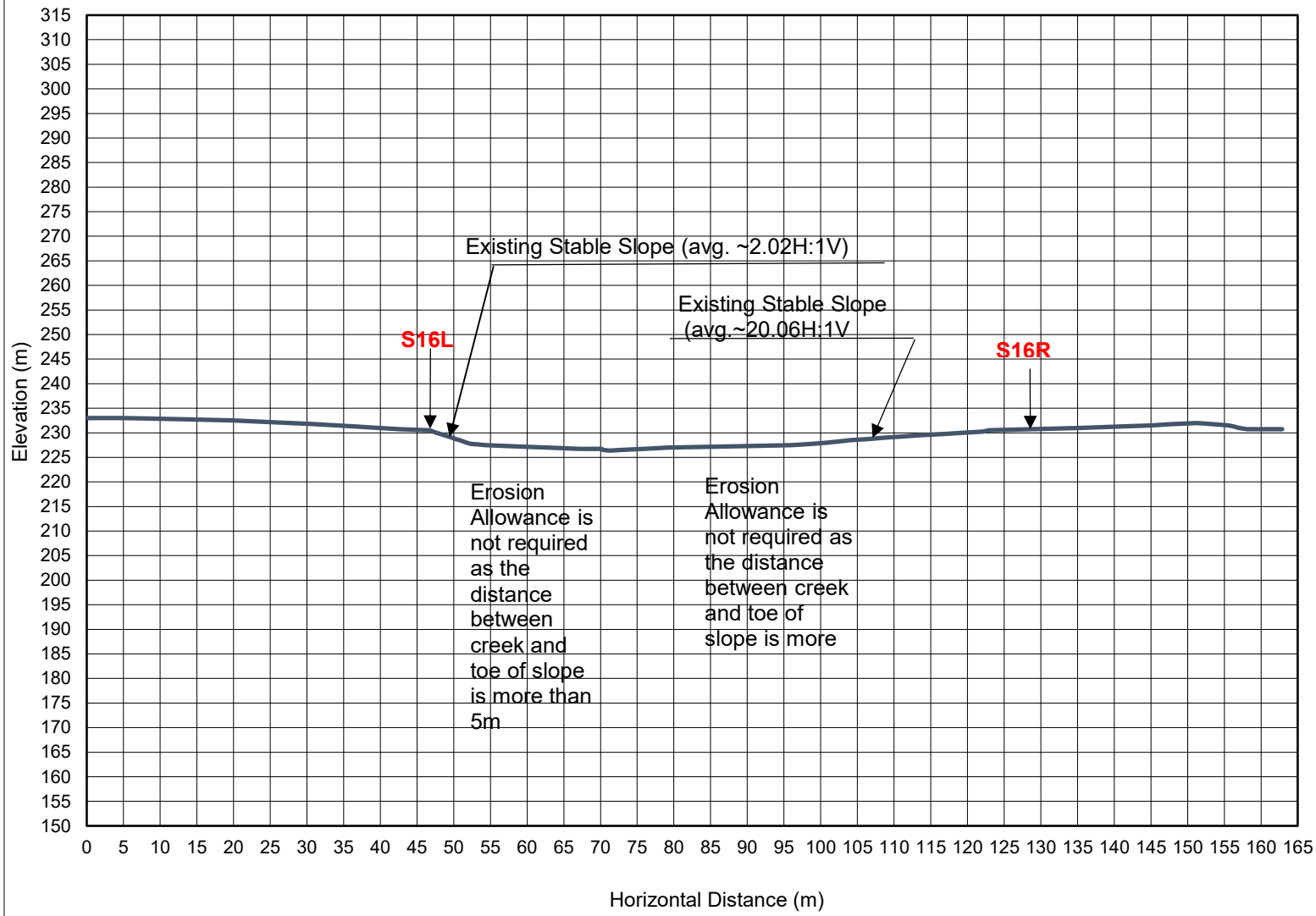
Points '**S14L**' and '**S14R**': long-term stable top of slope (LTSTOS)



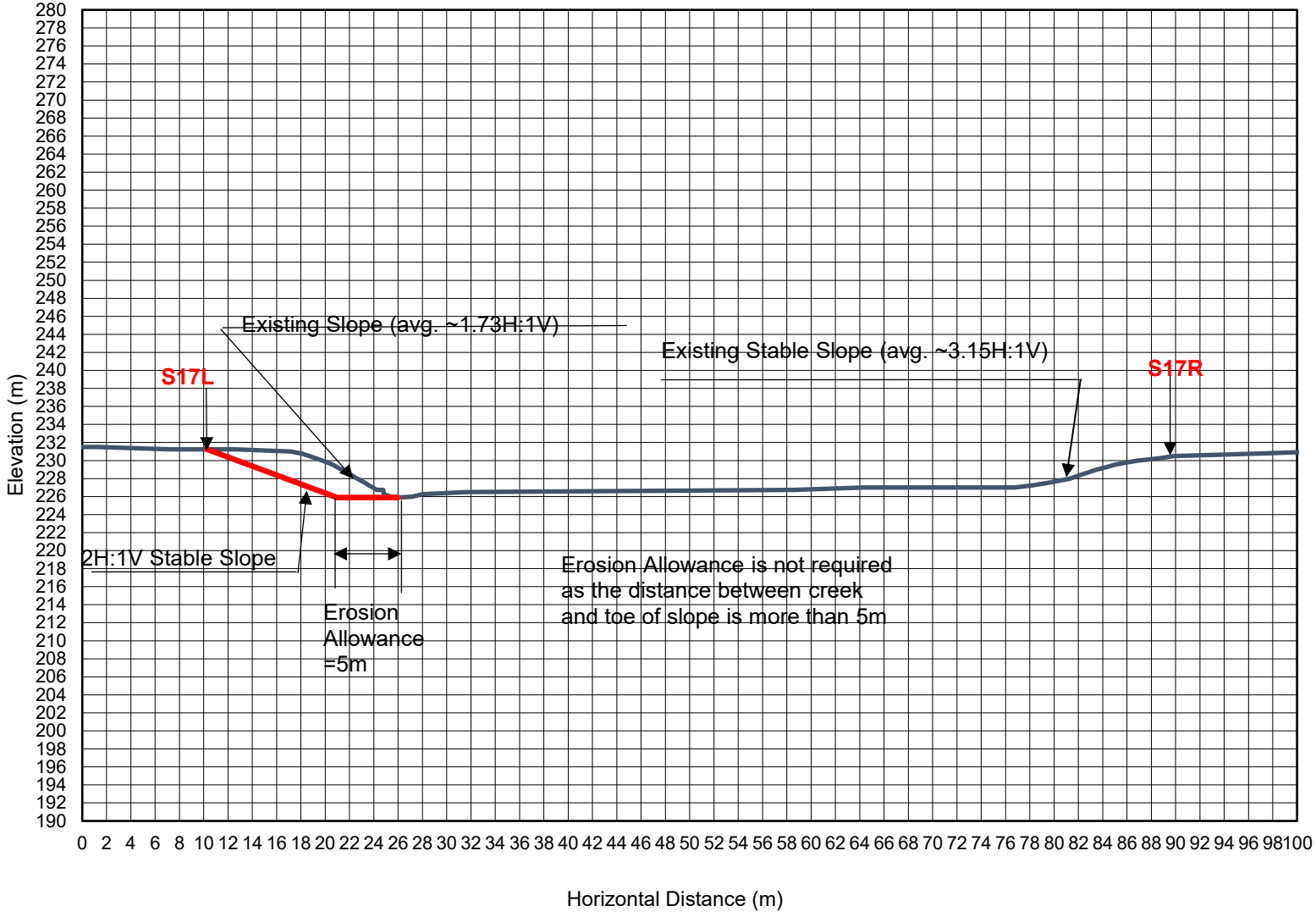
Project: 22-030-100/101 - **Drawing 16**
Slope Profile at **Section 7-7** (See Drawing 1B for Location Plan)
Points '**S15L**' and '**S15R**': long-term stable top of slope (LTSTOS)



Project: 22-030-100/101 - **Drawing 17**
Slope Profile at **Section 8-8** (See Drawing 1B for Location Plan)
Points '**S16L**' and '**S16R**': long-term stable top of slope (LTSTOS)

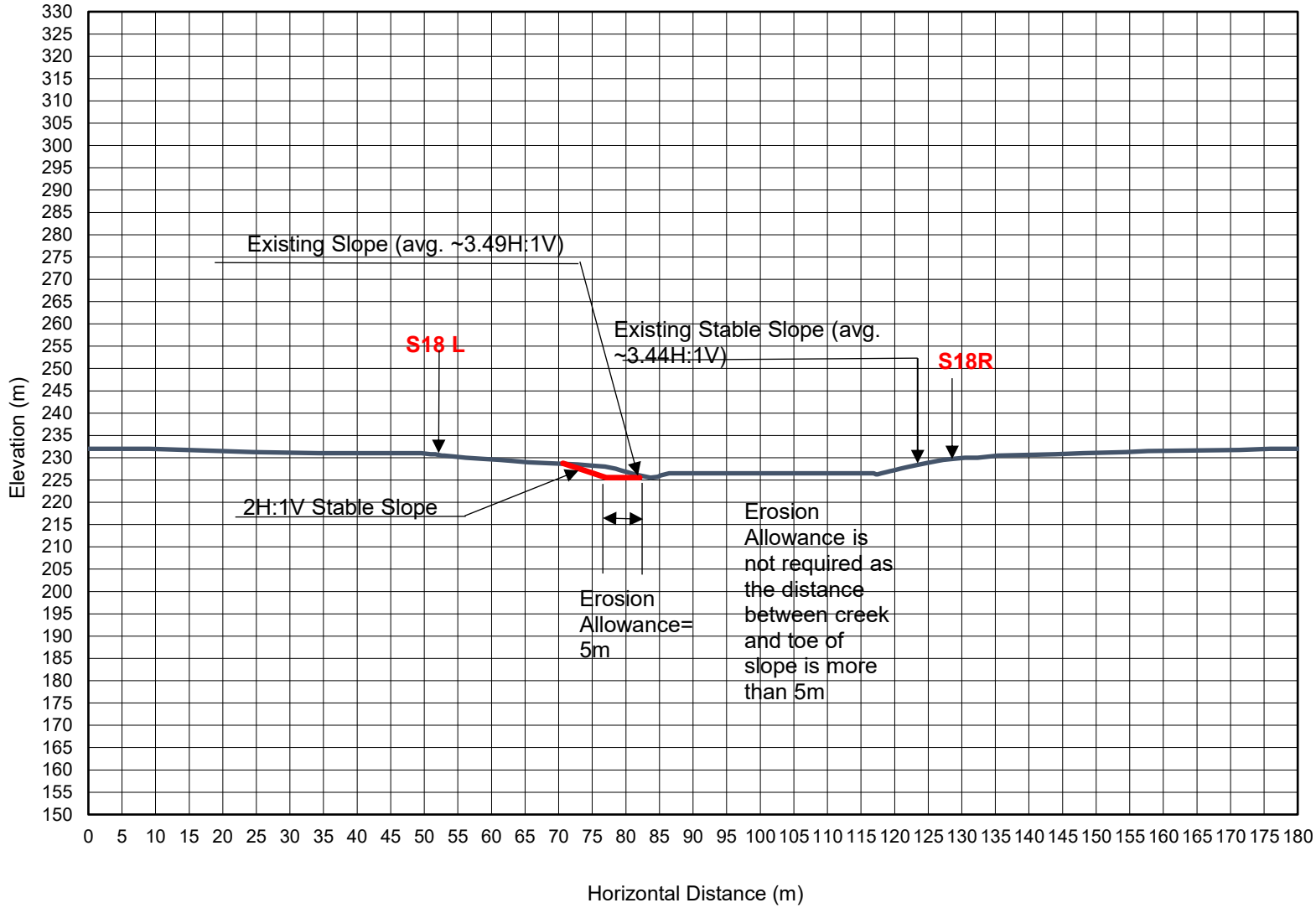


Project: 22-030-100/101 - **Drawing 18**
Slope Profile at **Section 9-9** (See Drawing 1B for Location Plan)
Points '**S17L**' and '**S17R**': long-term stable top of slope (LTSTOS)



Project: 22-030-100/101 - **Drawing 19**

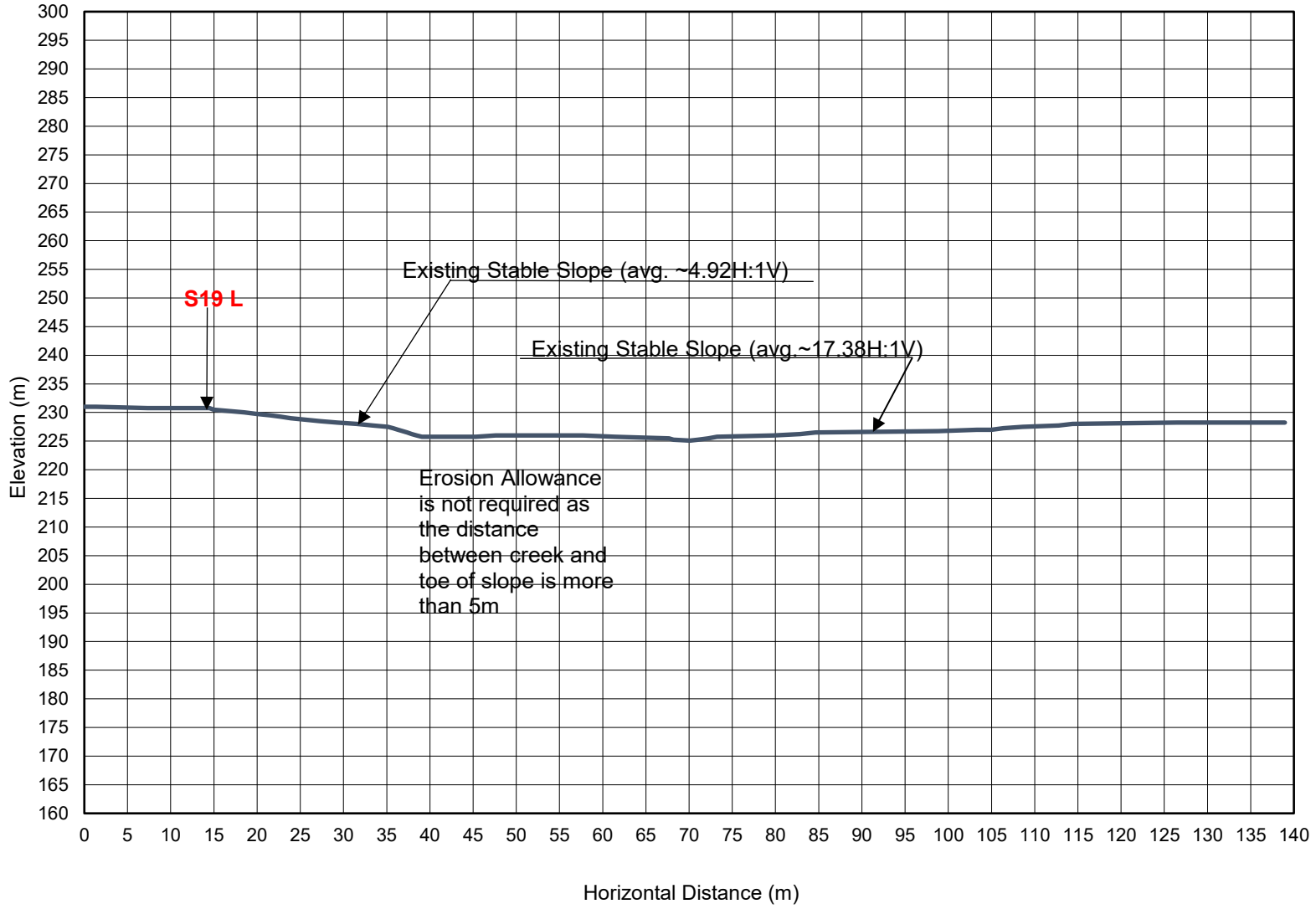
Slope Profile at **Section 10-10** (See Drawing 1B for Location Plan)
Points '**S18L**' and '**S18R**': long-term stable top of slope (LTSTOS)



