

SOR CONSULTING ENGINEERS, INC.

Geotechnical Engineering - Materials Testing - Forensic Studies

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GEOTECHNICAL INVESTIGATION REPORT PROPOSED COMMERCIAL & RESIDENTIAL MIXED-USE BUILDING VERONA, NEW JERSEY

FOR

**HILLCREST FARMS AND GREENHOUSES
VERONA, NEW JERSEY**

**Prepared by: Sor Consulting Engineers, Inc.
98 Sand Park Road
Cedar Grove, New Jersey 07009**

**Report No. 25-C-12
Job No. 25-C-08
October 29, 2025**

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October 29, 2025
Job No. 25-C-08
Report No. 25-C-12

Hillcrest Farms and Greenhouses
377 Bloomfield Avenue
Verona, NJ 07044

Attention: Patrick Filoso
E-Mail: Pat@HillcrestFarms.biz

Re: Geotechnical Investigation Report
Proposed Commercial & Residential Mixed-Use Building
Verona, New Jersey

INTRODUCTION

Sor Consulting Engineers, Inc. (SCE) is pleased to present the results of a geotechnical investigation performed for a proposed commercial and residential mixed-use building to be constructed at a site in Verona, New Jersey. The site is located at 383 Bloomfield Avenue. The site presently occupies several greenhouse and masonry structures which will be demolished to accommodate the proposed structure. The proposed structure will be 4-stories high and cover a footprint area of approximately 20,116 square feet. The structure may have a partial basement. There will also be one-story utility/storage building at the center of the site. The remaining areas of the lot will be used as parking.

AVAILABLE SITE DATA

Available geologic data indicates that the site is underlain by non-residual materials deposited by waters flowing within or from the Wisconsin Glacier consisting of predominantly sand with varying amounts of silt and gravel. The depth to the underlying bedrock is usually greater than 10 to 20 feet.

PURPOSE AND SCOPE OF WORK

The purpose of this study was to:

- explore the subsurface soil and groundwater conditions within the proposed buildings and pavement areas;
- estimate the geotechnical engineering properties of the encountered subsurface materials;
- evaluate the foundation requirements for the structure considering the anticipated structural loads and encountered subsurface conditions;
- recommend an appropriate type of foundation for support of the proposed structure and present geotechnical related foundation design and installation criteria, including shallow and/or deep foundation design parameters and seismic site class;
- present recommendations relative to the support of slabs to be constructed on-grade, including modulus of subgrade reaction (K_v);
- estimate the post-construction performance of the recommended floor and foundation systems;
- recommend lateral earth pressure and drainage criteria for use in the design of below-grade walls;
- recommend an appropriate pavement section for the proposed parking and roadway facilities; and
- discuss appropriate earthwork operations or considerations consistent with the proposed construction and encountered subsurface conditions.

To accomplish this, a subsurface exploration program consisting of eight (8) soil borings was conducted on the site. The borings were performed on October 10 and 14, 2025 by Environmental Technical Drilling Inc. using track mounted drilling equipment and extended to depths of 9 to 23 feet below the existing ground surface. Soil samples suitable for identification and laboratory testing purposes were extracted from the borings in accordance with the procedures of the Standard Penetration Test. In addition, two rock corings were performed from 9 to 14 feet and 18 to 23 feet depths. However, refusal encountered were glacial till material and not bedrock. Upon completion, the explorations were backfilled so as not to leave any open holes and the surface patched with asphalt.

The explorations were performed under the direct technical supervision of a licensed geotechnical engineer and a geologist from Sor Consulting Engineers, Inc. Our representative located the borings at the site, prepared logs of the explorations as the work proceeded and supervised the soil sampling operations so as to obtain the appropriate subsurface information. The locations of the explorations are shown relative to the existing site features on the Boring Location Plan contained in Appendix I of this report. Detailed descriptions of the encountered subsurface conditions are presented on the individual boring logs contained in Appendix II. The soils were visually classified in accordance with the Burmeister Soil Classification System also included in Appendix II.

All soil samples were brought to our office where they were examined in our soil mechanics laboratory. Selected samples were subjected to moisture content and mechanical grain size distribution tests to aid in their engineering classification and estimation of engineering soil properties. The laboratory test results are presented in Appendix III.

The results of the field and laboratory testing programs have provided the basis for our engineering analysis and geotechnical recommendations. The following discussions of our findings and recommendations are subject to the limitations contained in Appendix IV of this report.

SITE CONDITIONS

Surface Features: The site of the proposed structure is presently partially occupied by existing buildings which will be demolished to accommodate the proposed structure and parking area. The existing structures are surrounded by paved surface areas. Also, concrete sidewalks are located immediately around the structures. Overall site grades are sloped down gently towards the south and west with surface elevations of +419 feet (northeast corner) to +415 feet (southwest corner) for larger building. For smaller building surface elevations range from a high of +417 feet to low of +409 feet. Comparison of existing and proposed grades indicates that substantial amount of cut and fill will be required at the proposed building area to achieve the desired finished floor elevation.

