

FORWARD ENGINEERING
& ASSOCIATES INC.

Geotechnical, Environmental, Inspection & Material Testing Services
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9, Tel: (416)798-3500, Fax:(416)798-8481

REPORT, REV. 1

SLOPE STABILITY ASSESSMENT

**PROPOSED RESIDENTIAL SUBDIVISION
13286 NUNNVILLE ROAD
BOLTON, ONTARIO**

PREPARED FOR:
ADEL GEORGE (OWNER)
13286 Nunnville Road
Bolton, Ontario
L7E 2Z9

January 02, 2026
Ref. No. G7442, Rev. 1

Distribution: 1 PDF Copy– ADEL GEORGE

1 PDF Copy–FORWARD ENGINEERING & ASSOCIATES INC.

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INTRODUCTION

This report presents the results of the global slope stability assessment carried out by Forward Engineering & Associates Inc. for the existing slope along the property located at 13286 Nunnville Road, Bolton, Ontario.

The locations of the existing dwelling and existing slope in relation to the subject site is shown on the Google maps, Real Property Report and Topography Survey (Topography Survey) and the Site Plan, which are attached in Appendix A.

This investigation was authorized by Mr. Adel George, the client and owner.

PURPOSE AND SCOPE

The objectives (purpose) of this investigation were to determine the following:

- The extent, depth, and properties of the predominant fill/native soil strata as they affect the short-term and long-term stability of the slope.
- The groundwater levels, where encountered.
- The effects of the proposed development on the existing stability of the slope.

To achieve the above noted objectives, the scope of work consisted of:

- 1) Site reconnaissance to review the site condition.
- 2) Review of available Water Well data.
- 3) Review of available Topography Survey.
- 4) Review of available geotechnical report.
- 5) Measurement of water level(s) in available water monitoring wells.
- 6) Carry out slope stability analysis and calculations.

On completion of the above, an engineering analysis was carried out, and this summary geotechnical report was prepared.

PROPOSED DEVELOPMENT

The proposed construction will consist of re-developing the lot to a residential subdivision, as shown on the Site Plan attached in Appendix A.

SITE CONDITIONS

Surface Conditions

The Site is located at 13286 Nunnville Road, Bolton, Ontario.

At the time of our visit, the dwelling located on the property was occupied.

For this description, it will be assumed that the north bearing is parallel to Nunnville Road.

The site condition, as observed during our site visit August 21, 2025, is presented in the following *Table No. 1*.

Table 1 - Site Surface Observations

| | |
|--------------------------|---|
| East Boundaries: | Nunnville Road. |
| North Boundaries: | Vacant property under development. |
| West Boundaries: | Treed slope grading down steeply in the west direction. The bottom of the slope was not accessible or visible at the time of our visit. |
| South Boundaries: | Residential dwelling. |
| Surface Coverage: | The site predominantly consists of landscaping with mature trees. The remainder of the site is covered by the dwelling and asphalt driveway. |
| Ground Level: | The topography of the site, has an overall minor grade, sloping down from south to north. A steep slope is present on the west side of the property and grades down in the west direction. |
| Ditches: | None observed. |

| | |
|------------------------------------|---|
| Berms/Stockpiles: | None observed. |
| Existing Structures: | <ul style="list-style-type: none"> • Residential dwelling (1 storey structure with walkout basement). • Retaining wall running parallel to driveway, and another retaining wall at rear of the dwelling. • Small shed at rear of dwelling. |
| Proposed/Intended Land Use: | Residential. |

Subsurface Conditions

The subsurface conditions encountered at the borehole locations are shown on the Log of Borehole sheets, presented in Appendix A. Since this investigation is mainly dealing with the slope assessment, therefore, BH-101 and BH/MW-102, which are drilled adjacent to the crest of the subject slope under consideration, can be summarized as follows:

| | |
|-----------------------------|--|
| Topsoil/Organic Soil | <p>A layer of Topsoil/Organic soil was encountered at the surface of all the boreholes BH/MW-101 and BH/MW-102, with a thickness ranging from about 300 and 150 mm respectively.</p> <p><i>At the time of our investigation this layer was frozen. Consequently, the measurements of this layer are not considered accurate.</i></p> |
| Fill/Disturbed Soil | <p>A layer of Fill/Disturbed soil was found below the topsoil in borehole BH/MW-101 and extended to a depth of about 0.76 m below the EGSL.</p> <p>This layer consisted of brown clayey silt with traces of rootlets, was found in moist condition and in loose to compact state of packing.</p> <p><i>For detailed description of this layer, further investigation through test pits is recommended.</i></p> |

| | |
|-----------------------------------|---|
| Silty Clay Till | <p>The native stratum that was encountered below the topsoil in BH/MW-102, or the fill/disturbed soil layer in BH/MW-101 consisted of a glacial deposit of Silty Clay Till. The stratum extended to the underlying Silt Till/Clay Silt Till at a depth of about 9.14 m below EGSL in borehole BH/MW-101, and to the maximum explored depth of the borehole in BH/MW-102 at a depth of 6.55 m below EGSL.</p> <p>This brown and grey till stratum was found in moist to very moist condition and in hard consistency, then very to stiff consistency with the increased depth.</p> |
| Silt Till/Clayey Silt Till | <p>A stratum of Silt till/Clayey Silt Till was encountered below the Silty Clay stratum in borehole BH/MW-101, extending to the maximum depth of investigation at a depth of about 21.8 m below EGSL.</p> <p>This brown and grey till encountered occasional silt inclusions and partings. This generally moist till was found in hard to very stiff then to hard consistencies with the increased depths.</p> |
| Groundwater | <p>Groundwater level observations were made during and immediately upon the completion of the drilling investigation. The results are summarized in the following <i>Table 2a</i>, as shown:</p> |

Table 2a: Groundwater & Cave-in Observations Upon Completion of Drilling

| Borehole No. | Borehole Depth (m) | Cave-in Depth Below EGSL (m) | Groundwater Depth Below EGSL (m) |
|---------------------|---------------------------|-------------------------------------|---|
| BH/MW-101 | 21.79 | open | dry |
| BH/MW-102 | 6.55 | open | dry |

The water level in BH/MW-101 and BH/MW-102, which were equipped with a stick up and/or flush mounted monitoring well, was measured after the completion of the drilling operation and our observations are recorded and presented in the following *Table 2b*, as shown.

Table 2b: Groundwater Observation about a Week after Completion of Drilling

| ID & Date of GWL Measurement | Groundwater Depth Below EGSL & (elevation) |
|---|---|
| BH/MW-101 <i>March 5, 2025</i> | 5.57 m (239.74 m) |
| BH/MW-102 <i>March 5, 2025</i> | 5.18 m (241.22 m) |

It should be noted, however, that the groundwater levels are subject to seasonal fluctuations. Consequently, definitive information on the long-term groundwater levels could not be obtained at the present time.

SLOPE STABILITY ASSESSMENT

Based on the available borehole information, our site observations, and the slope profiles obtained from the Topography Survey, a slope assessment study was carried out by our office to determine the line of the Long-Term Stable Top of Slope (LTSTOS), as detailed and presented below.

Site and Slope Conditions

Slope Inspection and Significant Topographic Features

Visual inspection of the slope condition was conducted during our site visits on August 21, 2025. The visual inspection covered the area of the slope adjacent and along the subject property westerly property line.

General information pertaining to the slope features such as slope profile, slope drainage, watercourse features, vegetation cover, erosion and slope instability features, and structures in the vicinity of the slope, were obtained during this inspection.

Photographs taken during these inspections, covering general and significant features of the slope, are attached as Appendix C.

Based on our site observations during our site visit, the slope conditions can be described as follows:

- The slope is covered with mature trees, bushes and vegetation.
- No tension cracks were observed at top of the slope.
- The trees are in a reasonable vertical position.
- In general, our field review of the slope condition suggests that the slope is in a stable condition with respect to global slope stability.

Soil Strength Parameters

Based on the encountered subsurface conditions, and well-established literature applicable correlations, the following estimated average soil layers properties/parameters derived and used for the slope stability analysis are shown in the following *Tables 2 and 3*:

Table 2 – Borehole BH/MW-101

| (Top Elevation) and Depth Range of Soil Strata | Effective Cohesion (C') (kPa) | Effective Internal Friction Angle (Ø') | Unit Weight (γ_t) (kN/m³) |
|--|--------------------------------------|---|---|
| (246.80 m) 0.0 – 0.76 m Fill/Disturbed Soil | 0.0 | 22° | 17.0 |
| (246.04 m) 0.76 – 2.0 m Silty Clay Till (Hard) | 10.0 | 30° | 20.0 |
| (244.04 m) 2.0 – 5.0 m Silty Clay Till (Very Stiff) | 10.0 | 30° | 20.5 |
| (239.04 m) 5.0 – 9.14 m Silty Clay Till (Very Stiff) | 8.0 | 31° | 21.0 |
| (229.90 m) 9.14 – 17.5 m Silt Till/Clayey Silt Till (Hard to Very Stiff) | 5.0 | 33° | 22.0 |
| (212.40 m) 17.5 – 21.79 m Silt Till/Clayey Silt Till (Hard) | 4.0 | 35° | 23.0 |

Table 3 – Borehole BH/MW-102

| (Top Elevation) and Depth Range of Soil Strata | Effective Cohesion (C') (kPa) | Effective Internal Friction Angle (Ø') | Unit Weight (γ_t) (kN/m³) |
|--|--------------------------------------|---|---|
| (246.40 m) 0 – 0.15 m Topsoil/Fill | 0.0 | 22° | 17.0 |
| (246.40 m) 0.15 – 1.5 m Silty Clay Till (Stiff to Very Stiff) | 8.0 | 29° | 19.5 |
| (244.90 m) 1.5 – 4.0 m Silty Clay Till (Hard) | 10.0 | 31° | 21.5 |
| (240.40 m) 4.0 – 6.55 m Silty Clay Till (Very Stiff) | 8.0 | 31° | 21.0 |

The above soil strength parameters are based on effective stress analysis for long-term slope stability.

Slope Stability Analyses

In Summary, four [4] cross-sections (Sections AA, BB, CC and DD) of the slope were used for the slope stability calculations.

The locations of these cross-sections are depicted on the Real Property Report and Topography Survey (attached in Appendix D).