Project: 22-030-100/101 - **Drawing 20**

Slope Profile at **Section 11-11** (See Drawing 1B for Location Plan)

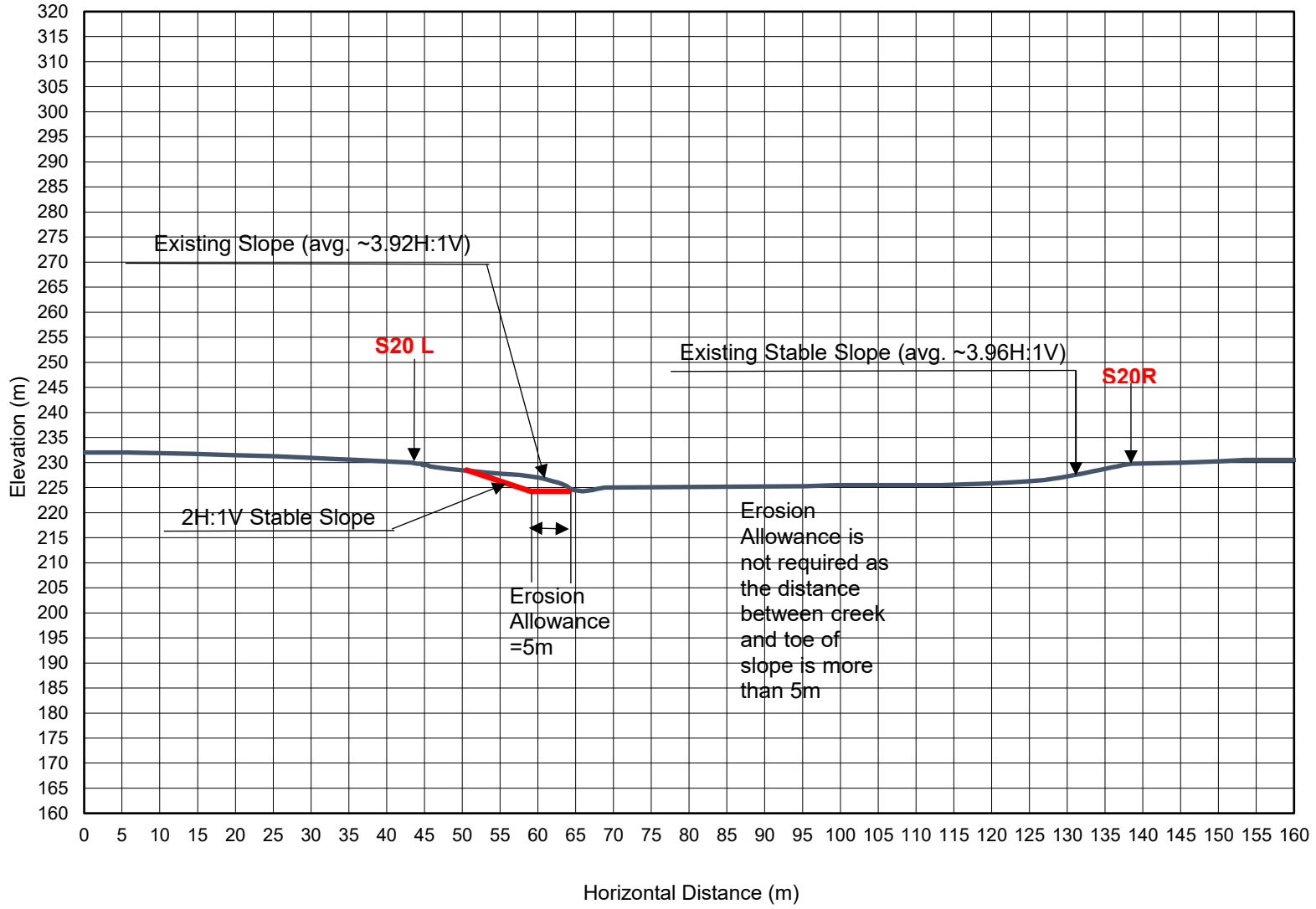
Points '**S19L**' and '**S19R**': long-term stable top of slope (LTSTOS)



Project: 22-030-100/101 - **Drawing 21**

Slope Profile at **Section 12-12** (See Drawing 1B for Location Plan)

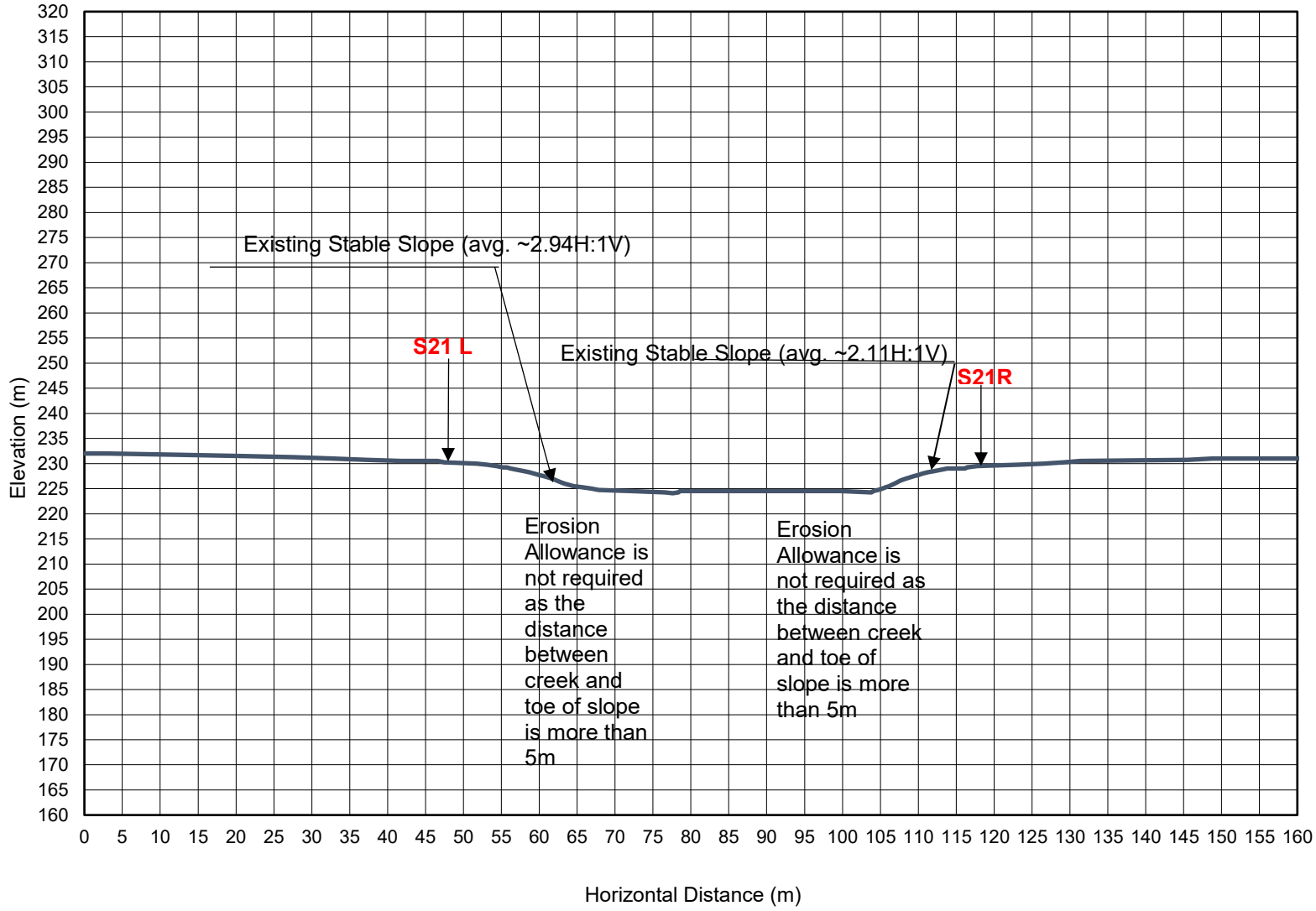
Points '**S20L**' and '**S20R**': long-term stable top of slope (LTSTOS)



Project: 22-030-100/101 - **Drawing 22**

Slope Profile at **Section 13-13** (See Drawing 1B for Location Plan)

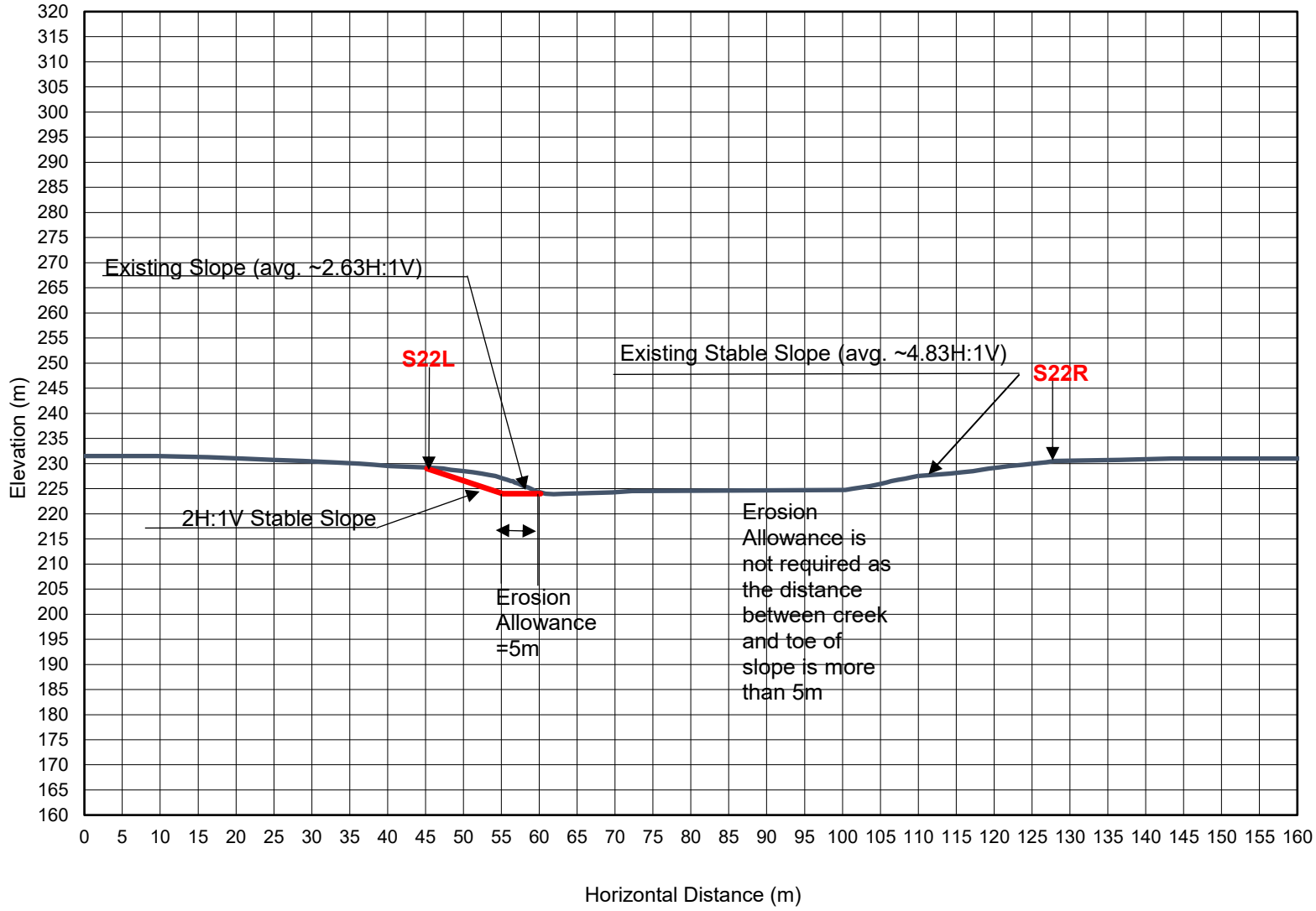
Points '**S21L**' and '**S21R**': long-term stable top of slope (LTSTOS)



Project: 22-030-100/101 - **Drawing 23**

Slope Profile at **Section 14-14** (See Drawing 1B for Location Plan)