Subsurface Conditions: The subsurface conditions encountered in the borings performed for this study were relatively uniform and consisted of the following generalized strata in order of increasing depth:

- 1) **Surface Materials:** Borings performed in a paved area encountered 1 to 2 inches of asphalt underlain by 3 to 5 inches of gravel base.
- 2) **Fill:** Fill consisting of a mixture of sand and silt with varying amounts of gravel, brick, asphalt, concrete was encountered beneath the surface materials in borings B-4 and B-5. The fill extended to a depth of 7 feet beneath the ground surface and was found to be in a loose to medium compact condition.
- 3) **Clayey Silt/Silt:** Natural gray to yellowish brown clayey silt or sandy silt was encountered beneath the surface material in Borings 1, 2, 3, 6, 7, and 8 and extended to depths ranging from 2 to 3.5 feet. This stratum was found to be in a soft to stiff consistency.
- 4) **Silty Sand:** Natural reddish brown to brown residual silty sand with various amounts of gravel was encountered beneath the fill or clayey silt and extended to depths ranging from 9 to 18 feet. These natural soils were found

to be in a medium dense to dense condition. At majority of the borings auger and spoon sampler refusal on boulders was encountered.

- 5) Glacial Till: Material predominantly sandy gravel with numerous cobbles/boulders were encountered beneath the sand stratum and extended to maximum depths explored. At two locations when refusal was encountered, the material was cored determined to be mostly cobbles/boulders.

Groundwater, as evidenced by direct measurement, was encountered in some of the borings performed for this study at depths ranging from 5 to 13 feet beneath the ground surface. However, trapped water was also observed in some of the explorations. Groundwater levels at this site should be expected to fluctuate and may be influenced by water trapped in the existing fill on top of clayey soil, seasonal variations in rainfall and temperature and other factors.

CONCLUSIONS AND RECOMMENDATIONS

General: Based on our evaluation of the subsurface conditions encountered in the explorations performed for this study, the existing fill and underlying upper soft sandy clayey soils are not capable of providing uniform support for the foundations of the proposed building without the potential for unacceptable post-construction settlement. We recommend that any fill and any upper soft sandy clayey soils be completely removed, and the foundations subgrades stabilized with clean crushed stone so that the building can be supported on conventional spread foundations. The fill and clayey silt may remain in place for floor slab support provided it can be compacted to a dense and stable condition. Detailed discussions of these and other geotechnical related items considered relevant to the proposed construction are presented in the following sections of this report.

Site Preparation and Earthwork Considerations: Site preparation should initially consist of demolishing the structures and removing all existing slabs, and foundations, concrete, pavements, storm drains and subsurface utilities from within the proposed

structure and pavement areas and extending at least 5 feet beyond the plan structure and pavement limits. Any resulting excavations should be backfilled with controlled compacted fill. Upon completion of demolition and backfilling of excavations and after cutting to subgrade levels but prior to placing fill in areas to be raised, the exposed soils should be leveled and thoroughly compacted and proofrolled by multiple passes of a heavy steel drum vibratory roller (Dynapac Model CA-150) or equivalent. In confined or limited access areas, compaction and proofrolling should be accomplished with a double drum walk-behind vibratory roller (Wacker Neuson Model RD 7 or equivalent). The compactor should be operated in static mode within 5 feet of existing structures or utilities to remain. Depending upon the soil conditions encountered at the time of construction, moisture conditioning of the exposed soils in the form of aerating and drying or wetting may be required prior to compaction and proofrolling. Any localized areas that cannot be compacted to a dense and unyielding condition or are observed to contain significant concentrations of deleterious materials should be excavated to expose suitable subsoils and the areas subsequently backfilled with controlled fill. We strongly recommend that the compaction and proofrolling operations as well as any subsequent placement of controlled fill or backfill be performed under the direct technical observation of a qualified geotechnical engineering firm. Mass fill installed within the structure and pavement areas should be spread in horizontal layers of 8 to 12 inches in loose thickness and each layer uniformly compacted to at least 95 percent of maximum dry density as determined by the ASTM-D1557 test procedure. Backfill placed in confined areas, such as foundation and utility trench excavations as well as adjacent to below-grade walls, should be spread in horizontal layers on the order of 6 to 8 inches in loose thickness and each layer compacted to 95 percent using manually operated compaction equipment. Controlled compacted fill may consist of granular portions of the excavated existing fill or natural soils exclusive of any particles greater than 3 inches in nominal size, clay, organics, or otherwise deleterious materials and provided the soils are at a moisture content suitable for proper compaction. The on-site soils are sensitive to slight changes in moisture content, and if they become wet either

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prior to or during placement as controlled fill or backfill, will not be workable or compactable. In addition, these materials are difficult to dry once they become wet and may require removal and replacement to facilitate fill placement and compaction. Controlled fill and backfill imported to the site should consist of a relatively well-graded granular material containing less than 15 percent passing a U.S. Standard No. 200 sieve and having a maximum particle size of 2 inches. Imported fill should also meet the NJDEP clean fill requirements for its intended use and be at a moisture content suitable for proper compaction.

