WHITESTONE

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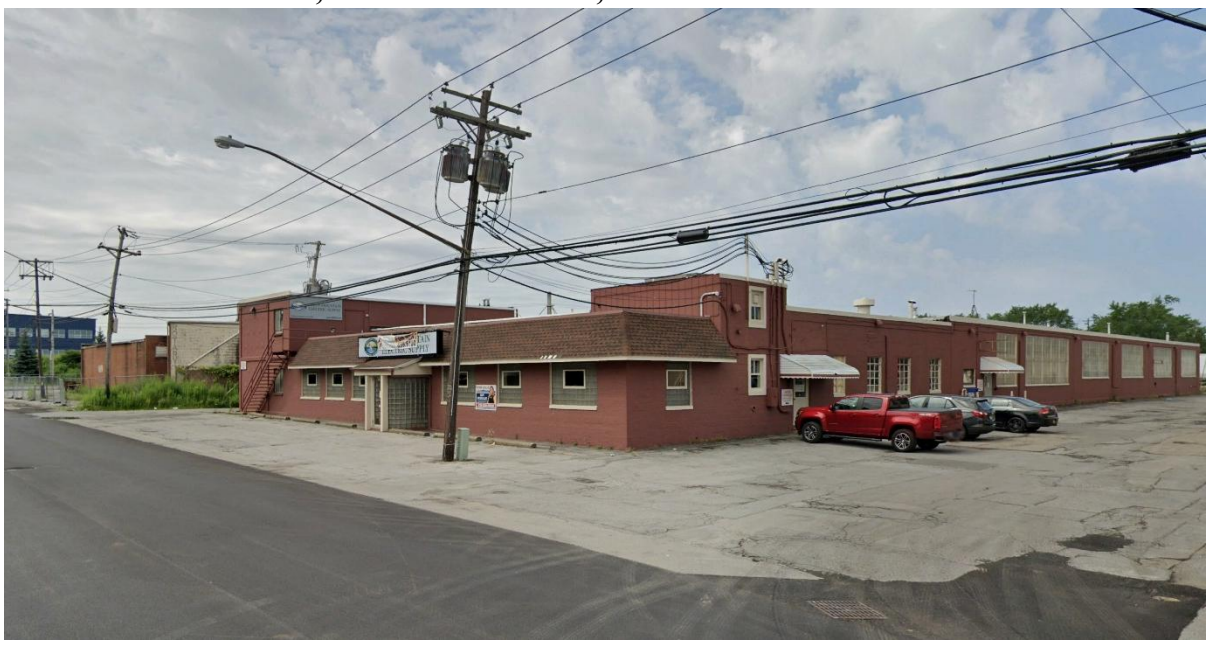
REPORT OF GEOTECHNICAL INVESTIGATION

PROPOSED NIAGARA TRANSFORMER EXPANSION PROJECT
1746 DALE ROAD & 24 ANDERSON ROAD
SECTIONS 102.03, BLOCK 2, LOT 29 & LOT 30
CHEEKTOWAGA, ERIE COUNTY, NEW YORK



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BUFFALO CONSTRUCTION CONSULTANTS, INC.
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Whitestone Project No.: GR2524343.Y01
June 4, 2026

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June 4, 2026

via email

BUFFALO CONSTRUCTION CONSULTANTS, INC.
496 Kennedy Road
Buffalo, New York 14227

Attention: Mr. Timothy Schwab
Senior Project Manager

Regarding: REPORT OF GEOTECHNICAL INVESTIGATION
PROPOSED NIAGARA POWER TRANSFORMER EXPANSION PROJECT
1746 DALE ROAD & 24 ANDERSON ROAD
SECTION 102.03, BLOCK 2, LOT 29 & LOT 30
CHEEKTOWAGA, ERIE COUNTY, NEW YORK
WHITESTONE PROJECT NO.: GR2524343.Y01

Dear Mr. Schwab:

Whitestone Associates Engineering & Geology NY, PLLC (Whitestone) is pleased to submit the attached *Report of Geotechnical Investigation* for the above-referenced project. The report presents the results of Whitestone's site visit and subsurface exploration, and includes design recommendations for the foundations, floor slabs, pavements, and related earthwork associated with the proposed expansion.

Whitestone appreciates the opportunity to be of continued service to Buffalo Construction Consultants, Inc. Please contact us with any questions regarding the attached report.

Sincerely,

WHITESTONE

Ibrahim Jafari, PMP
Project Manager

Ryan R. Roy, PE
Vice President

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Enclosures
Copy: Charles B. Guzzetta, PG, Whitestone Associates, Inc.

REPORT OF GEOTECHNICAL INVESTIGATION

Proposed Niagara Transformer Expansion Project
1746 Dale Road & 24 Anderson Road
Cheektowaga, Erie County, New York

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Proposed Niagara Transformer Expansion Project
1746 Dale Road & 24 Anderson Road
Cheektowaga, Erie County, New York

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FIGURE 1 Boring Location Plan

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SECTION 1.0
Summary of Findings

Whitestone has conducted an exploration and evaluation of the subsurface conditions on the site of the proposed expansion project to be located on two adjacent land parcels at 1746 Dale Road and 24 Anderson Road in the Town of Cheektowaga, Erie County, New York. Based on the February 27, 2026 *Boring Location Plan* prepared by Tredo Engineers (Tredo) of Buffalo, New York, the proposed expansion will include addition of a new pre-engineered metal research facility at the project location. The plan specifies a single-story structure with a footprint of approximately 24,000 square feet to the south of the existing building.

The geotechnical investigation included conducting a reconnaissance of the project site, advancing 10 borings, and collecting soil samples for laboratory testing and physical characterization. Site subsurface conditions consisted of asphalt or concrete overlying existing fill, which is underlain by a glaciolacustrine deposit, in turn underlain by limestone bedrock. Groundwater was encountered in the borings during the exploration at depths of 1.5 feet below ground surface (fbgs) to 16.0 fbgs.

The results of the investigation indicate that the proposed structures may be supported on conventional shallow foundations bearing on a minimum of 12 inches of properly placed and compacted structural fill over the glaciolacustrine deposit. Existing fill was encountered in the borings up to a depth of 7.0 fbgs, however, deeper existing fill may be encountered during construction between the widely spaced borings and associated with previous site development. Existing fill should be removed from beneath footings and the foundation subgrade backfilled with compacted structural fill. Overexcavation of existing fill under footings and replacement with structural fill may be required within a portion of the site. The subgrade should be reviewed by the geotechnical engineer, as specified in this report prior to fill placement or structural support. The results also indicate that the site is suitable for ground-supported concrete floor slabs deriving support from compacted, approved, and improved existing fill or glaciolacustrine deposit, or structural fill placed over these materials. Additionally, the site conditions support the use of typical pavement sections using standard New York State Department of Transportation (NYSDOT) specified materials.

The above summary is intended to provide an overview of the geotechnical findings and recommendations and is not fully developed. Greater detail is presented in the following sections. The entire report must be read for a comprehensive understanding of the information contained herein.

SECTION 2.0
Introduction

2.1 AUTHORIZATION

Mr. Mark Wendling, Director at Buffalo Construction Consultants, Inc., issued authorization to Whitestone to conduct a geotechnical investigation on the site relevant to the construction of proposed expansion at 1746 Dale Road and 24 Anderson Road in the Town of Cheektowaga, Erie County, New York. The geotechnical investigation was conducted in general accordance with Whitestone's April 1, 2026 revised proposal.

2.2 PURPOSE

The purpose of this exploration and analysis was to:

- ascertain the various soil profile components at test locations;
- estimate the engineering characteristics of the proposed foundation bearing and subgrade materials;
- provide geotechnical criteria for use by the design engineers in preparing the foundation, floor slab, and pavement design;
- provide recommendations for required earthwork and subgrade preparation;
- record groundwater or bedrock levels (if encountered) at the time of the investigation and discuss their potential impact on the proposed construction; and
- recommend additional investigation and/or analysis, if warranted.

2.3 SCOPE

The scope of the exploration and analysis included the subsurface exploration, field testing and sampling, laboratory testing, and a geotechnical engineering analysis and evaluation of the subsurface materials. This *Report of Geotechnical Investigation* is limited to addressing the site conditions related to the physical support of the proposed construction.

2.3.1 Field Exploration

Field exploration of the project site was conducted by means of 10 borings, identified as B-1 through B-10, advanced with an all-terrain vehicle (ATV)-mounted CME 550X drill rig equipped with hollow stem

augers. The borings were advanced to termination depths of 25.0 fbgs to 54.5 fbgs. Borings were backfilled with excavated materials generated from the investigation, and the surface patched with 'cold patch' asphalt, were appropriate. Test locations are shown on the *Boring Location Plan* included as Figure 1. *Records of Subsurface Exploration* for the borings are provided in Appendix A.

Test locations were based on project information provided to Whitestone at the time of the investigation, including the Tredo *Boring Location Plan*. The subsurface tests were conducted in the presence of a Whitestone representative, who conducted field tests, recorded visual classifications, and collected samples of the various strata encountered. Test locations were established in the field using normal taping procedures and estimated right angles. These locations are presumed to be approximate.

Borings and Standard Penetration Tests (SPTs) were conducted in general accordance with ASTM International (ASTM) designation D1586. The Standard Penetration Resistance value (N) can be used as an indicator of the consistency of fine-grained soils and the relative density of coarse-grained soils. The N-value for various soil types can be correlated with the engineering behavior of earthworks and foundations. Bedrock was cored using a NQ2-sized diamond bit. The subsurface condition including rock core description, recovery, Rock Quality Designation (RQD), and other pertinent information was recorded on the boring logs and are included in Appendix A on the *Records of Subsurface Exploration*. The RQD value reflects the quality and fracture spacing of the rock and is calculated by summing all unbroken samples that are 4.0 inches or longer divided by the total length of the run. The percentage of core recovery and RQD value provide an understanding of the physical and engineering properties of the rock.

Groundwater level observations, where encountered, were recorded during and immediately after the completion of field operations prior to backfilling test locations. Seasonal variations, temperature effects, and recent rainfall conditions may influence the levels of the groundwater, and observed levels will depend on the permeability of the soils. Groundwater elevations derived from sources other than seasonally observed groundwater monitoring wells may not be representative of true groundwater levels.

2.3.2 Laboratory Testing

Supplemental laboratory testing was conducted to determine additional, pertinent engineering characteristics of representative samples of on-site soils. The laboratory testing was conducted in general accordance with applicable ASTM standard test methods and included physical testing of the site soil.

Physical/Textural Analysis: Representative samples of the site soils were subjected to laboratory testing that included moisture content determination (ASTM D2216) and gradation analysis (ASTM D6913) in order to conduct supplementary engineering soil classifications. The soil strata tested were classified by the Unified Soil Classification System (USCS), provided in Appendix C. The results of the laboratory testing of soil are summarized in the table below. Additional moisture content test results are presented on the *Records of Subsurface Exploration* in Appendix A. Laboratory test results are provided in Appendix B.

