



# Geotechnical Investigation Report - 12 Garden Street

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Prepared for:  
Eastbrook Capital

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## 1.0 Introduction

Cambium Inc. (Cambium) was retained by Northridge Homes Ltd. on behalf of Eastbrook Capital (Client) to complete a geotechnical investigation in support of proposed developments located at 12 Garden Street in Lansdowne, Ontario (Site).

This report presents the methodology and findings of the geotechnical investigation at the Site and addresses constraints, requirements, and recommendations relevant to the proposed developments.

### 1.1 Reviewed Documents

The following project documents were received and reviewed during the drafting of this report:

[1] Khalsa Design Inc. – Brampton, ON

Site Plan – Project Name: Residential Development, Project #: 250XX, Drawing #: A-100,  
Date: November 5<sup>th</sup>, 2025.

### 1.2 Standards and Guidelines

Applicable standards, guidelines and other normative documents utilized in preparing geotechnical engineering recommendations for this report are provided below.

[2] Canadian Foundation Engineering Manual – 5<sup>th</sup> Edition; Canadian Geotechnical Society; 2023.

[3] Ontario Building Code – Ministry of Municipal Affairs and Housing; 2024.

## **2.0 Background**

### **2.1 Site Description**

The Site location is shown in Figure 1. The Site is bounded on the east by Garden Street and to the north, south, and west by neighbouring residential properties and/or undeveloped or arable land. The Site currently contains an existing residential building and driveway/parking area extending from Union Street. Areas of vegetation (i.e. trees, bush) are present intermittently throughout the Site, specifically along the Site boundaries and within the west portion, and the Site is generally surfaced by grass. The immediate investigation area limits were generally level in elevation between borehole locations based on observations made during the geotechnical investigation and surveyed ground surface elevations of each borehole.

### **2.2 Project Description**

It is Cambium's understanding that the proposed developments are to consist of a new residential building on Site. It is Cambium's understanding that the proposed building will consist of four storeys and will not include a basement level. It is Cambium's understanding that no alternations will be made to the existing building. In addition to the proposed building, it is understood that the proposed developments will include new driving/parking areas, landscaped areas, and new site services. It is Cambium's understanding that the proposed developments are currently in the conceptual and early design phases and thus detailed designs or plans are currently unavailable.

The geotechnical investigation was required to confirm the existing subsurface conditions as input into the design and construction of the proposed developments. Analysis from the investigation, recommendations for the proposed developments, and relevant supporting documents are provided in the following sections and/or appended to this report.

## 3.0 Methodology

### 3.1 Borehole Investigation

The geotechnical investigation was conducted at the Site by Cambium on July 6<sup>th</sup>, 2026. A total of six boreholes, designated as boreholes BH101-26 through BH106-26 were strategically placed and advanced at the Site at locations accessible by the drilling rig. It is noted that borehole locations were reviewed and approved by Client representatives prior to the field investigation. It is noted that borehole locations were adjusted in the field, as needed, to accommodate access/locate constraints. Boreholes were advanced to depths ranging between approximately 0.5 to 0.9 meters below ground surface (mbgs) and all boreholes were terminated after practical refusal was encountered.

Drilling and sampling of the boreholes was completed using a track-mounted drill rig operating under the supervision of a Cambium technician. Cambium sub-contracted Canadian Environmental Drilling to provide drilling services for this project. The boreholes were advanced to the sampling depths by means of continuous flight solid stem augers with 50 mm O.D. split spoon samplers. Standard Penetration Test (SPT) N values were recorded for the sampled intervals as the number of blows required to drive a split spoon sampler 305 mm into the soil, using a 63.5 kg drop hammer falling 750 mm, as per ASTM D1586 procedures. The SPT N values are used in this report to assess the in-situ relative density of the non-cohesive soils. Soil samples were collected, as needed, generally at intervals of approximately 0.75 m or whenever a change in soil type occurred, starting directly at the surface material. The encountered soil units were logged in the field using visual and tactile methods, and samples were placed in labelled plastic bags for transport, future reference, possible laboratory testing, and storage.

Bedrock coring was not completed within any borehole advanced, and groundwater monitoring wells were not installed within the boreholes upon completion of drilling.

Open boreholes were checked for groundwater and general stability prior to backfilling. All boreholes were backfilled using the removed material and efforts were made to reinstate the property to pre-existing conditions.



Borehole logs are provided in Appendix A. Borehole locations are shown in Figure 2. Soil, groundwater, and bedrock conditions are described, as applicable, with relevant geotechnical recommendations discussed in the following sections of this report.

### **3.2 Site Survey**

The location of each borehole was surveyed using a Sokkia Real Time Kinematic (RTK) surveying unit. The borehole locations were referenced to a local benchmark, the top nut of an existing fire hydrant, shown as benchmark BM4 in Figure 2. UTM coordinates and elevations are included on the borehole logs provided in Appendix A.

### **3.3 Physical Laboratory Testing**

Physical laboratory testing, consisting of two sieve analyses (LS-702) and one hydrometer analysis (LS-705) was completed on selected soil samples to confirm textural classification and to assess geotechnical parameters. Moisture content testing was completed on all soil samples. Results from the laboratory testing are presented in Appendix B and are discussed in Section 4.0.



## 4.0 Subsurface Conditions

The soil stratigraphy encountered in the boreholes are indicated on the attached borehole logs in Appendix A. It is noted that the conditions indicated on the borehole logs are for specific locations only and can vary between and beyond the testing locations. The soil boundaries indicated on the borehole logs are inferred from observations during drilling. These boundaries are intended to reflect approximate transition zones and should not be interpreted as exact planes of geological change. In addition, the descriptions provided in the borehole logs are inferred from a variety of factors, including visual observations of the soil samples retrieved, laboratory testing, measurements prior to and after drilling, and the drilling process itself.

The subsurface conditions at the Site generally consisted of a topsoil or fill material at the surface that was underlain by gravelly silty sand or sandy silt to sandy clayey silt soils that extended to borehole termination depths. All boreholes were terminated after practical refusal was encountered on inferred bedrock. Water was encountered within both boreholes advanced and standing water was observed within both open boreholes upon completion of drilling. The various soil strata are described in detail below and are identified on the borehole logs included in Appendix A.

### 4.1 Surface Materials

At the surface of each borehole, topsoil or fill materials were encountered. Below, Table 1 summarizes the surface materials and approximate thicknesses encountered at each borehole location.



**Table 1 Surface Materials and Thicknesses**

| Borehole | Material                      | Approximate Thickness (mm) |
|----------|-------------------------------|----------------------------|
| BH101-26 | Topsoil                       | 125                        |
| BH102-26 | Topsoil                       | 200                        |
| BH103-26 | Topsoil                       | 75                         |
| BH104-26 | Silty Sand and Gravel [FILL]  | 300                        |
| BH105-26 | Gravelly Sand [GRANULAR FILL] | 180                        |
|          | Silty Sand and Gravel [FILL]  | 150                        |
| BH106-26 | Topsoil                       | 150                        |

In borehole BH104-26, a silty sand and gravel fill material was encountered at the surface that contained deleterious materials such as wood and brick fragments. Significant wood fill was encountered between the depths of approximately 0.2 to 0.3 mbgs in this material. The fill materials also contained organics content and rootlets. It is inferred that topsoil in this area had been previously removed and replaced with this fill material, possibly as part of a grade raise.

Borehole BH105-26 was advanced within the existing driveway/parking area. A gravelly sand granular fill material was encountered at the surface and was underlain by a silty sand and gravel fill material that resembled the fill materials encountered at the surface of borehole BH104-26. The silty sand and gravel fill materials contained minor quantities of deleterious materials such as brick.

Laboratory particle size distribution analysis was completed for one sample of the granular fill materials taken from the borehole and depth indicated below. The analysis results are summarized in Table 3 with full results provided in Appendix B.

**Table 2 Particle Size Distribution Analysis – Granular Fill Material**

| Sample         | Depth (mbgs) | Soil                    | Gravel (%) | Sand (%) | Silt (%) | Clay (%) | Moisture (%) |
|----------------|--------------|-------------------------|------------|----------|----------|----------|--------------|
| BH105-26, SS1A | 0.0 – 0.2    | Gravelly Sand some Silt | 34         | 54       | 12       |          | 3.3          |

It is noted that analysis of the organic content within the surface materials was beyond the scope of this investigation.

## 4.2 Overburden Soils

Beneath the surficial topsoil or fill materials, gravelly silty sand, sandy silt, and sandy clayey silt soils were encountered and extended to borehole termination depths. The sandy silt and sandy clayey silt soils were encountered only in borehole BH103-26 while the remaining boreholes encountered the gravelly silty sand soils. The sandy silt soils contained organics and rootlets with some clay content.

The gravelly silty sand soils were generally brown in colour and moist at the time of the investigation with natural moisture content ranging between 5.6 to 27.3% based on laboratory testing. The soils have a very loose to very dense relative density based on N-Values of 2 to 74 blows.

The sandy silt to sandy clayey silt soils were generally dark brown in colour and inferred to be wetter than the plastic limit at the time of the investigation with natural moisture content ranging between 23.3 to 33.0% based on laboratory testing. The soils have a soft consistency based on N-Values of 3 blows.

Laboratory particle size distribution analysis was completed for two samples of the overburden soils taken from the boreholes and depths indicated below. The analysis results are summarized in Table 3 with full results provided in Appendix B.