All excavations at the site should be performed in accordance with OSHA requirements. For this site, the on-site soils are classified as Type C. Therefore, excavations should not exceed slopes of 1½ horizontal to 1 vertical. If steeper slopes are required due to site constraints or other factors, they should be adequately protected with sheeting, shoring, or bracing. Slope protection systems should be designed by a professional engineer experienced in the design of such systems.

Foundation Design Criteria: We recommend that all foundation excavations extend through the surficial fill and any underlying soft sandy clayey silt to expose competent natural subsoils. However, we recommend that all excavations encountered stiff clayey soil should be deepened to allow for the placement of at least 6 inches of clean crushed stone to provide uniform support conditions and protect the subgrade from construction disturbance and subsequent loss of strength.

We strongly recommend that all foundation excavations be witnessed by a qualified geotechnical engineer to determine whether over-excavation is necessary to remove any unsuitable soils that may be present beneath the foundation locations as well as to verify that all unsuitable materials are removed.

Foundations deriving their support from the natural soils, controlled fill or crushed stone placed atop the undisturbed natural soils may be proportioned to impose a maximum allowable net soil bearing pressure of up to 5000 pounds per square foot. The bottoms of all exterior foundations should be established at least 3 feet below adjacent exterior grades to provide protection from frost penetration. Interior

foundations in permanently heated portions of the building may be established at convenient depths beneath the floor slabs provided they are supported on proper bearing materials.

We estimate that foundations designed and installed in accordance with our recommendations would experience total settlements of less than three-quarters of one inch and that post-construction differential settlements would be less than one-half of one inch.

Groundwater was observed at depths of 5 to 13 feet in the borings performed for this study. However, layers and pockets of wet, soft materials were observed within the existing soil indicating trapped or perched water. Water may be present during the foundation excavation operations. We recommend that surface grades be maintained during construction to facilitate drainage and prevent the inundation of the subgrade soils from surface water runoff. Any water seepage or runoff that may occur should be collected and removed from the construction excavations by pumping from sumps established within or immediately adjacent to the excavations.

Floor Slab Design Criteria: Initially, the proposed floor slab at the new building and other concrete pad areas should be stripped of all existing surficial material. We anticipate that the soils exposed at the subgrade level for on-grade slabs will consist of medium compact silty gravelly sand or newly installed fill. We recommend that after surface striping, the exposed subgrade should be compacted to a dense and unyielding condition using a heavy vibratory drum roller (Dynapac CA-150 or equivalent). The compactor should be operated in static mode within 5 feet of existing adjacent structures or utilities. In confined or limited access areas proofrolling and compaction should be accomplished with a smaller double drum vibratory compactor (Wacker Neuson RD-7 or equivalent). Areas that cannot be compacted to a dense and unyielding condition or are found to contain significant concentrations of organics or otherwise deleterious materials should be excavated and replaced with controlled compacted fill.

Upon completion of the proofrolling and densification operations, granular portions of the on-site excavated fill exclusive of organics, clays, or otherwise deleterious materials and/or recycled concrete aggregate (RCA) or imported granular material may be reused as controlled compacted fill to reach the proposed floor slab subgrade level. All mass fill placed within the floor slab areas should be spread in horizontal layers on the order of 10 to 12 inches in loose thickness. Backfill placed in confined areas, such as foundation or utility trench excavations, should be spread in layers on the order of 6 to 8 inches in loose thickness. Each layer of fill and backfill should be compacted to at least 95 percent of maximum dry density as determined by the modified proctor moisture-density test procedure (ASTM D-1557).

We recommend that Portland cement concrete slabs constructed on-grade be underlain by a minimum 4-inch thick layer of clean $\frac{3}{4}$ -inch size crushed stone to provide a uniform support condition as well as a capillary break between the slab and underlying subgrade soils. On-grade slabs supported on materials prepared in accordance with our recommendations may be designed using a modulus of subgrade reaction (Kv) of 175 pounds per cubic inch. We estimate that slabs supported on-grade would experience negligible post-construction settlements.

Pavement Design Criteria: The subgrade in pavement areas should be shaped for positive drainage. It is anticipated that the soils exposed at the subgrade level will consist of either compacted granular fill materials or existing silty gravelly sand fill or natural soils. These materials are generally considered to be fair pavement support soils. The finished subgrade should be proofrolled and compacted with heavy vibratory drum compaction equipment to at least 95 percent of maximum dry density as determined by the ASTM-D1557 test method and should also be uniformly dense and unyielding prior to the placement of subsequent aggregate subbase or pavement layers. Provided the site preparation, earthwork and subgrade preparation procedures outlined in this report are followed, the following minimum flexible pavement design sections are therefore recommended:

Recommended Minimum Pavement Design Sections*

Access Roads and Heavy Duty Areas:	
Bituminous Concrete Wearing Course (NJDOT 9.5 mm Mix)	2 inches
Bituminous Concrete Stabilized Base Course (NJDOT 19.0 mm Mix)	4 inches
Dense-Graded Aggregate Subbase (NJDOT DGA)	4 inches
Total Section Thickness:	10 inches
Automobile Parking Areas:	
Bituminous Concrete Wearing Course (NJDOT 9.5 mm Mix)	1½ inches
Bituminous Concrete Stabilized Base Course (NJDOT 19.0 mm Mix)	2½ inches
Dense-Graded Aggregate Subbase (NJDOT DGA)	4 inches
Total Section Thickness:	8 inches

(*) The recommended minimum pavement design sections are subject to the approval of the municipal engineer.