PHYSICAL/TEXTURAL ANALYSES SUMMARY								
Boring	**Sample**	**Depth (fbgs)**	**Moisture Content (%)**	**Gravel (%)**	**Sand (%)**	**Passing No. 200 Sieve (%)**	**Soil Description**	**Classification**
B-1	S-1	0.0 - 2.0	15.3	39.9	457	14.4	Clayey Sand with Gravel	Fill
B-7	S-2	2.0 – 4.0	17.6	2.5	46.1	51.4	Sandy lean clay	Fill

The engineering classifications are useful when considered in conjunction with the additional site data to estimate properties of the soil types encountered and to predict soil behavior under construction and service loads.

SECTION 3.0
Site Description

3.1 LOCATION & DESCRIPTION

The site the proposed expansion consists of two adjacent land parcels located at 1746 Dale Road and 24 Anderson Road in the Town of Cheektowaga, Erie County, New York, Latitude 42.9052 North, Longitude 78.7722 West. The proposed expansion is within 1.05-acre and 0.88-acre parcels identified further as Section 102.03, Block 2, Lot 29 and Lot 30, respectively.

The site of the proposed expansion is a trapezoidal area bounded to the south by Dale Road; to the east by Anderson Road; to the north by an access road; and to the west by an Upstate Farms Cooperative Inc. facility. Access to the site is from Dale Road and Anderson Road. The site of the proposed construction is shown on the *Boring Location Plan* included as Figure 1.

3.2 EXISTING CONDITIONS

Existing Development: At the time of Whitestone's investigation, the site of the proposed expansion was partially paved and partially covered with existing buildings. There is an earthen berm on the northern side of the site.

Topography: Based on a review of the *USGS 7.5 Minute Series Buffalo NE Quadrangle, New York* (2023), and on Whitestone's visual observations, the site is generally level at approximately elevation 655 feet above North American Vertical Datum of 1988 (NAVD).

Utilities: The site is serviced by electric, gas, and telecommunication utilities, and connected to municipal water and sewer services. The utility information contained in this report is presented for general discussion only and is not intended for construction purposes.

Site Drainage: Surface run-off will flow to the existing street-side stormwater collection systems.

3.3 SITE GEOLOGY

According to the University of the State of New York, The State Education Department *Surficial Geologic Map of New York, Niagara Sheet* (1988), the natural subsurface soils consist of glaciolacustrine deposits. The University of the State of New York, The State Education Department *Geologic Map of New York, Niagara Sheet* (1970) indicates that the subject site is underlain by the Middle Devonian-age Onondaga and Bois Blanc Limestones, consisting of limestone with minor sandstone and incidental chert. The site is mapped by USGS as being within a karst area, however, there is a significant thickness of overburden covering the limestone bedrock.

3.4 PROPOSED CONSTRUCTION

Based on the aforementioned Tredo *Boring Location Plan*, the proposed expansion will include addition of a new pre-engineered metal research facility at the project location. The plan specifies a single-story expansion with a footprint of approximately 24,000 square feet to the south of the existing building. Detailed grading information has not been provided, however, proposed site grades are anticipated to be similar to current grades. As such, minimal cuts and fills are anticipated as part of the project. Pavements will be designed for light duty automobiles as well as trash and delivery trucks. No new retaining walls or stormwater management areas are planned. For the purpose of this report, the maximum column, wall, and floor loads are expected to be on the order of:

- columns - 200.0 kips (90-foot clear span);
- load bearing walls – 8.0 kips per linear foot; and
- floor slabs - 150 pounds per square foot (live load sustained).

The scope of Whitestone's investigation and the professional advice contained in this report were generated based on the project details and loading noted herein. Revisions or additions to the design details enumerated in this report should be brought to the attention of Whitestone for additional evaluation as warranted.

SECTION 4.0
Subsurface Conditions

Details of the subsurface materials encountered in the explorations are presented on the *Records of Subsurface Exploration* in Appendix A of this report. The subsurface conditions encountered in the test locations consisted of the following generalized strata in order of increasing depth.

4.1 SUBSURFACE SOIL CONDITIONS

Surface Cover Materials: Borings encountered asphalt and/or concrete at the ground surface, with minimal to no apparent granular subbase below surficial cover materials.

Existing Fill: Beneath the surface cover materials, the borings encountered existing fill, consisting of gray-brown to black, clayey gravel and sand, silty sand with gravel, to poorly graded gravel with sand, containing trace amounts of organics. SPT N-values recorded within the existing fill were variable, ranging from 4.0 blows per foot (bpf) to 30 bpf. The existing fill extended to depths of 2.0 fbgs to 7.0 fbgs.

Glaciolacustrine Deposit: Beneath the existing fill, the borings encountered a glaciolacustrine deposit, consisting of reddish-brown to brown to gray-brown, firm to very stiff, lean clay occasionally with variable amounts of sand and gravel and silt partings (USCS: CL). The SPT N-values recorded within the glaciolacustrine deposit were variable, ranging from 4.0 bpf to 35 bpf. Where penetrated in borings B-4, the glaciolacustrine deposit extended to depths of 49.5. The rest of the borings terminated in the glaciolacustrine deposit at depths of 25 fbgs or 26 fbgs.

Bedrock: Bedrock, which was cored in boring B-4 from 49.5 fbgs to 54.5 fbgs, consists of gray, unweathered, hard, limestone. Recovery was 100 percent. The RQD value was 100 percent, indicating "excellent" rock quality. The bedrock surface should be expected to undulate significantly over short distances.

4.2 GROUNDWATER

Groundwater was encountered in the borings during Whitestone's subsurface exploration activities at depths of 1.5 fbgs and 16.0 fbgs, respectively. However, given the relatively impermeable nature of the site soils, the groundwater likely would not stabilized in the boreholes within the duration of the exploration. Therefore, actual groundwater levels may be higher than identified. Groundwater should be expected to perch seasonally on impermeable layers, such as the interface between the existing fill and the natural site soils. Static and perched/trapped water conditions generally will fluctuate up to several feet seasonally and following periods of precipitation.

SECTION 5.0
Conclusions & Recommendations

5.1 GENERAL

The results of the investigation indicate that the proposed structures may be supported on conventional shallow foundations bearing on a minimum of 12 inches of properly placed and compacted structural fill over the glaciolacustrine deposit. Existing fill was encountered in the borings up to a depth of 7.0 fbgs, however, deeper existing fill may be encountered during construction between the widely spaced borings and associated with previous site development. Existing fill should be removed from beneath footings and the foundation subgrade backfilled with compacted structural fill. Overexcavation of existing fill under footings and replacement with structural fill may be required within a portion of the site. The subgrade should be reviewed by the geotechnical engineer, as specified in this report prior to fill placement or structural support. The results also indicate that the site is suitable for ground-supported concrete floor slabs deriving support from compacted, approved, and improved existing fill or glaciolacustrine deposit, or structural fill placed over these materials. Additionally, the site conditions support the use of typical pavement sections using standard NYSDOT specified materials.

5.2 SITE PREPARATION & EARTHWORK

Surface Cover Stripping and Demolition: Prior to stripping operations, utilities should be identified and secured. The existing buildings to be demolished and stripped should be removed from within and at least 5.0 feet beyond the limits of the proposed construction areas. Given the size of the site and the configuration of the proposed and existing buildings, existing structural elements, such as foundation walls, and concrete foundations, walls or slabs encountered during excavations, should be removed entirely. Trees, bushes, vegetation, topsoil, and organic matter should also be removed from within and at least 5.0 feet beyond the limits of the proposed construction areas, as well as any other area that will require controlled structural fill placement. Tree and/or bush removal should include the removal of stumps and root material, which will require removal of more than the few inches of topsoil typically encountered at the ground surface. The demolition contractor should be required to conduct earthwork in accordance with the recommendations in this report, including backfilling any excavation, etc. with structural fill. Fill or backfill placed within the proposed building and slab areas during demolition operations should be placed as structural fill in accordance with Section 5.2, 5.3, and 5.10 of this report.

Surface Preparation/Proofrolling: Prior to placing fill or subbase materials to raise or restore grades to the desired subgrade elevations, the existing exposed soils should be compacted to a firm surface with several passes in two perpendicular directions of a minimum 10-ton vibratory roller. The surface should then be proofrolled with a loaded tandem axle truck in the presence of the geotechnical engineer to help identify soft or loose pockets that may require removal and replacement, or further evaluation. Proofrolling

should be conducted after a suitable period of dry and non-freezing weather to reduce the likelihood of degrading an otherwise stable subgrade. Should construction be started during the winter months, Whitestone should be contacted for alternate surface preparation procedures. Fill or backfill should be placed and compacted in accordance with Section 5.3.

Weather Performance Criteria: The site soils are moisture sensitive. Every effort should be made to maintain drainage of surface water runoff away from construction areas by grading and limiting the exposure of excavations and prepared subgrades to precipitation. Accordingly, excavation and fill placement procedures should be conducted during favorable weather conditions. Overexcavation of saturated soils and replacement with controlled structural fill per Section 5.3 of this report may be required prior to resuming work on disturbed subgrade materials.

Subgrade Protection and Maintenance: The site soils are moisture sensitive and may degrade if exposed to inclement weather, freeze-thaw cycles, or repeated construction traffic. However, if properly protected and maintained as recommended herein, the site soils will provide adequate support for the proposed construction. The site contractors should employ appropriate means and methods to protect the subgrade, including but not limited to the following:

- sealing exposed subgrade soils on a daily basis with a smooth drum roller operated in static mode;
- regrading the site as needed to maintain positive drainage away from construction areas;
- removing wet surficial soils and ruts immediately; and
- limiting exposure to construction traffic especially following inclement weather and subgrade thawing.

5.3 STRUCTURAL FILL & BACKFILL

Imported Fill Material: Imported material placed as structural fill or backfill to raise elevations or restore design grades should consist of clean, relatively well-graded sand or gravel with a maximum particle size of 3.0 inches and up to 15 percent, by weight, of material finer than a #200 sieve. Imported material should be free of clay lumps, organics, and deleterious material. Imported material should be approved by a qualified geotechnical engineer prior to delivery to the site.

On-Site Material Reuse: Whitestone anticipates that only the more granular portions of the existing fill will be structurally suitable for selective reuse as fill/backfill material, provided that soil moisture contents are controlled within 3.0 percent of optimum moisture level, particles larger than 3.0 inches in diameter are either removed or crushed, and objectionable portions, such as organics and debris, are segregated. The existing fill has a relatively high fines content. Prior to reuse, drying will be necessary or mixing with more granular materials. In addition, reuse of on-site soil with a higher fines content should not be attempted during inclement weather or in damp conditions. Reuse of the on-site soils will be contingent on careful inspection by the owner's geotechnical engineer during construction. The glaciolacustrine silt and clay are not suitable for reuse as fill/backfill material.

Submerged Fill: In the wet (flooding, perched water, or groundwater), consideration should be given to placing an open-graded, minus 2.0-inch crushed gravel to provide a working mat, expedite dewatering efforts and enable subsequent placement of structural fill or backfill in the dry. Prior to placing submerged fill materials, free water and disturbed materials should be removed to the extent recommended by the geotechnical engineer. A fines barrier geotextile, such as *Mirafi 140N* or equivalent, should be placed at the base and sides of the overexcavation to separate the crushed gravel from underlying and adjacent soils. The fabric also should be placed on top of the crushed gravel prior to subsequent fill placement, if fill soils with a substantial amount of fines are to be used to restore grade.