In reference to the Topography Survey, the base of the adjacent valley is lower in depth ranging from about 14.8 to about 23.50 m below the tableland of the proposed re-development as presented in *Table 5*, shown below, and the existing slope inclinations rests at gradients ranging from 3.37 Horizontal (H) to 1 Vertical (V) to 4.50 H to 1 V.

Table 5 - Slope Height and Inclination

| Section | Slope Height | Inclination |
|----------------|---------------------|--------------------|
| AA | 23.50 m | 3.75 H to 1 V |
| BB | 16.50 m | 3.37 H to 1 V |
| CC | 15.30 m | 3.91 H to 1 V |
| DD | 14.80 m | 4.50 H to 1 V |

The overall long-term stability of the natural slope of the bank is primarily governed by the effective internal friction angle and by the long-term cohesion of the slope stratigraphy.

The stability analyses of the existing slope were carried out by the Simplified Bishop Method for circular slip surfaces. A commercial program, G-Slope, was primarily used for two dimensional analyses.

Slope Stability Analysis Procedures:

In order to obtain the minimum Safety Factor (SF) at a certain point(s) or to assess the slope failure surface for a predetermined minimum SF, the analysis was carried out with special analysis options, as follows:

1. The program allows the program user (User) to select a single point or two [2] points within the slope profile, identified in the program as Henry's points.
2. The User runs analysis calculation with:
 - Option 1 - slip surfaces intersecting a Henry's Point,
 - Option 2 - slip surfaces passing below Henry's point, or
 - Option 3 - slip surfaces intersecting a series of Henry's points.

Slip surfaces for selected Minimum SF of 1.5

The above Option 2 was selected.

A single Henry point was systematically selected. After the initial calculation run, the location of the Henry point was further moved several times until a minimum SF value of 1.5 was reached.

The slip surfaces with minimum safety factors greater than 1.5 are graphically shown on Drawings 2 to 5, enclosed in Appendix D.

No slip surface with minimum safety factor less than 1.5 was detected beyond the Physical Top of Bank (TOB) staked by TRCA on May 23, 2025. For location of the TOB, refer to Topography Survey, attached in Appendix D.

Based on the above, the TOB staked by TRCA on May 23, 2025 can be taken as the LTSTOS line, as presented on the Plan of Topography.

Toe Erosion Allowance

For Long Term Stable Top of Slope (LTSTOS), Toe Erosion Allowance (TEA) is taken into consideration when the watercourse position is within 15 m of the slope toe), in addition to the stability setback component above.

No watercourse is present at the slope toe. Accordingly, no (TEA) is required.

Discussion and Conclusion

Based on the above findings of the global stability assessment, our conclusion and recommendations are as follows:

- No slip surface with minimum safety factor (SF) of less than 1.5 would occur beyond the Physical Top of Bank (TOB) that was staked by TRCA on May 23, 2025.
- Therefore, based on the above conclusions, the (TOB) line, shown on the Topography, can be considered as Long-Term Stable Top of Slope (LTSTOS) line.
- No Toe Erosion Allowance (TEA) is required.
- Based on the above, it is our professional opinion that the proposed development, with the proposed LTSTOS (refer to Appendix D), should have no adverse impact on the stability of the subject slope.
- In order to prevent potential surficial (localised) slippage from occurring due to infiltration of water into the till fissures, and to improve the long-term stability of the slope, we suggest the following precautionary measures:

- a) Surface run-off from the top of the slope should not be allowed to run down the slopes since it would result in erosion and shallow depth failures of the slope.
- b) Vegetation on the face of the slope should not be removed and should be improved, where possible, in order to increase the stability of the slope.

General Comments

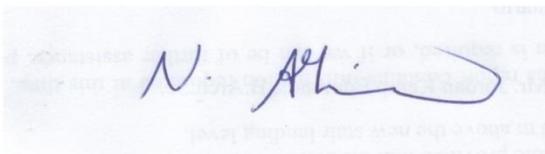
This report is provided on the basis of the terms of reference provided above, and on the assumption that the design will be in accordance with the applicable codes and standards.

If there is any change in the design features relevant to the geotechnical analyses, or if any questions arise regarding the geotechnical aspects of the codes and standards, this office should be contacted to review the design.

We trust this report contains information requested at this time. However, if any clarification is required, or if we can be of further assistance, please contact this office.

Yours truly,

Forward Engineering & Associates Inc.