For rigid pavement, a modulus of subgrade reaction of 175 pounds per cubic inch may be used.

Below-Grade/Retaining Wall Design Criteria: The design of any below-grade building and/or site retaining walls should be designed to resist appropriate lateral earth pressures and any applied surcharge loads and should include provisions to collect and remove the accumulation of any water seepage that may occur up-gradient of the walls. These provisions could include foundation drains consisting of 4-inch diameter perforated type pipe bedded on and surrounded by at least 6 inches of clean ¾-inch crushed stone.

The pipe invert should be established at least 6 inches below the bottom of the floor slab and, if possible, drain into the site stormwater drainage system. Otherwise, the drain should be hydraulically connected to a sump from which the water can be removed.

We recommend that a vertical drainage system consisting of either Enkadrain, clean ¾-inch crushed stone, or similar free-draining material be installed against the below grade walls to accommodate any seepage above the slab level and to preclude

the buildup of any hydrostatic pressures on the walls. The vertical drainage system should be hydraulically connected to the exterior foundation drain and extend upward to within 2 feet of finished grade.

Assuming that a permanent drainage system is installed as previously recommended, the building and site retaining walls may be designed in accordance with the following earth pressure parameters:

Angle of Internal Friction (ϕ)	30 degrees
Total Unit Weight of Soil	125 pcf
Coefficient of Active Earth Pressure (K_a)	0.33
Coefficient of Passive Earth Pressure (K_p)	3.00
Coefficient of At-Rest Earth Pressure (K_0)	0.50
Friction Factor between Soil and Concrete	0.40

Seismic Design Considerations: Structures must be designed in conformance with the applicable seismic design criteria of the New Jersey Edition of the 2021 International Building Code. In accordance with the Code, the subsurface information obtained from the borings and the known geologic conditions in this area, the site is considered to have a soil profile which corresponds to a site class "C". Based on our analysis of the subsurface conditions, the field and laboratory test results and the known geology of this area, the on-site soils are not susceptible to liquefaction in a seismic event, and the underlying bedrock is not considered susceptible to solutioning or the formation of sinkholes.

RECOMMENDED SERVICES

It is recommended that Sor Consulting Engineers be provided the opportunity for a general review of the final design and specifications to assure that the foundation and earthwork recommendations are properly interpreted and implemented in the construction documents.

We also recommend that controlled compacted fill and backfill operations as well as foundation and floor slab subgrades be observed by a geotechnical engineer from

SOR CONSULTING ENGINEERS, INC.

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our firm. This is to ensure compliance with the recommendations contained herein and to address any changes in the subsurface conditions that were not disclosed by the borings

Sor Consulting Engineers appreciates the opportunity to be of assistance with this project. Should there be any questions concerning the information provided herein, please do not hesitate to contact us. The following appendices are attached and complete this report:

Appendix I: Exploration Location Plan

Appendix II: Boring Logs 1 through 8

Burmeister Soil Classification System

Appendix III: Laboratory Soil Test Results

Appendix IV: Limitations

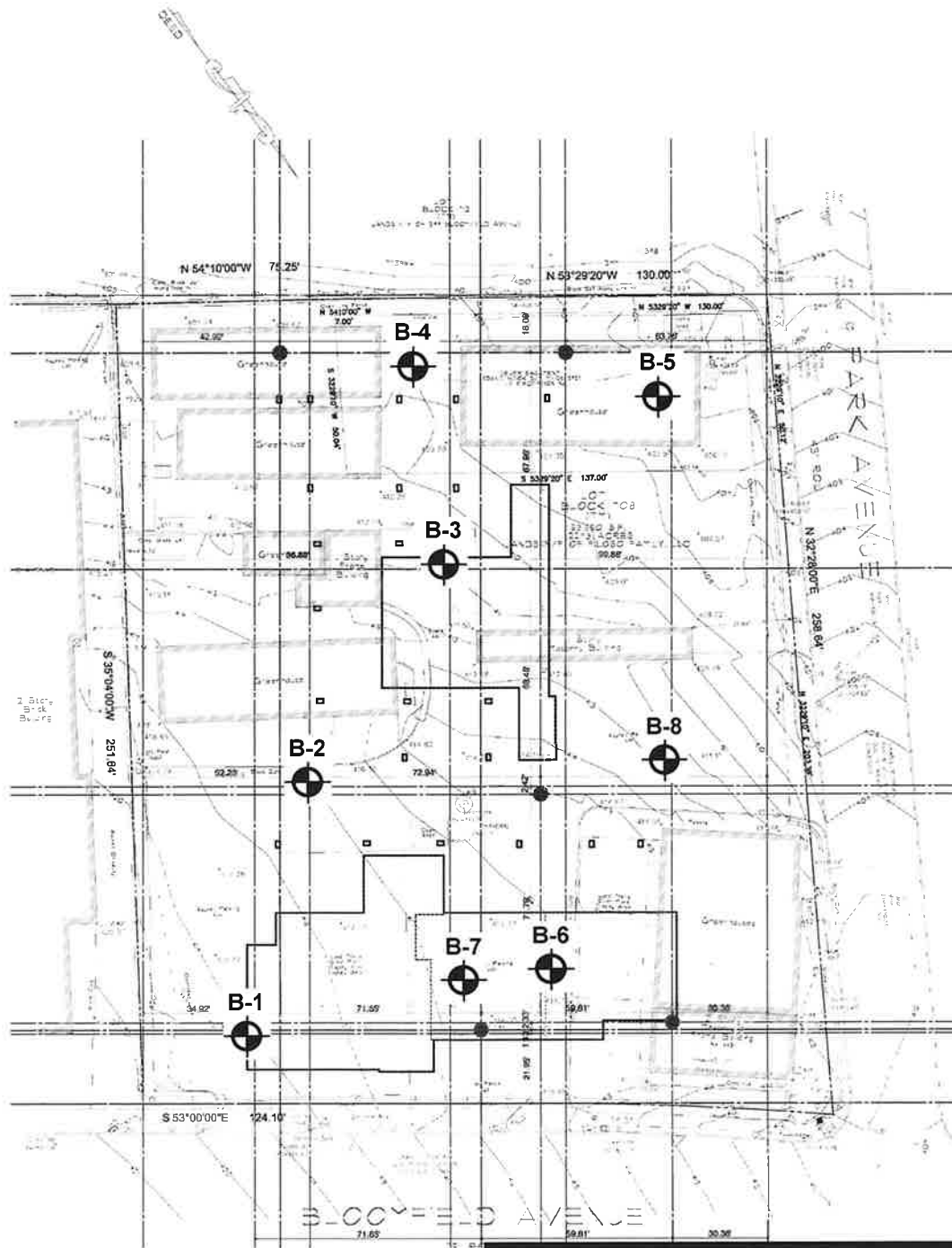
Very truly yours,

SOR CONSULTING ENGINEERS, INC.

Atilla Sencar, P.E.
Senior Engineer

AS/gs

APPENDIX I
EXPLORATION LOCATION PLAN




**BORING LOCATION PLAN
 HILLCREST FARMS & GREENHOUSES
 COMMERCIAL AND RESIDENTIAL MIXED-USE
 BLDG.
 VERONA, NEW JERSEY**

SOR CONSULTING ENGINEERS, INC.

98 Sand Park Road, Cedar Grove, New Jersey 07009
 Tel.: (973) 857 7188 Fax.: (973) 239 8380

LEGEND

- B-1**  Number and approximate location of boring performed by SCE for this study on 10/10 and 10/14, 2025.

NOTES

1. This drawing is part of Sor Consulting Engineers, Inc. Report No.25-C-12 and should be read together with the report for complete evaluation.

Prepared By : TM	Approved By : AS	DRAWING NO. 1
Date : 10/21/25	Job No. : 25-C-08	
Scale : As Shown	Report No. : 25-C-12	Sheet No. 1 of 1

APPENDIX II

BORING LOGS 1 THROUGH 8

BURMEISTER SOIL CLASSIFICATION SYSTEM

SOR CONSULTING ENGINEERS, INC.				TEST BORING LOG				BORING	B-1
CLIENT Hillcrest Farms and Greenhouses				GSE				+419'	
PROJECT Proposed Commercial & Residential Mixed Use Building				DATUM				Ground Surface	
LOCATION Verona, New Jersey				DATE START				10/10/25	
GROUND WATER				CAS.	SAMP.	CORE	TUBE	DATE FINISH	10/10/25
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS			
10-Oct		8'-0"		DIA.	4 1/4"	2" OD		JOB NO.	25-C-08
				WT.		140 lb.		REPORT NO.	25-C-12
				FALL		30"		Sheet 1 of 1	

DEPTH (ft.)	CASING BLOWS	SAMPLE TYPE/NO.	DEPTH	SAMPLER BLOWS PER 6"	N VALUE	DESCRIPTION	REMARKS
1				4		1" Asphalt + 5" DGA	
2		S-1	0.5'-2.5'	2	6	Light Gray to Yellowish Brown SILT, and medium to fine Sand, trace med fine Gravel	W=20.2%
3				4			
4		S-2	2.5'-4.5'	7	29	Brown coarse to fine Sand, some Silt, some medium to fine Gravel	3'-6"
5				8			
6		S-3	5'-7'	21	65	Same	Auger refusal at 5'-0"
7				16			
8		S-4	7'-9'	31	96	Brown coarse to fine SAND and coarse to fine GRAVEL	Wet at 8'-0"
9				34			
10				21			
11				30			
12				66			
13				60/2"			
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							