Compaction and Placement Requirements: Fill and backfill should be placed in loose lifts no more than 12 inches thick when compacted with a vibratory roller compactor weighing at least 1.0 ton, and 8.0 inches when compacted with a plate compactor. A sheepsfoot roller may be appropriate for any fine-grained fill. Fill and backfill should be compacted to 95 percent of the maximum dry density within 3.0 percent of the optimum moisture content, as determined by ASTM D1557 (Modified Proctor).

Structural Fill Testing: A sample of the imported fill material or on-site material proposed for reuse as structural fill or backfill should be submitted to the owner's geotechnical engineer for analysis and approval at least one week prior to its use. The placement of fill and backfill should be monitored by a qualified engineering technician, so that the specified material and lift thicknesses are properly installed. A sufficient number of in-place density tests should be conducted, so that the specified compaction is achieved throughout the height of the fill or backfill.

5.4 GROUNDWATER CONTROL

Groundwater was encountered at depths of 1.5 fbgs to 16.0 fbgs in the borings during this investigation. However, given the relatively impermeable nature of the site soils, the groundwater would be unlikely to stabilize in the boreholes within the duration of the exploration. Shallow perched/trapped water may be encountered during construction above non-permeable layers, such as at the interface between the existing fill and natural site soils. Static and perched/trapped water conditions generally will fluctuate up to several feet seasonally and following periods of precipitation. Construction phase dewatering will likely consist of removing surface water runoff, infiltrating water, or trapped water at this site. Whitestone anticipates that construction phase dewatering, if required, would include installing temporary sump pits and filtered pumps within trenches and excavations.

Proper grading and drainage should be incorporated into the site design and construction phase grading to discourage ponding of surface runoff. Every effort should be made to maintain drainage of surface run-off away from construction areas by grading. The contractor should limit exposure of excavations and prepared subgrades to rainfall. Overexcavation of wet soils and replacement with controlled structural fill or crushed gravel encapsulated in a geotextile separation fabric per Section 5.3 of this report may be required prior to resuming work on disturbed subgrade soils.

5.5 FOUNDATIONS

Shallow Foundation Design Criteria: Whitestone recommends supporting the proposed structures on conventional spread and continuous wall footings designed to bear on a minimum of 12 inches of properly placed and compacted structural fill over the glaciolacustrine deposit, provided the subgrade is properly evaluated and prepared in accordance with Sections 5.2, 5.3, and 5.11 of this report. Existing fill was encountered up to a depth of 7.0 fbgs, however, deeper existing fill may be encountered during construction between the widely spaced borings and associated with previous site development. Existing fill should be removed from beneath footings and the foundation subgrade backfilled with compacted structural fill. Overexcavation of existing fill under footings and replacement with structural fill may be required within at least a portion of the expansion areas. Foundations bearing within these materials may be designed to impart a maximum net allowable bearing pressure of 3,000 pounds per square foot (psf). Regardless of loading conditions, new foundations should be sized no less than minimum dimensions of 24 inches for continuous wall footings and 36 inches for isolated column footings.

Foundation subgrades should be reviewed by the geotechnical engineer. Foundation subgrades in fine-grained soils should be compacted with a roller operated in static mode in the presence of the geotechnical engineer to densify any disturbed soils. The fine-grained soils are susceptible to disturbance by vibrations from compaction equipment and other construction activity. Compaction should therefore only be attempted under the direction of the geotechnical engineer, such that the underlying fine-grained materials do not become disturbed by the compaction process. A smooth bladed bucket would be appropriate for excavation of fine-grained soils. The recommended layer of crushed gravel and geotextile separation fabric over fine-grained soils exposed in the bottom of foundation excavations will reduce the likelihood of disturbance and provide a working surface for formwork and reinforcing steel placement.

Footings should be designed such that the maximum toe pressure due to the combined effect of vertical loads (including soil weight) and overturning moment does not exceed the recommended maximum allowable bearing pressure. In addition, positive contact pressure should be maintained throughout the base of the footings such that no uplift or tension exists between the base of the footings and the supporting soil. Uplift loads should be resisted by the weight of the concrete footing. Side friction should be neglected when proportioning the footings, and lateral resistance should be provided by friction resistance at the base of the footings. A coefficient of friction (ultimate) against sliding of 0.3 is recommended for use in the design of concrete foundations bearing within the site soils or imported structural fill.

Foundation Inspection/Overexcavation Criteria: Whitestone recommends that the suitability of the bearing materials along new footing bottoms be reviewed by a geotechnical engineer prior to placing concrete for the footings. Special attention should be given to areas of the site underlain by soft/loose conditions. In the event that isolated areas of unsuitable materials are encountered in footing excavations, overexcavation and replacement of the materials or deeper foundation embedment may be necessary to

provide a suitable footing subgrade. Overexcavation to be restored with structural fill or crushed gravel encapsulated in a geotextile separation fabric should extend at least 1.0 foot laterally beyond footing edges for each vertical foot of overexcavation. Lateral overexcavation may be eliminated if grade is restored with lean concrete.

Settlement: Whitestone estimates post construction settlements of new structure foundations will be on the order of less than 1.0 inch, if the recommendations outlined in this report are properly implemented. Differential settlements of new foundations should be less than 0.5 inch.

Footing Embedment Depths: Perimeter wall footings and exterior spread footings should bear at a minimum depth of 4.0 feet below adjacent exterior grades, or the depth required by local building codes, to provide protection from frost penetration. Interior footings not subject to frost action (including during construction) may be placed at a depth of 18 inches below the slab subgrade but should not be placed on existing fill.

5.6 FLOOR SLABS

Whitestone anticipates that the ground-supported concrete floor slabs may derive support from compacted, approved, and improved existing fill or glaciolacustrine deposit, or structural fill placed over these materials, provided they are properly evaluated, compacted, and proofrolled in accordance with Sections 5.2, 5.3, and 5.11 of this report during favorable weather conditions. Any significant deleterious material within the expansion footprints should be removed from the existing fill. Any areas that become softened or disturbed as a result of wetting and/or repeated exposure to construction traffic should be removed and replaced with compacted structural fill. The properly prepared structural fill material is expected to yield a minimum subgrade modulus (k) of 150 psi/in.

A minimum 12-inch-thick layer of NYSDOT *733-04 Subbase Course, Type 2* (or approved equivalent) should be placed below the floor slabs to provide a uniform base. If the floor supports moisture-sensitive covering or equipment, a moisture vapor barrier should also be installed beneath the floor slab in accordance with flooring manufacturer's recommendations.

5.7 PAVEMENT DESIGN CRITERIA

General: Whitestone anticipates that the properly inspected, approved, and improved existing fill and/or compacted structural fill, and/or backfill placed to raise or restore design elevations will be suitable for support of the proposed pavements, provided these materials are properly evaluated, compacted, and proofrolled in accordance with Sections 5.2, 5.3, and 5.11 of this report during favorable weather conditions.

Design Criteria: A California Bearing Ratio of 8.0 has been assigned to the properly prepared subgrade soils for pavement design purposes. This value was correlated with pertinent soil support values and assumed traffic loads to prepare flexible and rigid pavement designs per the AASHTO *Guide for the Design of Pavement Structures*.

Design traffic loads were assumed based on typical volumes for similar facilities and correlated with 18-kip equivalent single axle loads (ESAL) for a 20-year life. Estimated maximum pavement loads of 30,000 ESALs and 350,000 ESALs were used for the standard-duty and heavy-duty pavement areas, respectively. These values assume the pavements primarily will accommodate both automobile and limited heavier truck traffic, with the heavier truck traffic designated to the main drive lanes. The pavement design should be reviewed when actual traffic loading is known.

Pavement Sections: Pavement components should meet material specifications from NYSDOT *Standard Specifications* specified below. The recommended flexible pavement section is tabulated below:

FLEXIBLE PAVEMENT SECTION			
Layer	**Material**	**Standard-Duty Thickness (inches)**	**Heavy-Duty Thickness (inches)**
Asphalt Top Course	NYSDOT 12.5 mm F3 Top Course WMA	1.5	1.5
Asphalt Binder Course	NYSDOT 19 mm F9 Binder Course WMA	2.5	3.5
Granular Subbase	NYSDOT Type 2 Subbase[1]	12.0	12.0

Note[1]: Type 2 shall apply except that no Recycled Portland Cement Concrete Aggregate (RCA) or Blast Furnace Slag will be acceptable as a subbase material.

A rigid concrete pavement should be used to provide suitable support at areas of high traffic or severe turns, such as at trailer parking, truck turning, trash enclosures, and ingress/egress locations. The recommended rigid pavement is tabulated below:

RIGID PAVEMENT SECTION		
Layer	**Material**	**Thickness (inches)**
Surface	4,000 psi air-entrained concrete	8.0 [1]
Granular Subbase	NYSDOT Type 2 Subbase	12.0

Note[1]: The outer edges of concrete pavements are susceptible to damage as trucks move from rigid pavement to adjacent flexible pavement. Therefore, the thickness at the outer 2.0 feet of the rigid concrete pavement should be 12 inches. The concrete should be reinforced with at least one layer of 6.0-inch by 6.0-inch W5.4/W5.4 welded wire fabric (ASTM A185).

Additional Design Considerations: The pavement section thickness design presented in this report is based on the design parameters detailed herein and is contingent on proper construction, inspection, and maintenance. Additional pavement thickness may be required by local code. The designs are contingent on achieving the minimum soil support value in the field. To accomplish this requirement, subgrade soil and supporting fill or backfill must be placed, compacted, and evaluated in accordance with Sections 5.2, 5.3, and 5.11 of this report. Proper drainage should be provided for the pavement structure, including appropriate grading and surface water control, and an edge/interceptor drain where the pavement abuts higher ground.

The performance of the pavement also will depend on the quality of materials and workmanship. Whitestone recommends that NYSDOT standards for materials, workmanship, and maintenance be applied to this site. Project specifications should include verifying that the installed asphaltic concrete material composition is within tolerance for the specified materials and that the percentage of air voids of the installed pavement is within specified ranges for the respective materials. Rigid concrete pavements should be suitably air-entrained, jointed, and reinforced in general accordance with ACI 330R-08 *Guide for the Design and Construction of Concrete Parking Lots*.

5.8 RETAINING WALLS/LATERAL EARTH PRESSURES

The following parameters may be used for design of any retaining walls, below-grade walls, and other structures reliant on granular materials to provide adequate drainage. However, the parameters are not directly applicable to the design of mechanically stabilized earth (MSE) retaining walls, which require proprietary design methods for the selected earth retention system.

Lateral Earth Pressures: Retaining/below-grade walls should be capable of withstanding active and at-rest earth pressures. Backfill soils adjacent to these structures should consist of freely draining granular fill composed primarily of coarse to fine sand. Clayey and/or silty soils, such as the majority of the site soils, should not be used as retaining wall backfill. With an active earth pressure coefficient (K_a) of 0.33, level backfill, and an assumed maximum backfill soil unit weight of 140 pounds per cubic foot (pcf), an equivalent fluid pressure of 46 psf per foot of wall height should be used in design of retaining/below-grade walls which are free to rotate.