**Table 3 Particle Size Distribution Analysis – Overburden Soils**

| Sample         | Depth (mbgs) | Soil                | Gravel (%) | Sand (%) | Silt (%) | Clay (%) | Moisture (%) |
|----------------|--------------|---------------------|------------|----------|----------|----------|--------------|
| BH102-26, SS1C | 0.2 – 0.6    | Gravelly Silty Sand | 28         | 53       | 19       |          | 6.4          |
| BH103-26, GB2  | 0.6 – 0.7    | Sandy Clayey Silt   | 0          | 31       | 35       | 34       | 23.3         |

## 4.3 Inferred Bedrock

Practical refusal was encountered within all boreholes advanced. Based on the results of the investigation, it is inferred that practical refusal was caused by bedrock.

Below, Table 4 summarizes the depths of practical refusal and inferred bedrock elevations at each borehole location.

**Table 4 Depths of Practical Refusal and Inferred Bedrock Elevations**

| Borehole | Elevation (mASL) | Depth of Practical Refusal (mbgs) | Inferred Bedrock Elevation (mASL) |
|----------|------------------|-----------------------------------|-----------------------------------|
| BH101-26 | 113.0            | 0.9                               | ±112.1                            |
| BH102-26 | 112.6            | 0.7                               | ±111.9                            |
| BH103-26 | 113.3            | 0.7                               | ±112.6                            |
| BH104-26 | 112.8            | 0.8                               | ±112.0                            |
| BH105-26 | 113.2            | 0.8                               | ±112.4                            |
| BH106-26 | 113.3            | 0.5                               | ±112.8                            |

Based on the results of the field investigation, the bedrock profile at the Site appears to be relatively level within the building footprint with a slight increase in surface elevation towards the northeast.

It should be noted as bedrock was not exposed throughout the entirety of the Site, there is potential for subsurface conditions to vary in locations not explored as part of the investigation. As such, it is possible that the bedrock profile may vary in areas not investigated, however, based on the results of the investigation and given the size of the area of investigation/building footprint, it is Cambium's opinion that significant variations in the bedrock surface elevation within the building footprint will not be encountered.

#### 4.4 Groundwater

At the time of the investigation, inferred groundwater was not encountered within any borehole advanced and standing water was not observed within any open borehole upon completion of drilling. The inferred depth to water is taken as the depth at which in-situ soils become wet or saturated while the standing water level depth is measured from open boreholes upon completion of drilling. As such, it is inferred that groundwater is not present within the overburden soils and is likely located within the underlying bedrock.

It should be noted that groundwater levels at the Site may fluctuate seasonally and in response to climatic events. It is noted that any groundwater measurements made at the Site during the



drilling investigation are based upon observations made during and immediately after the drilling process and should not be interpreted as confirmation, or lack thereof, of the presence of water or stabilized water levels at the Site. It should also be noted that further investigation or a hydrogeological study would be required to confirm or deny the presence of groundwater throughout the Site and in different seasons.

## 5.0 Geotechnical Design Considerations

This section of the report provides engineering information on, and recommendations for, the geotechnical design aspects of the project based on our interpretation of the borehole information, the laboratory test data, and our understanding of the project requirements. The information in this portion of the report is provided for planning and design purposes for the guidance of the design engineers and architects. Where comments are made on construction, they are provided only to highlight aspects of construction which could affect the design of the project. Contractors bidding on or undertaking any work at the Site should examine the factual results of the investigation, satisfy themselves as to the adequacy of the information for construction and make their own independent interpretation of the factual data as it affects their proposed construction techniques, schedule, equipment capabilities, costs, sequencing, and the like. Cambium will not assume any responsibility for construction-related decisions made by contractors based on this report. It is possible that subsurface conditions beyond the borehole locations may vary from those observed. If significant variations are found before or during construction, Cambium should be contacted to reassess findings and recommendations, as needed.

### 5.1 Project Understanding

It is Cambium's understanding that the proposed developments consist of a new residential building. It is understood that the proposed building will consist of four storeys and will not include a basement. It is Cambium's understanding that the proposed developments are currently in the conceptual and early design phases and thus detailed design information such as finished floor elevations (FFE), footing elevations, and/or grading plans are currently unavailable. As such, Cambium has provided the following recommendations based on the information available at the time of report preparation. It is noted that once detailed design information becomes available, Cambium can be contacted to confirm/update the recommendations provided within this report, as needed.

## 5.2 Site Preparation

Beneath any proposed development footprints, any and all topsoil, organic material, or deleterious materials should be excavated and removed. All excavated material should be removed to a minimum distance of 1 m around any proposed development footprint. Any materials with significant quantities of organics and deleterious materials (i.e., construction debris, etc.) are not appropriate for use as fill. Any exposed subgrades should be inspected by qualified personnel prior to placement of any material or construction. Any loose or soft soils identified within the exposed subgrade should be excavated and replaced with suitable fill material as approved by qualified personnel.

## 5.3 Excavations and Shoring

All excavations must be carried out in accordance with the latest edition of the Occupational Health and Safety Act (OHSA) and Ontario Regulation 213/91 (as amended).

Soils above the groundwater table can be considered Type 3 soils and as such, excavation side slopes should be no steeper than 1H:1V. Where excavations are proposed to extend below the groundwater table, adequate advance dewatering will be required to achieve a Type 3 soil classification. If the excavation extends below the groundwater table without adequate dewatering, the soil at the face of the excavation would be classified as Type 4 and a maximum unsupported side slope inclination of 3H:1V would be required for OHSA compliance. Where the side slopes consist of more than one soil type, the soil shall be classified as the type with the highest number among the soil types present. Please note that the soil type classifications indicated above are provisional and are subject to change based on field observations of the actual conditions at the time of exposure. It is recommended that a qualified geotechnical engineer be retained during construction operations to assess the excavations and confirm soil types.

Based on the results of the investigation, excavations beneath the groundwater table are not anticipated to be required. If excavations below the groundwater table are required and/or the requisite gradients cannot be maintained due to space constraints, temporary shoring may be required to maintain a safe working environment. It is noted that the preferred method of

temporary shoring, if required, should be determined at the discretion of the contractor based on Site conditions at the time of construction.

Although considered unlikely and dependent on the proposal final plans for the Site, if excavations into bedrock are required, they may be vertical and the excavations should be monitored for instability at a minimum and shored as needed. The preferred method of bedrock excavation should be chosen at the discretion of the contractor.

Excavation side slopes should be protected from exposure to precipitation and associated ground surface runoff and should be inspected regularly for signs of instability. If localized instability is noted during excavation or if wet conditions are encountered, the side slopes should be flattened as required to maintain safe working conditions or the excavation sidewalls must be fully supported (shored).

Stockpiles of excavated materials should be kept at least at the same distance as the excavation depth from the top edge of the excavation to prevent slope instability. Care should also be taken to avoid overloading of any existing underground services/structures by stockpiles.

#### **5.4 Dewatering**

Based on the results of the investigation groundwater is not anticipated to be encountered during construction operations, however, this may be dependent on-Site conditions at the time of construction and the time of year in which construction operations are completed. It should be noted that perched water atop the bedrock surface may be encountered if excavations are completed during seasonally wet conditions. In general, it is recommended that construction operations and excavations be completed during seasonally dry conditions to potentially limit the extent of dewatering and groundwater present during excavations.

If encountered, groundwater, or surficial runoff into the excavations should be controllable with filtered sumps and pumps. If excavations for the proposed developments are to extend significantly past the groundwater table, advance dewatering may be considered. If necessary, any dewatering measures should be accordingly provided and designed by the contractor and/or a qualified hydrogeologist, as needed.

It is noted that as the maximum dewatering rate for the construction activities is expected to be less than 50,000 L/day an EASR registration is not expected to be required for the proposed development.

## **5.5 Frost Penetration**

Based on climate data and design charts, the maximum frost penetration depth below the surface at the Site is estimated at 1.4 mbgs. Any footings should be founded at or below a depth of 1.4 mbgs, upon free-draining fill material extending to below 1.4 mbgs or be adequately insulated. It is noted that intensely fractured bedrock is considered frost susceptible. Sound bedrock is considered non-frost susceptible. If bedrock is encountered within the frost depth, it should be inspected to confirm suitability. If required, intensely fractured bedrock should be excavated down to sound bedrock.

## **5.6 Foundation Design**

As previously mentioned, it is Cambium's understanding that the project is currently within the early design and conceptual stages and thus detailed design information was not available at the time of report preparation. As such, Cambium has provided the following bearing capacity information for the preferred bearing materials encountered in the boreholes advanced within or nearby the proposed building footprint during the investigation to aid in the determination of a detailed design. It is noted that if detailed design information becomes available, Cambium can be contacted to confirm and/or reassess the recommendations provided, as needed.

### **5.6.1 Conventional Shallow Footings**

From a geotechnical perspective and based on the results of the investigation, the proposed building can generally be supported on standard strip and/or spread footings founded on sound bedrock.