S - SPLIT SPOON SAMPLER
 U - UNDISTURBED SAMPLE
 C - CORE DRILLED

DRILLING CONTRACTOR
 DRILLING EQUIPMENT
 SCE REPRESENTATIVE

ETD, Inc.
 Track Rig
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SOR CONSULTING ENGINEERS, INC.				TEST BORING LOG				BORING	B-2
CLIENT Hillcrest Farms and Greenhouses							GSE	+417'	
PROJECT Proposed Commercial & Residential Mixed Use Building							DATUM	Ground Surface	
LOCATION Verona, New Jersey							DATE START	10/10/25	
GROUND WATER				CAS.	SAMP.	CORE	TUBE	DATE FINISH	
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS			
10-Oct		6'-0"		DIA.	4 1/4"	2" OD		JOB NO. 25-C-08	
				WT.		140 lb.		REPORT NO. 25-C-12	
				FALL		30"		Sheet 1 of 1	

DEPTH (ft.)	CASING BLOWS	SAMPLE TYPE/NO.	DEPTH	SAMPLER BLOWS PER 6"	N VALUE	DESCRIPTION	REMARKS
1		S-1	0'-2'	15 13 12	25	Gray coarse to fine SAND, and Silt, trace medium to fine Gravel	W=13.3%
2				7			2'-6"
3		S-2	2'-4'	7 10 10	20	Brown coarse to fine Sand, some silt, little medium to fine Gravel	
4				13			
5		S-3	4'-6'	11 15 20	35	Reddish Brown coarse to fine SAND, some medium to fine Gravel, little Silt	W=9.9%
6				17			
7		S-4	6'-8'	15 14 31	45	Brown coarse to fine Sand, some Silt, some medium to fine Gravel	Wet at 6'-0"
8				25			
9		S-5	8'-10'	12 14 12	26	Same	
10				18			10'-0"
11		S-6	10'-12'	21 30 77	107	Glacial Till	
12				60/1"			
13							
14							
15							
16							
17							
18							
19							
20							
21							
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25							
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27							

S - SPLIT SPOON SAMPLER
U - UNDISTURBED SAMPLE
C - CORE DRILLED

DRILLING CONTRACTOR
DRILLING EQUIPMENT
SCE REPRESENTATIVE

ETD, Inc.
Track Rig
AS/TM

SOR CONSULTING ENGINEERS, INC.				TEST BORING LOG				BORING B-3	
CLIENT Hillcrest Farms and Greenhouses						GSE		+413'	
PROJECT Proposed Commercial & Residential Mixed Use Building						DATUM		Ground Surface	
LOCATION Verona, New Jersey						DATE START		10/10/25	
GROUND WATER				CAS.	SAMP.	CORE	TUBE	DATE FINISH 10/10/25	
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS			
10-Oct		NE		DIA.	4 1/4"	2" OD			JOB NO. 25-C-08
				WT.		140 lb.			REPORT NO. 25-C-12
				FALL		30"			Sheet 1 of 1

DEPTH (ft.)	CASING BLOWS	SAMPLE TYPE/NO.	DEPTH	SAMPLER BLOWS PER 6"	N VALUE	DESCRIPTION	REMARKS
1		S-1	0'-2'	27 11 7	18	2" Asphalt + 4" DGA Light Gray to Yellowish Brown Clayey SILT	
2							2'-0"
3		S-2	2'-4'	15 21 21	42	Reddish brown coarse to fine Sand, some Silt, some medium to fine Gravel	
4							
5		S-3	4'-6'	12 10 9	19	Brown medium to fine SAND, some Silt	
6							
7		S-4	6'-8'	12 19 21	40	Brown coarse to fine Sand, some Silt, some coarse to fine Gravel, Rock Fragments	
8							
9		S-5	8'-10'	19 16 60/3"	76/9"	Same	9'-0"
10						Glacial Till	
11							
12							
13							
14							
15							
16							
17							
18							
19							
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22							
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26							
27							

S - SPLIT SPOON SAMPLER
U - UNDISTURBED SAMPLE
C - CORE DRILLED

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SOR CONSULTING ENGINEERS, INC.				TEST BORING LOG				BORING	B-4
CLIENT Hillcrest Farms and Greenhouses							GSE	+409'	
PROJECT Proposed Commercial & Residential Mixed Use Building							DATUM	Ground Surface	
LOCATION Verona, New Jersey							DATE START	10/10/25	
GROUND WATER				CAS.	SAMP.	CORE	TUBE	DATE FINISH 10/10/25	
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS			
10-Oct		NE		DIA.	4 1/4"	2" OD		JOB NO. 25-C-08	
				WT.		140 lb.		REPORT NO. 25-C-12	
				FALL		30"		Sheet 1 of 1	

DEPTH (ft.)	CASING BLOWS	SAMPLE TYPE/NO.	DEPTH	SAMPLER BLOWS PER 6"	N VALUE	DESCRIPTION	REMARKS	
1		S-1	0'-2'	18 25	48	Brown coarse to fine Sand, some medium to fine Gravel, Asphalt, Concrete, Brick and Rock Fragments (Fill)	Auger refusal at 5'-0"	
2				23 12				
3		S-2	2'-4'	12 5	17			
4				8				
5		S-3	4'-6'	4 5	11			
6				6 2				
7		S-4	6'-8'	5 9	21			7'-0"
8				12 17				Brown coarse to fine Sand, and Silt, little medium to fine Gravel
9		S-5	8'-10'	8 15	45			Same
10				30 24				10'-6"
11		S-6	10'-12'	31 50	99			Glacial Till
12				49 60/6"				
13						Test Boring completed at 12'-0" Spoon and Auger Refusal		
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