Retaining/below-grade walls and wall corners typically are restrained from lateral movement and should be designed using at-rest earth pressures. A coefficient of at-rest earth pressure (K_o) of 0.5, for a level backfill, is recommended for retaining/below-grade walls designed to resist at-rest earth pressures, which assume no lateral movement. With an assumed maximum total unit weight of backfill of approximately 140 pcf, an equivalent fluid pressure of 70 pounds per square foot per foot of wall height should be used in design of restrained retaining/below-grade wall and wall corners. A coefficient of friction of 0.3 against sliding can be used for concrete on the existing site soils. Additional lateral earth pressures from a sloped backfill or any temporary or long-term surcharge loads also should be included in the design. Retaining wall design should include a global stability analysis.

Backfill Criteria: Whitestone recommends that granular soils be used to backfill behind retaining walls. The granular backfill materials should consist of clean, relatively well-graded sand or gravel with a maximum particle size of 3.0 inches and up to 15 percent, by weight, of material finer than a #200 U.S. Standard sieve.

Whitestone recommends that backfill directly behind any walls be compacted with light, hand-held compactors. Heavy compactors and grading equipment should not be allowed to operate within a zone of influence measured at a 45-degree angle from the base of the walls during backfilling to avoid developing excessive temporary or long-term lateral soil pressures.

Wall Drainage: Positive drainage should be provided at the base of below-grade walls. Where wall drainage is not provided, the wall should be designed to withstand full hydrostatic pressure.

Whitestone should be notified if any other retaining structures or design considerations requiring lateral earth pressure estimations are proposed. Specific recommendations for temporary retaining structures are beyond Whitestone's scope of work.

5.9 SEISMIC & LIQUEFACTION CONSIDERATIONS

The subsurface conditions are most consistent with a Site Class D, as defined by the *New York State Building Code*. The site soils do not appear to be susceptible to earthquake induced liquefaction.

5.10 EXCAVATIONS

The existing fill encountered during this investigation typically are, at a minimum, consistent with Type C Soil Conditions as defined by 29 CFR Part 1926 (OSHA), which require a maximum unbraced excavation angle of 1.5:1 (horizontal to vertical). The glaciolacustrine deposit encountered during this investigation typically are, at a minimum, consistent with Type B Soil Conditions as defined by OSHA, which require a maximum unbraced excavation angle of 1:1 (horizontal to vertical). Actual conditions encountered during construction should be evaluated by a competent person (as defined by OSHA), so that safe excavation methods and/or shoring and bracing requirements are implemented.

5.11 SUPPLEMENTAL POST INVESTIGATION SERVICES

Construction Inspection and Monitoring: The owner's geotechnical engineer with specific knowledge of the site subsurface conditions and design intent should conduct inspection, testing, and consultation during construction as described in previous sections of this report. Monitoring and testing should also be conducted to confirm that any encountered underground structures are properly backfilled, the existing surface cover materials are properly removed, and suitable materials, used for controlled fill, are properly placed and compacted over suitable subgrade soils. The proofrolling of all subgrades prior to foundation, floor slab, and pavement support should be witnessed and documented by the owner's geotechnical engineer.

SECTION 6.0
General Comments

Supplemental comments and/or recommendations may be made after finalization of construction plans or if significant changes are made in or to the characteristics or location of the proposed structure. Whitestone recommends that soil bearing conditions be checked at the appropriate time to ensure consistency with those conditions Whitestone encountered during the geotechnical investigation.

The recommendations presented herein should be utilized by a qualified engineer in preparing the project plans and specifications. Whitestone recommends that the engineer consider these recommendations as minimum physical standards that may be superseded by local and regional building codes and structural considerations. These recommendations are prepared for the sole use of Buffalo Construction Consultants, Inc. and Niagara Power Transformer LLC for the specific project detailed and must not be used by any third party, same being strictly prohibited. These recommendations are relevant to the design phase and should not be substituted for construction specifications. The possibility exists that conditions between borings and soil profile pits may differ from those at specific test locations, and conditions may not be as anticipated by the designers or contractors. In addition, the construction process may alter soil and rock conditions. Accordingly, experienced geotechnical personnel should observe and document the construction procedures used and all conditions encountered.

Whitestone assumes that a qualified contractor will be retained and employed, by others, to conduct the construction work, and that contractor must be required to exercise care and operate within the standard of care to ensure that all excavations are conducted in strict accordance with applicable regulations and good, sound practice. Whitestone recommends the contractor pay close attention in order to avoid damaging or in any way undermining adjacent properties and in order to strictly maintain slope stability. Whitestone recommends that the services of the geotechnical engineer be engaged to test and evaluate the soils in the footing excavations prior to concreting in order to evaluate whether the soils will support the bearing capacities. Monitoring and testing also should be conducted to verify that suitable and permissible materials are used for controlled fills and that these materials are properly placed and compacted over suitable subgrade soils.

The exploration and analysis of the foundation conditions reported herein are considered sufficient in detail and scope to form a reasonable basis for the foundation design. The recommendations submitted for the proposed construction are based on the available soil information and the design details Buffalo Construction Consultants, Inc. furnished. Deviations from the noted subsurface conditions encountered during construction should and must promptly be brought to the attention of the geotechnical engineer.

The geotechnical engineer confirms that the findings, recommendations, specifications, or professional advice contained herein have been promulgated after being prepared in accordance with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics, and engineering geology. There are no warranties, either implied or expressed.

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FIGURE 1
Boring Location Plan

P:\Job Folders\2025\2524343GR\Drawings and Plans\CAD Work\Rev0\GR2524343.Y01.dwg

LEGEND

B-1 BORING LOCATION

REFERENCE

THIS PLAN IS BASED ON A 6/11/24 GOOGLE IMAGE.

ALL LOCATIONS ARE APPROXIMATE.

PROJECT #:	GR2524343.Y01
DESIGNED BY:	MR
PROJ. MGR.:	CG
DATE:	5/28/26
SCALE:	1" = 60'
FIGURE:	1

DRAWING TITLE:
BORING LOCATION PLAN

CLIENT:
BUFFALO CONSTRUCTION CONSULTANTS, INC.

PROJECT:
PROPOSED NIAGARA TRANSFORMER EXPANSION PROJECT
1747 DALE ROAD & 24 ANDERSON ROAD
CHEEKTOWAGA, ERIE COUNTY, NEW YORK

WHITESTONE
116 GRUNER ROAD, BUFFALO, NY 14227
716.770.0078 WHITESTONEASSOC.COM

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APPENDIX A
Records of Subsurface Exploration

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-1

Project: Proposed Niagara Transformer Expansion Project
WAI Project No.: GR2524343.Y01
Location: 1747 Dale Road & 24 Anderson Road
Client: Buffalo Construction Consultants, INC.

Surface Elevation:	± NS feet	**Date Started:**	4/29/2026		**Water Depth (feet bgs)**	**Elevation (feet)**	**Cave-In Depth (feet bgs)** / **Elev. (feet)**
Termination Depth:	25.0 feet bgs	**Date Completed:**	4/29/2026				
Proposed Location:	Building	**Logged By:**	GL	**During:**	10.0	NS	
Drill Method:	Hollow Stem Auger	**Contractor:**	EE	**At Completion:**	NE	NS	**At Comp.** NS
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x	**24 Hours:**	NE	NS	**24 Hours:** NS

SAMPLE INFORMATION						DEPTH	STRATA	DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)			
						0.0			
0 - 2	S-1		- 6 - 5 - 5	14	10		PAVEMENT	5" Asphalt pavement	
							EXISTING FILL	Black, Clayey gravel with sand, Moist, FILL	
						2.0			
2 - 4	S-2		4 - 3 - 3 - 6	15	6		GLACIOLACUSTRINE	Reddish-Brown, Firm (Medium), Lean clay, Moist, CL	Contains fine sand partings
4 - 6	S-3		5 - 11 - 13 - 17	20	24	5.0		Similar to above, becomes Very Stiff	
6 - 8	S-4		12 - 17 - 18 - 19	20	35			Similar to above, becomes Hard	
8 - 10	S-5		3 - 4 - 5 - 7	22	9			Similar to above, becomes Brown and Stiff	Contains silt partings
						10.0 ▽			
10 - 12	S-6		2 - 5 - 3 - 5	24	8			Similar to above, becomes Wet and Firm (medium)	
						15.0			
15 - 17	S-7		2 - 4 - 7 - 8	24	11			Brown, Stiff, Gravelly lean clay, Wet, CL	
						20.0			
20 - 22	S-8		4 - 5 - 5 - 6	24	10			Similar to above	
						23.0			
23 - 25	S-9		4 - 5 - 5 - 6	24	10			Brown, Stiff, Gravelly lean clay with sand, Wet, CL	
						25.0			
								Boring Completed at 25 feet below ground surface	

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-2

Project: Proposed Niagara Transformer Expansion Project | **WAI Project No.:** GR2524343.Y01

Location: 1747 Dale Road & 24 Anderson Road | **Client:** Buffalo Construction Consultants, INC.

Surface Elevation:	± NS feet	**Date Started:**	5/1/2026	**Water Depth (feet bgs) | Elevation (feet)**	**Cave-In Depth (feet bgs) Elev. (feet)**
Termination Depth:	26.0 feet bgs	**Date Completed:**	5/1/2026		
Proposed Location:	Building	**Logged By:**	GL	**During:** 7.0 | NS	
Drill Method:	Hollow Stem Auger	**Contractor:**	EE	**At Completion:** NE | NS	**At Comp.** | NS
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x	**24 Hours:** NE | NS	**24 Hours:** | NS

SAMPLE INFORMATION						DEPTH	STRATA	DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)			
						0.0			
0 - 2	S-1		- 2 - 3	3			PAVEMENT	1" Asphalt pavement with 2" subbase	
							CONCRETE	6" Concrete pavement	
							EXISTING FILL	Black, Clayey gravel with sand, Moist, FILL	
						2.0			
2 - 4	S-2		7 - 8 - 9 - 9	0	17			No recovery	
						4.0			
4 - 6	S-3		6 - 6 - 8 - 12	8	14	5.0	GLACIOLACUSTRINE	Reddish-Brown, Stiff, Lean clay, Moist, CL	
6 - 8	S-4		12 - 12 - 11 - 12	20	23			Similar to above, becomes Very Stiff	5" wet fine sand seam at 7'
8 - 10	S-5		3 - 5 - 7 - 7	18	12			Similar to above, becomes Stiff	
						10.0			
10 - 12	S-6		2 - 5 - 5 - 6	18	10			Brown, Stiff, Gravelly lean clay with sand, Moist, CL	
12 - 14	S-7		7 - 8 - 9 - 10	18	17			Similar to above, becomes Very Stiff	
14 - 16	S-8		4 - 6 - 6 - 10	18	12			Similar to above, becomes Stiff	
						15.0			
16 - 18	S-9		9 - 8 - 8 - 10	20	16			Similar to above, becomes Very Stiff	
18 - 20	S-10		5 - 6 - 8 - 10	20	14			Similar to above, becomes Stiff	
						20.0			
20 - 22	S-11		3 - 4 - 6 - 7	20	10			Similar to above	
22 - 24	S-12		7 - 7 - 9 - 9	20	16			Similar to above, becomes Very Stiff	
24 - 26	S-13		9 - 8 - 12 - 11	20	20			Similar to above	
						25.0			

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-2

Project: Proposed Niagara Transformer Expansion Project
WAI Project No.: GR2524343.Y01
Location: 1747 Dale Road & 24 Anderson Road
Client: Buffalo Construction Consultants, INC.