Nasser Abdelghani, M.Sc., P.Eng.
Project Geotechnical Engineer



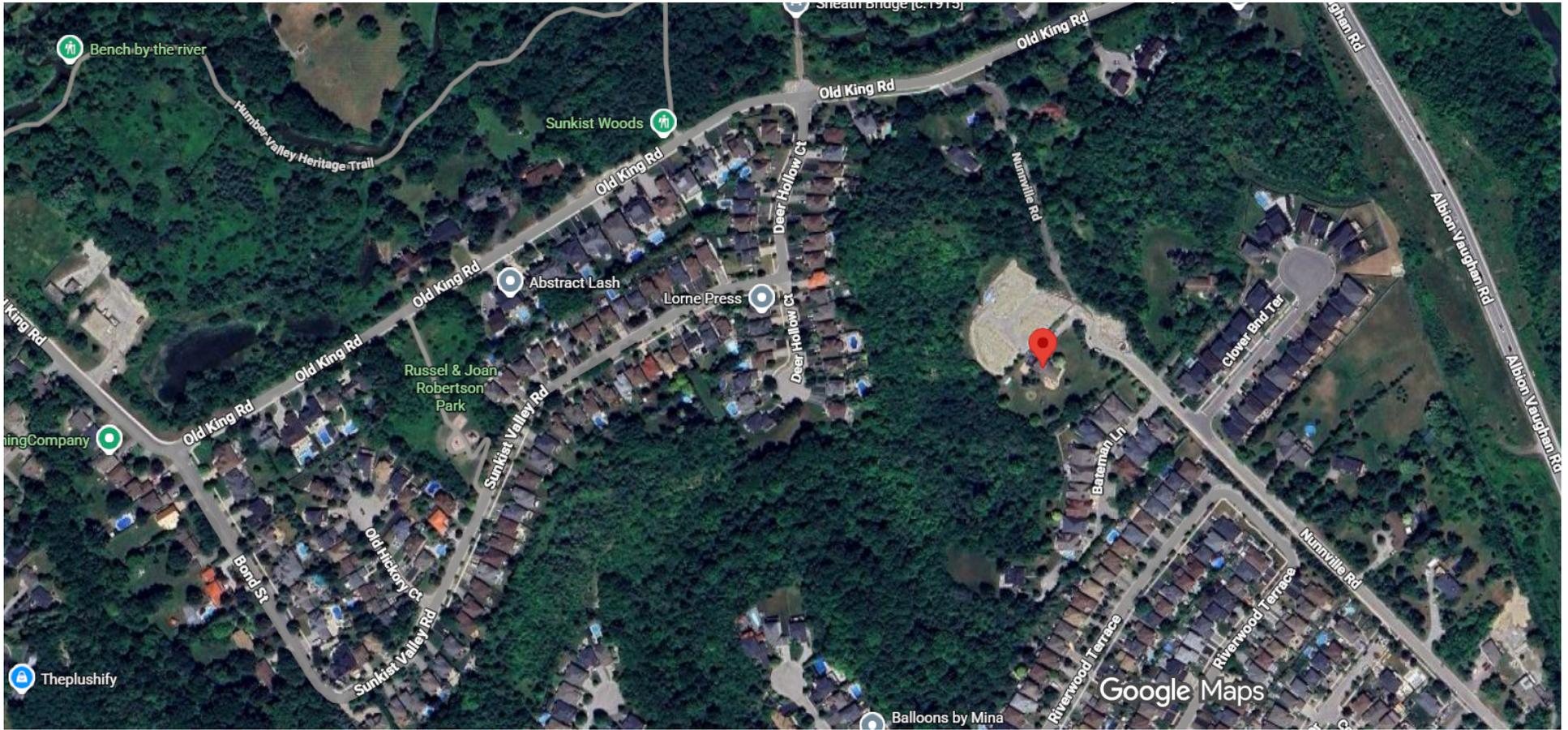
G. S. Semaan, M.Eng., P.Eng.
Principal

APPENDIX A

GOOGLE MAPS, TOPOGRAPHY SURVEY & SITE PLAN



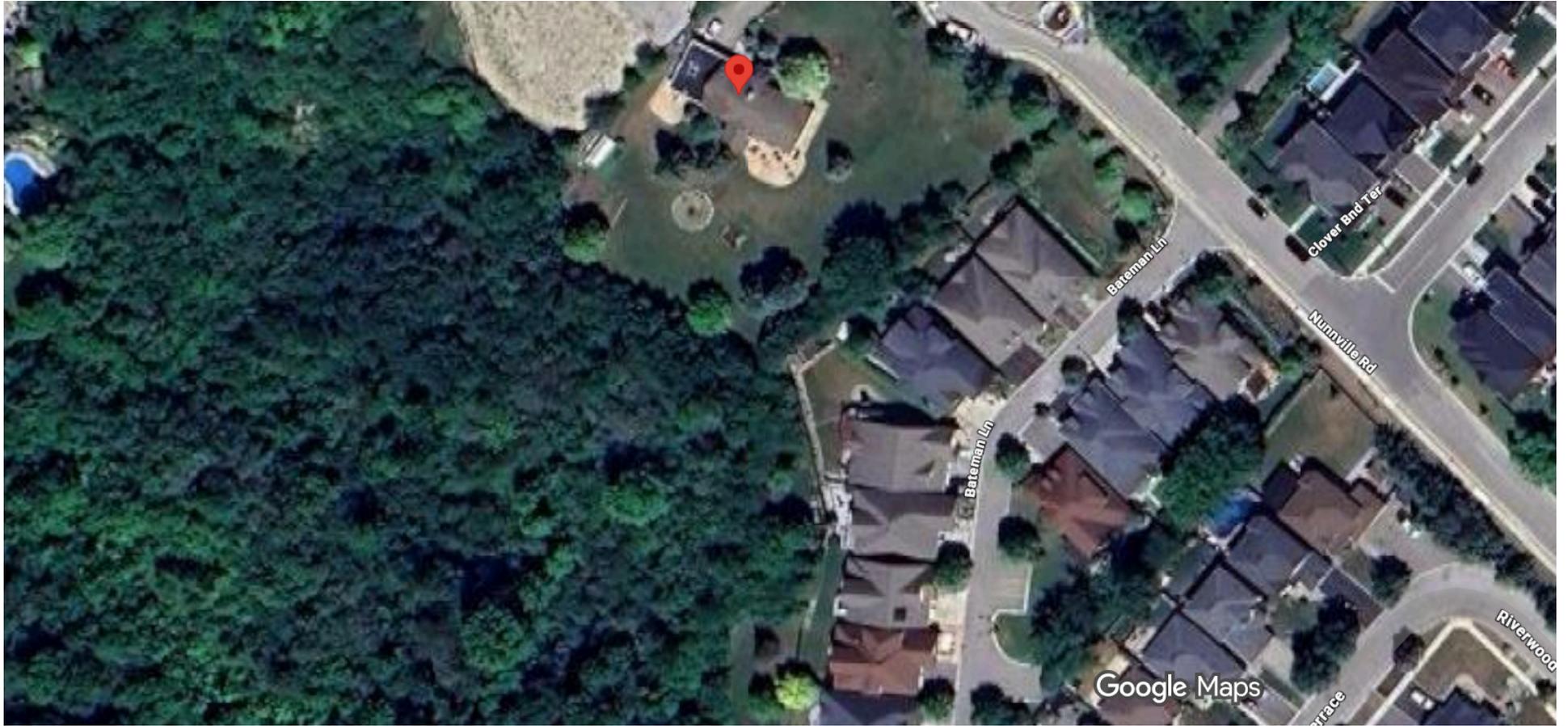
13286 Nunnville Rd



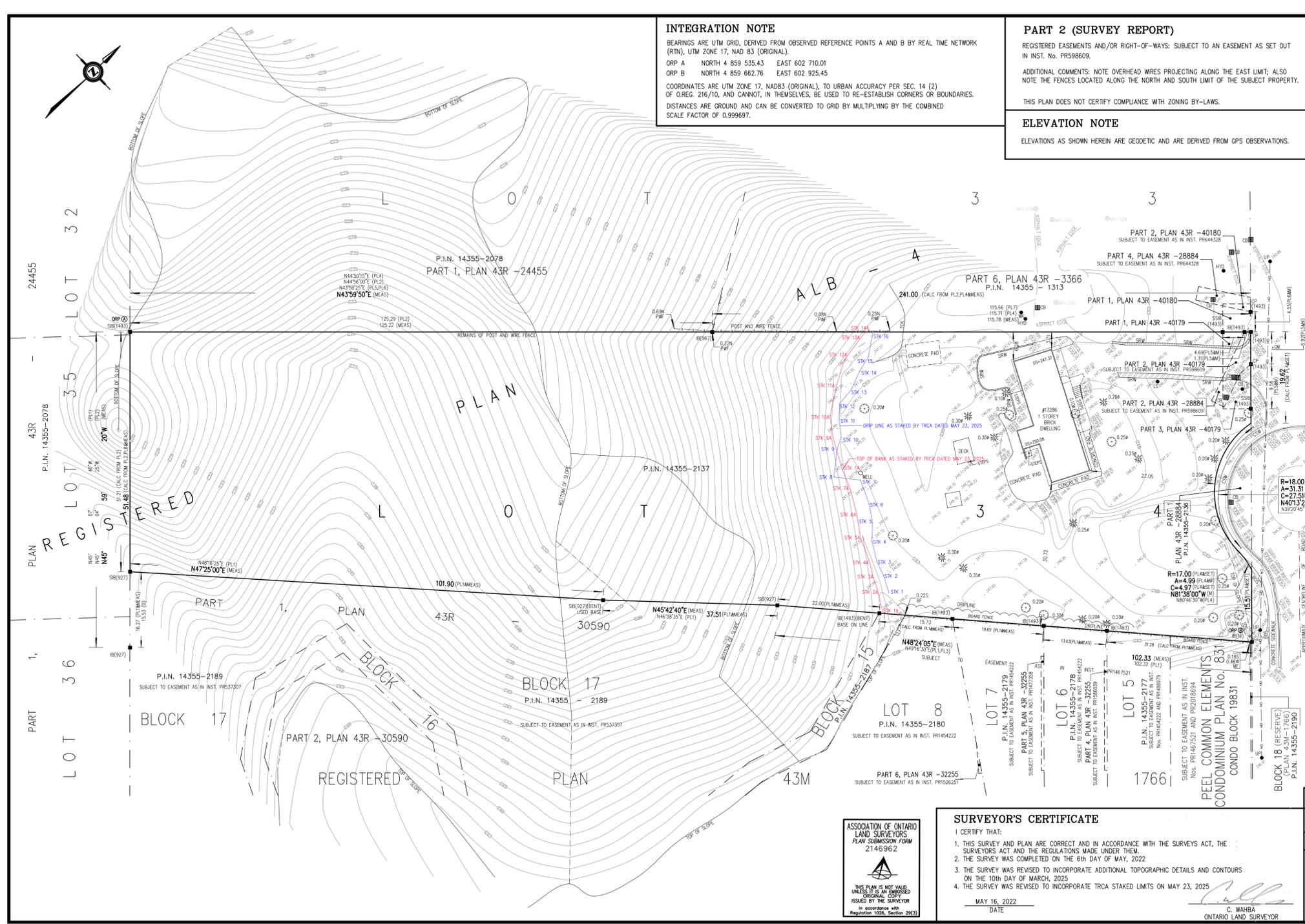
Imagery ©2025 Airbus, Maxar Technologies, Map data ©2025 Google 50 m



13286 Nunnville Rd



Imagery ©2025 Airbus, Maxar Technologies, Map data ©2025 Google 20 m



INTEGRATION NOTE
 BEARINGS ARE UTM GRID, DERIVED FROM OBSERVED REFERENCE POINTS A AND B BY REAL TIME NETWORK (RTN), UTM ZONE 17, NAD 83 (ORIGINAL).
 ORP A NORTH 4 859 535.43 EAST 602 710.01
 ORP B NORTH 4 859 662.76 EAST 602 925.45
 COORDINATES ARE UTM ZONE 17, NAD83 (ORIGINAL), TO URBAN ACCURACY PER SEC. 14 (2) OF O.REG. 216/10, AND CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES. DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999697.

PART 2 (SURVEY REPORT)
 REGISTERED EASEMENTS AND/OR RIGHT-OF-WAYS: SUBJECT TO AN EASEMENT AS SET OUT IN INST. No. PR598609.
 ADDITIONAL COMMENTS: NOTE OVERHEAD WIRES PROJECTING ALONG THE EAST LIMIT; ALSO NOTE THE FENCES LOCATED ALONG THE NORTH AND SOUTH LIMIT OF THE SUBJECT PROPERTY.
 THIS PLAN DOES NOT CERTIFY COMPLIANCE WITH ZONING BY-LAWS.

ELEVATION NOTE
 ELEVATIONS AS SHOWN HEREIN ARE GEODETIC AND ARE DERIVED FROM GPS OBSERVATIONS.

SURVEYOR'S REAL PROPERTY REPORT AND TOPOGRAPHY OF
PART 1,
PLAN OF SURVEY OF
PART OF LOT 34
REGISTERED PLAN ALB-4
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL
 SCALE 1:500
 10m 5 0 10 20 30m 40 50 60 m
 C. WAHBA SURVEYING LTD.
 DISTANCES AND COORDINATES AS SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.
 THIS PLAN WAS PREPARED FOR MR. ADEL GEORGE AND THE UNDERSIGNED ACCEPTS NO RESPONSIBILITY FOR USE BY OTHER PARTIES.
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LEGEND

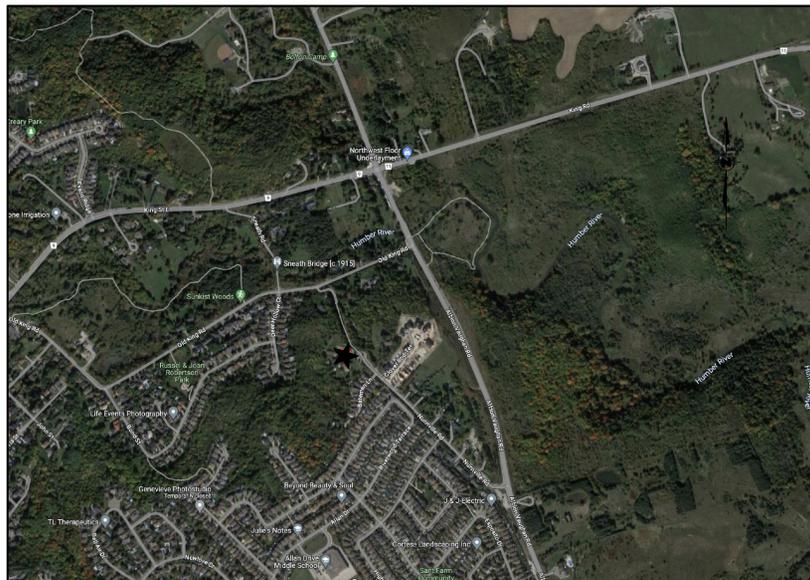
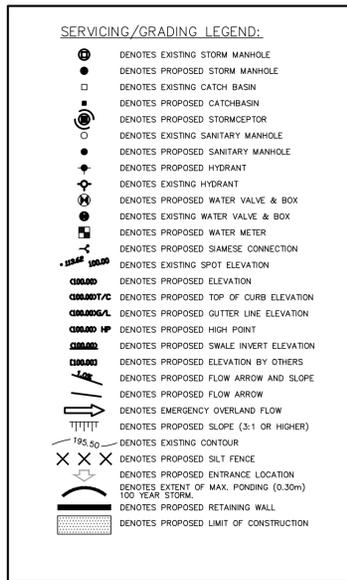
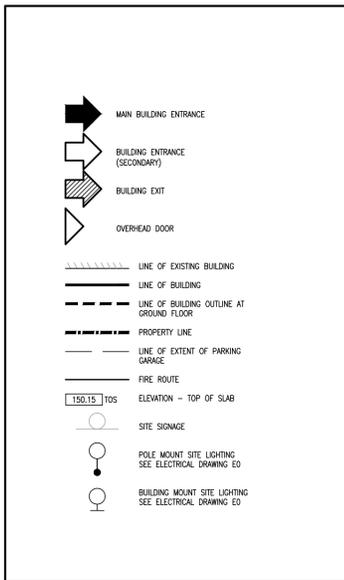
| | |
|----------|--|
| ■ | DENOTES MONUMENT FOUND |
| IB | DENOTES IRON BAR |
| IP | DENOTES IRON PIPE |
| SIB | DENOTES STANDARD IRON BAR |
| SSIB | DENOTES SHORT STANDARD IRON BAR |
| CP | DENOTES CONCRETE PIN WITH WASHER |
| (N) | DENOTES NOT IDENTIFIABLE |
| PL1 | DENOTES REGISTERED PLAN 43M-1766 |
| PL2 | DENOTES PLAN 43R-24455 |
| PL3 | DENOTES PEEL CONDOMINIUM PLAN No. 831 |
| PL4 | DENOTES PLAN 43R-28884 |
| PL5 | DENOTES PLAN 43R-40179 |
| PL6 | DENOTES PLAN 43R-40180 |
| PL7 | DENOTES PLAN 43R-3366 |
| PL8 | DENOTES PLAN 43R-19483 |
| D | DENOTES INSTRUMENT R0112196 |
| (927) | DENOTES J. R. SNEATH, O.L.S. |
| (967) | DENOTES W. N. WILDMAN, O.L.S. |
| (1493) | DENOTES YOUNG & YOUNG SURVEYING INC., O.L.S. |
| P.I.N. | DENOTES PROPERTY IDENTIFIER NUMBER |
| N.S.W.E. | DENOTES NORTH SOUTH, WEST, EAST |
| MEAS/M | DENOTES MEASURED |
| CALC | DENOTES CALCULATED |
| MF | DENOTES METAL FENCE |
| CLF | DENOTES CHAINLINK FENCE |
| BF | DENOTES BOARD FENCE |
| MH-SAN | DENOTES MANHOLE SANITARY |
| MH-STM | DENOTES MANHOLE STORM |
| PWF | DENOTES POST AND WIRE FENCE |
| GM | DENOTES GAS METER |
| -X- | DENOTES FENCE LINE |
| -OH- | DENOTES OVERHEAD WIRE |
| UP | DENOTES UTILITY POLE |
| SRW | DENOTES STONE RETAINING WALL |
| TOS | DENOTES TOP OF SLOPE |
| BOS | DENOTES BOTTOM OF SLOPE |
| CSW | DENOTES CONCRETE SIDEWALK |
| CB | DENOTES CATCH BASIN |
| LS | DENOTES LIGHT STANDARD |
| DS | DENOTES DOOR SILL ELEVATION |
| WK | DENOTES WATER KEY |
| HYD | DENOTES FIRE HYDRANT |
| ⊙ | DENOTES DIMETER |
| ⊙ | DENOTES DECIDUOUS TREE |
| ⊙ | DENOTES CONIFEROUS TREE |
| ← | DENOTES GUY WIRE ANCHOR |