Footings bearing on competent, sound bedrock may be designed utilizing a bearing capacity of 500 kPa at SLS and ULS. The bedrock should be free of any significant weathering, cracking/jointing, loose rock, and be of general good quality. Considering bedrock is non-yielding, the load required for 25 mm of compression would exceed the capacity of the



founding element. Therefore, the geotechnical reaction at SLS should be assumed equal to the factored geotechnical resistance at ULS for design purposes. It is strongly recommended that the exposed bedrock be inspected during construction operations to ensure suitability for bearing. An inspection of the exposed bedrock to be used as a bearing material can be completed to increase bearing capacity estimates, as needed.

Cambium recommends that foundations not span across multiple subgrade materials due to the potential for differential settlement. If footings are proposed to span across multiple subgrade materials, Cambium should be contacted to review and provide additional recommendations, as needed. Under no circumstances will the foundations be placed directly on organic materials, loose, frozen subgrade, construction debris, or within ponded water.

It is noted that as boreholes were not advanced and subsurface soils were not exposed throughout the entirety of the building footprints, there is potential for variation in the subsurface materials at the Site. As such, it is recommended that a subgrade inspection be completed following excavation to the proposed footing elevations to confirm bearing materials and capacities onsite. It is recommended that a qualified geotechnical engineer be retained to review final site grading plans and foundation dimensions/elevations or to develop further recommendations, as needed.

### **5.6.2 Floor Slabs**

All organic, deleterious, and fill material must be removed prior to constructing floor slabs. It is recommended that the slab be provided with a capillary moisture barrier. This is made by placing the slab on a minimum 200 mm layer of clear stone and nominally compacted by vibration to a dense state. Alternatively, the capillary moisture barrier can be composed of a 200 mm thick layer of OPSS 1010 Granular A, compacted to a minimum 98% of standard Proctor maximum dry density (SPMDD). Under slab drainage is not required beyond the capillary moisture barrier provided the floor slab elevation is set at 300 mm or higher than the exterior grade. The subgrade for the slab should be inspected and approved by Cambium, prior to the placement of an aggregate base. It is noted that if additional information related to

the floor slabs is desired, Cambium can be contacted once detailed design information is confirmed to review and update, as needed.

## **5.7 Backfill and Compaction**

Excavated soils not containing significant organics or significant deposits of silt and/or clay may be appropriate for use as fill below grading areas, provided that the actual or adjusted moisture content at the time of construction is within a range that permits compaction to required densities. Some moisture content adjustments may be required depending upon seasonal conditions. Geotechnical inspections and testing of engineered fill are required to confirm acceptable quality. Onsite materials containing significant deposits of silt and/or clay may be re-used for landscaping purposes at the discretion of a landscape architect.

Foundation wall backfill should consist of free draining imported granular material as required. If onsite soils are not sufficiently free draining, this should be accomplished using well graded OPSS 1010 Granular B Type I or II material. If a drainage layer membrane is used against the foundation, then OPSS 1010 Granular B material may not be required, but the proposed backfill material should be inspected and approved by a geotechnical engineer prior to placement. Backfill should be placed in lifts not exceeding 200 mm in thickness and compacted to 98% of SPMDD. Backfill adjacent to structural elements should be compacted to 95% of SPMDD taking care not to damage the adjacent structures. Any placement of engineered fill should be verified by onsite compaction testing during construction.

## **5.8 Subdrainage**

Provided that the proposed building will not include a basement level and provided that the floor slabs are constructed as per the recommendations in Section 5.6.2, subdrains are not anticipated to be required. Exterior grades for any building developments should be sloped away from the building walls to promote adequate drainage and prevent ponding of water and potential build up of hydrostatic pressures.

## 5.9 Seismic Site Classification

The Ontario Building Code (OBC) specifies that the structures should be designed to withstand forces due to earthquakes. For the purpose of earthquake design, geotechnical information shall be used to determine the “Site Class”. The parameters for determination of Site Classification for Seismic Site Response are set out in Table 4.1.8.4.-B of the OBC (2024). The classification is based on the determination of the average shear wave velocity in the top 30 meters of the site stratigraphy, where shear wave velocity ( $v_{s30}$ ) measurements have been taken. Alternatively, the classification is estimated on the basis of rational analysis of undrained shear strength ( $s_u$ ) or penetration resistances ( $N_{60}$  values).

Based on the explored soil properties and in accordance with Table 4.1.8.4.-B, it is recommended that Site Class ‘B’ or Site Designation  $X_B$  applied at the Site, provided that the footings for the proposed building are to bear on bedrock. If footings are not to bear on bedrock, Cambium should be contacted to reassess the Site Class, as needed.

It is noted that if a higher Site Class or Site Designation is required, a geophysics investigation can be completed to obtain the required parameters.

## 5.10 Buried Utilities

Trench excavations should be completed as per the requirements outlined in Sections 5.2 and 5.3.

Bedding and cover material for any services should consist of OPSS 1010 Granular A or B Type II, placed in accordance with pertinent Ontario Provincial Standard Drawings. The bedding and cover material shall be placed in maximum 200 mm thick lifts and should be compacted to at least 98% of SPMDD. The cover material shall be a minimum of 300 mm over the top of the pipe and compacted to 98% of SPMDD, taking care not to damage the utility pipes during compaction. If bedding is being placed in wet conditions consideration should be given to using 19 mm crushed clear stone underlain by a geotextile (Terrafix 270R or similar) installed as per the manufacturer’s recommendations.

## 5.11 Pavement Design

The performance of the pavement is dependent upon proper subgrade preparation. All asphalt/gravel, topsoil, deleterious fill materials, and organic materials within the proposed driving/parking area footprints should be removed and backfilled to the proposed pavement structure elevation, as needed, with approved engineered fill or native material compacted to a minimum 98% of SPMDD. Prior to beginning construction of the pavement structure, the subgrade should be proof rolled and inspected by qualified personnel. Any areas where rutting or appreciable deflection is noted should be sub-excavated and replaced with suitable fill. The fill should be compacted to at least 98% of SPMDD. The recommended pavement structure should meet the municipal standards for parking and driving areas and should, as a minimum, consist of the pavement layers identified in Table 5.

The light duty pavement structure is intended for car and light-truck parking areas and the heavy-duty pavement structure is appropriate for areas where heavy traffic is anticipated.

**Table 5 Recommended Minimum Pavement Structure**

| Pavement Layer         | Light Duty                  | Heavy Duty                  |
|------------------------|-----------------------------|-----------------------------|
| Surface Course Asphalt | 40 mm HL3 / HL4             | 50 mm HL3 / HL4             |
| Binder Course Asphalt  | 50 mm HL8                   | 60 mm HL8                   |
| Granular Base          | 150 mm OPSS 1010 Granular A | 150 mm OPSS 1010 Granular A |
| Granular Subbase       | 300 mm OPSS 1010 Granular B | 450 mm OPSS 1010 Granular B |

Material and thickness substitutions must be approved by the Design Engineer. If desirable, Superpave 12.5 HMA may replace HL3/HL4, and Superpave 19.0 HMA may replace HL8, both conforming to OPSS.MUNI 1150 and with a minimum traffic level / category of B. The thickness of the subbase layer could be increased or decreased at the discretion of the Design Engineer, to accommodate site conditions at the time of construction, including soft or weak subgrade soil replacement or a bedrock subgrade. Compaction of the subgrade should be verified by qualified personnel prior to placing the granular fill. Granular layers should be placed in maximum 150 mm thick lifts and compacted to at least 98% of SPMDD. The granular materials specified should conform to OPSS standards, as confirmed by appropriate materials

testing. The final asphalt surface should be sloped at a minimum of 2% to shed runoff. Abutting pavements should be sawcut to provide clean vertical joints with new pavement areas and consideration may be given to utilizing lap joints where new pavements intersect with existing roadways, driveways, or entrances.

### **5.11.1 Porous Pavement**

Based on information provided by Client representatives, it is understood that consideration is being given to utilizing a porous asphalt material within the parking stalls to aid in stormwater management. It is understood that conventional asphalt will be utilized within the remainder of the driving/parking areas.

From a preliminary perspective, the pavement structure within the parking stalls could consist of 100 mm of an open graded asphalt mix underlain by 200 mm of a clean washed stone base layer. Beneath this, 300 mm of a clean washed stone subbase layer could be installed. Material specifications should be in accordance with relevant standards and/or accepted guides (TS-860, T-850.133, etc.). The subbase layer could be underlain by a geotextile (Terrafix 270R or similar) installed as per the manufacturer's recommendations. It should be noted that the pavement structure provided is preliminary and subject to change as it would be dependent on the capacity requirements for stormwater management. Once capacity requirements are known, Cambium can be contacted to reassess the recommendations required, as needed.

Further, given the existing subsurface conditions at the Site, consideration may be given to utilizing alternative methods for stormwater management. Considering the shallow depth to bedrock, a porous pavement structure may allow for excessive water build up beneath the pavement structure and as such would require a robust subdrain system. In addition, consideration may be given to the cost effectiveness of a porous pavement structure as opposed to standard pavement structure with alternative stormwater management options.

## **5.12 Design Review and Inspections**

Testing and inspections should be carried out during construction operations to test and approve construction materials and placement and to examine and approve subgrade conditions. We should be contacted to review and approve final design drawings, prior to tendering or commencing construction, to ensure that all pertinent geotechnical-related factors have been addressed.