Surface Elevation:	± NS feet	**Date Started:**	5/1/2026		**Water Depth (feet bgs)**	**Elevation (feet)**	**Cave-In Depth (feet bgs)** / **Elev. (feet)**
Termination Depth:	26.0 feet bgs	**Date Completed:**	5/1/2026				
Proposed Location:	Building	**Logged By:**	GL	**During:**	7.0	NS	
Drill Method:	Hollow Stem Auger	**Contractor:**	EE	**At Completion:**	NE	NS	**At Comp.** NS
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x	**24 Hours:**	NE	NS	**24 Hours:** NS

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						25.0				
24 - 26	S-13	X	9 - 8 - 12 - 11	20	20		GLACIOLACUSTRINE		Similar to above	
									Boring Completed at 26 feet below ground surface	
						30.0				
						35.0				
						40.0				
						45.0				
						50.0				

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-3

Project: Proposed Niagara Transformer Expansion Project
WAI Project No.: GR2524343.Y01
Location: 1747 Dale Road & 24 Anderson Road
Client: Buffalo Construction Consultants, INC.

Surface Elevation:	± NS feet	**Date Started:**	4/29/2026		**Water Depth (feet bgs)**	**Elevation (feet)**	**Cave-In Depth (feet bgs)** / **Elev. (feet)**
Termination Depth:	26.0 feet bgs	**Date Completed:**	4/29/2026				
Proposed Location:	Building	**Logged By:**	GL	**During:**	14.0	NS	
Drill Method:	Hollow Stem Auger	**Contractor:**	EE	**At Completion:**	NE	NS	**At Comp.** NS
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x	**24 Hours:**	NE	NS	**24 Hours:** NS

SAMPLE INFORMATION						DEPTH	STRATA	DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)			
						0.0			
0 - 2	S-1		- 11 - 8	12			PAVEMENT	4.5" Asphalt pavement	
							GRANULAR SUBBASE	6" Modified stone subbase, FILL	
							EXISTING FILL	Black, Silty sand with gravel, Moist, FILL	
						2.0			
2 - 4	S-2		8 - 3 - 6 - 7	12	9		GLACIOLACUSTRINE	Reddish-Brown, Stiff, Lean clay, Moist, CL	Contains silt partings and a 6" fine sand seam at 3.0'
4 - 6	S-3		5 - 9 - 11 - 16	18	20	5.0		Similar to above, becomes Very Stiff	
6 - 8	S-4		13 - 13 - 13 - 16	20	26			Similar to above	
8 - 10	S-5		7 - 6 - 6 - 6	24	12			Similar to above, becomes Stiff	
						10.0			
10 - 12	S-6		2 - 3 - 3 - 5	18	6			Similar to above, becomes Firm (Medium)	
						12.0			
12 - 14	S-7		4 - 5 - 5 - 5	20	10			Brown, Stiff, Gravelly lean clay with sand, Moist, CL	
14 - 16	S-8		3 - 3 - 3 - 5	24	6	15.0		Similar to above, becomes Firm (Medium) and Wet	
16 - 18	S-9		3 - 4 - 5 - 7	24	9			Similar to above, becomes Stiff	
18 - 20	S-10		3 - 2 - 2 - 2	24	4			Similar to above, becomes Firm (Medium)	
						20.0			
20 - 22	S-11		2 - 2 - 2 - 4	24	4			Similar to above	
22 - 24	S-12		5 - 5 - 6 - 7	20	11			Similar to above, becomes Stiff	
24 - 26	S-13		4 - 5 - 6 - 7	20	11			Similar to above	
						25.0			

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-3

Project: Proposed Niagara Transformer Expansion Project
WAI Project No.: GR2524343.Y01
Location: 1747 Dale Road & 24 Anderson Road
Client: Buffalo Construction Consultants, INC.

Surface Elevation:	± NS feet	**Date Started:**	4/29/2026		**Water Depth (feet bgs) | Elevation (feet)**	**Cave-In Depth (feet bgs) Elev. (feet)**
Termination Depth:	26.0 feet bgs	**Date Completed:**	4/29/2026			
Proposed Location:	Building	**Logged By:**	GL	**During:**	14.0 | NS	
Drill Method:	Hollow Stem Auger	**Contractor:**	EE	**At Completion:**	NE | NS	**At Comp.** | NS
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x	**24 Hours:**	NE | NS	**24 Hours:** | NS

SAMPLE INFORMATION						DEPTH	STRATA	DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)			
						25.0			
24 - 26	S-13	X	4 - 5 - 6 - 7	20	11		GLACIOLACUSTRINE	Similar to above	
								Boring Completed at 26 feet below ground surface	
						30.0			
						35.0			
						40.0			
						45.0			
						50.0			

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-4

Project: Proposed Niagara Transformer Expansion Project | **WAI Project No.:** GR2524343.Y01

Location: 1747 Dale Road & 24 Anderson Road | **Client:** Buffalo Construction Consultants, INC.

Surface Elevation:	± NS feet	**Date Started:**	5/5/2026		**Water Depth (feet bgs)**	**Elevation (feet)**	**Cave-In Depth (feet bgs)** / **Elev. (feet)**
Termination Depth:	54.5 feet bgs	**Date Completed:**	5/6/2026				
Proposed Location:	Building	**Logged By:**	GL	**During:**	2.0	NS	
Drill Method:	Drive and Wash	**Contractor:**	EE	**At Completion:**	0.0	NS	**At Comp.** NS
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x	**24 Hours:**	NE	NS	**24 Hours:** NS

SAMPLE INFORMATION						DEPTH	STRATA	DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)			
						0.0			
0 - 2	S-1		- 2 - 3 - 4	6	7		CONCRETE	6" Concrete	
							EXISTING FILL	Grayish-Brown, Clayey sand, Wet, FILL	
						2.0			
2 - 4	S-2		6 - 8 - 8 - 5	16	16			Grayish-Brown, Poorly graded gravel with sand, FILL	
						4.5		Similar to above	
4 - 6	S-3		10 - 3 - 5 - 7	20	8	5.0	GLACIOLACUSTRINE	Reddish-Brown, Firm (Medium), Lean clay, Moist, CL	Contains silt partings
								Similar to above, becomes Stiff	
6 - 8	S-4		2 - 6 - 9 - 13	19	15			Similar to above, becomes Stiff	
8 - 10	S-5		10 - 13 - 18 - 21	16	31			Similar to above, becomes Hard	
						10.0			
10 - 12	S-6		4 - 11 - 12 - 13	9	23			Similar to above, becomes Very Stiff	
12 - 14	S-7		4 - 11 - 12 - 13	20	23			Similar to above	
14 - 16	S-8		7 - 10 - 10 - 13	20	20			Similar to above	
						15.0		Similar to above, becomes Wet	
						16.0			
16 - 18	S-9		3 - 5 - 7 - 11	12	12			Brown, Stiff, Gravelly lean clay with sand, CL	
18 - 20	S-10		6 - 5 - 6 - 11	16	11			Similar to above	
						20.0			
20 - 22	S-11		2 - 3 - 5 - 5	4	8			Similar to above	
22 - 24	S-12		6 - 8 - 10 - 10	18	18			Similar to above, becomes Very Stiff	
24 - 26	S-13		9 - 11 - 11 - 11	20	22			Similar to above	
						25.0			

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-4

Project: Proposed Niagara Transformer Expansion Project | **WAI Project No.:** GR2524343.Y01

Location: 1747 Dale Road & 24 Anderson Road | **Client:** Buffalo Construction Consultants, INC.

Surface Elevation:	± NS feet	**Date Started:**	5/5/2026		**Water Depth (feet bgs)**	**Elevation (feet)**	**Cave-In Depth (feet bgs)** / **Elev. (feet)**
Termination Depth:	54.5 feet bgs	**Date Completed:**	5/6/2026				
Proposed Location:	Building	**Logged By:**	GL	**During:**	2.0	NS	
Drill Method:	Drive and Wash	**Contractor:**	EE	**At Completion:**	0.0	NS	**At Comp.** / NS
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x	**24 Hours:**	NE	NS	**24 Hours:** / NS

SAMPLE INFORMATION						DEPTH	STRATA	DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)			
						25.0			
24 - 26	S-13	X	9 - 11 - 11 - 11	20	22		GLACIOLACUSTRINE	Similar to above	
						30.0			
30 - 32	S-14	X	5 - 5 - 7 - 9	8	12			Similar to above, becomes Stiff	
						35.0			
35 - 37	S-15	X	4 - 6 - 11 - 15	12	17			Similar to aboce, becomes Very Stiff	
						40.0			
40 - 42	S-16	X	3 - 5 - 10 - 13	24	15			Similar to above, becomes Stiff	
						45.0			
45 - 47	S-17	X	6 - 9 - 11 - 13	20	20			Similar to above, becomes Very Stiff	
						49.5			
49.5 - 54.5	S-18					50.0	BEDROCK	Gray, Fresh, LIMESTONE, Hard, Slightly Broken	

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-4

Project: Proposed Niagara Transformer Expansion Project | **WAI Project No.:** GR2524343.Y01

Location: 1747 Dale Road & 24 Anderson Road | **Client:** Buffalo Construction Consultants, INC.

Surface Elevation:	± NS feet	**Date Started:**	5/5/2026		**Water Depth (feet bgs)**	**Elevation (feet)**	**Cave-In Depth (feet bgs)** / **Elev. (feet)**
Termination Depth:	54.5 feet bgs	**Date Completed:**	5/6/2026				
Proposed Location:	Building	**Logged By:**	GL	**During:**	2.0	NS	
Drill Method:	Drive and Wash	**Contractor:**	EE	**At Completion:**	0.0	NS	**At Comp.** | NS
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x	**24 Hours:**	NE	NS	**24 Hours:** | NS

SAMPLE INFORMATION						DEPTH	STRATA	DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)			
						50.0			
			Cut Time/ft. (min)	REC	RQD		BEDROCK	Gray, Fresh, LIMESTONE, Hard, Slightly Broken	
			7.5						
49.5 - 54.5	S-18		6.5	60" 100%	60" 100%				
			7.75						
			10						
			10						
						55.0		Boring Completed at 54.5 feet below ground surface	
						60.0			
						65.0			
						70.0			
						75.0			

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-5

Project:	Proposed Niagara Transformer Expansion Project	**WAI Project No.:**	GR2524343.Y01
Location:	1747 Dale Road & 24 Anderson Road	**Client:**	Buffalo Construction Consultants, INC.
Surface Elevation:	± NS feet	**Date Started:**	5/1/2026
Termination Depth:	25.0 feet bgs	**Date Completed:**	5/1/2026
Proposed Location:	Building	**Logged By:**	GL
Drill Method:	Hollow Stem Auger	**Contractor:**	EE
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x

	Water Depth (feet bgs)	Elevation (feet)	Cave-In Depth (feet bgs)	Elev. (feet)
During:	2.0	NS		
At Completion:	NE	NS	**At Comp.**	NS
24 Hours:	NE	NS	**24 Hours:**	NS