NUNNVILLE ROAD
 ORIGINAL ROAD ALLOWANCE BETWEEN CONCESSIONS 7 AND 8
 P.I.N. 14355-1563



SURVEYOR'S CERTIFICATE
 I CERTIFY THAT:
 1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM;
 2. THE SURVEY WAS COMPLETED ON THE 6th DAY OF MAY, 2022
 3. THE SURVEY WAS REVISED TO INCORPORATE ADDITIONAL TOPOGRAPHIC DETAILS AND CONTOURS ON THE 10th DAY OF MARCH, 2025
 4. THE SURVEY WAS REVISED TO INCORPORATE TRCA STAKED LIMITS ON MAY 23, 2025
 MAY 16, 2022
 DATE
 C. WAHBA
 ONTARIO LAND SURVEYOR

| | |
|---|--------------------|
| DRAWN: SS | CHECKED: CW |
| CAD FILE: 22-052-SRPR+TOPO | PROJECT No. 22-052 |
| 120 Woodstream Blvd. Unit 18, Woodbridge ON L4L7Z1 Tel. 905.851.1300 www.wahbasurveying.com | |
| WAHBA SURVEYING | |



Statistics

SCALE: N.T.S.

| BUILDING 1 | | | | | |
|------------|------------------|---------------------|----------------------|------------------|------------------------|
| LOT NO. | LOT AREA (SQ. M) | BLDG G.F.A. (SQ. M) | LOT COVERAGE (SQ. M) | LOT COVERAGE (%) | FINISH FLOOR ELEVATION |
| 1 | 245.45 | 158.76 | 77.76 | 31.68 | 246.55 |
| 2 | 173.00 | 158.76 | 77.76 | 44.95 | 246.55 |
| 3 | 173.00 | 158.76 | 77.76 | 44.95 | 247.00 |
| 4 | 173.00 | 158.76 | 77.76 | 44.95 | 247.00 |
| 5 | 173.00 | 158.76 | 77.76 | 44.95 | 247.65 |
| 6 | 173.00 | 158.76 | 77.76 | 44.95 | 247.65 |
| 7 | 205.16 | 158.76 | 77.76 | 37.90 | 247.65 |
| TOTAL | 1,315.81 | 1,111.32 | 644.32 | 41.37 | |

| BUILDING 2 | | | | | |
|------------|------------------|---------------------|----------------------|------------------|--------|
| LOT NO. | LOT AREA (SQ. M) | BLDG G.F.A. (SQ. M) | LOT COVERAGE (SQ. M) | LOT COVERAGE (%) | |
| 8 | 228.86 | 159.00 | 78.00 | 34.08 | 248.45 |
| 9 | 200.00 | 159.00 | 78.00 | 39.00 | 248.45 |
| 10 | 208.34 | 159.00 | 78.00 | 37.44 | 248.45 |
| 11 | 206.05 | 159.00 | 78.00 | 37.86 | 248.45 |
| 12 | 233.21 | 159.00 | 78.00 | 33.45 | 248.45 |
| TOTAL | 1,076.46 | 795.00 | 390.00 | 36.23 | |

| BUILDING 3 | | | | | |
|------------|------------------|---------------------|----------------------|------------------|--------|
| LOT NO. | LOT AREA (SQ. M) | BLDG G.F.A. (SQ. M) | LOT COVERAGE (SQ. M) | LOT COVERAGE (%) | |
| 13 | 216.81 | 159.00 | 78.00 | 35.96 | 248.45 |
| 14 | 172.07 | 159.00 | 78.00 | 45.33 | 248.45 |
| 15 | 173.60 | 166.00 | 81.50 | 46.87 | 249.55 |
| 16 | 218.38 | 166.00 | 81.50 | 37.32 | 249.55 |
| TOTAL | 781.26 | 640.00 | 319.00 | 40.83 | |

| BUILDING 4 | | | | | |
|------------|------------------|---------------------|----------------------|------------------|--------|
| LOT NO. | LOT AREA (SQ. M) | BLDG G.F.A. (SQ. M) | LOT COVERAGE (SQ. M) | LOT COVERAGE (%) | |
| 17 | 205.52 | 171.84 | 84.55 | 41.14 | 249.00 |
| 18 | 178.63 | 171.84 | 84.55 | 47.33 | 249.00 |
| 19 | 181.80 | 171.84 | 84.55 | 46.48 | 248.20 |
| 20 | 185.16 | 171.84 | 84.55 | 45.69 | 248.20 |
| 21 | 188.42 | 171.84 | 84.55 | 44.87 | 247.85 |
| 22 | 191.69 | 171.84 | 84.55 | 44.11 | 247.85 |
| TOTAL | 1,191.32 | 1,031.84 | 507.30 | 44.84 | |

OVERALL SITE STATISTICS

| | |
|---------------------|--|
| SITE AREA | 14,104.41 SQ. M (1.41 ha) |
| MIN. LOT AREA | 172.07 SQ. M |
| TOTAL BUILDING AREA | 3,987.36 SQ. M |
| MAX. LOT COVERAGE | 46.87% |
| MIN. LOT WIDTH | 6.00 M |
| MIN. LOT DEPTH | 25.87 M |
| PARKING | 44 RESIDENCE PARKING (1 INTERNAL & 1 EXTERNAL) VISITOR PARKING (ON-SITE) |

5 Legend
A101 SCALE: N.T.S.

4 Survey Information
A101 SCALE: N.T.S.

3 Context Plan
A101 SCALE: N.T.S.

2 Statistics
A101 SCALE: N.T.S.



1 Site Plan
A101 SCALE: 1:400

REVISION RECORD

| NO. | DATE | DESCRIPTION |
|-----|------------|----------------------|
| 1 | 2025-12-15 | ISSUED FOR RE-ZONING |

ISSUE RECORD



Y ARCHITECTS
(t) 416 230 9130
(e) info@yarchitects.ca

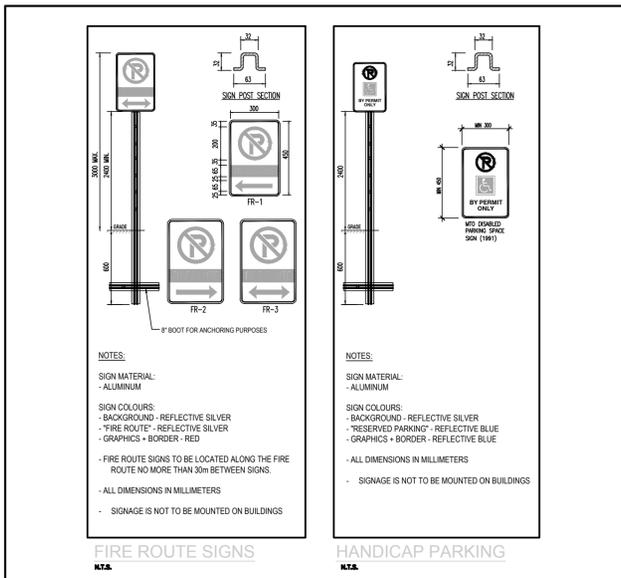
**PROPOSED RE-ZONING AT
13286 NUNNVILLE ROAD
BOLTON, ON**