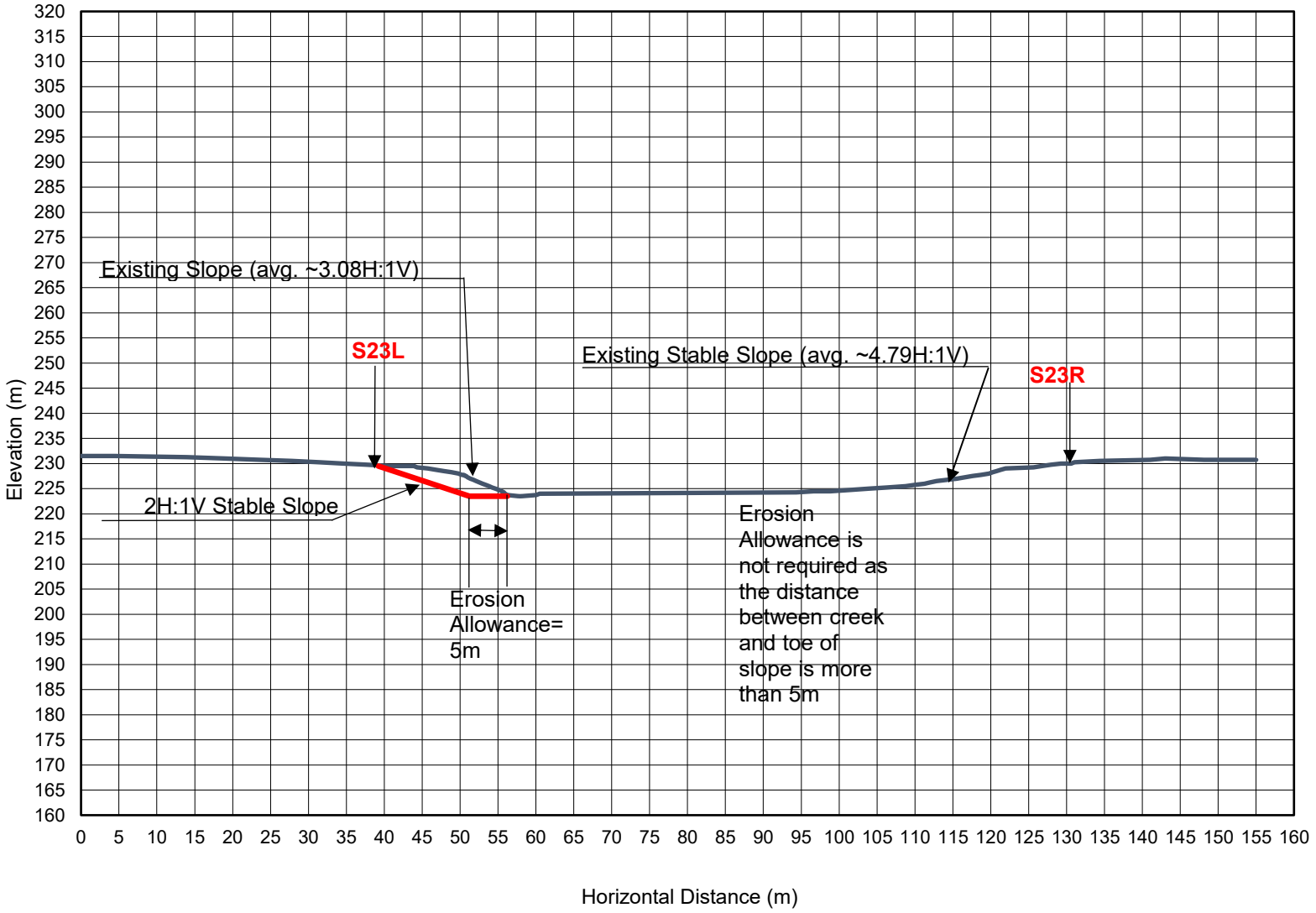
Points '**S22L**' and '**S22R**': long-term stable top of slope (LTSTOS)



Project: 22-030-100/101 - **Drawing 24**

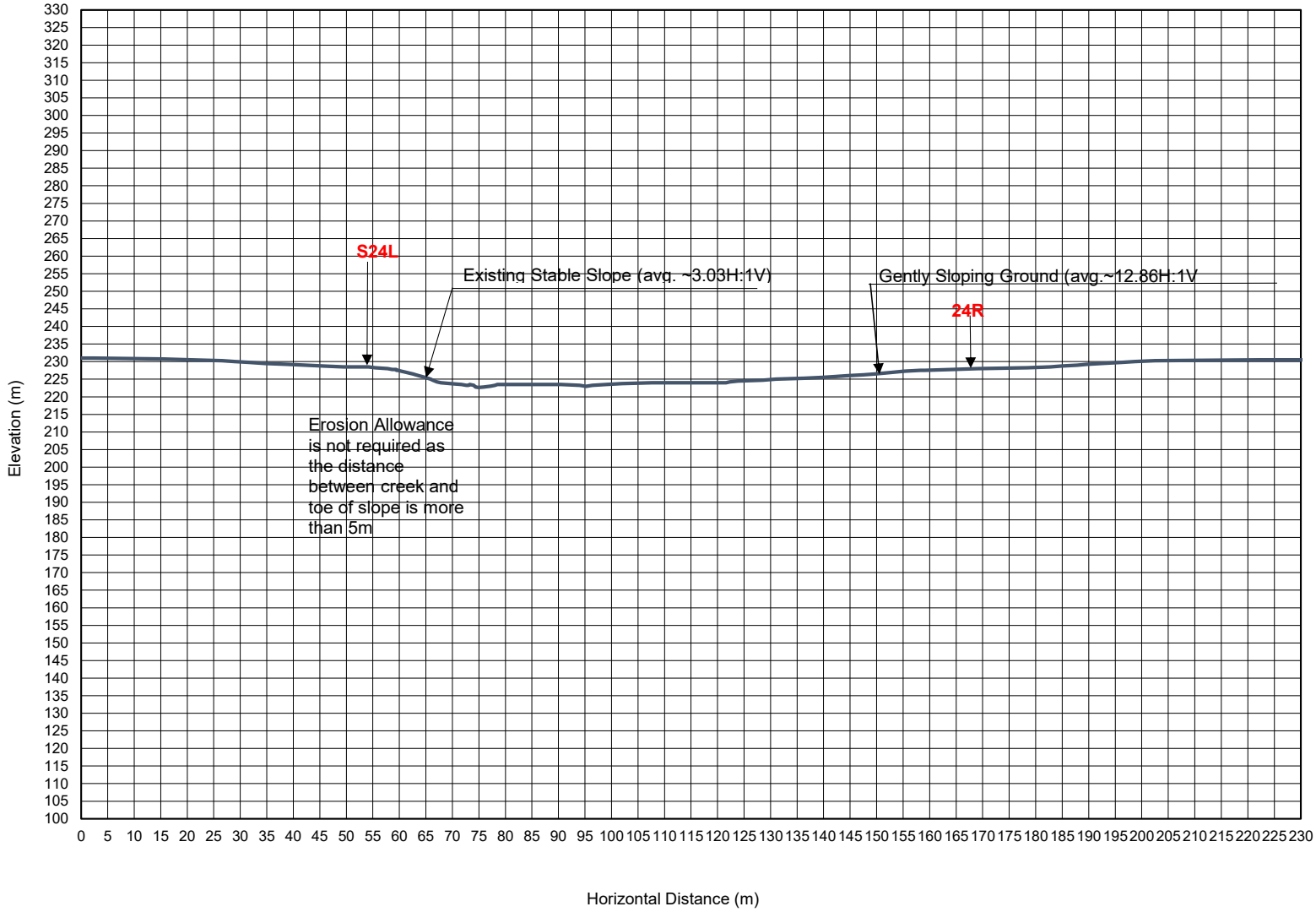
Slope Profile at **Section 15-15** (See Drawing 1B for Location Plan)

Points '**S23L**' and '**S23R**': long-term stable top of slope (LTSTOS)



Project: 22-030-100/101 - **Drawing 25**

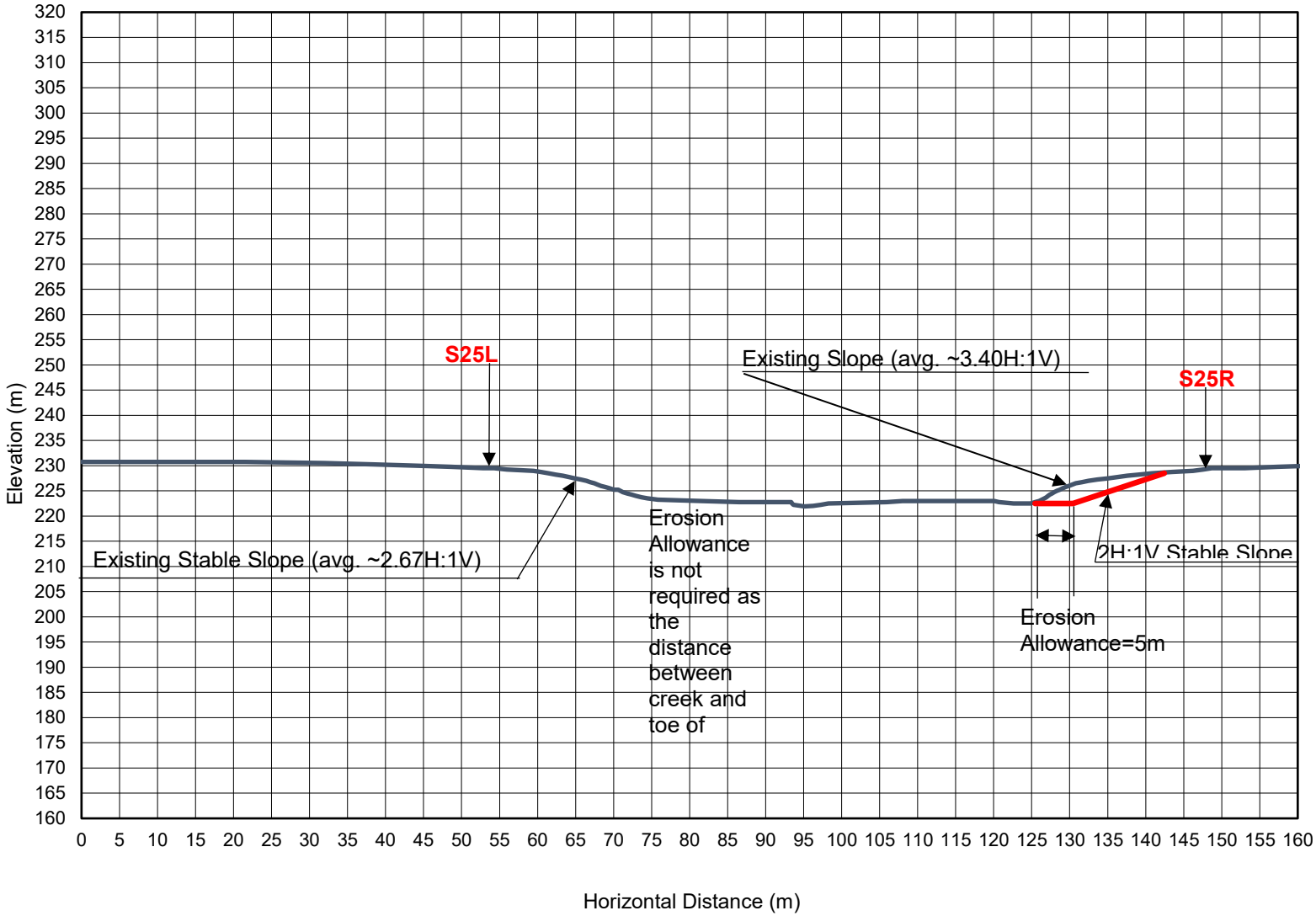
Slope Profile at **Section 16-16** (See Drawing 1B for Location Plan)
Points '**S24L**' and '**S24R**': long-term stable top of slope (LTSTOS)



Project: 22-030-100/101 - **Drawing 26**

Slope Profile at **Section 17-17** (See Drawing 1B for Location Plan)

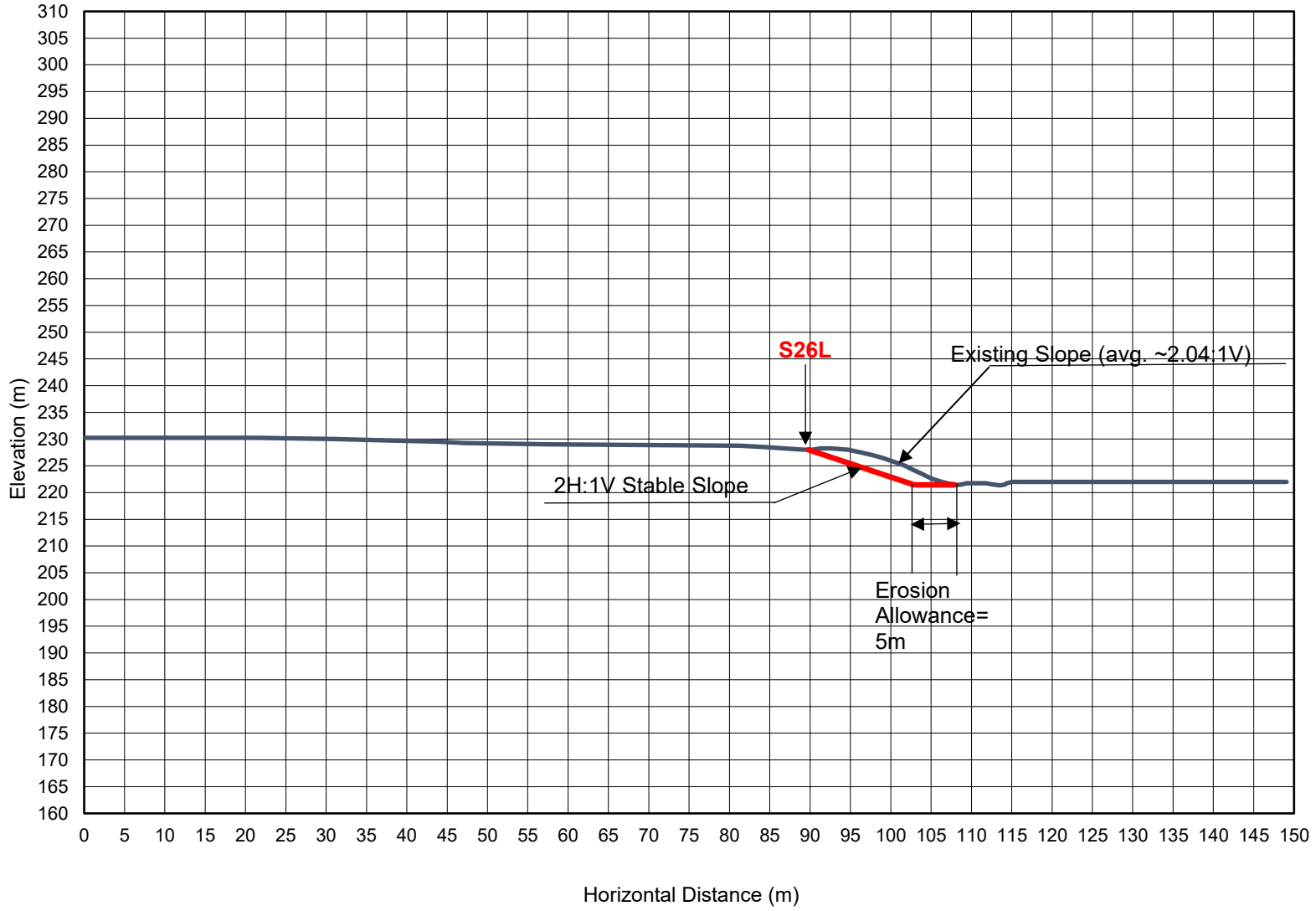
Points '**S25L**' and '**S25R**': long-term stable top of slope (LTSTOS)