SAMPLE INFORMATION						DEPTH	STRATA	DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)			
						0.0			
0 - 2	S-1		- 1 - 3 - 4	8	7	0.5	PAVEMENT	Asphalt pavement	
							EXISTING FILL	Black, Silty sand, Moist, FILL	
						2.0 ▽			
2 - 4	S-2		14 - 12 - 6 - 3	12	18			Black, Silty sand, Wet, FILL	Contains brick
						4.0			
4 - 6	S-3		2 - 3 - 8 - 6	18	11	5.0	GLACIOLACUSTRINE	Reddish-Brown, Stiff, Lean clay, Moist, CL	Contains silt partings
6 - 8	S-4		12 - 13 - 15 - 18	24	28			Similar to above, becomes Very Stiff	
8 - 10	S-5		2 - 2 - 3 - 5	18	5	9.0		Similar to above, becomes Firm (Medium)	
						10.0		Brown, Firm (Medium), Gravelly lean clay, Moist, CL	
10 - 12	S-6		4 - 4 - 7 - 11	16	11			Similar to above, becomes Stiff	5" wet silt seam at 10.5'
						15.0			
15 - 17	S-7		8 - 8 - 8 - 9	20	16			, Very Stiff, Gravelly lean clay with sand, CL	
17 - 19	S-8		7 - 8 - 7 - 9	24	15			Similar to above, becomes Stiff and Wet	
19 - 21	S-9		3 - 4 - 5 - 6	24	9	20.0		Similar to above	
21 - 23	S-10		6 - 6 - 7 - 9	24	13			Similar to above	
23 - 25	S-11		5 - 6 - 7 - 8	24	13			Similar to above	
						25.0			
								Boring Completed at 25 feet below ground surface	

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-6

Project: Proposed Niagara Transformer Expansion Project | **WAI Project No.:** GR2524343.Y01

Location: 1747 Dale Road & 24 Anderson Road | **Client:** Buffalo Construction Consultants, INC.

Surface Elevation:	± NS feet	**Date Started:**	5/6/2026		**Water Depth (feet bgs)**	**Elevation (feet)**	**Cave-In Depth (feet bgs)** / **Elev. (feet)**
Termination Depth:	26.0 feet bgs	**Date Completed:**	5/6/2026				
Proposed Location:	Building	**Logged By:**	GL	**During:**	2.0	NS	
Drill Method:	Hollow Stem Auger	**Contractor:**	EE	**At Completion:**	NE	NS	**At Comp.** NS
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x	**24 Hours:**	NE	NS	**24 Hours:** NS

SAMPLE INFORMATION						DEPTH	STRATA	DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)			
						0.0			
0 - 2	S-1		- 4 - 20 - 10	10	30	0.5	CONCRETE	Concrete pavement	
							EXISTING FILL	Grayish-Brown, Existing fill	Contains slag
						2.0 ▽			
2 - 4	S-2		10 - 14 - 5 - 7	12	19			Black, Silty sand, Wet, FILL	Contains trace organics
						3.5			
							GLACIOLACUSTRINE	Reddish-Brown, Very Stiff, Lean clay, Moist, CL	Contains silt partings
4 - 6	S-3		7 - 8 - 13 - 13	18	21	5.0		Similar to above	
6 - 8	S-4		13 - 13 - 14 - 17	8	27			Similar to above	
8 - 10	S-5		4 - 6 - 8 - 7	20	14	9.0		Similar to above, becomes Stiff	
						10.0		Brown, Stiff, Gravelly lean clay with sand, Moist, CL	
10 - 12	S-6		3 - 4 - 6 - 8	0	10			Similar to above	
12 - 14	S-7		6 - 6 - 5 - 9	8	11			Similar to above	
14 - 16	S-8		3 - 4 - 6 - 7	20	10	15.0		Similar to above, becomes Wet	
16 - 18	S-9		6 - 6 - 4 - 7	20	10			Similar to above	
18 - 20	S-10		3 - 4 - 4 - 5	20	8			Similar to above, becomes Firm (Medium)	
						20.0			
20 - 22	S-11		2 - 4 - 4 - 6	18	8			Similar to above	
22 - 24	S-12		4 - 4 - 6 - 8	18	10			Similar to above, becomes Stiff	
24 - 26	S-13		5 - 6 - 7 - 11	18	13			Similar to above	
						25.0			

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-6

Project: Proposed Niagara Transformer Expansion Project | **WAI Project No.:** GR2524343.Y01

Location: 1747 Dale Road & 24 Anderson Road | **Client:** Buffalo Construction Consultants, INC.

Surface Elevation:	± NS feet	**Date Started:**	5/6/2026		**Water Depth (feet bgs)**	**Elevation (feet)**	**Cave-In Depth (feet bgs)** / **Elev. (feet)**
Termination Depth:	26.0 feet bgs	**Date Completed:**	5/6/2026				
Proposed Location:	Building	**Logged By:**	GL	**During:**	2.0	NS	
Drill Method:	Hollow Stem Auger	**Contractor:**	EE	**At Completion:**	NE	NS	**At Comp.**	NS
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x	**24 Hours:**	NE	NS	**24 Hours:**	NS

SAMPLE INFORMATION						DEPTH	STRATA	DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)			
						25.0			
24 - 26	S-13	X	5 - 6 - 7 - 11	18	13		GLACIOLACUSTRINE	Similar to above	
								Boring Completed at 26 feet below ground surface	
						30.0			
						35.0			
						40.0			
						45.0			
						50.0			

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-7

Project: Proposed Niagara Transformer Expansion Project
WAI Project No.: GR2524343.Y01
Location: 1747 Dale Road & 24 Anderson Road
Client: Buffalo Construction Consultants, INC.

Surface Elevation: ± NS feet
Termination Depth: 26.0 feet bgs
Proposed Location: Building
Drill Method: Hollow Stem Auger
Sample/Test Method: SPT/Auto Hammer

Date Started: 5/4/2026
Date Completed: 5/4/2026
Logged By: GL
Contractor: EE
Equipment: CME 550x

	Water Depth (feet bgs)	Elevation (feet)	Cave-In Depth (feet bgs)	Elev. (feet)
During:	4.0	NS		
At Completion:	NE	NS	At Comp.	NS
24 Hours:	NE	NS	24 Hours:	NS

Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	DEPTH (feet)	STRATA	DESCRIPTION (Classification)	Remarks
						0.0			
0 - 2	S-1		- 1 - 4 - 5	12	9	0.5	CONCRETE	6" Concrete	
							EXISTING FILL	Brown, Clayey sand, Moist, FILL	
2 - 4	S-2		5 - 5 - 5 - 5	8	10			Similar to above	
4 - 6	S-3		2 - 2 - 3 - 4	8	5	5.0		Similar to above, becomes Wet	
						6.0		Brown, Lean clay, Moist, FILL	
6 - 8	S-4		4 - 7 - 9 - 14	20	16	7.0	GLACIOLACUSTRINE	Reddish-Brown, Very Stiff, Lean clay, Moist, CL	Contains silt partings
8 - 10	S-5		5 - 8 - 11 - 14	20	19			Similar to above	
						10.0			
10 - 12	S-6		5 - 8 - 10 - 13	20	18	11.0		Similar to above	
								Brown, Very Stiff, Gravelly lean clay with sand, Moist, CL	
12 - 14	S-7		12 - 12 - 11 - 11	20	23			Similar to above	
14 - 16	S-8		5 - 4 - 4 - 7	24	8	15.0		Similar to above, becomes Firm (Medium) and Wet	
16 - 18	S-9		6 - 5 - 6 - 8	24	11	17.0		Similar to above, becomes Stiff	
						18.0		Brown, Stiff, Lean clay, Moist, CL	
18 - 20	S-10		4 - 4 - 5 - 7	20	9			Brown, Firm (Medium), Gravelly lean clay with sand, Wet, CL	
						20.0			
20 - 22	S-11		4 - 6 - 7 - 10	3	13			Similar to above, becomes Stiff	
22 - 24	S-12		6 - 7 - 7 - 9	20	14			Similar to above	
24 - 26	S-13		7 - 8 - 8 - 9	20	16	25.0		Similar to above, becomes Moist	

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-7

Project: Proposed Niagara Transformer Expansion Project
WAI Project No.: GR2524343.Y01
Location: 1747 Dale Road & 24 Anderson Road
Client: Buffalo Construction Consultants, INC.

Surface Elevation:	± NS feet	**Date Started:**	5/4/2026		**Water Depth (feet bgs)**	**Elevation (feet)**	**Cave-In Depth (feet bgs)** / **Elev. (feet)**
Termination Depth:	26.0 feet bgs	**Date Completed:**	5/4/2026				
Proposed Location:	Building	**Logged By:**	GL	**During:**	4.0	NS	
Drill Method:	Hollow Stem Auger	**Contractor:**	EE	**At Completion:**	NE	NS	**At Comp.** / NS
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x	**24 Hours:**	NE	NS	**24 Hours:** / NS

SAMPLE INFORMATION						DEPTH	STRATA	DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)			
						25.0			
24 - 26	S-13	X	7 - 8 - 8 - 9	20	16		GLACIOLACUSTRINE	Similar to above	
								Boring Completed at 26 feet below ground surface	
						30.0			
						35.0			
						40.0			
						45.0			
						50.0			

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-8

Project:	Proposed Niagara Transformer Expansion Project	**WAI Project No.:**	GR2524343.Y01
Location:	1747 Dale Road & 24 Anderson Road	**Client:**	Buffalo Construction Consultants, INC.
Surface Elevation:	± NS feet	**Date Started:**	5/4/2026
Termination Depth:	26.0 feet bgs	**Date Completed:**	5/4/2026
Proposed Location:	Building	**Logged By:**	GL
Drill Method:	Hollow Stem Auger	**Contractor:**	EE
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x

	Water Depth (feet bgs)	Elevation (feet)	Cave-In Depth (feet bgs)	Elev. (feet)
During:	1.5	NS		
At Completion:	NE	NS	**At Comp.**	NS
24 Hours:	NE	NS	**24 Hours:**	NS

SAMPLE INFORMATION						DEPTH	STRATA	DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)			
						0.0			
0 - 2	S-1		- 13 - 41 - 13	8	54	0.5	CONCRETE	6" Concrete	
							GRANULAR SUBBASE	Gray, Modified stone subbase, Wet, FILL	
						2.0			
2 - 4	S-2		3 - 4 - 2 - 2	15	6		EXISTING FILL	Brown, Clayey sand, Wet, FILL	
						4.0			
4 - 6	S-3		3 - 6 - 9 - 14	18	15	5.0	GLACIOLACUSTRINE	Reddish-Brown, Stiff, Lean clay, Moist, CL	
6 - 8	S-4		12 - 14 - 16 - 21	18	30			Similar to above, becomes Very Stiff	
8 - 10	S-5		24 - 6 - 7 - 9	20	13			Similar to above, becomes Grayish-Brown and Stiff	
						10.0			
10 - 12	S-6		3 - 6 - 8 - 10	14	14			Similar to above	
						11.5			
						12.0		Lean clay with gravel, CL	
12 - 14	S-7		10 - 10 - 12 - 15	20	22			Brown, Very Stiff, Gravelly lean clay with sand, CL	
14 - 16	S-8		6 - 8 - 8 - 12	12	16	15.0		Similar to above	
16 - 18	S-9		8 - 10 - 10 - 11	20	20			Similar to above	
18 - 20	S-10		7 - 6 - 6 - 9	18	12			Similar to above, becomes Wet and Stiff	6" Silty sand seam at 19'
						20.0			
20 - 22	S-11		2 - 5 - 9 - 12	20	14			Similar to above, becomes Moist	
22 - 24	S-12		12 - 13 - 17 - 16	12	30			Similar to above, becomes Wet and Very Stiff	
24 - 26	S-13		9 - 9 - 9 - 12	10	18	25.0		Similar to above	

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-8

Project: Proposed Niagara Transformer Expansion Project | **WAI Project No.:** GR2524343.Y01

Location: 1747 Dale Road & 24 Anderson Road | **Client:** Buffalo Construction Consultants, INC.