## **5.13 Changes in Site and Project Scope**

Subsurface conditions can be altered by the passage of sufficient time, natural occurrences, and human intervention. This geotechnical engineering report is intended for planning and design purposes only. It is reiterated that the recommendations provided in this report are developed based on the information available at the time of report preparation. If further design information becomes available, Cambium can be contacted to reassess the recommendations provided in this report and determine the need for additional investigation, if required.



## 6.0 Closing

Please note that this work program and report are governed by the attached Qualifications and Limitations. If you have questions or comments regarding this document, please do not hesitate to contact the undersigned at (613) 389-2323.

Respectfully submitted,

**Cambium Inc.**

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Farhan Imtiaz, P.Eng.  
Project Manager

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Stuart Baird, M.Eng., P.Eng.  
Director of Technical Operations, Services

*FI/sb*

*P:\02630000 - 02640000\02630979.000 GEO - 12 Garden ST\09-Deliverables\REPORT - GEO\Draft\2026-07-30 - 02630979.000 - RPT - GEO - 12 Garden ST.docx*



## 7.0 Statement of Qualifications and Limitations

### Limited Warranty

Cambium relies on its client to provide instructions on the scope of work to be performed. Cambium undertakes all work in accordance with applicable accepted industry practices and standards, and with the degree of care and skill ordinarily exercised by professionals performing similar services for similar projects in the same region. Unless required under applicable laws, other than as expressly stated herein, no other warranties or conditions, either expressed or implied, are made regarding the services, work or reports provided.

### Reliance on Materials and Information

The findings, results, information and data prepared by Cambium are based on the materials, documents and information provided by the client to Cambium and on the facts, conditions and circumstances encountered by Cambium during the performance of the work. In formulating its findings, results, information and data, Cambium assumes that the information, documents and materials provided by the client to Cambium are factual, accurate and represent a true depiction of the circumstances that exist at the Project. Cambium relies on its client to inform Cambium if there are changes to any such information, documents and materials. Cambium does not review, analyze or attempt to verify the accuracy or completeness of the information, documents or materials provided by the client, other than in accordance with applicable accepted industry practice. Cambium will not be responsible for matters arising from incomplete, incorrect or misleading information or from facts or circumstances that are not fully disclosed to Cambium, are unknown by Cambium, or are otherwise concealed from Cambium during the provision of its services.

Facts, conditions, information and circumstances may vary with time and location, and Cambium's work is based on a review of such matters as they existed at the particular time and location indicated in the findings, results, information and data prepared by Cambium. No assurance is made by Cambium that the facts, conditions, information, circumstances or any underlying assumptions made by Cambium in connection with the work performed will not change after Cambium has completed its work. If any such changes occur or additional information is obtained, Cambium should be advised and requested to consider if the changes or additional information affect its work.

When preparing reports, Cambium considers applicable legislation, regulations, governmental guidelines and policies. Cambium is not qualified to advise with respect to legal matters. The presentation of information regarding applicable legislation, regulations, governmental guidelines and policies is for information purposes only and is not intended to and should not be interpreted as constituting a legal opinion concerning the work completed or conditions outlined in a report. All legal matters should be reviewed and considered by an appropriately qualified legal practitioner.

### Site Assessments

A site assessment is created using data and information collected during the investigation of a site and based on conditions encountered at the time and particular locations at which fieldwork is conducted. The information, sample results and data collected represent the conditions only at the specific times at which and at those specific locations from which the information, samples and data were obtained and the information, sample results and data may vary at other locations and times. To the extent that Cambium's work considers any locations or times other than those from which information, sample results and data was specifically received, the work shall be based on a reasonable extrapolation from such information, sample results and data, but the actual conditions encountered may vary from those extrapolations.

Only conditions at the site and locations chosen for study by the client are evaluated; no adjacent or other properties are evaluated unless specifically requested and paid for by the client. Any physical or other aspects of the site chosen for study by the client, or any other matter not specifically addressed in findings, results, information and data prepared by Cambium, are beyond the scopes of the work performed by Cambium and such matters have not been investigated or addressed.

### Intellectual Property Rights

Upon full payment of all fees properly owing to Cambium, the client shall have a perpetual, non-exclusive, non-transferable license (without sub-licensing rights) to use the work and reports prepared by Cambium solely for their intended purpose. For greater certainty, Cambium retains all right, title, and interest in and to the work and reports, and they may not be modified, used for other purposes, or relied upon for additional work without Cambium's prior written consent.

### Reliance

Cambium's services, work and reports may be relied on by the client and its corporate directors and officers, employees, and professional advisors. Cambium is not responsible for the use of its work or reports by any other party, or for the reliance on, or for any decision which is made by any party using the services or work performed by or a report prepared by Cambium without Cambium's express written consent. Any party that relies on services or work performed by Cambium or a report prepared by Cambium without Cambium's express written consent does so at its own risk. No report of Cambium may be disclosed or referred to in any public document without Cambium's express prior written consent. Cambium specifically disclaims any liability or responsibility to any such party for any loss, damage, expense, fine, penalty or other such thing which may arise or result from the use of any information, recommendation or other matter arising from the services, work or reports provided by Cambium.

### Limitation of Liability

Potential liability to the client arising out of the report is limited to an amount equal to the fees paid to Cambium for the preparation of the report. Cambium shall only be liable for direct damages to the extent caused by Cambium's negligence and/or breach of contract. Cambium shall not be liable for indirect, consequential, aggravated or punitive damages and the client expressly waives the right to claim for such damages.

### Personal Liability

The client expressly agrees that Cambium employees shall have no personal liability to the client with respect to a claim, whether in contract, tort and/or other cause of action in law. Furthermore, the client agrees that it will bring no proceedings nor take any action in any court of law against Cambium employees in their personal capacity.





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## Figures

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**GEOTECHNICAL  
INVESTIGATION**  
EASTBROOK CAPITAL  
12 Garden Street  
Lansdowne, Ontario

**LEGEND**

- Highway
- Major Road
- Minor Road
- Railway
- Watercourse
- Federal Protected Areas
- Provincial Park
- Water Area
- Wooded Area
- Built Up Area
- Provincial Border

**Notes:**  
- This document contains information licensed under the Open Government License - Ontario.  
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.  
- Cambium Inc. makes every effort to ensure this map is free from errors but cannot be held responsible for any damages due to error or omissions. This map should not be used for navigation or legal purposes. It is intended for general reference use only.



194 Sophia Street  
Peterborough, Ontario, K9H 1E5  
Tel: (705) 742.7900 Fax: (705) 742.7907  
www.cambium-inc.com

**SITE LOCATION PLAN**

|                              |                                      |
|------------------------------|--------------------------------------|
| Project No.:<br>02630979.000 | Date:<br>July 2026                   |
| Scale:<br>1:100,000          | Projection:<br>NAD 1983 UTM Zone 18N |
| Created by:<br>CC            | Checked by:<br>FI                    |
| Figure:<br><b>1</b>          |                                      |





**GEOTECHNICAL  
INVESTIGATION**  
EASTBROOK CAPITAL  
12 Garden Street  
Lansdowne, Ontario

**LEGEND**

-  Borehole  
 Benchmark  
 Site (approximate)

**Notes:**

- This document contains information licensed under the Open Government License - Ontario.
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
- Cambium Inc. makes every effort to ensure this map is free from errors but cannot be held responsible for any damages due to error or omissions. This map should not be used for navigation or legal purposes. It is intended for general reference use only.



194 Sophia Street  
Peterborough, Ontario, K9H 1E5  
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[www.cambium-inc.com](http://www.cambium-inc.com)

## BOREHOLE LOCATION PLAN

|                              |                   |                                      |  |
|------------------------------|-------------------|--------------------------------------|--|
| Project No.:<br>02630979.000 |                   | Date:<br>July 2026                   |  |
| Scale:<br>1:800              |                   | Projection:<br>NAD 1983 UTM Zone 18N |  |
| Created by:<br>CC            | Checked by:<br>FI | Figure:<br>2                         |  |



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## **Appendix A**

### **Borehole Logs**

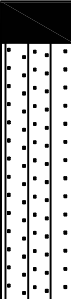
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**Client:** Eastbrook Capital  
**Contractor:** CEDC  
**Project No.:** 02630979.000  
**Location:** 12 Garden Street,  
Lansdowne, ON

**Project Name:** 12 Garden ST  
**Method:** Track Mounted Solid Stem Auger  
**Elevation:** 113.00 mASL  
**UTM:** 18T **N:** 4917307.00 **E:** 418596.00