Project: 22-030-100/101 - **Drawing 27**

Slope Profile at **Section 18-18** (See Drawing 1B for Location Plan)

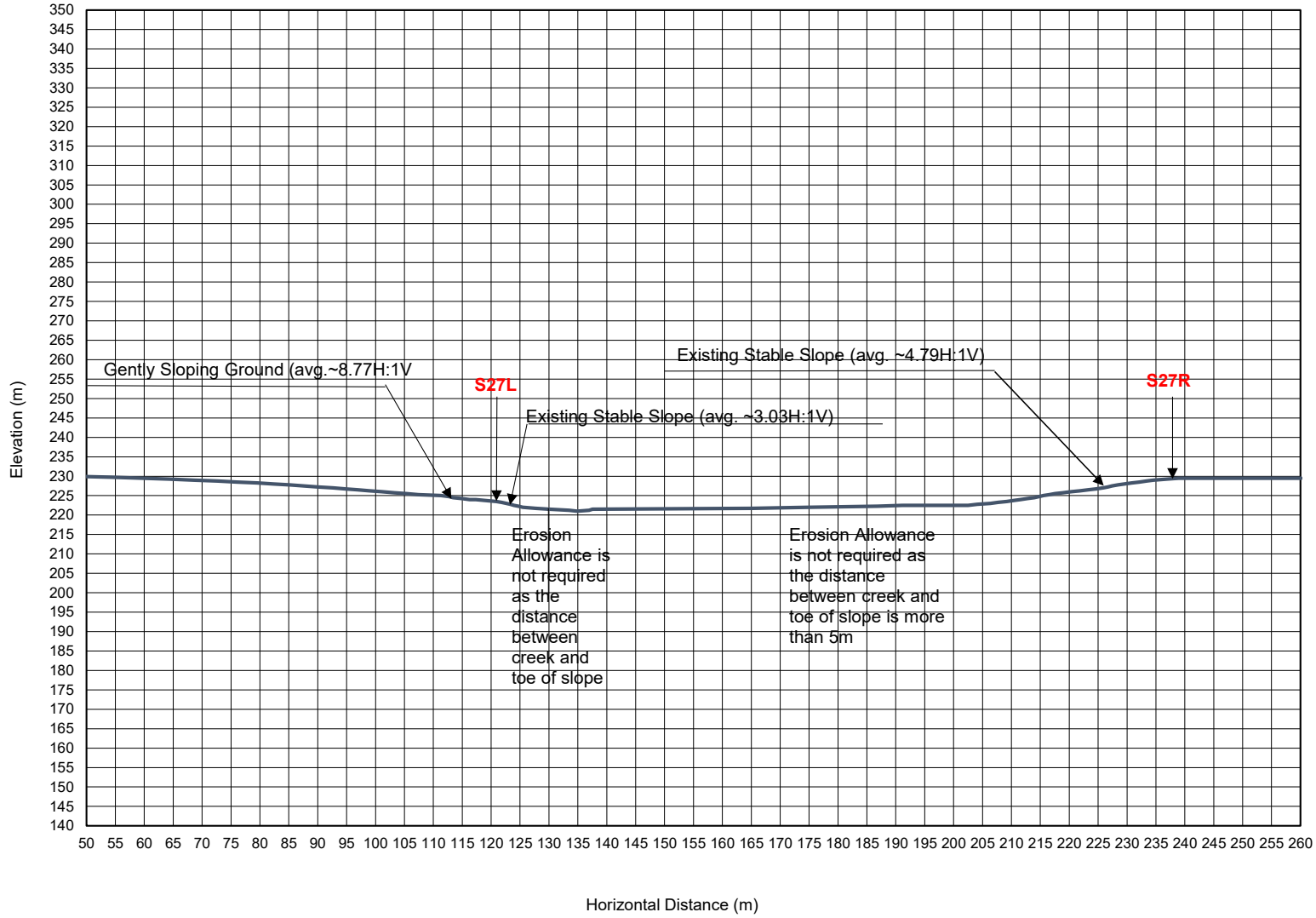
Point '**S26L**': long-term stable top of slope (LTSTOS)



Project: 22-030-100/101 - **Drawing 28**

Slope Profile at **Section 19-19** (See Drawing 1B for Location Plan)

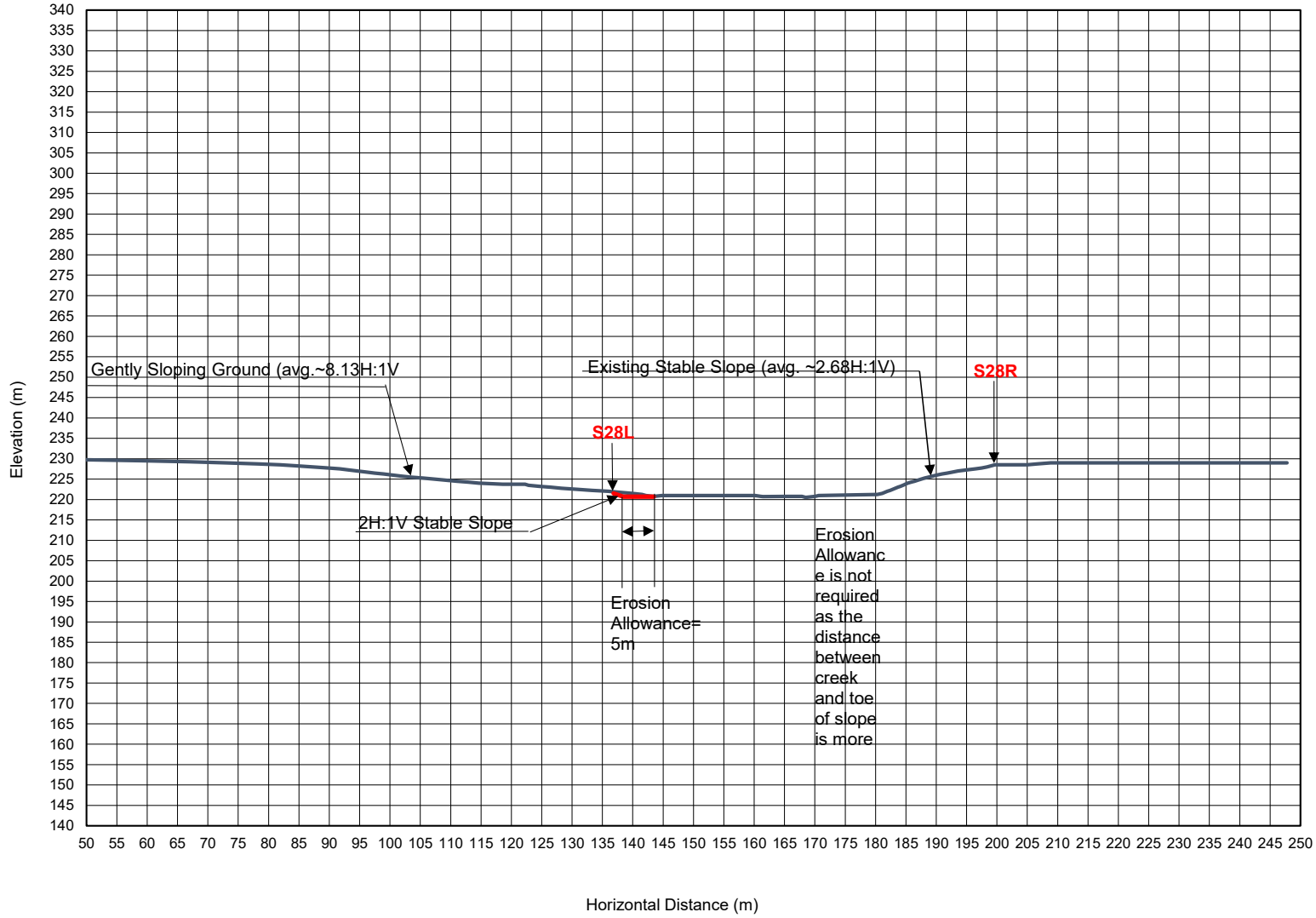
Points '**S27L**' and '**S27R**': long-term stable top of slope (LTSTOS)

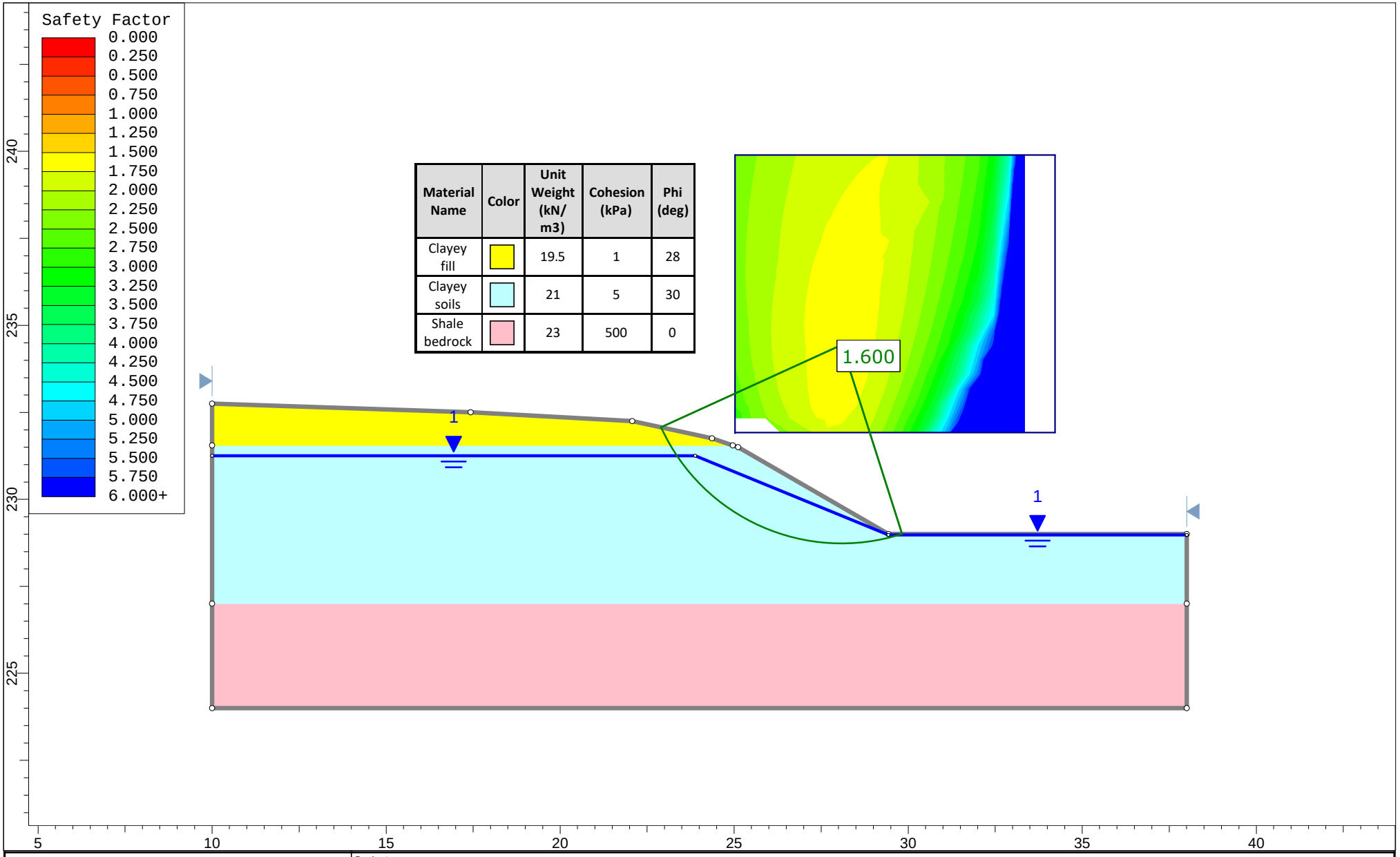


Project: 22-030-100/101 - **Drawing 29**

Slope Profile at **Section 20-20** (See Drawing 1B for Location Plan)

Points '**S28L**' and '**S28R**': long-term stable top of slope (LTSTOS)