S - SPLIT SPOON SAMPLER
U - UNDISTURBED SAMPLE
C - CORE DRILLED

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DRILLING EQUIPMENT
SCE REPRESENTATIVE

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Track Rig
AS/TM

SOR CONSULTING ENGINEERS, INC.				TEST BORING LOG				BORING	B-5
CLIENT Hillcrest Farms and Greenhouses							GSE	+406'	
PROJECT Proposed Commercial & Residential Mixed Use Building							DATUM	Ground Surface	
LOCATION Verona, New Jersey							DATE START	10/10/25	
GROUND WATER				CAS.	SAMP.	CORE	TUBE	DATE FINISH 10/10/25	
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS			
10-Oct		13'-0"		DIA.	4 1/4"	2" OD		JOB NO. 25-C-08	
				WT.		140 lb.		REPORT NO. 25-C-12	
				FALL		30"		Sheet 1 of 1	

DEPTH (ft.)	CASING BLOWS	SAMPLE TYPE/NO.	DEPTH	SAMPLER BLOWS PER 6"	N VALUE	DESCRIPTION	REMARKS
1		S-1	0'-2'	7 6	18	Brown coarse to fine Sand, some medium to fine Gravel, Asphalt, Concrete, Brick and Rock Fragments (Fill)	
2				11 15			
3		S-2	2'-4'	7 10	19		
4				9 5			
5							
6		S-3	5'-7'	3 6	18		
7				12 19			
8		S-4	7'-9'	17 13	26	Reddish Brown coarse to fine Sand, and Silt, little medium to fine Gravel	W=15.6%
9				13 17		Same	
10							
11		S-5	10'-12'	10 7	26	Brown coarse to fine SAND, some medium to fine Gravel	
12				19 18			
13		S-6	12'-14'	5 10	19	Brown of Sand, some Silt, some medium to fine Gravel (Wet)	
14				9 18			
15		S-7	14'-16'	10 17	34	Same	
16				17 21			
17		S-8	16'-18'	14 18	53	Same	
18				35 60/6"			
19						Boring Completed at 18'-0" Spoon and Auger Refusal	
20							
21							
22							
23							
24							
25							
26							
27							

S - SPLIT SPOON SAMPLER
 U - UNDISTURBED SAMPLE
 C - CORE DRILLED

DRILLING CONTRACTOR
 DRILLING EQUIPMENT
 SCE REPRESENTATIVE

ETD, Inc.
 Track Rig
 AS/TM

SOR CONSULTING ENGINEERS, INC.				TEST BORING LOG				BORING B-6	
CLIENT Hillcrest Farms and Greenhouses							GSE	+415'	
PROJECT Proposed Commercial & Residential Mixed Use Building							DATUM	Ground Surface	
LOCATION Verona, New Jersey							DATE START	10/14/25	
GROUND WATER				CAS.	SAMP.	CORE	TUBE	DATE FINISH	
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS			
14-Oct		2'-0"		DIA.	4 1/4"	2" OD		JOB NO. 25-C-08	
				WT.		140 lb.		REPORT NO. 25-C-12	
				FALL		30"		Sheet 1 of 1	

DEPTH (ft.)	CASING BLOWS	SAMPLE TYPE/NO.	DEPTH	SAMPLER BLOWS PER 6"	N VALUE	DESCRIPTION	REMARKS
1		S-1	0'-2'	18 10 4	14	2" Asphalt + 4" DGA	Wet at 2'
2						Gray clayey SILT, some medium to fine Gravel	
3		S-2	2'-4'	2 7 11	18	Reddish brown medium to fine Sand, and Silt, little medium to fine Gravel	
4							
5		S-3	4'-6'	23 21 23	44	Brown coarse to fine SAND and medium to fine GRAVEL	
6				50/4"			
7						(Spoon and Auger refusal at 5'-10")	Rollerbit to 9'-0"
8							
9							9'-0"
10						Glacial Till	
11		C-1	9'-14'			(Core drilled 9'-14', recovery was cobbles/boulders)	
12							
13							
14							
15						Test Boring completed at 14'-0"	
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							

S - SPLIT SPOON SAMPLER
U - UNDISTURBED SAMPLE
C - CORE DRILLED

DRILLING CONTRACTOR
DRILLING EQUIPMENT
SCE REPRESENTATIVE

ETD, Inc.
Track Rig
AS/TM

SOR CONSULTING ENGINEERS, INC.				TEST BORING LOG				BORING	B-7
CLIENT Hillcrest Farms and Greenhouses							GSE	+417'	
PROJECT Proposed Commercial & Residential Mixed Use Building							DATUM	Ground Surface	
LOCATION Verona, New Jersey							DATE START	10/14/25	
GROUND WATER				CAS.	SAMP.	CORE	TUBE	DATE FINISH	
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS			
14-Oct		NE		DIA.	4 1/4"	2" OD		JOB NO. 25-C-08	
				WT.		140 lb.		REPORT NO. 25-C-12	
				FALL		30"		Sheet 1 of 1	