**Log of Borehole:** BH101-26  
**Page:** 1 of 1  
**Date Completed:** July 6, 2026

| SUBSURFACE PROFILE           |       |                                                                                   |                                                                                  | SAMPLE             |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
|------------------------------|-------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------|--------|------|------------|---------|----------------------|----|----|------------------------|--------------------|----|----|-------------------|-----------|
| Elevation<br>(m)             | Depth | Lithology                                                                         | Description                                                                      | Elevation<br>Depth | Number | Type | % Recovery | SPT (N) | Atterberg Limits (%) |    |    | Shear Strength Cu, kPa |                    |    |    | Well Installation | Log Notes |
|                              |       |                                                                                   |                                                                                  |                    |        |      |            |         | LL                   | PL | PI | nat V <sub>v</sub>     | rem V <sub>v</sub> | e  |    |                   |           |
|                              |       |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
|                              |       |                                                                                   |                                                                                  |                    |        |      |            |         | 25                   | 50 | 75 | 20                     | 40                 | 60 | 80 |                   |           |
|                              |       |                                                                                   |                                                                                  |                    |        |      |            |         | % Moisture           |    |    | SPT (N)                |                    |    |    |                   |           |
|                              |       |                                                                                   |                                                                                  |                    |        |      |            |         | 25                   | 50 | 75 | 20                     | 40                 | 60 | 80 |                   |           |
| 113                          | 0     |  | <b>TOPSOIL:</b> 125 mm                                                           | 112.87             | 1A     | SS   |            |         |                      |    |    |                        |                    |    |    |                   |           |
|                              |       |                                                                                   | (SM) gravelly SILTY SAND:<br>brown; moist; dense                                 | 0.13               | 1B     | SS   | 71         | 47      |                      |    |    |                        |                    |    | 47 |                   |           |
|                              |       |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 112.5                        | 0.5   |                                                                                   | decrease in gravel content                                                       |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
|                              |       |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
|                              |       |                                                                                   |                                                                                  |                    | 2      | GB   |            |         |                      |    |    |                        |                    |    |    |                   |           |
|                              |       |                                                                                   |                                                                                  | 112.09             |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 112                          | 1     |                                                                                   | Borehole terminated @ 0.9 mbgs<br>due to practical auger refusal<br>encountered. | 0.91               |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
|                              |       |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 111.5                        | 1.5   |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 111                          | 2     |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 110.5                        | 2.5   |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 110                          | 3     |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 109.5                        | 3.5   |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 109                          | 4     |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| GRAINSIZE DISTRIBUTION       |       |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| SAMPLE GRAVEL SAND SILT CLAY |       |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |

Borehole terminated on inferred bedrock. Inferred groundwater not encountered. Standing water not observed. Borehole caving not observed.



**Client:** Eastbrook Capital  
**Contractor:** CEDC  
**Project No.:** 02630979.000  
**Location:** 12 Garden Street,  
Lansdowne, ON

**Project Name:** 12 Garden ST  
**Method:** Track Mounted Solid Stem Auger  
**Elevation:** 112.56 mASL  
**UTM:** 18T **N:** 4917282.00 **E:** 418599.00

**Log of Borehole:** BH102-26  
**Page:** 1 of 1  
**Date Completed:** July 6, 2026

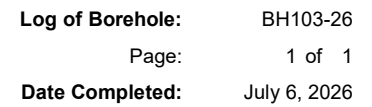
| SUBSURFACE PROFILE           |       |           |                                                                                  | SAMPLE             |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
|------------------------------|-------|-----------|----------------------------------------------------------------------------------|--------------------|--------|------|------------|---------|----------------------|----|----|------------------------|--------------------|----|----|-------------------|-----------|
| Elevation<br>(m)             | Depth | Lithology | Description                                                                      | Elevation<br>Depth | Number | Type | % Recovery | SPT (N) | Atterberg Limits (%) |    |    | Shear Strength Cu, kPa |                    |    |    | Well Installation | Log Notes |
|                              |       |           |                                                                                  |                    |        |      |            |         | LL                   | PL | PI | nat V <sub>r</sub>     | rem V <sub>r</sub> | 6  | 8  |                   |           |
|                              |       |           |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
|                              |       |           |                                                                                  |                    |        |      |            |         | 25                   | 50 | 75 | 20                     | 40                 | 60 | 80 |                   |           |
|                              |       |           |                                                                                  |                    |        |      |            |         | % Moisture           |    |    | SPT (N)                |                    |    |    |                   |           |
|                              |       |           |                                                                                  |                    |        |      |            |         | 25                   | 50 | 75 | 20                     | 40                 | 60 | 80 |                   |           |
| 112.6                        | 0     |           | TOPSOIL: 200 mm                                                                  | 112.36             | 1A     | SS   |            |         |                      |    |    |                        |                    |    |    |                   |           |
|                              |       |           |                                                                                  |                    | 1B     | SS   |            |         |                      |    |    |                        |                    |    |    |                   |           |
|                              |       |           | (SM) gravelly SILTY SAND:<br>brown; moist; loose                                 | 0.20               | 1C     | SS   | 57         | 6       |                      |    |    |                        |                    |    |    |                   |           |
| 112.1                        | 0.5   |           |                                                                                  | 111.90             |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
|                              |       |           | Borehole terminated @ 0.7 mbgs<br>due to practical auger refusal<br>encountered. | 0.66               |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 111.6                        | 1     |           |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 111.1                        | 1.5   |           |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 110.6                        | 2     |           |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 110.1                        | 2.5   |           |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 109.6                        | 3     |           |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 109.1                        | 3.5   |           |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 108.6                        | 4     |           |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| GRAINSIZE DISTRIBUTION       |       |           |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| SAMPLE GRAVEL SAND SILT CLAY |       |           |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| SS1C 28 53 19                |       |           |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |

Borehole terminated  
on inferred bedrock.  
Inferred groundwater  
not encountered.  
Standing water not  
observed. Borehole  
caving not observed.

Logged By: SM

Input By: SM

Peterborough, Barrie, Whitby, Kingston, Ottawa



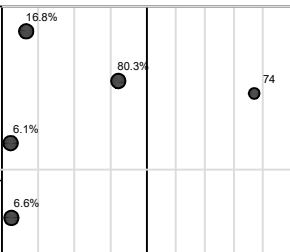
**Peterborough, Barrie, Whitby, Kingston, Ottawa**



**Client:** Eastbrook Capital  
**Contractor:** CEDC  
**Project No.:** 02630979.000  
**Location:** 12 Garden Street,  
Lansdowne, ON

**Project Name:** 12 Garden ST  
**Method:** Track Mounted Solid Stem Auger  
**Elevation:** 112.83 mASL  
**UTM:** 18T **N:** 4917270.00 **E:** 418681.00

**Log of Borehole:** BH104-26  
**Page:** 1 of 1  
**Date Completed:** July 6, 2026

| SUBSURFACE PROFILE |       |                                                                                    |                                                                                                                               | SAMPLE                     |        |      |            |         |                      |      |    |                        |    |                    |                                                                                                                                                                                            |                   |           |
|--------------------|-------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------|------|------------|---------|----------------------|------|----|------------------------|----|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------|
| Elevation<br>(m)   | Depth | Lithology                                                                          | Description                                                                                                                   | Elevation<br>Depth         | Number | Type | % Recovery | SPT (N) | Atterberg Limits (%) |      |    | Shear Strength Cu, kPa |    |                    |                                                                                                                                                                                            | Well Installation | Log Notes |
|                    |       |                                                                                    |                                                                                                                               |                            |        |      |            |         | LL                   | PL   | PI | nat V <sub>r</sub>     |    | rem V <sub>r</sub> |                                                                                                                                                                                            |                   |           |
|                    |       |                                                                                    |                                                                                                                               |                            |        |      |            |         | 25                   | 50   | 75 | 20                     | 40 | 60                 | 80                                                                                                                                                                                         |                   |           |
|                    |       |                                                                                    |                                                                                                                               |                            |        |      |            |         | % Moisture           |      |    | SPT (N)                |    |                    |                                                                                                                                                                                            |                   |           |
|                    |       |                                                                                    |                                                                                                                               |                            |        |      |            |         | 25                   | 50   | 75 | 20                     | 40 | 60                 | 80                                                                                                                                                                                         |                   |           |
| 112.8              | 0     |  | (SM) SILTY SAND and GRAVEL: with deleterious material (wood, brick), organics, rootlets; dark brown; moist, very dense [FILL] | 112.53                     | 1A     | SS   | 86         | 74      |                      |      |    |                        |    |                    | Wood encountered from 0.15 to 0.30 mbgs<br><br>Borehole terminated on inferred bedrock. Inferred groundwater not encountered<br>Standing water not observed. Borehole caving not observed. |                   |           |
|                    |       |                                                                                    | (SM) gravelly SILTY SAND: brown; moist; very dense                                                                            | 0.30                       | 1B     | SS   |            |         |                      |      |    |                        |    |                    |                                                                                                                                                                                            | 74                |           |
| 112.3              | 0.5   |                                                                                    |                                                                                                                               |                            | 1C     | SS   |            |         | 6.1%                 |      |    |                        |    |                    |                                                                                                                                                                                            |                   |           |
|                    |       |                                                                                    |                                                                                                                               | decrease in gravel content | 112.07 | 2    | GB         |         |                      | 6.6% |    |                        |    |                    |                                                                                                                                                                                            |                   |           |
|                    |       |                                                                                    | Borehole terminated @ 0.8 mbgs due to practical auger refusal encountered.                                                    | 0.76                       |        |      |            |         |                      |      |    |                        |    |                    |                                                                                                                                                                                            |                   |           |
| 111.8              | 1     |                                                                                    |                                                                                                                               |                            |        |      |            |         |                      |      |    |                        |    |                    |                                                                                                                                                                                            |                   |           |
| 111.3              | 1.5   |                                                                                    |                                                                                                                               |                            |        |      |            |         |                      |      |    |                        |    |                    |                                                                                                                                                                                            |                   |           |
| 110.8              | 2     |                                                                                    |                                                                                                                               |                            |        |      |            |         |                      |      |    |                        |    |                    |                                                                                                                                                                                            |                   |           |
| 110.3              | 2.5   |                                                                                    |                                                                                                                               |                            |        |      |            |         |                      |      |    |                        |    |                    |                                                                                                                                                                                            |                   |           |
| 109.8              | 3     |                                                                                    |                                                                                                                               |                            |        |      |            |         |                      |      |    |                        |    |                    |                                                                                                                                                                                            |                   |           |
| 109.3              | 3.5   |                                                                                    |                                                                                                                               |                            |        |      |            |         |                      |      |    |                        |    |                    |                                                                                                                                                                                            |                   |           |
| 108.8              | 4     |                                                                                    |                                                                                                                               |                            |        |      |            |         |                      |      |    |                        |    |                    |                                                                                                                                                                                            |                   |           |

GRAINSIZE DISTRIBUTION

|        |        |      |      |      |
|--------|--------|------|------|------|
| SAMPLE | GRAVEL | SAND | SILT | CLAY |
|--------|--------|------|------|------|

Wood encountered from 0.15 to 0.30 mbgs

Borehole terminated on inferred bedrock. Inferred groundwater not encountered. Standing water not observed. Borehole caving not observed.