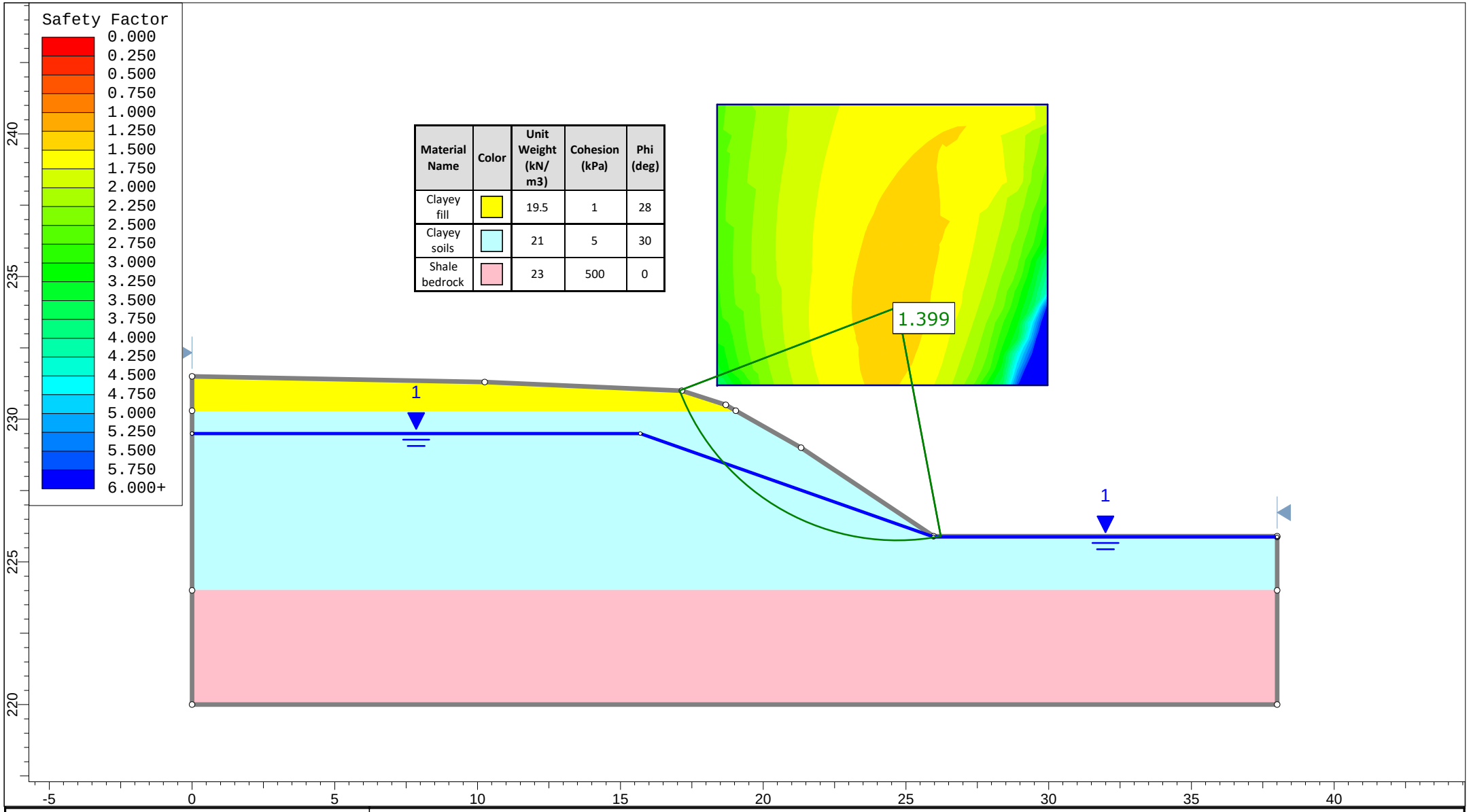


Material Name	Color	Unit Weight (kN/m3)	Cohesion (kPa)	Phi (deg)
Clayey fill		19.5	1	28
Clayey soils		21	5	30
Shale bedrock		23	500	0

rocscience

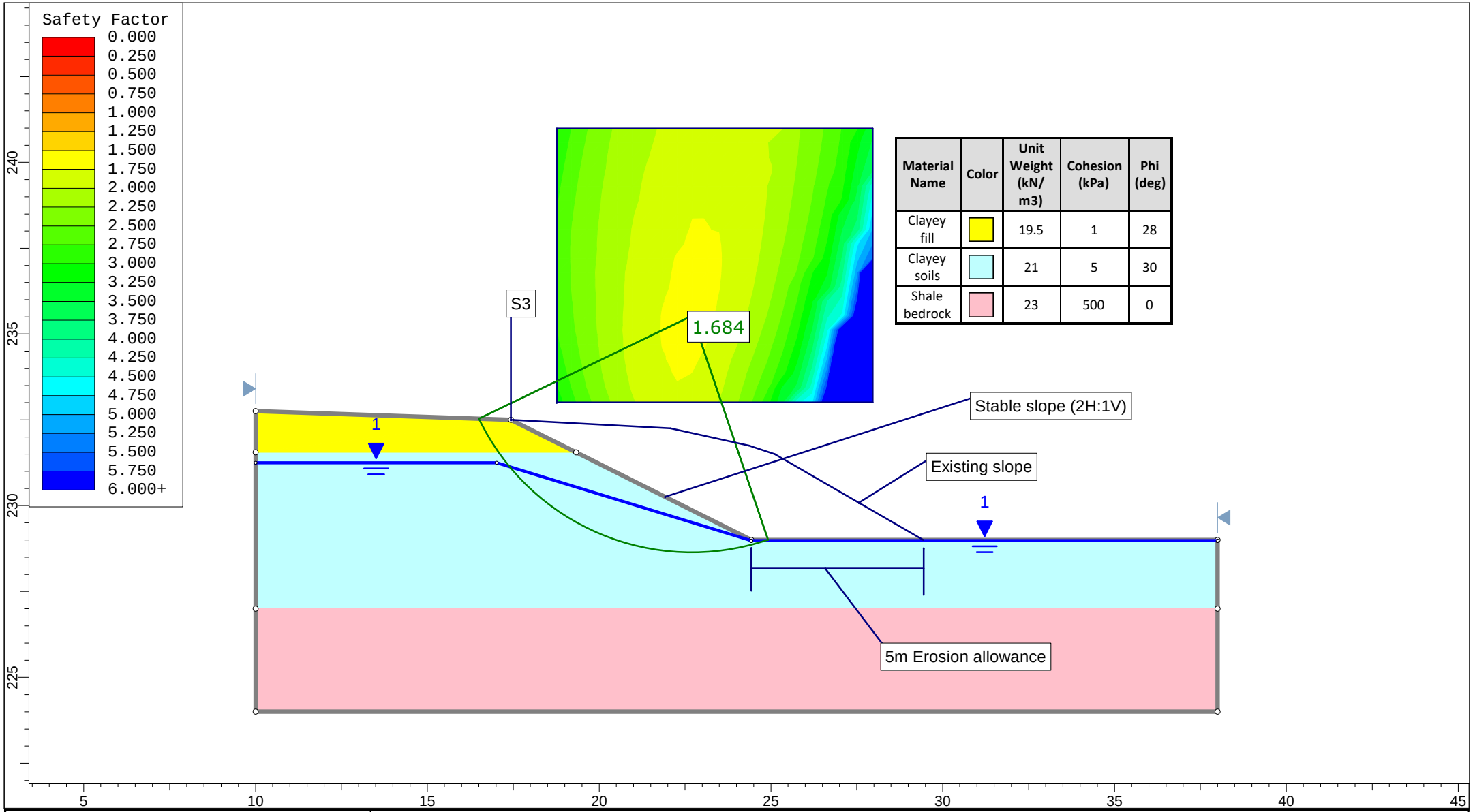
SLIDEINTERPRET 9.002

Project	22-030-100 - Long-term Slope Stability Analyses, Innis Lake Project, Caledon, ON		
Group	Group 1	*Scenario*	Master Scenario
Drawn By	DS	*Company*	DS Consultants Ltd.
Date	February 2026	*File Name*	Drawing 30 - Existing Slope at Section C-C.slmd



rocscience	Project	22-030-100 - Long-term Slope Stability Analyses, Innis Lake Project, Caledon, ON	
	Group	Group 1	Scenario: Master Scenario
	Drawn By	DS	Company: DS Consultants Ltd.
	Date	February 2026	File Name: Drawing 31 - Existing Slope at Section 9-9.slmd

SLIDEINTERPRET 9.002

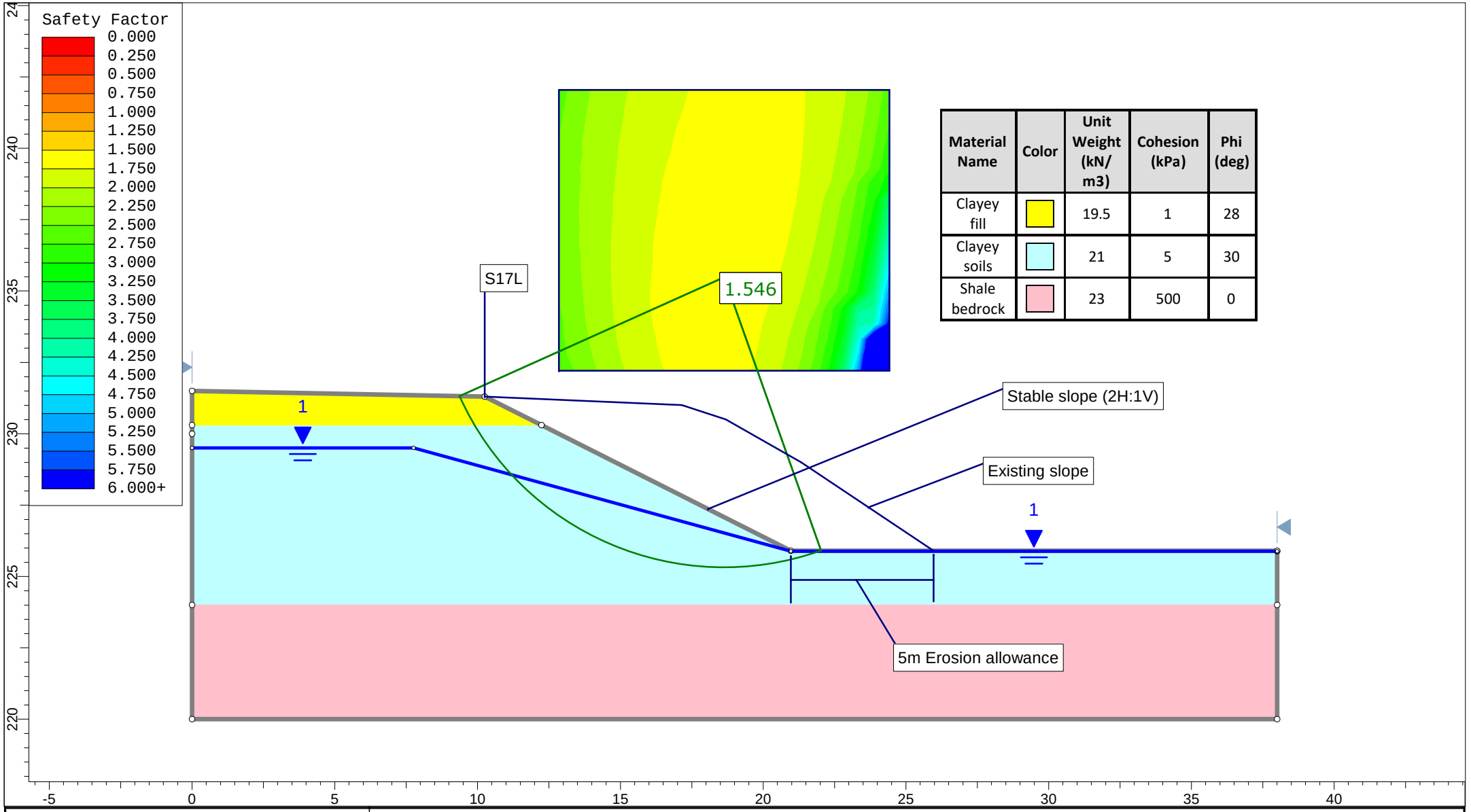


Material Name	Color	Unit Weight (kN/m3)	Cohesion (kPa)	Phi (deg)
Clayey fill		19.5	1	28
Clayey soils		21	5	30
Shale bedrock		23	500	0

rocscience

SLIDEINTERPRET 9.002

Project	22-030-100 - Long-term Slope Stability Analyses, Innis Lake Project, Caledon, ON		
Group	Group 1	*Scenario*	Master Scenario
Drawn By	DS	*Company*	DS Consultants Ltd.
Date	February 2026	*File Name*	Drawing 32 - Stable Slope at Section C-C.slmd



rocscience

SLIDEINTERPRET 9.002

Project	22-030-100 - Long-term Slope Stability Analyses, Innis Lake Project, Caledon, ON		
Group	Group 1	Scenario	Master Scenario
Drawn By	DS	Company	DS Consultants Ltd.
Date	February 2026	File Name	Drawing 33 - Stable Slope at Section 9-9.slmd

Appendix I

Borehole Logs

(BH22-2, BH22-4 to BH22-7, BH22-9, BH22-10, BH25-5, BH25-7, BH25-9, BH25-14 and BH25-15)

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH22-2

PROJECT: Geotechnical Investigation
CLIENT: Mattamy (Innis Lake) Ltd. c/o Mattamy Development Corporation
PROJECT LOCATION: 12351 Innis Lake & 12250 Centreville Creek Rd., Caledon
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4851263.37 E 599893.59

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Mar-29-2022

REF. NO.: 22-030-100/101
ENCL NO.: 3

SOIL PROFILE (m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
235.0							
0.0 / 234.7	**TOPSOIL:** 300mm		1	SS	5		
0.3 / 234.1	**FILL:** clayey silt, trace organics, trace rootlets/topsoil, grey, moist, firm						
0.9	**SILTY CLAY TILL:** trace to some sand, trace to some gravel, occasional cobble/boulder, pieces of shale, brown to grey, moist, stiff to hard		2	SS	11		234
			3	SS	22		
			4	SS	75	W. L. 233.1 m Mar.31,2022 W. L. 232.3 m Apr 01, 2025	
231.9							
3.1	**CLAYEY SILT TILL/SHALE COMPLEX:** trace sand, trace gravel, boulders, grey, moist, hard		5	SS	50/ 100mm		231
230.2			6	SS	55/ 130mm		
4.8	**END OF BOREHOLE:**						