Surface Elevation:	± NS feet	**Date Started:**	5/4/2026		**Water Depth (feet bgs)**	**Elevation (feet)**	**Cave-In Depth (feet bgs)** / **Elev. (feet)**
Termination Depth:	26.0 feet bgs	**Date Completed:**	5/4/2026				
Proposed Location:	Building	**Logged By:**	GL	**During:**	1.5	NS	
Drill Method:	Hollow Stem Auger	**Contractor:**	EE	**At Completion:**	NE	NS	**At Comp.**	NS
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x	**24 Hours:**	NE	NS	**24 Hours:**	NS

SAMPLE INFORMATION						DEPTH	STRATA	DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)			
						25.0			
24 - 26	S-13	X	9 - 9 - 9 - 12	10	18		GLACIOLACUSTRINE	Similar to above	
								Boring Completed at 26 feet below ground surface	
						30.0			
						35.0			
						40.0			
						45.0			
						50.0			

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-9

Project:	Proposed Niagara Transformer Expansion Project	**WAI Project No.:**	GR2524343.Y01
Location:	1747 Dale Road & 24 Anderson Road	**Client:**	Buffalo Construction Consultants, INC.
Surface Elevation:	± NS feet	**Date Started:**	4/30/2026
Termination Depth:	26.0 feet bgs	**Date Completed:**	4/30/2026
Proposed Location:	Building	**Logged By:**	GL
Drill Method:	Hollow Stem Auger	**Contractor:**	EE
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x

Water Depth (feet bgs)	Elevation (feet)	Cave-In Depth (feet bgs)	Elev. (feet)
During: 16.0	NS		
At Completion: NE	NS	At Comp.	NS
24 Hours: NE	NS	24 Hours:	NS

Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	DEPTH (feet)	STRATA	DESCRIPTION (Classification)	Remarks
						0.0			
0 - 2	S-1		- 12 - 4 - 4	4	8	0.5	PAVEMENT	3" Asphalt pavement	
							GRANULAR SUBBASE	Gray, Modified stone subbase, Moist, FILL	
						2.0			
2 - 4	S-2		4 - 6 - 8 - 10	18	14		GLACIOLACUSTRINE	Reddish-Brown, Stiff, Lean clay, Moist, CL	Contains silt partings M/C: 24.7 %
4 - 6	S-3		6 - 8 - 11 - 14	20	19	5.0		Similar to above, becomes Very Stiff	M/C: 25.4%
6 - 8	S-4		15 - 12 - 13 - 16	20	25	6.0		Lean clay with gravel, CL	M/C: 26.8 %
8 - 10	S-5		4 - 5 - 7 - 7	18	12	8.0		, Stiff, Gravelly lean clay with sand, CL	M/C: 22.0 %
10 - 12	S-6		3 - 5 - 6 - 6	16	11	10.0		Similar to above	M/C: 16.4%
12 - 14	S-7		5 - 6 - 6 - 7	20	12			Similar to above	M/C: 12.6%
14 - 16	S-8		4 - 4 - 5 - 6	20	9	15.0		Similar to above	M/C: 11.7%
16 - 18	S-9		7 - 6 - 6 - 7	20	12			Similar to above, becomes Wet	
18 - 20	S-10		2 - 4 - 4 - 6	20	8			Similar to above, becomes Firm (Medium)	
20 - 22	S-11		2 - 2 - 4 - 4	18	6	20.0		Similar to above	
22 - 24	S-12		3 - 5 - 5 - 7	20	10			Similar to above, becomes Grayish-Brown and Stiff	
24 - 26	S-13		6 - 7 - 8 - 10	22	15			Similar to above	
						25.0			

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-9

Project: Proposed Niagara Transformer Expansion Project
WAI Project No.: GR2524343.Y01
Location: 1747 Dale Road & 24 Anderson Road
Client: Buffalo Construction Consultants, INC.

Surface Elevation:	± NS feet	**Date Started:**	4/30/2026		**Water Depth (feet bgs)**	**Elevation (feet)**	**Cave-In Depth (feet bgs)** / **Elev. (feet)**
Termination Depth:	26.0 feet bgs	**Date Completed:**	4/30/2026				
Proposed Location:	Building	**Logged By:**	GL	**During:**	16.0	NS	
Drill Method:	Hollow Stem Auger	**Contractor:**	EE	**At Completion:**	NE	NS	**At Comp.** / NS
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x	**24 Hours:**	NE	NS	**24 Hours:** / NS

SAMPLE INFORMATION						DEPTH	STRATA	DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)			
						25.0			
24 - 26	S-13	X	6 - 7 - 8 - 10	22	15		GLACIOLACUSTRINE	Similar to above	
								Boring Completed at 26 feet below ground surface	
						30.0			
						35.0			
						40.0			
						45.0			
						50.0			

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-10

Project:	Proposed Niagara Transformer Expansion Project	**WAI Project No.:**	GR2524343.Y01
Location:	1747 Dale Road & 24 Anderson Road	**Client:**	Buffalo Construction Consultants, INC.
Surface Elevation:	± NS feet	**Date Started:**	5/5/2026
Termination Depth:	26.0 feet bgs	**Date Completed:**	5/5/2026
Proposed Location:	Building	**Logged By:**	GL
Drill Method:	Hollow Stem Auger	**Contractor:**	EE
Sample/Test Method:	SPT/Auto Hammer	**Equipment:**	CME 550x

	Water Depth (feet bgs)	Elevation (feet)	Cave-In Depth (feet bgs)	Elev. (feet)
During:	3.0	NS		
At Completion:	NE	NS	**At Comp.**	NS
24 Hours:	NE	NS	**24 Hours:**	NS

Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	DEPTH (feet)	STRATA	DESCRIPTION (Classification)	Remarks
						0.0			
0 - 2	S-1		8 - 8 - 7 - 6	12	15	0.5	PAVEMENT	Asphalt pavement	
							EXISTING FILL	Brown, Silty sand, Moist, FILL	
2 - 4	S-2		6 - 5 - 6 - 10	20	11	2.0		Brown, Clayey sand with gravel, Moist, FILL	
							GLACIOLACUSTRINE	Reddish-Brown, Stiff, Lean clay, Wet, CL	
4 - 6	S-3		4 - 5 - 6 - 14	20	11	5.0		Similar to above, becomes Moist	
6 - 8	S-4		10 - 12 - 10 - 12	20	22	6.0		Brown, Very Stiff, Gravelly lean clay with sand, CL	
8 - 10	S-5		3 - 4 - 4 - 7	20	8			Similar to above, becomes Firm (Medium)	
10 - 12	S-6		3 - 6 - 6 - 8	20	12	10.0		Similar to above, becomes Grayish-Brown and Stiff	
12 - 14	S-7		6 - 9 - 9 - 12	20	18			Similar to above, becomes Very Stiff	
14 - 16	S-8		3 - 3 - 4 - 7	20	7	15.0		Similar to above, becomes Firm (Medium) and Wet	
16 - 18	S-9		3 - 5 - 7 - 7	20	12			Similar to above, becomes Stiff	
18 - 20	S-10		2 - 4 - 4 - 6	20	8			Similar to above, becomes Firm (Medium)	
20 - 22	S-11		6 - 5 - 5 - 8	18	10	20.0		Similar to above, becomes Stiff and Moist	
22 - 24	S-12		6 - 7 - 8 - 8	20	15			Similar to above	
24 - 26	S-13		6 - 7 - 8 - 9	20	15	25.0		Similar to above	

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-10

Project: Proposed Niagara Transformer Expansion Project
WAI Project No.: GR2524343.Y01
Location: 1747 Dale Road & 24 Anderson Road
Client: Buffalo Construction Consultants, INC.

Surface Elevation: ± NS feet
Termination Depth: 26.0 feet bgs
Proposed Location: Building
Drill Method: Hollow Stem Auger
Sample/Test Method: SPT/Auto Hammer

Date Started: 5/5/2026
Date Completed: 5/5/2026
Logged By: GL
Contractor: EE
Equipment: CME 550x

	Water Depth (feet bgs)	Elevation (feet)	Cave-In Depth (feet bgs)	Elev. (feet)
During:	3.0	NS		
At Completion:	NE	NS	At Comp.	NS
24 Hours:	NE	NS	24 Hours:	NS

SAMPLE INFORMATION						DEPTH	STRATA	DESCRIPTION (Classification)	Remarks
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)			
						25.0			
24 - 26	S-13	X	6 - 7 - 8 - 9	20	15		GLACIOLACUSTRINE	Similar to above	
								Boring Completed at 26 feet below ground surface	
						30.0			
						35.0			
						40.0			
						45.0			
						50.0			

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, SR = Spoon Refusal, P = Perched