**Client:** Eastbrook Capital  
**Contractor:** CEDC  
**Project No.:** 02630979.000  
**Location:** 12 Garden Street,  
Lansdowne, ON

**Project Name:** 12 Garden ST  
**Method:** Track Mounted Solid Stem Auger  
**Elevation:** 113.22 mASL  
**UTM:** 18T **N:** 4917286.00 **E:** 418650.00

**Log of Borehole:** BH105-26  
**Page:** 1 of 1  
**Date Completed:** July 6, 2026

| SUBSURFACE PROFILE |       |           |                                                                                                         | SAMPLE             |        |      |            |         |                      |    |    |                        |    |    |    |                                                                                                                                                                |           |
|--------------------|-------|-----------|---------------------------------------------------------------------------------------------------------|--------------------|--------|------|------------|---------|----------------------|----|----|------------------------|----|----|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Elevation<br>(m)   | Depth | Lithology | Description                                                                                             | Elevation<br>Depth | Number | Type | % Recovery | SPT (N) | Atterberg Limits (%) |    |    | Shear Strength Cu, kPa |    |    |    | Well Installation                                                                                                                                              | Log Notes |
|                    |       |           |                                                                                                         |                    |        |      |            |         | LL                   | PL | PI | nat V. rem V.          |    |    |    |                                                                                                                                                                |           |
|                    |       |           |                                                                                                         |                    |        |      |            |         | 25                   | 50 | 75 | 20                     | 40 | 60 | 80 |                                                                                                                                                                |           |
|                    |       |           |                                                                                                         |                    |        |      |            |         | % Moisture           |    |    | SPT (N)                |    |    |    |                                                                                                                                                                |           |
|                    |       |           |                                                                                                         |                    |        |      |            |         | 25                   | 50 | 75 | 20                     | 40 | 60 | 80 |                                                                                                                                                                |           |
| 113.2              | 0     |           | (SW) gravelly SAND: some silt; grey-brown; moist, compact [GRANULAR FILL]                               | 113.04             | 1A     | SS   | 58         | 17      | 3.3%                 |    |    |                        |    |    |    | Borehole terminated at 0.8 mbgs. First groundwater not encountered, standing water not encountered, and borehole caving not observed upon drilling completion. |           |
|                    |       |           | (SM) SILTY SAND and GRAVEL: with minor deleterious materials (brick); grey-brown; moist; compact [FILL] | 112.89             | 1B     | SS   |            |         | 14.1%                |    |    |                        |    | 17 |    |                                                                                                                                                                |           |
| 112.7              | 0.5   |           | (SM) gravelly SILTY SAND: brown; moist; compact                                                         | 112.89             | 1C     | SS   |            |         | 5.6%                 |    |    |                        |    |    |    |                                                                                                                                                                |           |
|                    |       |           | decrease in gravel content                                                                              | 112.43             | 2      | GB   | 6.6%       |         |                      |    |    |                        |    |    |    |                                                                                                                                                                |           |
| 112.2              | 1     |           | Borehole terminated @ 0.8 mbgs due to practical auger refusal encountered.                              | 0.79               |        |      |            |         |                      |    |    |                        |    |    |    |                                                                                                                                                                |           |
| 111.7              | 1.5   |           |                                                                                                         |                    |        |      |            |         |                      |    |    |                        |    |    |    |                                                                                                                                                                |           |
| 111.2              | 2     |           |                                                                                                         |                    |        |      |            |         |                      |    |    |                        |    |    |    |                                                                                                                                                                |           |
| 110.7              | 2.5   |           |                                                                                                         |                    |        |      |            |         |                      |    |    |                        |    |    |    |                                                                                                                                                                |           |
| 110.2              | 3     |           |                                                                                                         |                    |        |      |            |         |                      |    |    |                        |    |    |    |                                                                                                                                                                |           |
| 109.7              | 3.5   |           |                                                                                                         |                    |        |      |            |         |                      |    |    |                        |    |    |    |                                                                                                                                                                |           |
| 109.2              | 4     |           |                                                                                                         |                    |        |      |            |         |                      |    |    |                        |    |    |    |                                                                                                                                                                |           |

GRAINSIZE DISTRIBUTION

|        |        |      |      |      |
|--------|--------|------|------|------|
| SAMPLE | GRAVEL | SAND | SILT | CLAY |
| SS1A   | 34     | 54   | 12   |      |

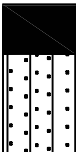
Borehole terminated at 0.8 mbgs. First groundwater not encountered, standing water not encountered, and borehole caving not observed upon drilling completion.



**Client:** Eastbrook Capital  
**Contractor:** CEDC  
**Project No.:** 02630979.000  
**Location:** 12 Garden Street,  
Lansdowne, ON

**Project Name:** 12 Garden ST  
**Method:** Track Mounted Solid Stem Auger  
**Elevation:** 113.26 mASL  
**UTM:** 18T **N:** 4917307.00 **E:** 418620.00

**Log of Borehole:** BH106-26  
**Page:** 1 of 1  
**Date Completed:** July 6, 2026

| SUBSURFACE PROFILE |       |                                                                                   |                                                                                  | SAMPLE             |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
|--------------------|-------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------|--------|------|------------|---------|----------------------|----|----|------------------------|--------------------|----|----|-------------------|-----------|
| Elevation<br>(m)   | Depth | Lithology                                                                         | Description                                                                      | Elevation<br>Depth | Number | Type | % Recovery | SPT (N) | Atterberg Limits (%) |    |    | Shear Strength Cu, kPa |                    |    |    | Well Installation | Log Notes |
|                    |       |                                                                                   |                                                                                  |                    |        |      |            |         | LL                   | PL | PI | nat V <sub>v</sub>     | rem V <sub>v</sub> | 2  | 6  |                   |           |
|                    |       |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
|                    |       |                                                                                   |                                                                                  |                    |        |      |            |         | 25                   | 50 | 75 | 20                     | 40                 | 60 | 80 |                   |           |
|                    |       |                                                                                   |                                                                                  |                    |        |      |            |         | % Moisture           |    |    | SPT (N)                |                    |    |    |                   |           |
|                    |       |                                                                                   |                                                                                  |                    |        |      |            |         | 25                   | 50 | 75 | 20                     | 40                 | 60 | 80 |                   |           |
| 113.3              | 0     |  | <b>TOPSOIL:</b> 150 mm                                                           | 113.11             | 1A     | SS   |            |         |                      |    |    |                        |                    |    |    |                   |           |
|                    |       |                                                                                   | <b>(SM) gravelly SILTY SAND:</b><br>brown; moist; very loose                     | 0.15               | 1B     | SS   | 55         | 2       |                      |    |    |                        |                    |    |    |                   |           |
|                    |       |                                                                                   |                                                                                  | 112.80             |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 112.8              | 0.5   |                                                                                   | Borehole terminated @ 0.5 mbgs<br>due to practical auger refusal<br>encountered. | 0.46               |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 112.3              | 1     |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 111.8              | 1.5   |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 111.3              | 2     |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 110.8              | 2.5   |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 110.3              | 3     |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 109.8              | 3.5   |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |
| 109.3              | 4     |                                                                                   |                                                                                  |                    |        |      |            |         |                      |    |    |                        |                    |    |    |                   |           |

GRAINSIZE DISTRIBUTION

|        |        |      |      |      |
|--------|--------|------|------|------|
| SAMPLE | GRAVEL | SAND | SILT | CLAY |
|--------|--------|------|------|------|

Borehole terminated  
on inferred bedrock.  
Inferred groundwater  
not encountered.  
Standing water not  
observed. Borehole  
caving not observed.



DRAFT

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## **Appendix B**

### **Laboratory Results**

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# Grain Size Distribution Chart

Project Number: 02630979-000

Client: Northridge Homes Ltd.

Project Name: 12 Garden St

Sample Date: July 6, 2026

Sampled By: Farhan Imtiaz - Cambium Inc.