Notes:
1) Inferred Bedrock on Auger refusal at depth of 4.9m.
2) 50mm dia. monitoring well installed upon completion.
3) Water Level Readings:

Date:	Water Level(mbgl):
Mar. 31, 2022	1.93
April 1, 2025	2.7

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

DS SOIL LOG-2021-FINAL 22-030-101 COMBINED COPY GEO.GPJ DS.GDT 25-11-5

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH22-4

PROJECT: Geotechnical Investigation
CLIENT: Mattamy (Innis Lake) Ltd. c/o Mattamy Development Corporation
PROJECT LOCATION: 12351 Innis Lake & 12250 Centreville Creek Rd., Caledon
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4851790.46 E 600276.41

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Mar-30-2022

REF. NO.: 22-030-100/101
ENCL NO.: 5

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
232.3 / 0.0	**TOPSOIL:** 200mm				
232.0 / 0.2	**FILL:** silty clay, trace sand, trace rootlets/topsoil, trace organics, grey, moist, stiff	1	SS	8	232
231.5 / 0.8	**SILTY CLAY TILL:** trace to some sand, trace gravel, occasional cobble/boulder, brown, moist, very stiff to hard	2	SS	22	
		3	SS	39	231
	grey below 2.3m	4	SS	49	230
		5	SS	33	229
227.7 / 4.6	**CLAYEY SILT TILL/SHALE COMPLEX:** trace to some sand, trace to some gravel, boulders/cobbles, grey, moist, hard	6	SS	50/130mm	228
		7	SS	63	227
224.6 / 7.7	**END OF BOREHOLE:**	8	AS	50/	225

Notes:
1) Augar Refusal at 7.6m.
2) 50mm dia. monitoring well installed upon completion.
3) Water Level Readings:

Date: Water Level(mbgl):
Mar. 31, 2022 6.14

W. L. 226.1 m
Mar.31,2022

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

SOIL PROFILE | SAMPLES | GROUND WATER CONDITIONS | 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

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH22-5

PROJECT: Geotechnical Investigation
CLIENT: Mattamy (Innis Lake) Ltd. c/o Mattamy Development Corporation
PROJECT LOCATION: 12351 Innis Lake & 12250 Centreville Creek Rd., Caledon
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4851498.93 E 600558.96

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Mar-30-2022

REF. NO.: 22-030-100/101
ENCL NO.: 6

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m
230.2 / 0.0	**TOPSOIL:** 250mm			
229.9 / 0.3	**FILL:** silty clay, trace sand, trace rootlets/topsoil, trace organics, brown, moist, firm	1	SS	7
229.4 / 0.8	**SILTY CLAY TILL:** trace to some sand, trace gravel, occasional cobble/boulder, brown, moist, very stiff to hard	2	SS	25
		3	SS	38
		4	SS	44
	grey below 3.1m	5	SS	28
225.6 / 4.6	**CLAYEY SILT TILL/SHALE COMPLEX:** trace to some sand, trace to some gravel, boulders/cobbles, grey, moist, hard	6	SS	80
224.1 / 6.2	**SHALE BEDROCK:** grey, weathered	7	SS	50/ 25mm
	END OF BOREHOLE:			

Notes:
1) Borehole dry upon completion.

GROUND WATER CONDITIONS

ELEVATION: 230, 229, 228, 227, 226, 225, 224

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

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

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LOG OF BOREHOLE BH22-6

PROJECT: Geotechnical Investigation
CLIENT: Mattamy (Innis Lake) Ltd. c/o Mattamy Development Corporation
PROJECT LOCATION: 12351 Innis Lake & 12250 Centreville Creek Rd., Caledon
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4851259.34 E 600816.71

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Mar-30-2022

REF. NO.: 22-030-100/101
ENCL NO.: 7

SOIL PROFILE (m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	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	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
226.6											
226.4 0.0	**TOPSOIL:** 250mm										
0.3	**FILL:** silty clay, trace sand, trace rootlets/topsoil, trace organics, brown, moist, firm		1	SS	7		226				
225.8 0.8	**SILTY CLAY TILL:** trace to some sand, trace gravel, occasional cobble/boulder, brown, moist, very stiff to hard		2	SS	28						
			3	SS	34		225				
			4	SS	30		224				
			5	SS	17		223				
	grey below 4.6m		6	SS	43		222				
220.6							221				
6.0	**CLAYEY SILT:** trace sand, grey, moist, hard		7	SS	50/ 130mm						
220.0											
6.6	**END OF BOREHOLE:**										

Notes:
1) Borehole dry upon completion.

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

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LOG OF BOREHOLE BH22-7

PROJECT: Geotechnical Investigation
CLIENT: Mattamy (Innis Lake) Ltd. c/o Mattamy Development Corporation
PROJECT LOCATION: 12351 Innis Lake & 12250 Centreville Creek Rd., Caledon
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4850979.39 E 600453.4

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Mar-29-2022

REF. NO.: 22-030-100/101
ENCL NO.: 8

ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS "N" 0.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH (kPa)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
232.5												
0.0 / 232.2	**TOPSOIL:** 300mm											
0.3	**FILL:** clayey silt, trace organics, trace topsoil, brown, moist, firm to stiff		1	SS	9		232					
			2	SS	5							
	some organics, trace wood pieces, dark brown at 1.5m		3	SS	10		231					
			4	SS	12		230					
229.6												
2.9	**SILTY CLAY TILL:** trace to some sand, trace gravel, occasional cobble/boulder, brown, moist, very stiff to hard		5	SS	21							
							W. L. 229.1 m Mar.31,2022					
			6	SS	50/ 130mm		228					
226.4							227					
226.3	**SHALE BEDROCK:** grey, weathered		7	SS	50/ 130mm							
6.2	**END OF BOREHOLE:**											

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water Level(mbgl):
Mar. 31, 2022	3.41
April 1, 2025	3.4

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

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LOG OF BOREHOLE BH22-9

PROJECT: Geotechnical Investigation
CLIENT: Mattamy (Innis Lake) Ltd. c/o Mattamy Development Corporation
PROJECT LOCATION: 12351 Innis Lake & 12250 Centreville Creek Rd., Caledon
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4851277.55 E 600311.54

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Mar-29-2022

REF. NO.: 22-030-100/101
ENCL NO.: 10

SOIL PROFILE (m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	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	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
233.6												
233.4 0.2	**TOPSOIL:** 250mm											
0.3	**FILL:** silty clay, some organics, trace topsoil/rootlets, brown to dark brown, moist, firm		1	SS	5		233					
1			2	SS	5							
232.1												
1.5	**SILTY CLAY TILL:** trace to some sand, trace to some gravel, occasional cobble/boulder, brown, moist, very stiff to hard		3	SS	17		232					
2			4	SS	30		231					
3			5	SS	40		230					
4	grey below 4.6m		6	SS	32		229					
5							228					
227.5												
6.1 227.1	**CLAYEY SILT TILL/SHALE COMPLEX:** trace to some sand, trace to some gravel, grey, moist, hard		7	SS	50/ 100mm							
6.5	**END OF BOREHOLE:** Notes: 1) Borehole dry upon completion.											

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

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

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LOG OF BOREHOLE BH22-10

PROJECT: Geotechnical Investigation
CLIENT: Mattamy (Innis Lake) Ltd. c/o Mattamy Development Corporation
PROJECT LOCATION: 12351 Innis Lake & 12250 Centreville Creek Rd., Caledon
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4851277.37 E 600645.13

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Mar-30-2022

REF. NO.: 22-030-100/101
ENCL NO.: 11

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	GR SA SI CL
230.7					
230.4 0.0	**TOPSOIL:** 250mm				
0.3	**FILL:** silty clay, some organics, trace topsoil/rootlets, brown to dark	1	SS	8	
229.9 0.8	brown, moist, firm				
1	**SILTY CLAY TILL:** trace to some sand, trace to some gravel, occasional cobble/boulder, brown, moist, very stiff to hard	2	SS	27	
2		3	SS	29	
		4	SS	31	
3	grey below 3.1m	5	SS	28	3 13 46 38
4					
5		6	SS	32	
224.6					
226.4 6.1	**SILTY SAND TILL:** trace to some	7	SS	62	
6.3 224.0	clay, trace gravel, grey, moist, very dense				
6.7	**CLAYEY SILT TILL/SHALE COMPLEX:** sandy, trace gravel, grey, moist, hard				
	END OF BOREHOLE:				

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water Level(mbgl):
Mar. 31, 2022	4.11
April 1, 2025	4.1

W. L. 226.5 m Mar.31,2022

ELEVATION: 230, 229, 228, 227, 226, 225, 224

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

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

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

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LOG OF BOREHOLE BH25-5

PROJECT: Geotechnical Investigation
CLIENT: Mattamy (Innis Lake) Ltd. c/o Mattamy Development Corporation
PROJECT LOCATION: 12351 Innis Lake & 12250 Centreville Creek Rd., Caledon
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4851772.4 E 600484.9

DRILLING DATA
Method: Hollow Stem Auger
Diameter: 200mm
Date: Mar-19-2025

REF. NO.: 22-030-100/101
ENCL NO.: 24

ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS "N" 0.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH (kPa) / WATER CONTENT (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
232.3											
232.0 0.0	**TOPSOIL:** 230mm										
0.2	**FILL:** clayey silt to silty clay, trace sand, trace rootlets, trace organics, dark brown to brown, moist, firm		1	SS	7		232				
231.5 0.8	**SILTY CLAY TILL:** trace to some sand, trace gravel, moist, brown to grey, moist, stiff to very stiff		2	SS	22		231	43.5			0 9 38 53
			3	SS	24						
			4	SS	17		230				
	stiff below 3.1m		5	SS	13		229				
	grey below 4.6m		6	SS	10		228				1 12 42 45
226.2							227				
6.1	**CLAYEY SILT TO SILT:** trace sand, trace gravel, grey, moist, hard		7	SS	85		226				
225.6 6.7	**END OF BOREHOLE:**										

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date: Water Level(mbgl):
April 1, 2025 dry

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GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

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LOG OF BOREHOLE BH25-7

PROJECT: Geotechnical Investigation
CLIENT: Mattamy (Innis Lake) Ltd. c/o Mattamy Development Corporation
PROJECT LOCATION: 12351 Innis Lake & 12250 Centreville Creek Rd., Caledon
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4851476.4 E 600387.6

DRILLING DATA
Method: Hollow Stem Auger
Diameter: 200mm
Date: Mar-14-2025

REF. NO.: 22-030-100/101
ENCL NO.: 26

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	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)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
228.7												
0.0 / 228.4	**TOPSOIL:** 280mm											
0.3	**FILL:** clayey silt to silty clay, trace sand, trace rootlets, trace organics, dark brown to brown, moist, firm to stiff		1	SS	6		228					
1 / 227.2			2	SS	10							
1.5	**CLAYEY SILT TILL:** trace to some sand, trace gravel, brown, moist, very stiff		3	SS	22	▽		W. L. 227.2 m Apr 01, 2025				
2 / 226.4												
2.3	**SHALE BEDROCK:** Georgian Bay Formation, grey, weathered		4	SS	50/ 130mm		226					auger grinding
3			5	SS	50/ 25mm		225					
4												
5			6	SS	50/ 50mm		224					
6 / 222.5							223					
6.2	**END OF BOREHOLE:**		7	SS	50/ 50mm							

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water Level(mbgl):
April 1, 2025	1.5

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

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

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LOG OF BOREHOLE BH25-9

PROJECT: Geotechnical Investigation
CLIENT: Mattamy (Innis Lake) Ltd. c/o Mattamy Development Corporation
PROJECT LOCATION: 12351 Innis Lake & 12250 Centreville Creek Rd., Caledon
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4851552.5 E 600687.6

DRILLING DATA
Method: Hollow Stem Auger
Diameter: 200mm
Date: Mar-19-2025

REF. NO.: 22-030-100/101
ENCL NO.: 28

SOIL PROFILE (m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
229.9								20 40 60 80 100	10 20 30			
229.7 0.0	**TOPSOIL:** 200mm											
0.2	**FILL:** clayey silt to silty clay, trace sand, trace rootlets, trace organics, dark brown to brown, moist, stiff		1	SS	10							
229.1 0.8	**SILTY CLAY TILL:** trace sand, trace gravel, brown, moist, stiff to very stiff		2	SS	18		229					
			3	SS	22		228					
			4	SS	18	▽ W. L. 227.6 m Apr 01, 2025	227					
			5	SS	14		226					
	grey, stiff at 4.6m		6	SS	8		225		40.7			1 7 38 54
223.8 6.1	**CLAYEY SILT TO SILT:** trace sand, grey, moist, hard		7	SS	50/ 130mm		224					
223.3 6.6	**END OF BOREHOLE:**											

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water Level(mbgl):
April 1, 2025	2.3

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

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

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LOG OF BOREHOLE BH25-14

PROJECT: Geotechnical Investigation
CLIENT: Mattamy (Innis Lake) Ltd. c/o Mattamy Development Corporation
PROJECT LOCATION: 12351 Innis Lake & 12250 Centreville Creek Rd., Caledon
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4851427.1 E 600252.6

DRILLING DATA
Method: Hollow Stem Auger
Diameter: 200mm
Date: Mar-18-2025

REF. NO.: 22-030-100/101
ENCL NO.: 31

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
232.3								20 40 60 80 100	10 20 30			
232.0 0.0	**TOPSOIL:** 200mm											
0.2	**FILL:** clayey silt to silty clay, trace sand, trace rootlets, trace organics, dark brown to brown, moist, firm to stiff		1	SS	6		232					
1			2	SS	6							
230.6								W. L. 231.1 m Apr 01, 2025				
1.7	**SILTY CLAY TILL:** trace to some sand, trace gravel, brown, moist, stiff to very stiff		3	SS	14							
2			4	SS	27		230					
3			5	SS	26		229					2 11 42 45
4								W. L. 228.4 m Apr 01, 2025				
227.7								Slotted Pipe				
4.6	**SHALE BEDROCK:** Georgian Bay Formation, grey, weathered		6	SS	50/ 50mm							
5			7	SS	50/ 25mm		227					
6								Bentonite				
7							226					
							225					
8								Filter Pack				
9								Slotted Pipe				
223.1												
9.2	**END OF BOREHOLE:**											