23004 As Noted OY
PROJECT SCALE DRAWN REVIEWED

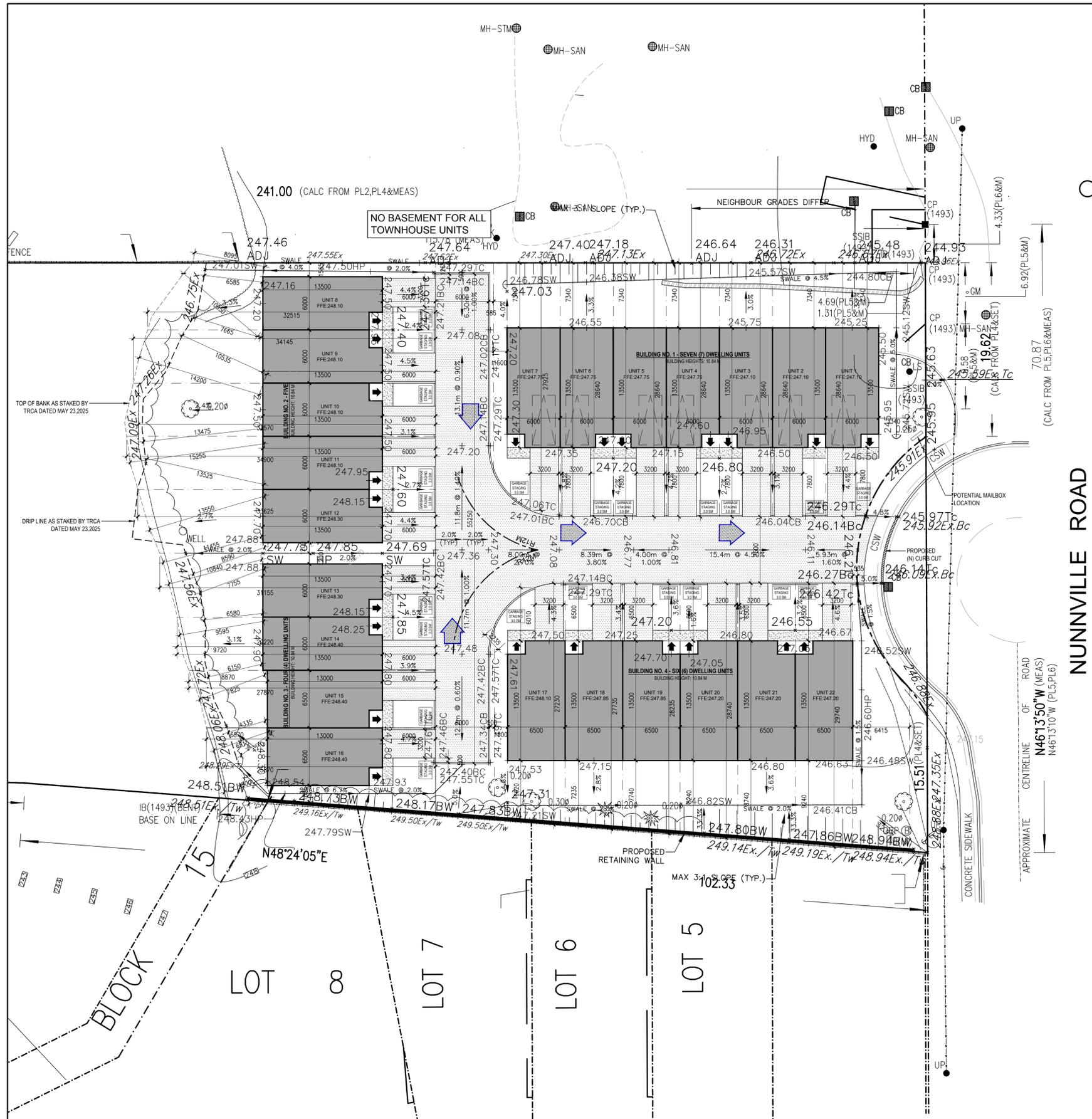
SITE PLAN

A101

Note: This drawing is the property of the Architect and may not be reproduced or used without the expressed consent of the Architect. The Contractor is responsible for checking and verifying all levels and dimensions and shall report all discrepancies to the Architect and obtain clarification prior to commencing work.



25 Signage
A101 SCALE: N.T.S.



1 Site Plan
A102 SCALE: 1:250

REVISION RECORD

2025-12-15 ISSUED FOR RE-ZONING

ISSUE RECORD



Y ARCHITECTS
(t) 416 230 9130
(e) info@yarchitects.ca

PROPOSED RE-ZONING AT
13286 NUNNVILLE ROAD
BOLTON, ON

23004 As Noted OY
PROJECT SCALE DRAWN REVIEWED

SITE PLAN

A102

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APPENDIX B
BOREHOLE LOCATION PLAN
&
LOG SHEETS

Project No: 7442-S

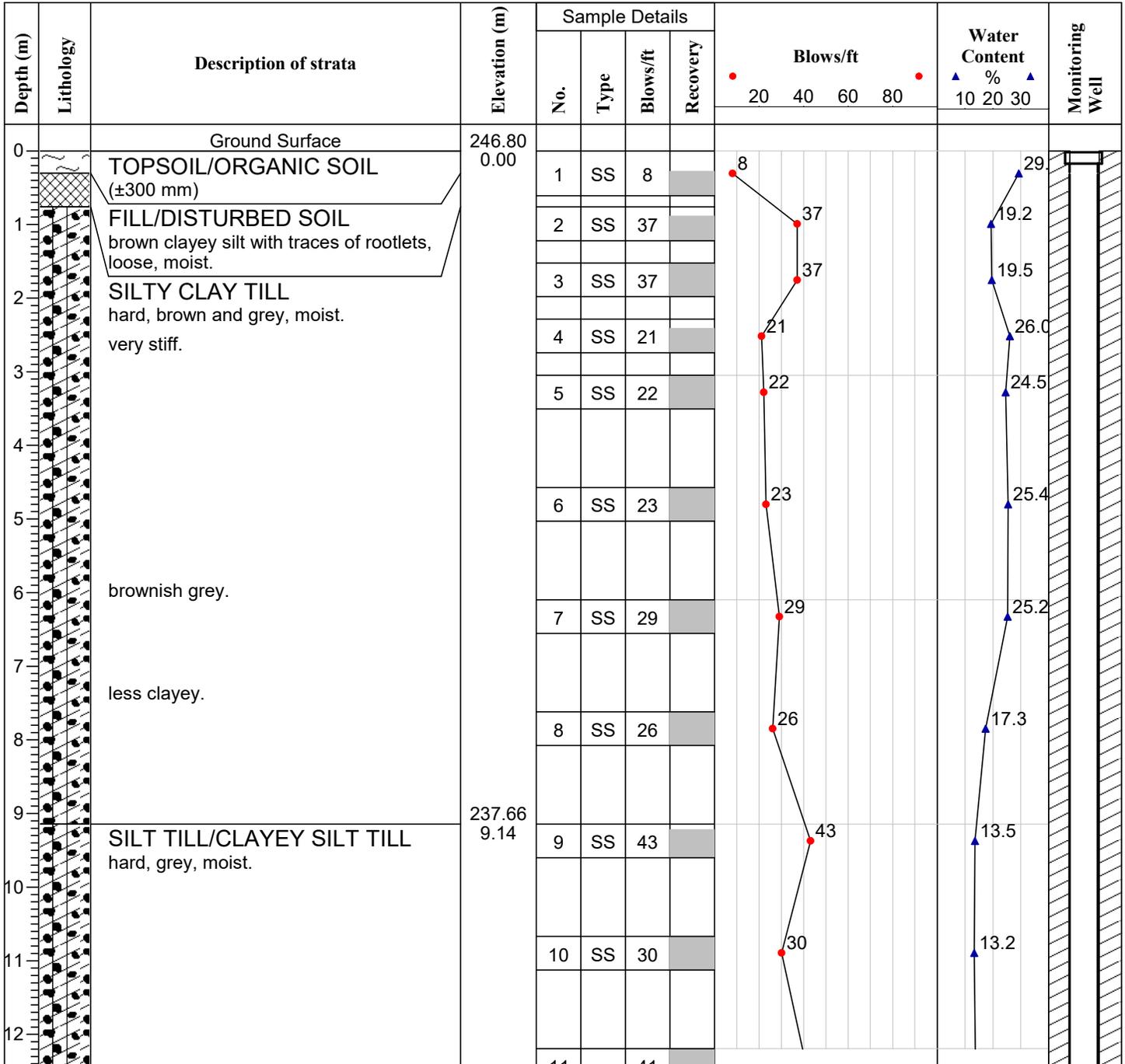
Log of Borehole BH/MW-101

Project: PROPOSED RESIDENTIAL DEVELOPMENT

Client: Mr. ADEL GEORGE

Enclosure: 2

Location: 13286 NUNNVILLE ROAD, CALEDON, ON



Remarks:

Drill Method: CME 55 - SOLID
 Drill Date: 24 FEB & 19 AUG. 2025
 Datum: GEODETIC



Engineer: P.R.
 Checked by: G.S.
 Sheet No. 1 of 2

Project No: 7442-S

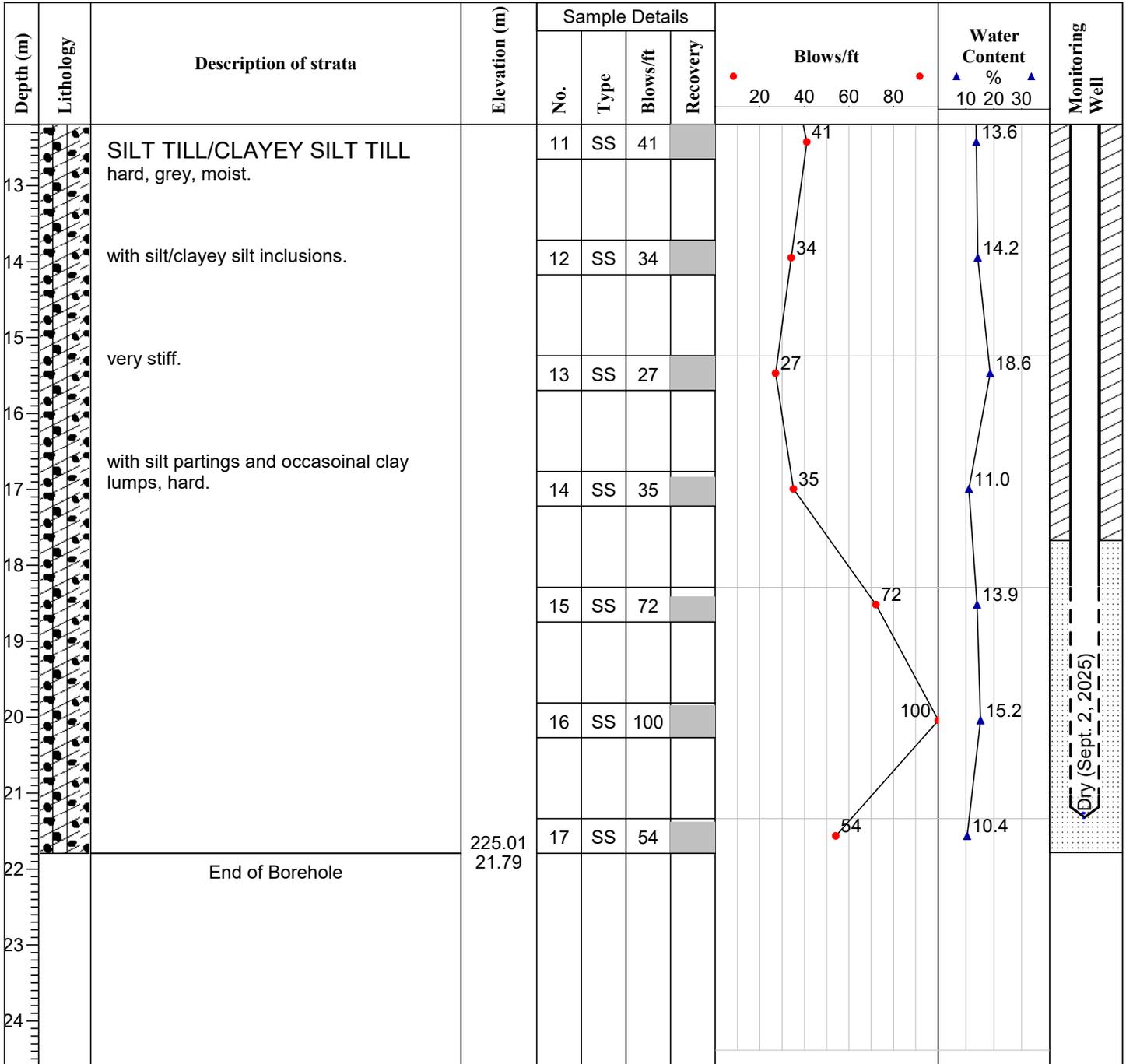
Log of Borehole BH/MW-101

Project: PROPOSED RESIDENTIAL DEVELOPMENT

Client: Mr. ADEL GEORGE

Enclosure: 2

Location: 13286 NUNNVILLE ROAD, CALEDON, ON



Remarks: -Upon completion of drilling, the borehole was open and dry.
 -On Sept. 2, 2025, the water level in the installed well was measured in the installed well and was dry.

Drill Method: CME 55 - SOLID
 Drill Date: 24 FEB & 19 AUG. 2025
 Datum: GEODETIC



Engineer: P.R.
 Checked by: G.S.
 Sheet No. 2 of 2

Project No: 7442-S

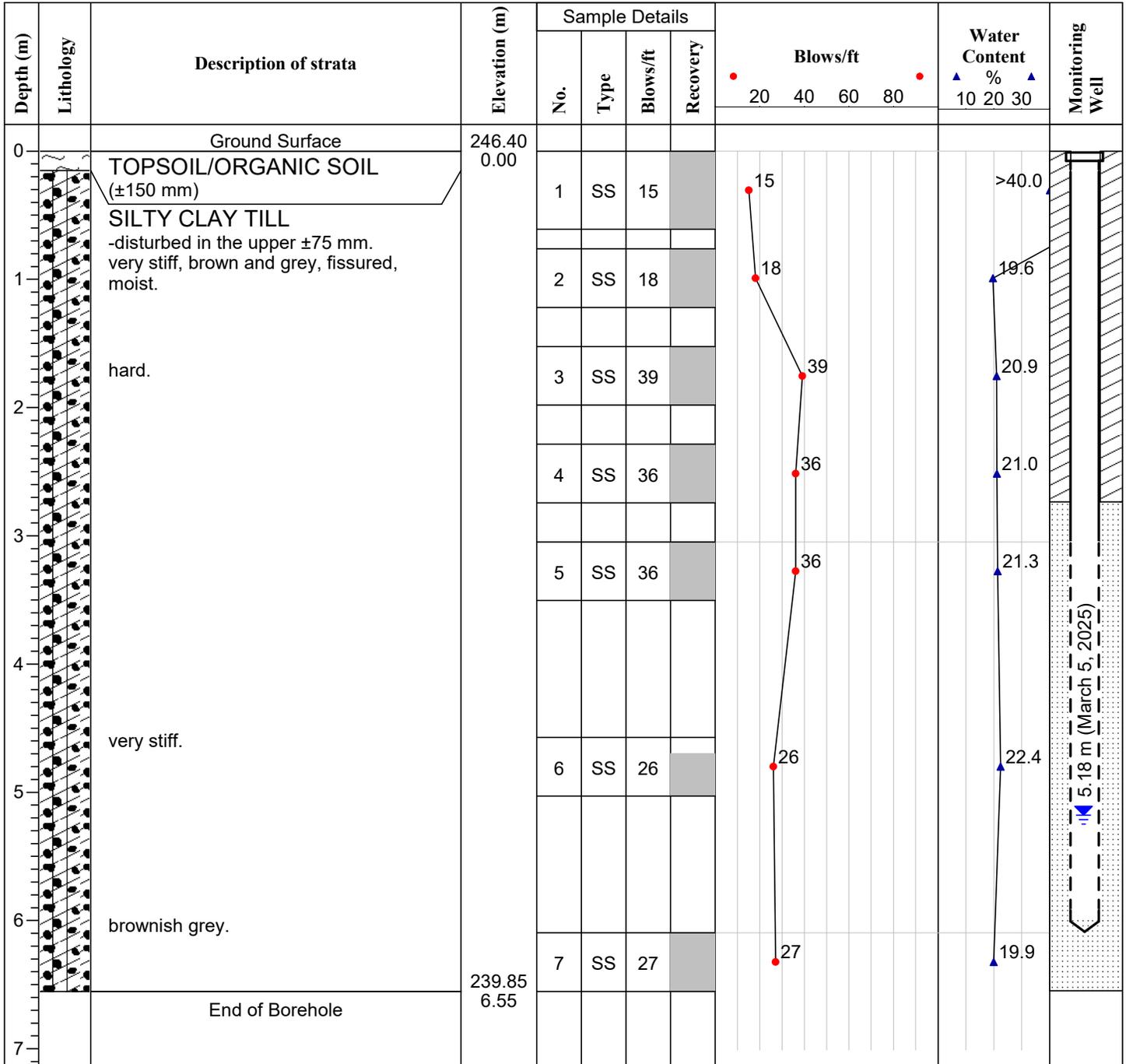
Log of Borehole BH/MW-102

Project: PROPOSED RESIDENTIAL DEVELOPMENT

Client: Mr. ADEL GEORGE

Enclosure: 3

Location: 13286 NUNNVILLE ROAD, CALEDON, ON



Remarks: -Upon completion of drilling, the borehole was open and dry.
 -On March 5, 2025, the water level in the installed well was measured at 5.18 m below EGSL.

Drill Method: CME 55 - SOLID
 Drill Date: 24 FEB. 2025
 Datum: GEODETIC



Engineer: P.R.
 Checked by: G.S.
 Sheet No. 1 of 1

APPENDIX C

SELECTED SLOPE PHOTOS



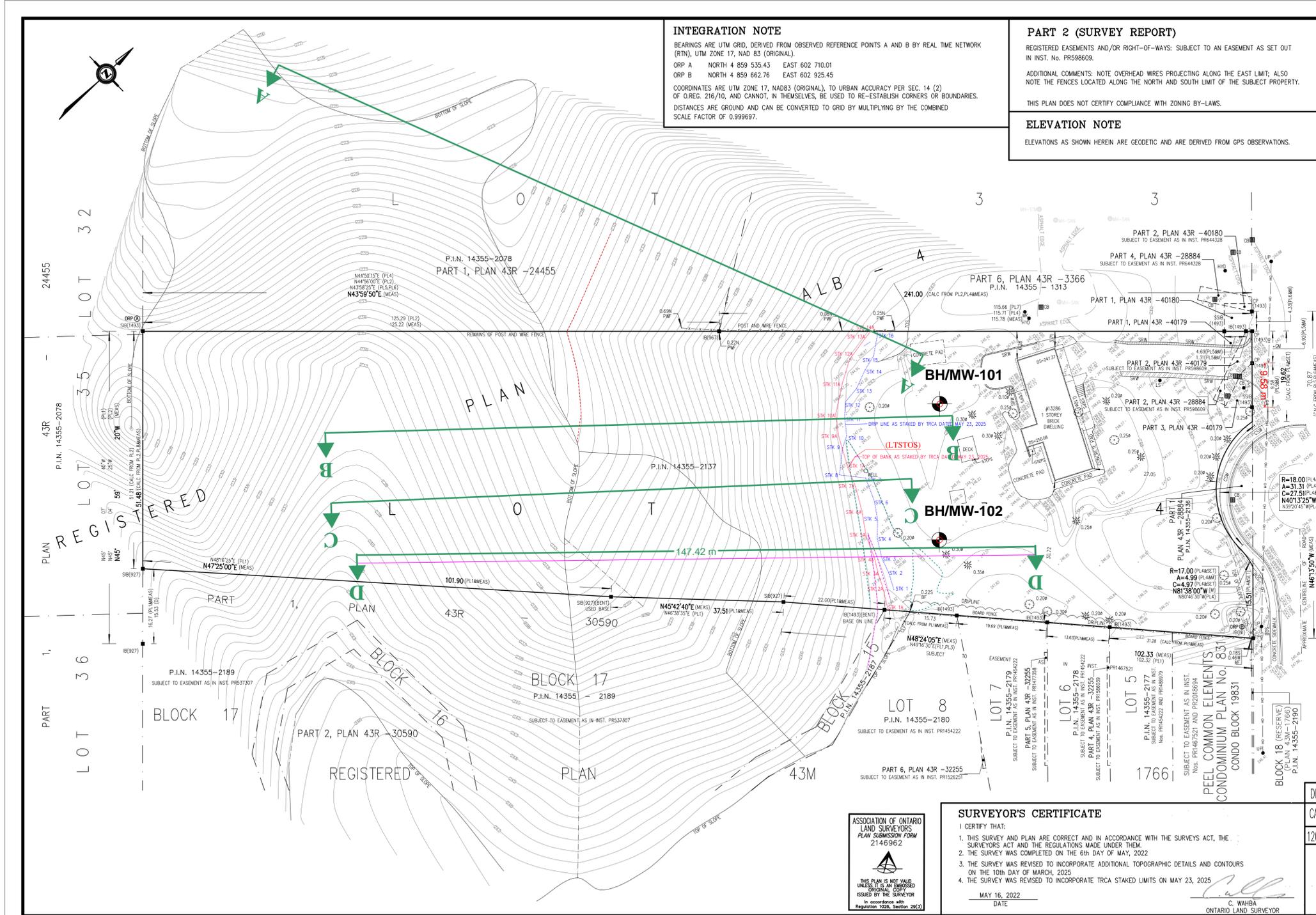
Photo 1: Relatively flat terrain along the top of the slope. No tension cracks were noted.