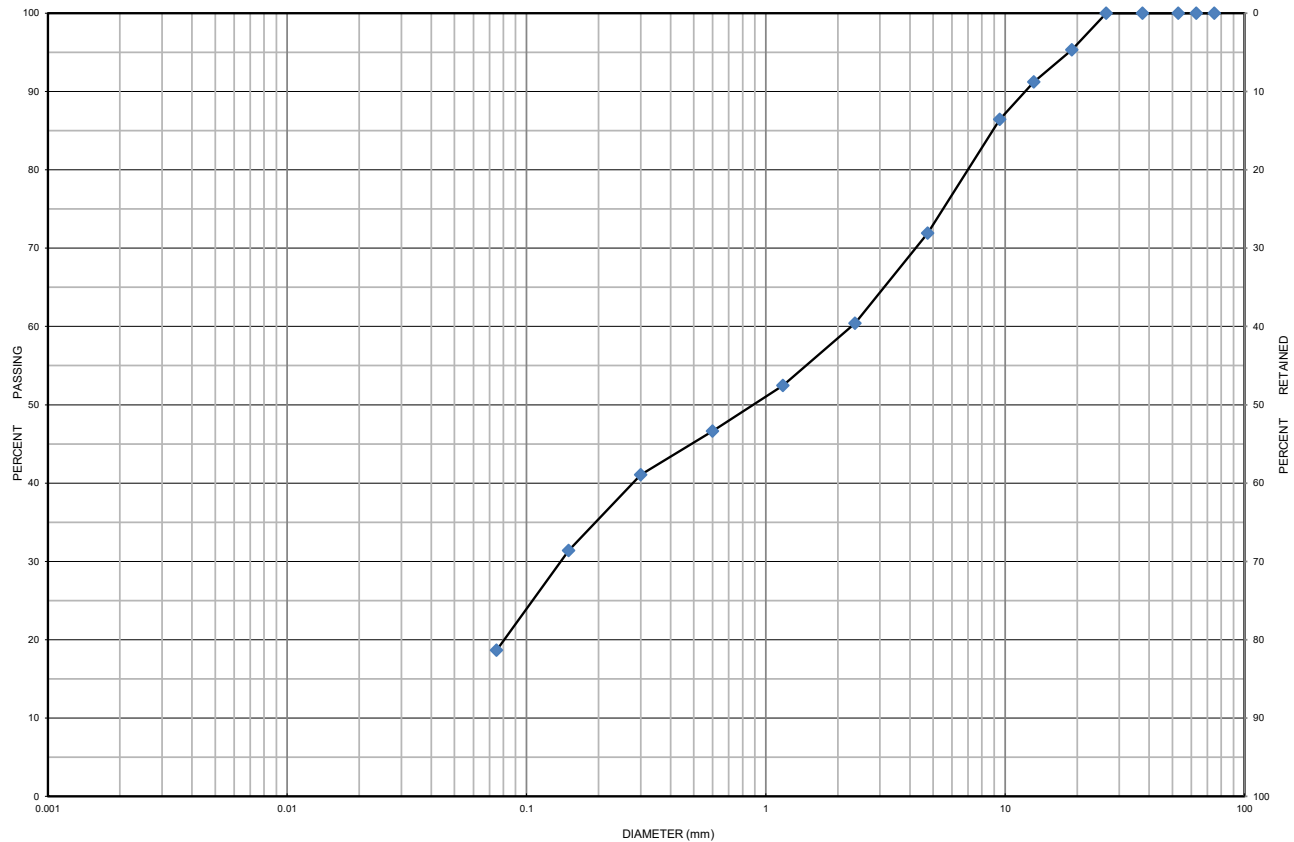
Location: BH 102-26 SS 1C

Depth: 0.2 m to 0.6 m

Lab Sample No: S-26-0753

## UNIFIED SOIL CLASSIFICATION SYSTEM

| CLAY & SILT (<0.075 mm) | SAND (<4.75 mm to 0.075 mm) |        |        | GRAVEL (>4.75 mm) |        |
|-------------------------|-----------------------------|--------|--------|-------------------|--------|
|                         | FINE                        | MEDIUM | COARSE | FINE              | COARSE |

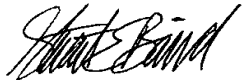


## MIT SOIL CLASSIFICATION SYSTEM

| CLAY | SILT | FINE | MEDIUM | COARSE | FINE   | MEDIUM | COARSE | BOULDERS |
|------|------|------|--------|--------|--------|--------|--------|----------|
|      |      | SAND |        |        | GRAVEL |        |        |          |

| Borehole No.        | Sample No. | Depth          | Gravel          | Sand            | Silt            | Clay           | Moisture       |
|---------------------|------------|----------------|-----------------|-----------------|-----------------|----------------|----------------|
| BH 102-26           | SS 1C      | 0.2 m to 0.6 m | 28              | 53              | 19              |                | 6.4            |
| Description         |            | Classification | D <sub>60</sub> | D <sub>30</sub> | D <sub>10</sub> | C <sub>u</sub> | C <sub>c</sub> |
| Gravelly Silty Sand |            | SM             | 2.450           | 0.145           | -               | -              | -              |

Additional information available upon request

Issued By:   
(Senior Project Manager)

Date Issued: July 22, 2026

Cambium Inc. (Laboratory)  
866.217.7900 | cambium-inc.com  
194 Sophia St. | Peterborough | ON | K9H 1E5

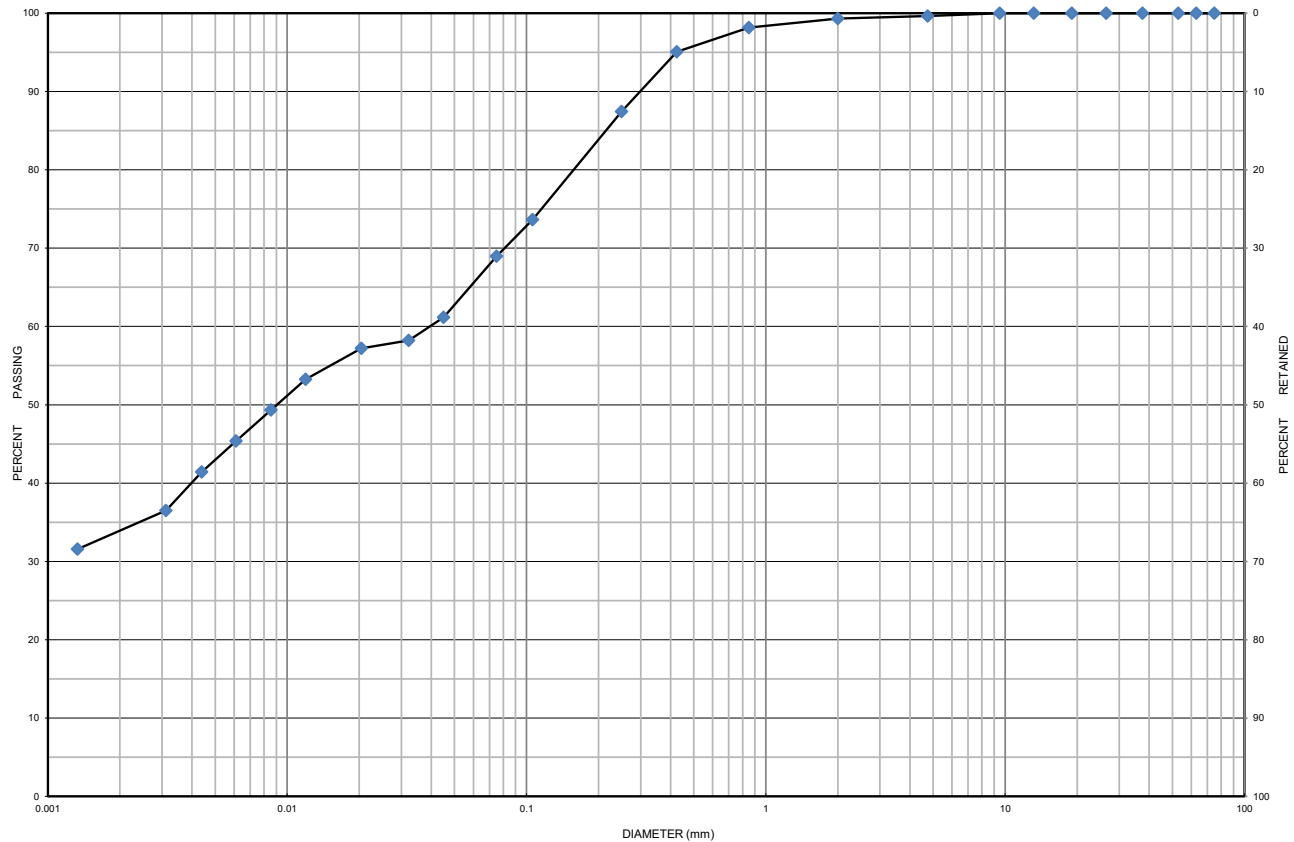
Form: L6V.2 - Grad.Hydo



# Grain Size Distribution Chart

**Project Number:** 02630979-000      **Client:** Northridge Homes Ltd.  
**Project Name:** 12 Garden St  
**Sample Date:** July 6, 2026      **Sampled By:** Farhan Imtiaz - Cambium Inc.  
**Location:** BH 103-26 GB 2      **Depth:** 0.6 m to 0.7 m      **Lab Sample No:** S-26-0754

| UNIFIED SOIL CLASSIFICATION SYSTEM |                             |        |        |                   |        |
|------------------------------------|-----------------------------|--------|--------|-------------------|--------|
| CLAY & SILT (<0.075 mm)            | SAND (<4.75 mm to 0.075 mm) |        |        | GRAVEL (>4.75 mm) |        |
|                                    | FINE                        | MEDIUM | COARSE | FINE              | COARSE |



| MIT SOIL CLASSIFICATION SYSTEM |      |      |        |        |        |        |        |          |
|--------------------------------|------|------|--------|--------|--------|--------|--------|----------|
| CLAY                           | SILT | FINE | MEDIUM | COARSE | FINE   | MEDIUM | COARSE | BOULDERS |
|                                |      | SAND |        |        | GRAVEL |        |        |          |

| Borehole No.      | Sample No. | Depth          | Gravel          | Sand            | Silt            | Clay           | Moisture       |
|-------------------|------------|----------------|-----------------|-----------------|-----------------|----------------|----------------|
| BH 103-26         | GB 2       | 0.6 m to 0.7 m | 0               | 31              | 35              | 34             | 23.3           |
| Description       |            | Classification | D <sub>60</sub> | D <sub>30</sub> | D <sub>10</sub> | C <sub>u</sub> | C <sub>c</sub> |
| Clayey Sandy Silt |            | ML             | 0.040           | -               | -               | -              | -              |