Notes:
1) Two 50mm dia. monitoring well installed at 5.1mbgl and 9.2mbgl upon completion
2) Water Level Readings:

Date: Water Level(mbgl):
April 1, 2025 1.2 (Shallow well)
April 1, 2025 3.9 (Deep well)

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

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LOG OF BOREHOLE BH25-15

PROJECT: Geotechnical Investigation
CLIENT: Mattamy (Innis Lake) Ltd. c/o Mattamy Development Corporation
PROJECT LOCATION: 12351 Innis Lake & 12250 Centreville Creek Rd., Caledon
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4851261.9 E 600793.4

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Mar-14-2025

REF. NO.: 22-030-100/101
ENCL NO.: 32

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
226.4								20 40 60 80 100	10 20 30			
226.2 0.0	**TOPSOIL:** 250mm											
0.3	**FILL:** clayey silt to silty clay, trace sand, trace rootlets, trace organics, dark brown to brown, moist, firm to very stiff		1	SS	6		226					
225.2			2	SS	15							
1.2	**SILTY CLAY TILL:** trace sand, trace gravel, brown, moist, stiff to very stiff		3	SS	19		W. L. 225.4 m Apr 01, 2025					
			4	SS	18		224 Bentonite					
221.8			5	SS	12		223					
4.6	**CLAYEY SILT TO SILT:** trace sand, grey, moist, hard		6	SS	50/ 150mm		222 W. L. 221.2 m Apr 01, 2025					
			7	SS	37		220 Filter Pack Slotted Pipe					0 2 80 18
218.8							219					
7.6	**SHALE BEDROCK:** Georgian Bay Formation, grey, weathered		8	SS	50/ 50mm		218 Bentonite					
217.2			9	SS	50/ 75mm							
9.2	TCR=83%, SCR=79%, RQD=62% Hard layer=12%, Maximum hard layer thickness=50mm		R1	SS			217					
216.6												
9.8	TCR=96%, SCR=92%, RQD=78% Hard layer=28%, Maximum hard layer thickness=150mm		R2	SS			216					
215.1							Filter Pack Slotted Pipe					
11.3	TCR=91%, SCR=91%, RQD=88% Hard layer=11%, Maximum hard layer thickness=100mm		R3	SS								
214.2												
12.2	**END OF BOREHOLE:** Notes: 1) Two 50mm dia. monitoring well installed at 7.6mbgl and 12.2mbgl upon completion 2) Water Level Readings: Date: Water Level(mbgl): April 1, 2025 1.0 (Shallow well) April 1, 2025 5.2 (Deep well)											

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

Appendix II

Site Photographs of West Slope (Photos 1 to 15)

Photo 1: Near Section A-A on Google Map

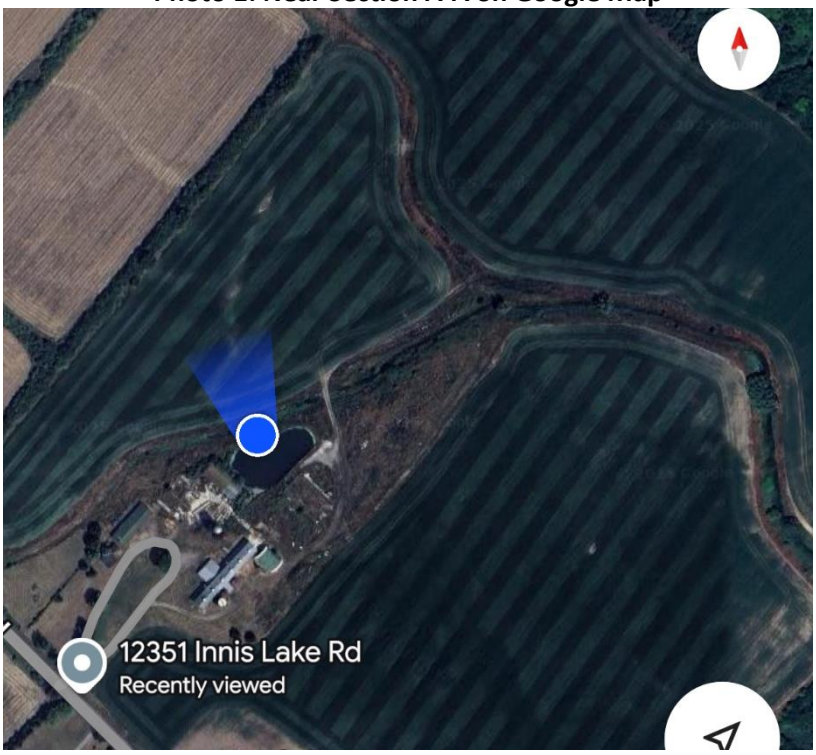

Photo 2: Near Section A-A, Existing Pond (Looking South)

Photo 3: Near Section A-A (Looking East)

Photo 4: Near Section A-A, Bedrock was Observed at Creek Bed

Photo 5: Slope Near Section C-C on Google Map

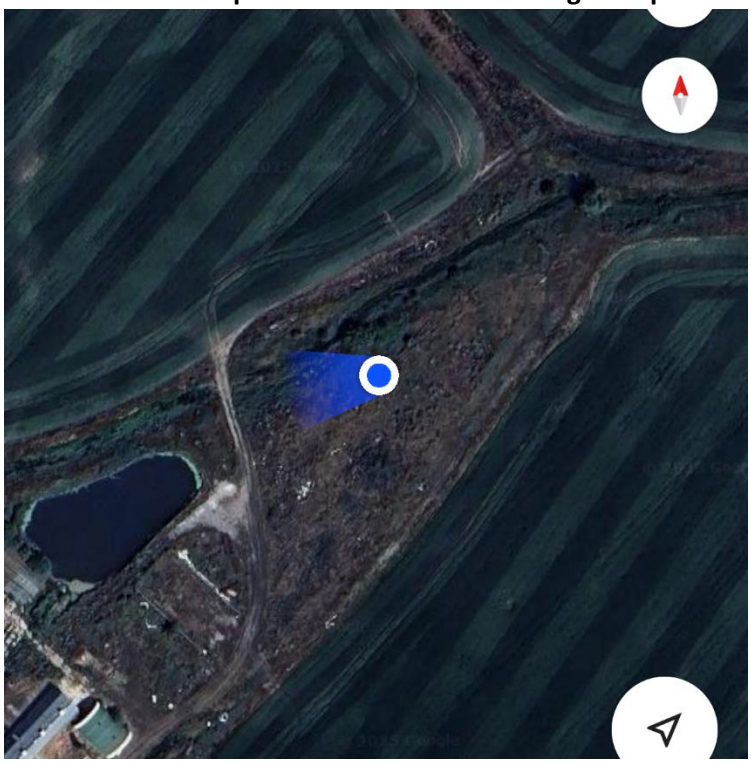

Photo 6: Slope Near Section C-C

Photo 7: Slope Between Sections C-C and D-D on Google Map

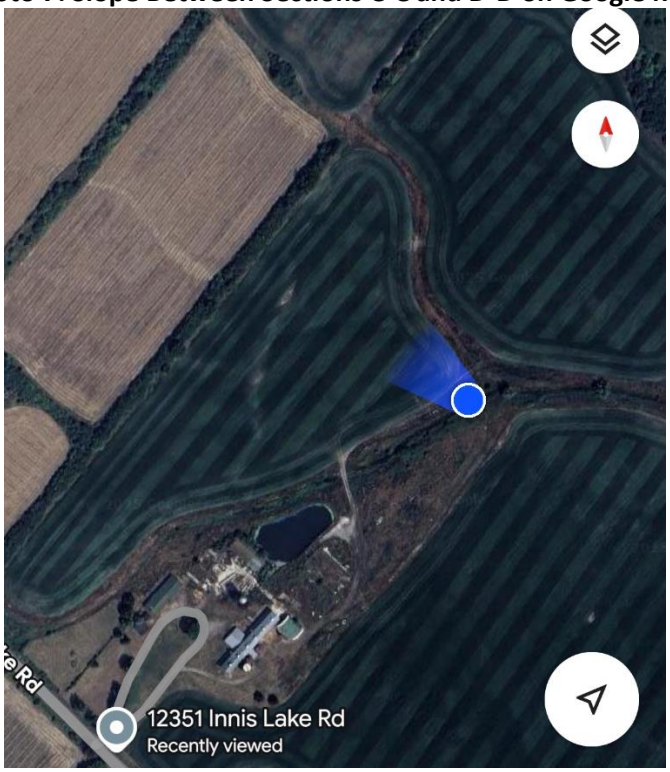

Photo 8: Between Sections C-C and D-D, Looking West

Photo 9: Between Sections C-C and D-D, Looking North (no Obvious Slope)

Photo 10: Near Section C-C, Looking East

Photo 11: Near Section F-F on Google Map

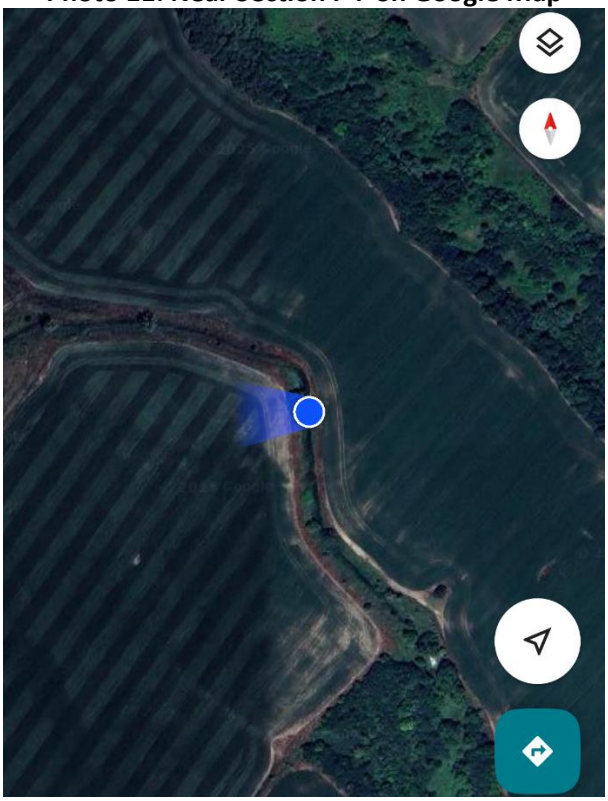

Photo 12: Near Section F-F, Looking Upward from Toe of Slope

Photo 13: Near Section F-F, Looking North

Photo 14: Near Section F-F, Looking East (no Obvious Slope)

Photo 15: Near Section H-H on Google Map

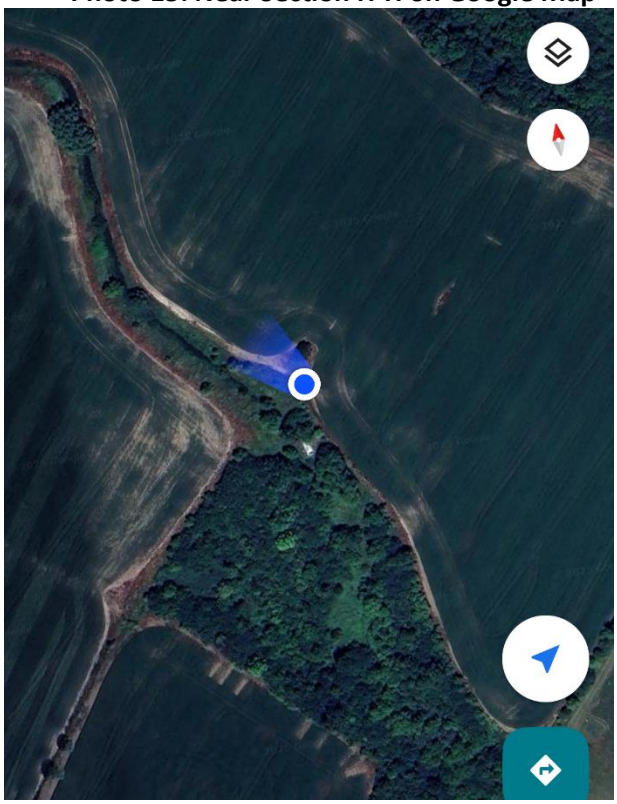

Photo 16: Near Section H-H, Looking West

Photo 17: Near Section H-H, Looking South

Photo 18: Near Section H-H, Looking East (no Obvious Slope)

Appendix III

Site Photographs of East Slope (Photos 1 to 20)