Photo 2: Trees within the slope are reasonably vertical.

APPENDIX D

SLOPE STABILITY CALCULATION RESULTS



INTEGRATION NOTE
 BEARINGS ARE UTM GRID, DERIVED FROM OBSERVED REFERENCE POINTS A AND B BY REAL TIME NETWORK (RTN), UTM ZONE 17, NAD 83 (ORIGINAL).
 ORP A NORTH 4 859 535.43 EAST 602 710.01
 ORP B NORTH 4 859 662.76 EAST 602 925.45
 COORDINATES ARE UTM ZONE 17, NAD83 (ORIGINAL), TO URBAN ACCURACY PER SEC. 14 (2) OF O.REG. 216/10, AND CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES. DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999697.

PART 2 (SURVEY REPORT)
 REGISTERED EASEMENTS AND/OR RIGHT-OF-WAYS: SUBJECT TO AN EASEMENT AS SET OUT IN INST. No. PR598609.
 ADDITIONAL COMMENTS: NOTE OVERHEAD WIRES PROJECTING ALONG THE EAST LIMIT; ALSO NOTE THE FENCES LOCATED ALONG THE NORTH AND SOUTH LIMIT OF THE SUBJECT PROPERTY.
 THIS PLAN DOES NOT CERTIFY COMPLIANCE WITH ZONING BY-LAWS.

ELEVATION NOTE
 ELEVATIONS AS SHOWN HEREIN ARE GEODETIC AND ARE DERIVED FROM GPS OBSERVATIONS.

SURVEYOR'S REAL PROPERTY REPORT AND TOPOGRAPHY OF
PART 1,
PLAN OF SURVEY OF
PART OF LOT 34
REGISTERED PLAN ALB-4
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL
 SCALE 1:500

 C. WAHBA SURVEYING LTD.
 DISTANCES AND COORDINATES AS SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.
 THIS PLAN WAS PREPARED FOR MR. ADEL GEORGE AND THE UNDERSIGNED ACCEPTS NO RESPONSIBILITY FOR USE BY OTHER PARTIES.
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LEGEND

| | |
|----------|--|
| ■ | DENOTES MONUMENT FOUND |
| IB | DENOTES IRON BAR |
| IP | DENOTES IRON PIPE |
| SIB | DENOTES STANDARD IRON BAR |
| SSIB | DENOTES SHORT STANDARD IRON BAR |
| CP | DENOTES CONCRETE PIN WITH WASHER |
| (N) | DENOTES NOT IDENTIFIABLE |
| PL1 | DENOTES REGISTERED PLAN 43M-1766 |
| PL2 | DENOTES PLAN 43R-24455 |
| PL3 | DENOTES PEEL CONDOMINIUM PLAN No. 831 |
| PL4 | DENOTES PLAN 43R-28884 |
| PL5 | DENOTES PLAN 43R-40179 |
| PL6 | DENOTES PLAN 43R-40180 |
| PL7 | DENOTES PLAN 43R-3366 |
| PL8 | DENOTES PLAN 43R-19483 |
| D | DENOTES INSTRUMENT R0112196 |
| (927) | DENOTES J. R. SNEATH, O.L.S. |
| (967) | DENOTES W. N. WILDMAN, O.L.S. |
| (1493) | DENOTES YOUNG & YOUNG SURVEYING INC., O.L.S. |
| P.I.N. | DENOTES PROPERTY IDENTIFIER NUMBER |
| N.S.W.E. | DENOTES NORTH SOUTH, WEST, EAST |
| MEAS/M | DENOTES MEASURED |
| CALC | DENOTES CALCULATED |
| MF | DENOTES METAL FENCE |
| CLF | DENOTES CHAINLINK FENCE |
| BF | DENOTES BOARD FENCE |
| MH-SAN | DENOTES MANHOLE SANITARY |
| MH-STM | DENOTES MANHOLE STORM |
| PWF | DENOTES POST AND WIRE FENCE |
| CM | DENOTES GAS METER |
| -X- | DENOTES FENCE LINE |
| -OH- | DENOTES OVERHEAD WIRE |
| UP | DENOTES UTILITY POLE |
| SRW | DENOTES STONE RETAINING WALL |
| TOS | DENOTES TOP OF SLOPE |
| BOS | DENOTES BOTTOM OF SLOPE |
| CSW | DENOTES CONCRETE SIDEWALK |
| CB | DENOTES CATCH BASIN |
| LS | DENOTES LIGHT STANDARD |
| DS | DENOTES DOOR SILL ELEVATION |
| WK | DENOTES WATER KEY |
| HYD | DENOTES FIRE HYDRANT |
| ⊙ | DENOTES DIAMETER |
| ⊙ | DENOTES DECIDUOUS TREE |
| ⊙ | DENOTES CONIFEROUS TREE |
| ← | DENOTES GUY WIRE ANCHOR |

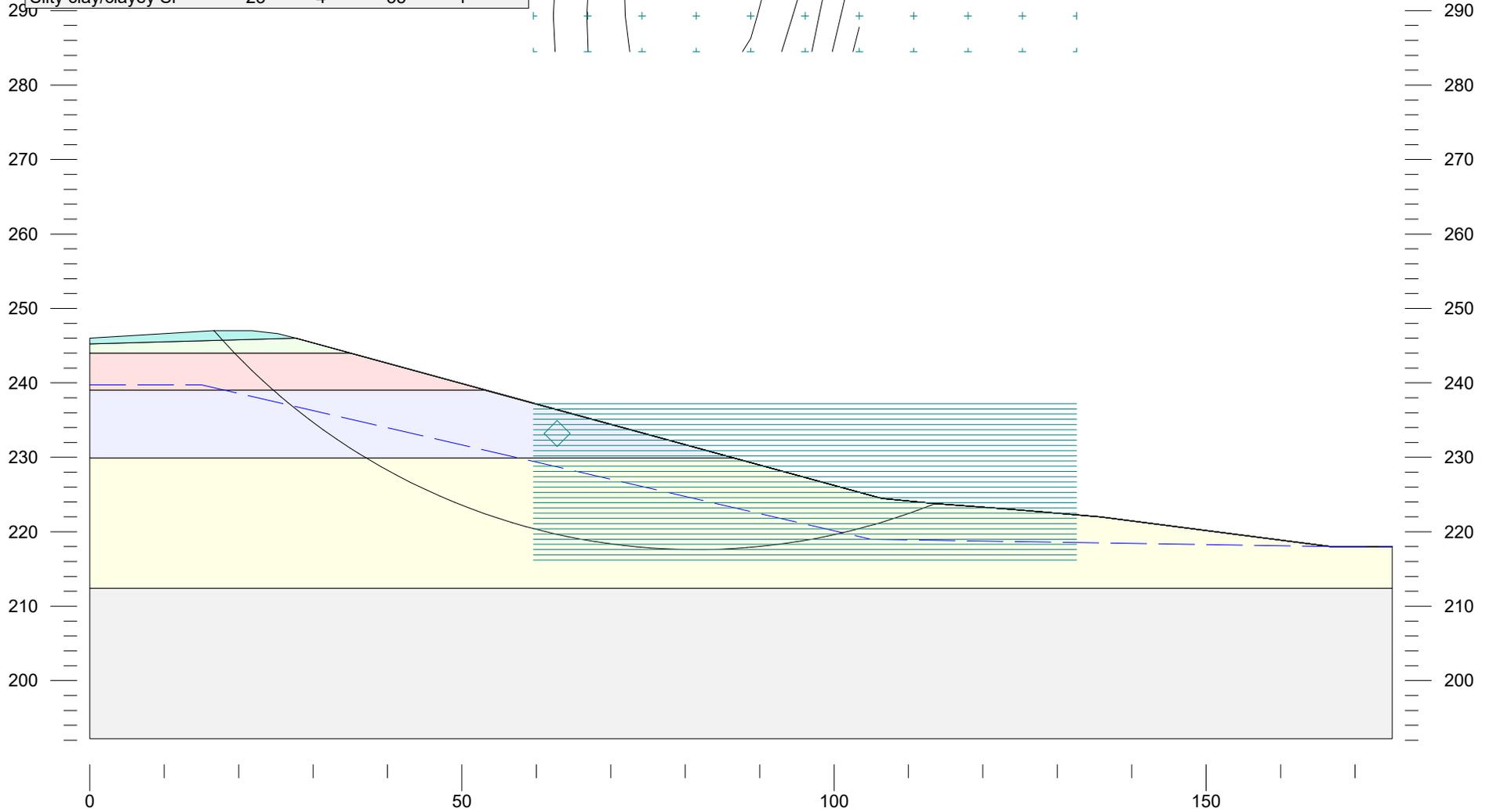
DRAWN: SS
 CHECKED: CW
 CAD FILE: 22-052-SRPR+TOPO
 PROJECT No. 22-052
 120 Woodstream Blvd. Unit 18, Woodbridge ON L4L7Z1 Tel. 905.851.1300 www.wahbasurveying.com



SURVEYOR'S CERTIFICATE
 I CERTIFY THAT:
 1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.
 2. THE SURVEY WAS COMPLETED ON THE 6th DAY OF MAY, 2022
 3. THE SURVEY WAS REVISED TO INCORPORATE ADDITIONAL TOPOGRAPHIC DETAILS AND CONTOURS ON THE 10th DAY OF MARCH, 2025
 4. THE SURVEY WAS REVISED TO INCORPORATE TRCA STAKED LIMITS ON MAY 23, 2025
 MAY 16, 2022
 DATE
 C. WAHBA
 ONTARIO LAND SURVEYOR