ROCK CORE PHOTOGRAPH

WHITESTONE

APPENDIX B
Laboratory Test Results

WHITESTONE

Particle-Size Distribution

Report #: 001-L1

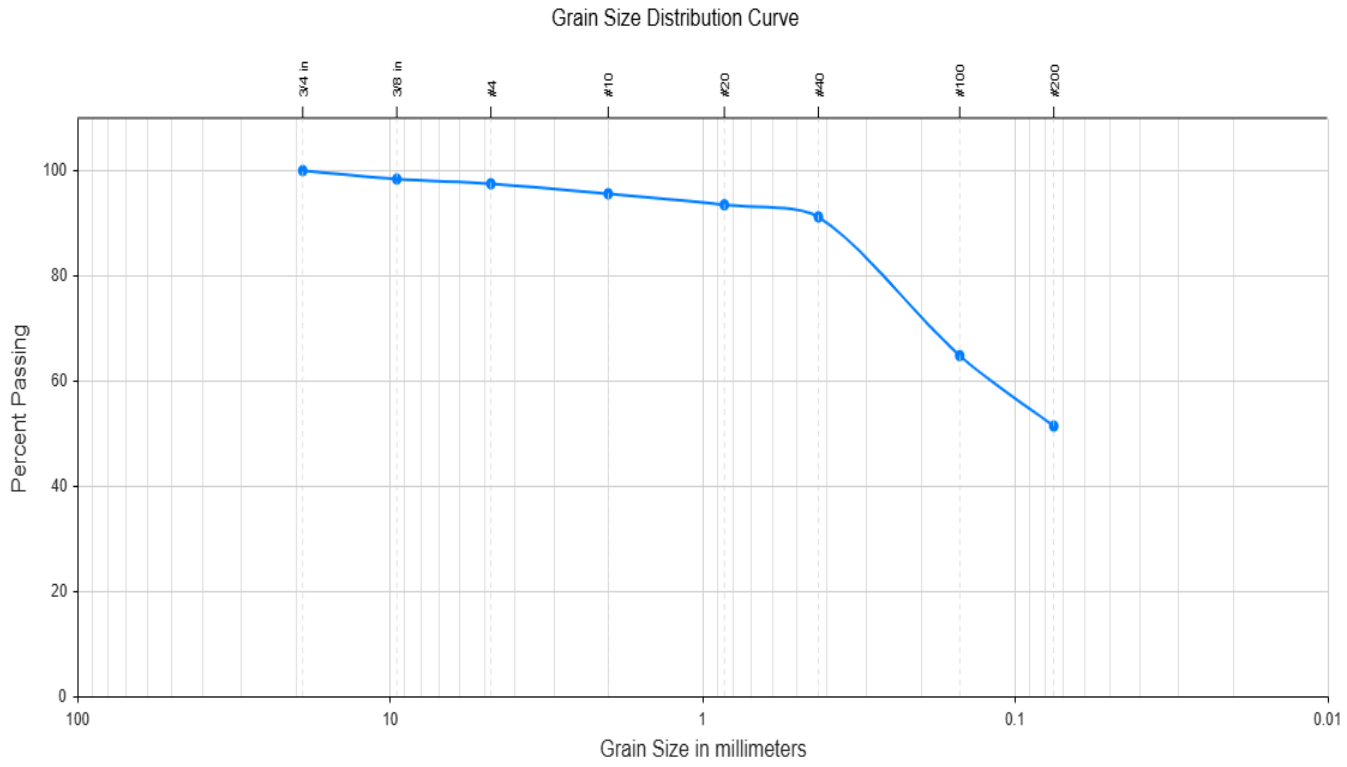
Client: Buffalo Construction Consultants
Report Date: 05/15/2026 **Sample Date:** 05/04/2026
Project: Cheektowaga, NY - Proposed Niagara Transformer Project
Project #: GR2524343.Y01

Location: 1747 Dale Road, Buffalo, New York

SAMPLE DATA

Exploration Location: B-7 **Depth (ft):** 2-4
Test Procedure: ASTM D6913 (Sieve)
Sample No / Location: S-2
Sample Description / Classification: Sandy lean clay (CL), Moisture Content: 17.6%

SIEVE ANALYSIS AND TEST RESULTS



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
3/4 in (19mm)		0.0	100.0	
3/8 in (9.5mm)	4.6	1.6	98.4	
#4 (4.75mm)	7.0	2.5	97.5	
#10 (2mm)	12.5	4.4	95.6	
#20 (0.85mm)	18.4	6.5	93.5	
#40 (0.425mm)	25.2	8.8	91.2	
#100 (0.15mm)	100.4	35.2	64.8	
#200 (0.075mm)	138.6	48.6	51.4	

Material

% Gravel	% Sand	% Fines
2.5	46.1	51.4

Atterberg Limits

PL = LL = PI =

Coefficients

D_{60} = 0.12 D_{10} = Cc =
D_{30} = Cu =

Soil Classification

USCS	AASHTO
USCS (ASTM D2487) : CL Sandy lean clay	

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WHITESTONE

Particle-Size Distribution

Report #: 002-L1

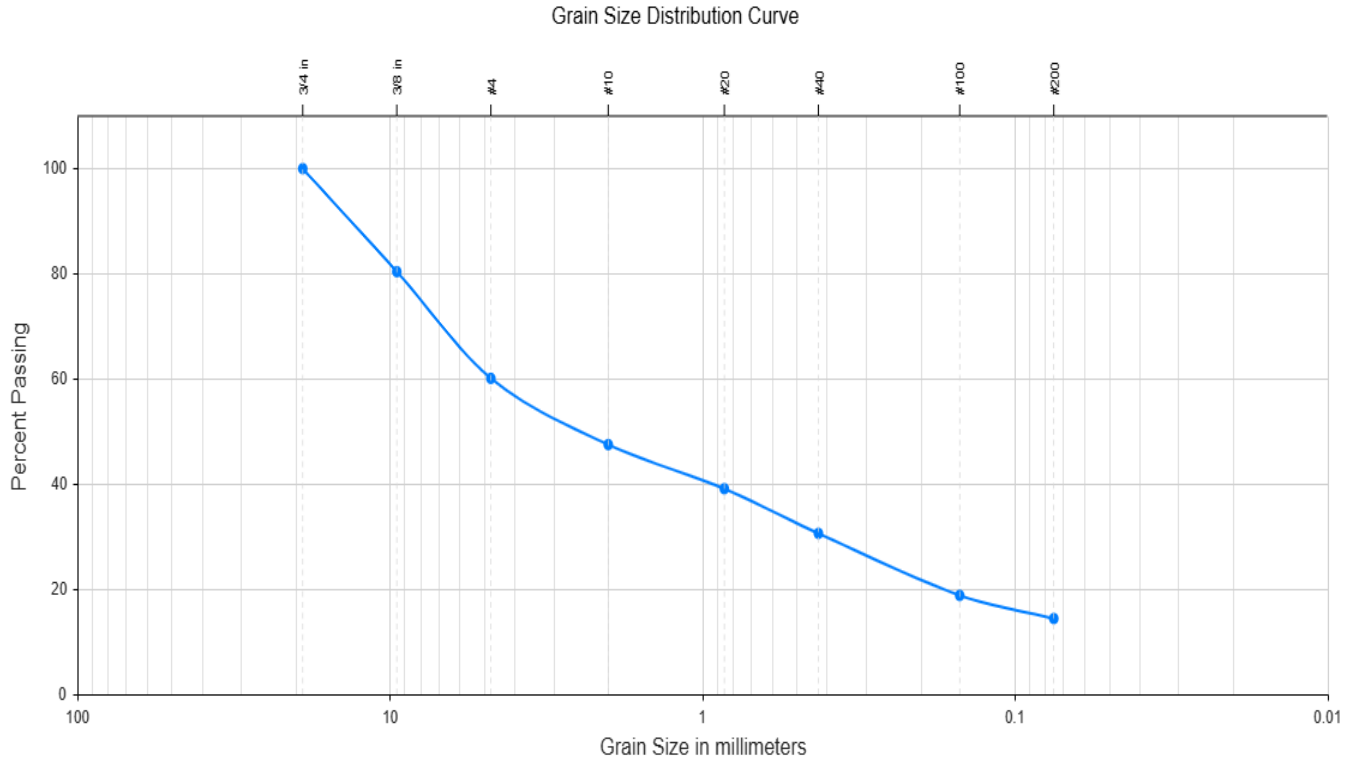
Client: Buffalo Construction Consultants
Report Date: 05/15/2026 **Sample Date:** 04/29/2026
Project: Cheektowaga, NY - Proposed Niagara Transformer Project
Project #: GR2524343.Y01

Location: 1747 Dale Road, Buffalo, New York

SAMPLE DATA

Exploration Location: B-1 **Depth (ft):** 0-2
Test Procedure: ASTM D6913 (Sieve)
Sample No / Location: S-1
Sample Description / Classification: Clayey sand with gravel (SC), Moisture Content: 15.3%

SIEVE ANALYSIS AND TEST RESULTS



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
3/4 in (19mm)		0.0	100.0	
3/8 in (9.5mm)	55.1	19.6	80.4	
#4 (4.75mm)	112.3	39.9	60.1	
#10 (2mm)	147.8	52.5	47.5	
#20 (0.85mm)	171.4	60.9	39.1	
#40 (0.425mm)	195.3	69.4	30.6	
#100 (0.15mm)	228.6	81.2	18.8	
#200 (0.075mm)	240.8	85.6	14.4	

Material

% Gravel	% Sand	% Fines
39.9	45.7	14.4

Atterberg Limits

PL = LL = PI =

Coefficients

D_{60} = 4.73 D_{10} = Cc =
D_{30} = 0.41 Cu =

Soil Classification

USCS **AASHTO**

USCS (ASTM D2487) : SC
Clayey sand with gravel

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WHITESTONE

APPENDIX C
Supplemental Information (USCS, Terms & Symbols)

WHITESTONE

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UNIFIED SOIL CLASSIFICATION SYSTEM

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
			GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY SOILS	CLEAN SAND (LITTLE OR NO FINES)	SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	SM	SILTY SANDS, SAND-SILT MIXTURES
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMITS LESS THAN 50	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMITS GREATER THAN 50	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS FOR SAMPLES WITH 5% TO 12% FINES

GRADATION*

% FINER BY WEIGHT

TRACE..... 1% TO 10%
LITTLE..... 10% TO 20%
SOME..... 20% TO 35%
AND..... 35% TO 50%

COMPACTNESS*
Sand and/or Gravel

RELATIVE DENSITY

LOOSE. ..... 0% TO 40%
MEDIUM DENSE.... 40% TO 70%
DENSE..... 70% TO 90%
VERY DENSE..... 90% TO 100%

CONSISTENCY*
Clay and/or Silt

RANGE OF SHEARING STRENGTH IN POUNDS PER SQUARE FOOT

VERY SOFT..... LESS THAN 250
SOFT..... ..... 250 TO 500
MEDIUM..... 500 TO 1000
STIFF..... 1000 TO 2000
VERY STIFF..... 2000 TO 4000
HARD..... GREATER THAN 4000

** VALUES ARE FROM LABORATORY OR FIELD TEST DATA, WHERE APPLICABLE. WHEN NO TESTING WAS PERFORMED, VALUES ARE ESTIMATED.*

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GEOTECHNICAL TERMS AND SYMBOLS

SAMPLE IDENTIFICATION

The ASTM version of the Unified Soil Classification System is used to identify the soil unless otherwise noted.

SOIL PROPERTY SYMBOLS

N: Standard Penetration Value: Blows per ft. of a 140 lb. hammer falling 30" on a 2" O.D. split-spoon.
Qu: Unconfined compressive strength, TSF.
Qp: Penetrometer value, unconfined compressive strength, TSF.
Mc: Moisture content, %.
LL: Liquid limit, %.
PI: Plasticity index, %.
δd: Natural dry density, PCF.
▼: Apparent groundwater level at time noted after completion of boring.

DRILLING AND SAMPLING SYMBOLS

NE: Not Encountered (Groundwater was not encountered).
SS: Split-Spoon - 1 ⅜" I.D., 2" O.D., except where noted.
ST: Shelby Tube - 3" O.D., except where noted.
AU: Auger Sample.
OB: Diamond Bit.
CB: Carbide Bit
WS: Washed Sample.

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

Term (Non-Cohesive Soils)	Standard Penetration Resistance
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Over 50

Term (Cohesive Soils)	Qu (TSF)
Very Soft	0 - 0.25
Soft	0.25 - 0.50
Firm (Medium)	0.50 - 1.00
Stiff	1.00 - 2.00
Very Stiff	2.00 - 4.00
Hard	4.00+

PARTICLE SIZE

Boulders	12 in.+	Coarse Sand	4.75mm - 2.00mm	Silt	< 0.075mm (non-plastic)
Cobbles	12 in. - 3 in.	Medium Sand	2.00mm - 0.425mm	Clay	< 0.075mm (plastic)
Gravel	3 in. - 4.75mm	Fine Sand	0.425mm - 0.075mm		