Photo 1: Slope Near Section 3-3 on Google Map

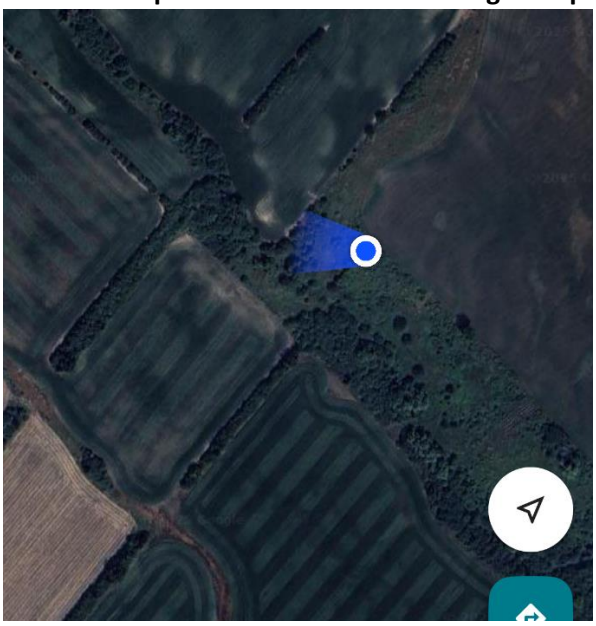

Photo 2: Slope Near Section 3-3

Photo 3: Slope Near Section 4-4 on Google Map

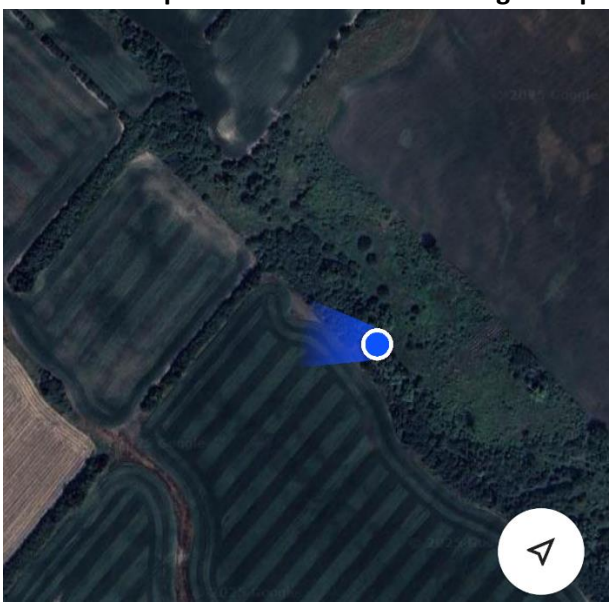

Photo 4: Slope Near Section 4-4, looking East

Photo 5: Slope Near Section 6-6 on Google Map

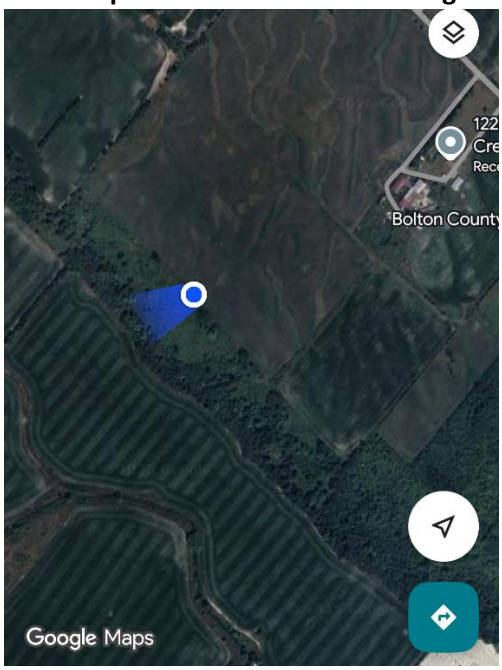

Photo 6: Slope Near Section 6-6, looking West

Photo 7: Slope Near Section 10-10 on Google Map

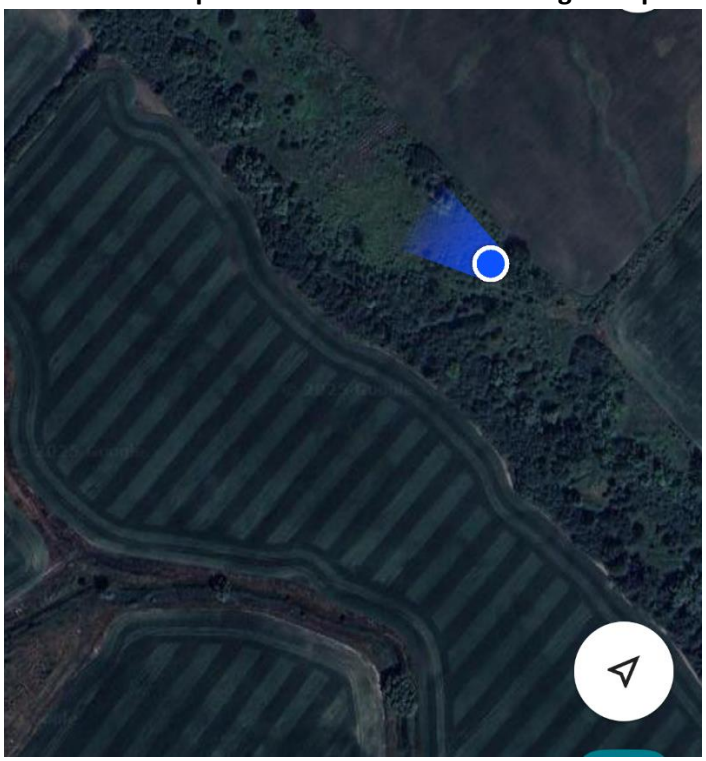

Photo 8: Slope Near Section 10-10, looking West

Photo 9: Slope Near Section 17-17 on Google Map

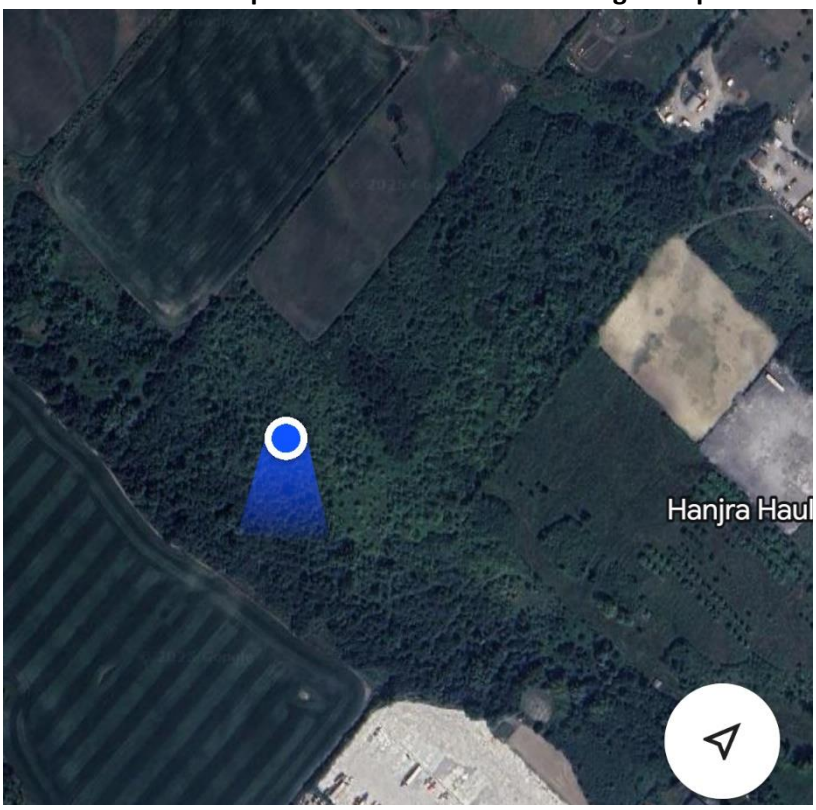

Photo 10: Slope Near Section 17-17, looking North

Photo 11: Slope Near Section 20-20 on Google Map

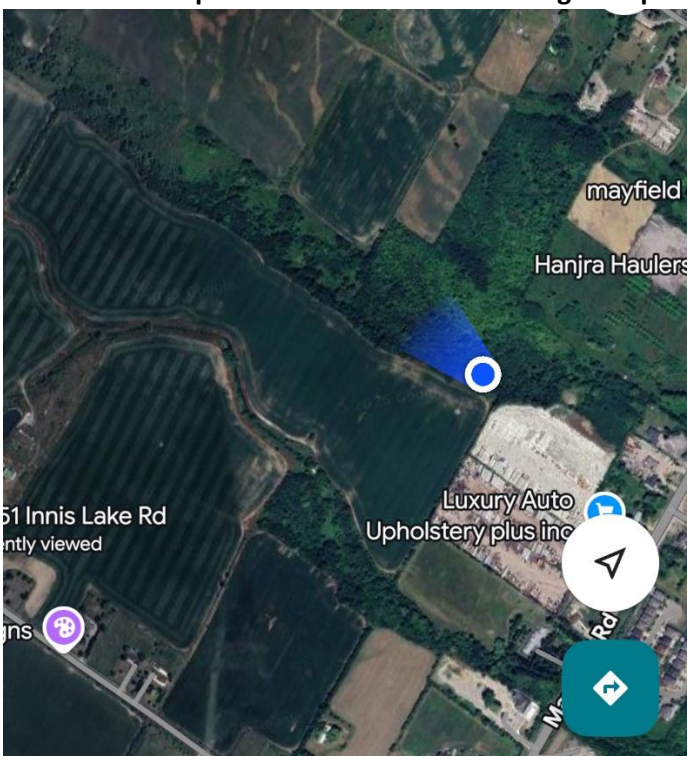

Photo 12: Near Section 20-20, Looking East

Photo 13: Near Section 18-18 on Google Map

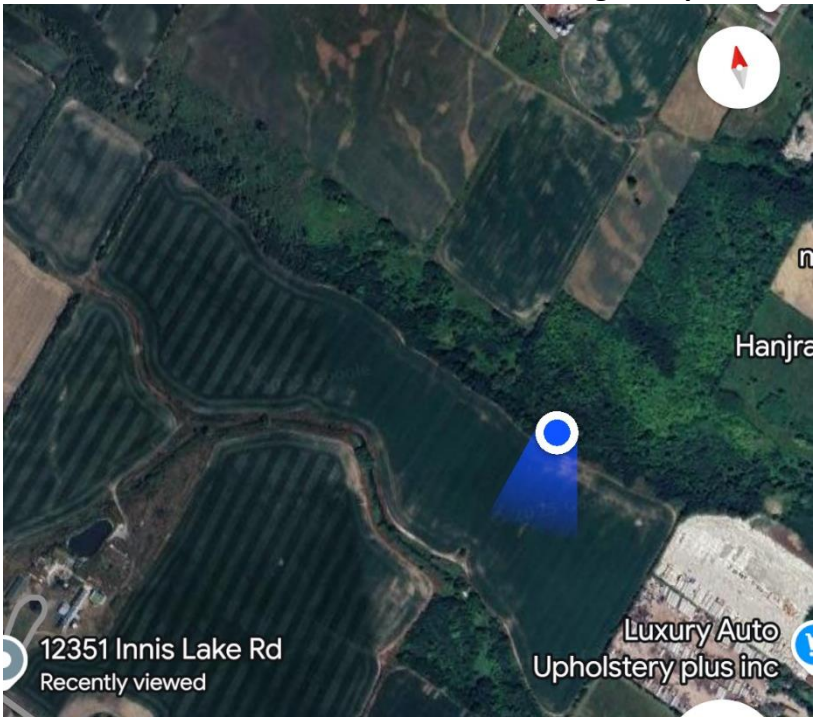

Photo 14: Slope Near Section 18-18, Looking West

Photo 15: Near Section 18-18

Photo 16: Near Section 18-18

Photo 17: Near Section 7-7 on Google Map

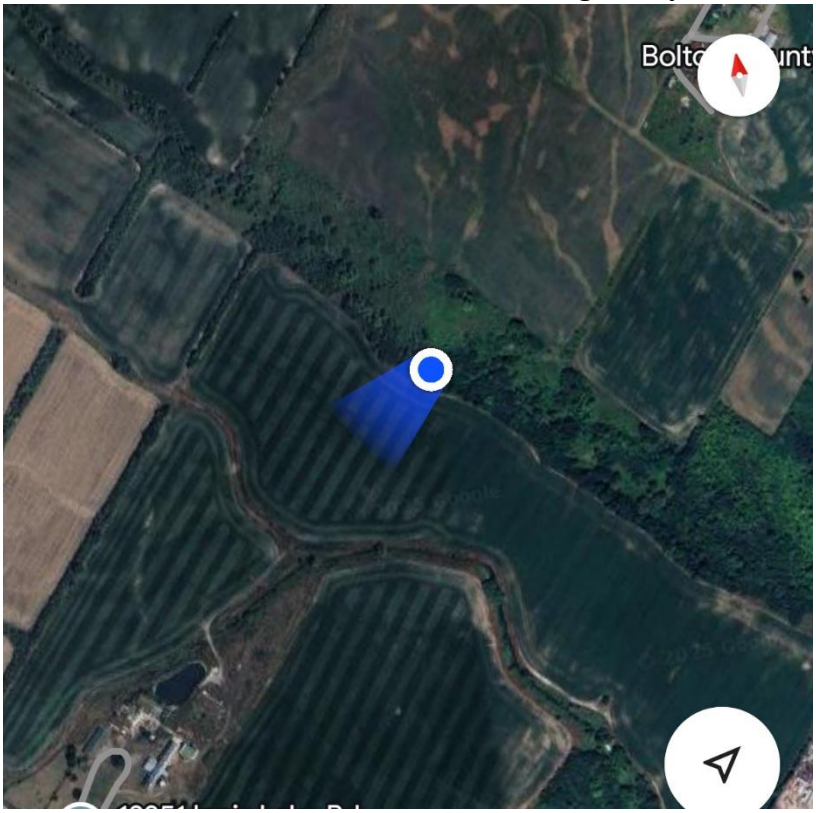

Photo 18: Slope Near Section 7-7, Looking West

Photo 19: Near Section 3-3 on Google Map

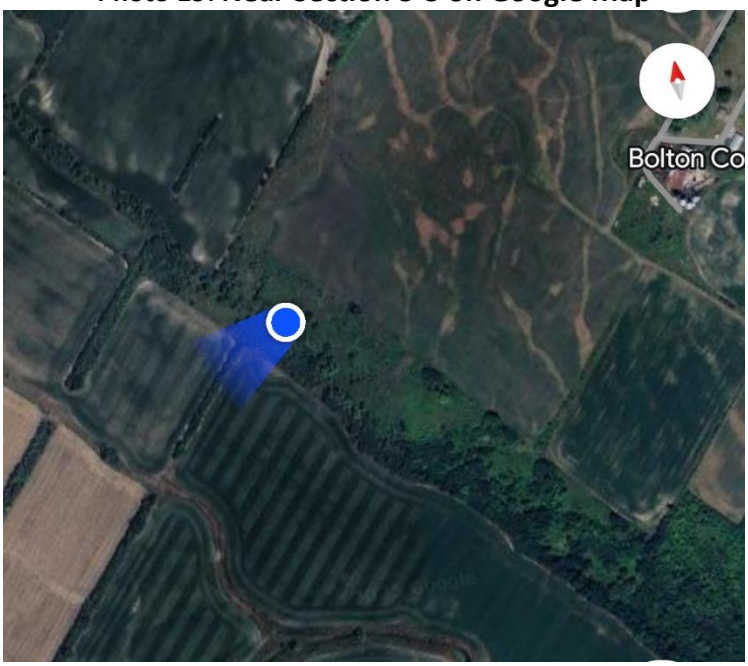

Photo 20: Slope Near Section 3-3, Looking West