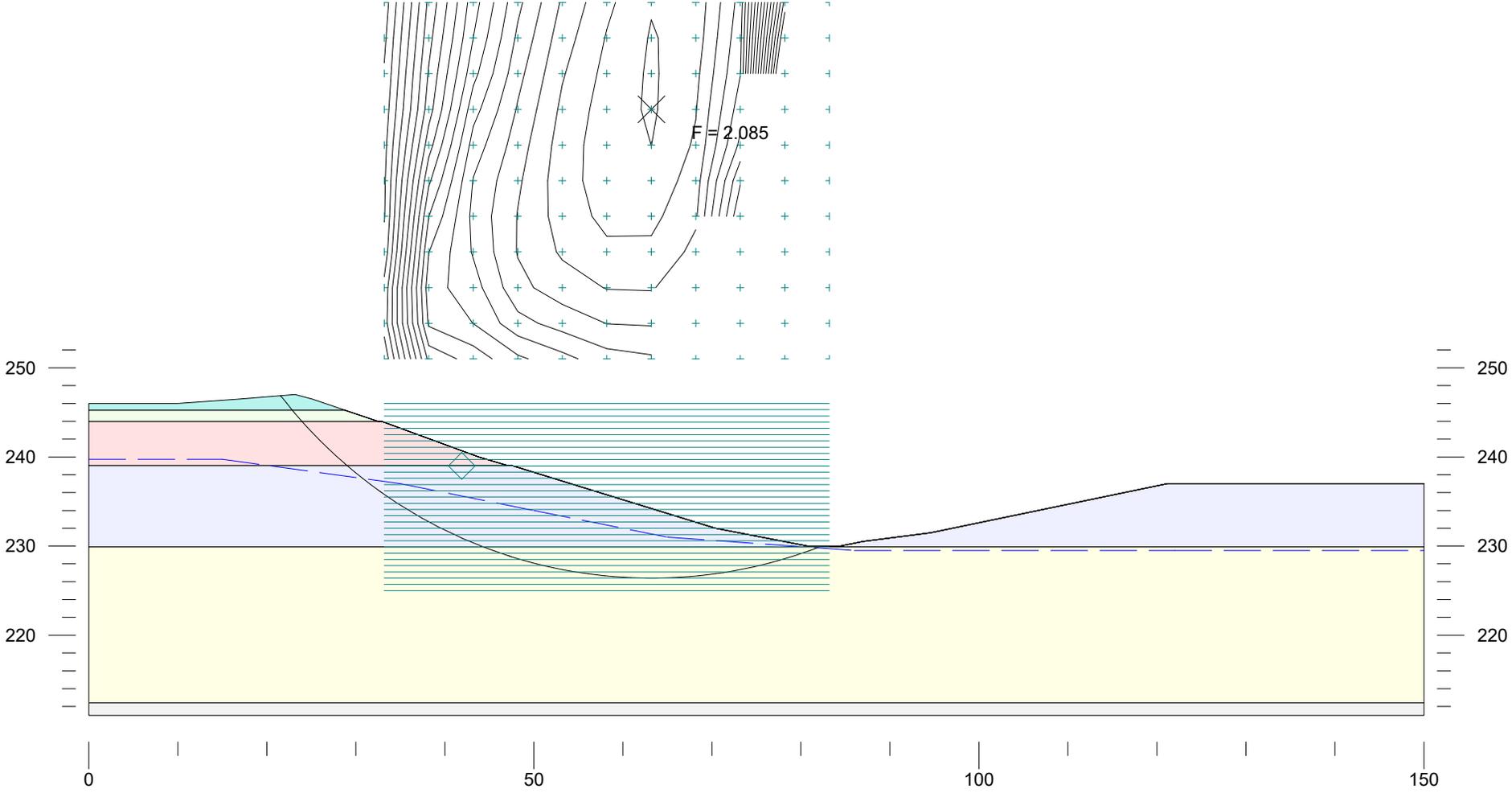
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|----------------------|-------------------|-----|-------|
| | kN/m ³ | deg | Surf. |
| Fill/Disturbed Soils | 17 | 0 | 22 |
| Silty Clay Till (Har | 20 | 10 | 30 |
| Silty Clay Till (V. | 20.5 | 10 | 30 |
| Si Clay Till, V.Stif | 21 | 8 | 31 |
| Silty clay/clayey Si | 22 | 5 | 33 |
| Silty clay/clayey Si | 23 | 4 | 35 |

Forward Engineering & Associates Inc.
 JOB NO. 7442
 13286 Nunnville Rd.m Bolton, ON
 Aug. 2025
 SECTION AA
 Drawing No. 2



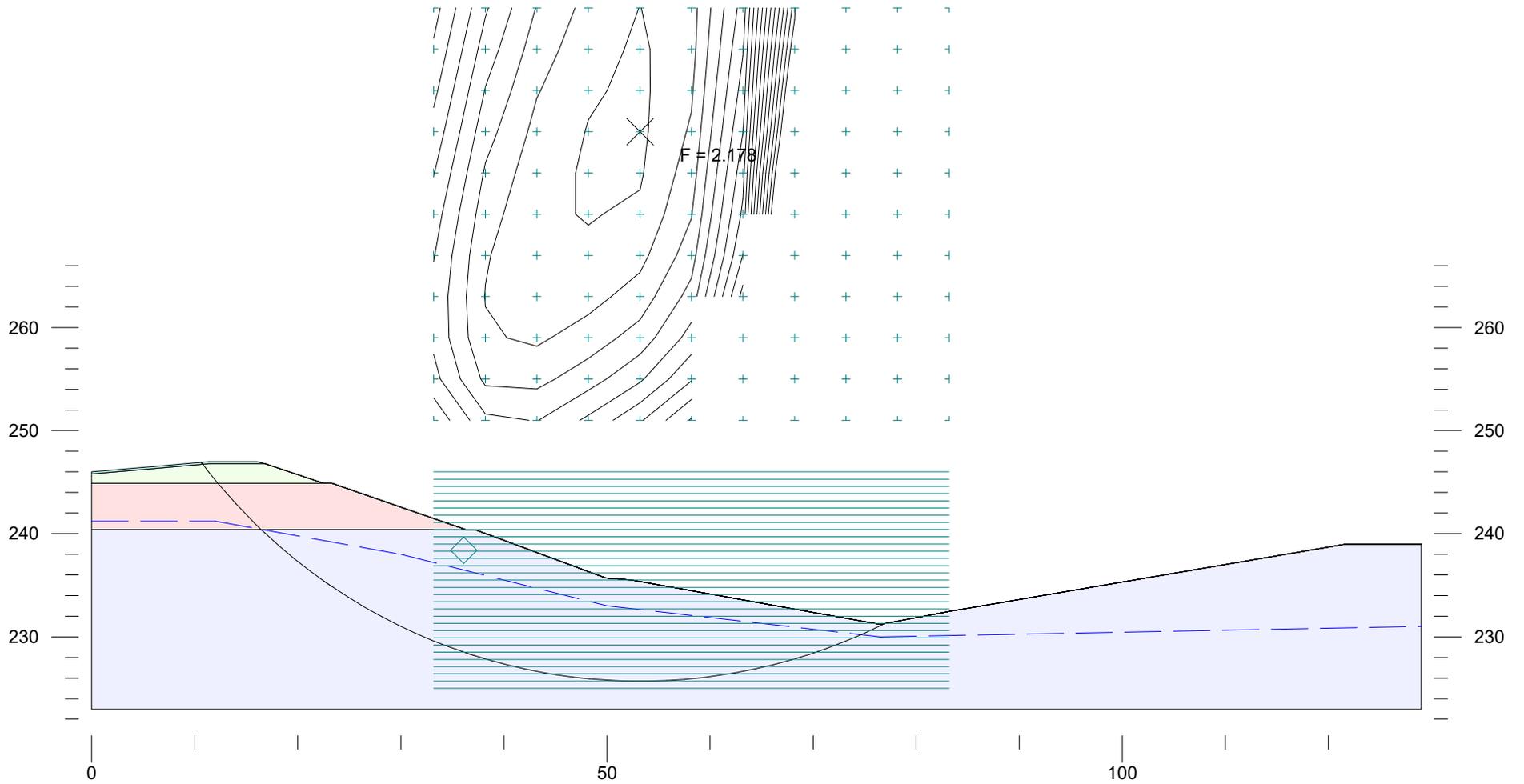
Forward Engineering & Associates Inc.
 JOB NO. 7442
 13286 Nunnville Rd.m Bolton, ON
 Aug. 2025
 SECTION BB
 Drawing No. 3

| | Gamma C | Phi | Piezo |
|----------------------|---------|-----|-------|
| | kN/m3 | kPa | deg |
| Fill/Disturbed Soils | 17 | 0 | 22 |
| Silty Clay Till (Har | 20 | 10 | 30 |
| Silty Clay Till (V. | 20.5 | 10 | 30 |
| Si Clay Till, V.Stif | 21 | 8 | 31 |
| Silty clay/clayey Si | 22 | 5 | 33 |
| Silty clay/clayey Si | 23 | 4 | 35 |



| | Gamma | C | Phi | Piezo |
|-----------------------|-------------------|-----|-----|-------|
| | kN/m ³ | kPa | deg | Surf. |
| Fill/Disturbed Soils | 17 | 0 | 22 | 1 |
| Silty Clay Till, (st) | 19.5 | 8 | 29 | 1 |
| Silty Clay Till (har) | 21.5 | 10 | 31 | 1 |
| Si Clay Till, V.Stif | 21 | 8 | 31 | 1 |

Forward Engineering & Associates Inc.
 JOB NO. 7442
 13286 Nunnville Rd.m Bolton, ON
 Aug. 2025
 SECTION CC
 Drawing No. 4



| | Gamma | C | Phi | Piezo |
|-----------------------|-------------------|-----|-----|-------|
| | kN/m ³ | kPa | deg | Surf. |
| Fill/Disturbed Soils | 17 | 0 | 22 | 1 |
| Silty Clay Till, (st) | 19.5 | 8 | 29 | 1 |
| Silty Clay Till (har) | 21.5 | 10 | 31 | 1 |
| Si Clay Till, V.Stif | 21 | 8 | 31 | 1 |

Forward Engineering & Associates Inc.
 JOB NO. 7442
 13286 Nunnville Rd.m Bolton, ON
 Aug. 2025
 SECTION DD
 Drawing No. 5