Additional information available upon request

Issued By:   
(Senior Project Manager)

Date Issued: July 22, 2026

**Cambium Inc. (Laboratory)**  
866.217.7900 | cambium-inc.com  
194 Sophia St. | Peterborough | ON | K9H 1E5

Form: L6V.2 - Grad.Hydo



# Grain Size Distribution Chart

Project Number: 02630979-000

Client: Northridge Homes Ltd.

Project Name: 12 Garden St

Sample Date: July 6, 2026

Sampled By: Farhan Imtiaz - Cambium Inc.

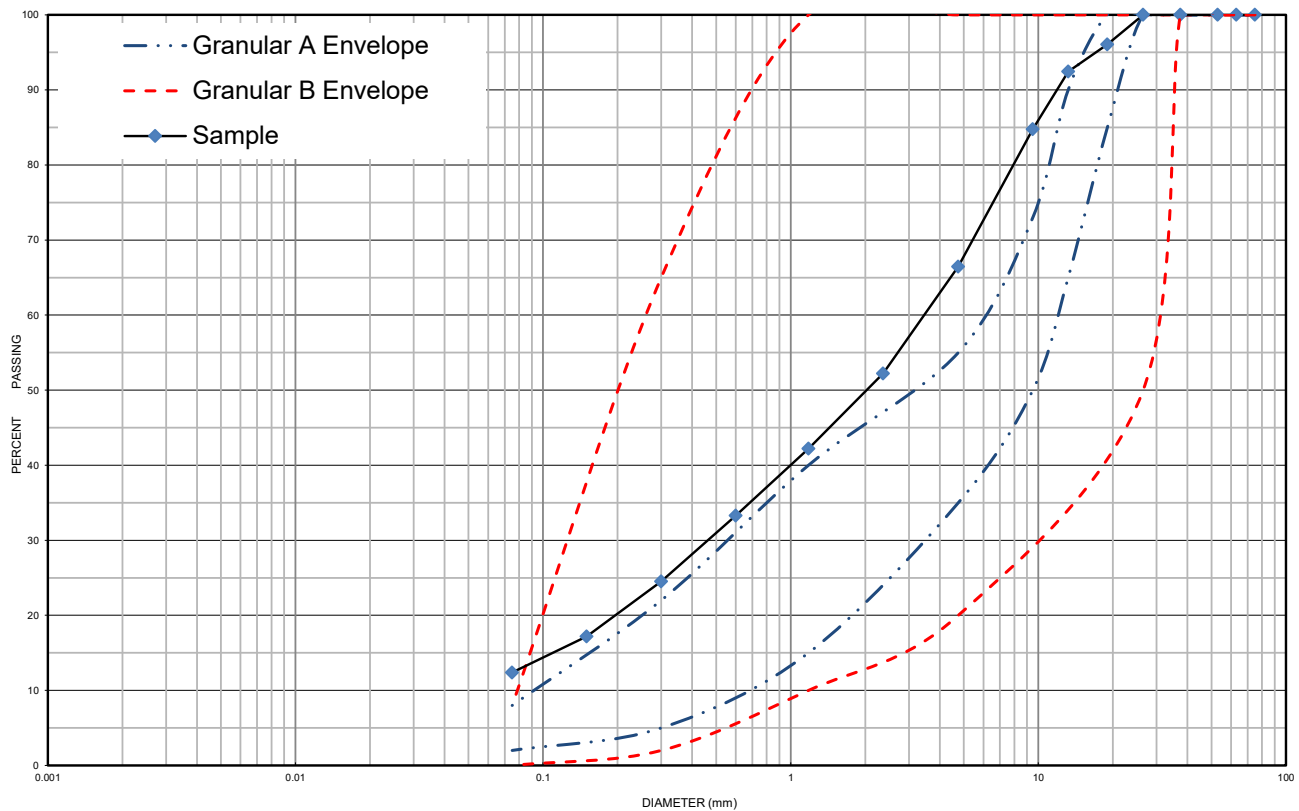
Location: BH 105-26 SS 1A

Depth: 0 m to 0.2 m

Lab Sample No: S-26-0755

## UNIFIED SOIL CLASSIFICATION SYSTEM

| CLAY & SILT (<0.075 mm) | SAND (<4.75 mm to 0.075 mm) |        |        | GRAVEL (>4.75 mm) |        |
|-------------------------|-----------------------------|--------|--------|-------------------|--------|
|                         | FINE                        | MEDIUM | COARSE | FINE              | COARSE |



## MIT SOIL CLASSIFICATION SYSTEM

| MIT SOIL CLASSIFICATION SYSTEM |      |      |        |        |        |        |        |          |
|--------------------------------|------|------|--------|--------|--------|--------|--------|----------|
| CLAY                           | SILT | FINE | MEDIUM | COARSE | FINE   | MEDIUM | COARSE | BOULDERS |
|                                |      | SAND |        |        | GRAVEL |        |        |          |

| Borehole No.        | Sample No. | Depth          | Gravel          | Sand            | Silt            | Clay           | Moisture       |
|---------------------|------------|----------------|-----------------|-----------------|-----------------|----------------|----------------|
| BH 105-26           | SS 1A      | 0 m to 0.2 m   | 34              | 54              | 12              |                | 3.3            |
| Description         |            | Classification | D <sub>60</sub> | D <sub>30</sub> | D <sub>10</sub> | C <sub>u</sub> | C <sub>c</sub> |
| Gravelly Silty Sand |            | SM             | 3.450           | 0.460           | -               | -              | -              |

Additional information available upon request

Issued By:   
(Senior Project Manager)

Date Issued: July 22, 2026



## Moisture Content



**Project Number:** 02630979.000  
**Project Name:** 12 Garden St  
**Client:** Northridge Homes Ltd.  
**Date Taken:** 2026-07-06

**Lab Number:** S-26-0752  
**Date Tested:** 2026-07-13  
**Tested By:** I. Meldrum

| Borehole Number | Sample Number | Sample Depth (m) | Water Weight (g) | Water Content (%) | Additional Observations |
|-----------------|---------------|------------------|------------------|-------------------|-------------------------|
| 101             | 1A            | 0.00-0.13        | 41.2             | 32.0              | NR                      |
| 101             | 1B            | 0.13-0.36        | 7.9              | 5.7               | NR                      |
| 101             | 2GB           | 0.36-0.91        | 10.8             | 5.7               |                         |
| 102             | 1A            | 0.00-0.08        | 17.7             | 26.5              | NR                      |
| 102             | 1B            | 0.08-0.20        | 34.1             | 21.5              | NR                      |
| 102             | 1C            | 0.20-0.33        | 13.5             | 6.4               | NR                      |
| 103             | 1A            | 0.00-0.08        | 28.4             | 48.1              | NR                      |
| 103             | 1B            | 0.08-0.61        | 22.9             | 33.0              | NR                      |
| 103             | 2GB           | 0.61-0.74        | 73.5             | 23.3              | NR                      |
| 104             | 1A            | 0.00-0.15        | 28.6             | 16.8              | NR                      |
| 104             | 1B            | 0.15-0.30        | 18.7             | 80.3              | 1                       |
| 104             | 1C            | 0.30-0.53        | 13.7             | 6.1               | NR                      |
| 104             | 2GB           | 0.53-0.76        | 13.4             | 6.6               | NR                      |
| 105             | 1A            | 0.00-0.18        | 12.9             | 3.3               | NR                      |
| 105             | 1B            | 0.18-0.59        | 20.8             | 14.1              |                         |
| 105             | 1C            | 0.59-0.61        | 3.3              | 5.6               | NR                      |
| 105             | 2GB           | 0.61-0.79        | 12.4             | 6.6               |                         |
| 106             | 1A            | 0.00-0.15        | 44.1             | 31.8              | NR                      |
| 106             | 1B            | 0.15-0.38        | 9.1              | 27.3              | NR                      |

1 – Contains organics  
2 – Contains rubble  
3 – Hydrocarbon Odour  
4 – Unknown Chemical Odour  
5 – Saturated – free water visible

6 – Very moist – near optimum moisture content  
7 – Moist – below optimum moisture  
8 – Dry – dry texture – powdery  
9 – Very small – caution may not be representative  
10 – Hold sample for gradation analysis