DEPTH (ft.)	CASING BLOWS	SAMPLE TYPE/NO.	DEPTH	SAMPLER BLOWS PER 6"	N VALUE	DESCRIPTION	REMARKS
1		S-1	0'-2'	12 15 7	22	1" Asphalt + 3" DGA	
2						Dark Brown coarse to fine Sand, some Silt	
3		S-2	2'-4'	10 10 24	34		2'-0"
4						Reddish borwn coarse to fine Sand, and medium to fine Gravel, some Silt	
5		S-3	4'-6'	20 21 35	56		
6						Same	
7		S-4	6'-8'	16 10 12	22	Reddish Brown Coarse to fine Sand, some Silt, little medium to fine Gravel	W=12.7%
8							
9		S-5	8'-10'	16 37 41	78		
10							
11		S-6	10'-12'	26 36 35	71		10'-6"
12						Glacial Till	
13				60/3"			
14						Test Boring completed at 11'-9"	
15						Spoon and Auger Refusal	
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							

S - SPLIT SPOON SAMPLER
U - UNDISTURBED SAMPLE
C - CORE DRILLED

DRILLING CONTRACTOR
DRILLING EQUIPMENT
SCE REPRESENTATIVE

ETD, Inc.
Track Rig
AS/TM

SOR CONSULTING ENGINEERS, INC.				TEST BORING LOG				BORING B-8	
CLIENT Hillcrest Farms and Greenhouses							GSE	+413'	
PROJECT Proposed Commercial & Residential Mixed Use Building							DATUM	Ground Surface	
LOCATION Verona, New Jersey							DATE START	10/14/25	
GROUND WATER				CAS.	SAMP.	CORE	TUBE	DATE FINISH	
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS			
14-Oct		5'-0"		DIA.	4 1/4"	2" OD		JOB NO. 25-C-08	
				WT.		140 lb.		REPORT NO. 25-C-12	
				FALL		30"		Sheet 1 of 1	

DEPTH (ft.)	CASING BLOWS	SAMPLE TYPE/NO.	DEPTH	SAMPLER BLOWS PER 6"	N VALUE	DESCRIPTION	REMARKS
1		S-1	0'-2'	8 2	4	1" Asphalt + 5" DGA	
2				2		Gray clayey SILT, and coarse to fine Sand, trace medium to fine Gravel	W=22.5%
3		S-2	2'-4'	3 4	14		
4				10		Reddish brown medium to fine Sand, and Silt, little medium to fine Gravel	3'-0"
5		S-3	4'-6'	21 50	80	Brown coarse to fine SAND and medium to fine GRAVEL	Wet at 5'
6				30 60/2"			
7						Spoon Refusal at 5'-8"	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20						Glacial Till	
21		C-2	18'-23'			(Core drilled 18'-23', recover was cobbles/boulders)	
22							
23							
24						Test Boring Completed at 23'-0"	
25							
26							
27							

S - SPLIT SPOON SAMPLER
 U - UNDISTURBED SAMPLE
 C - CORE DRILLED

DRILLING CONTRACTOR
 DRILLING EQUIPMENT
 SCE REPRESENTATIVE

ETD, Inc.
 Truck Rig
 AS/TM

VISUAL IDENTIFICATION OF SAMPLES

The samples were identified in accordance with the American Society for Engineering Education System of Definition described by Professor Donald M. Burmeister in ASTM Special Technical Publication 479, 5th Edition, 1970.

I. Definition of Soil Components and Fractions

MATERIAL	SYMBOL	FRACTION	SIEVE SIZE	DEFINITION
Boulders	Bldr	--	9" +	Material retained on 9" sieve.
Cobbles	Cbl	--	3" to 9"	Material passing the 9" sieve and retained on the 3" sieve.
Gravel	G	Coarse (c) Medium (m) Fine (f)	1" to 3" 3/8" to 1" No. 10 to 3/8"	Material passing the 3" sieve and retained on the No. 10 sieve.
Sand	S	Coarse (c) Medium (m) Fine (f)	No.30 to No. 10 No.60 to No. 30 No.200 to No. 60	Material passing the No. 10 sieve and retained on the No. 200 sieve.
Silt	\$	--	Passing No. 200 (0.074 mm)	Material passing the No. 200 sieve that is non-plastic in character and exhibits little or no strength when air dried.

Organic Silt (0\$)

Material passing the No. 200 sieve which exhibits plastic properties within a certain range of moisture content, and exhibits fine granular and organic characteristics.

		PLASTICITY	PLASTICITY INDEX	CLAY-SOIL
Clayey SILT	Cy\$	Slight (sl)	1 to 5	Material passing the No. 200 sieve which can be made to exhibit plasticity and clay qualities within a certain range of moisture content, and which exhibits considerable strength when air-dried.
SILT & CLAY	\$&C	Low (l)	5 to 10	
CLAY & SILT	C&\$	Medium (m)	10 to 20	
Silty CLAY	\$yC	High (h)	20 t 40	
CLAY	C	Very High (vh)	40 plus	

II. Definition of Component Proportions

COMPONENT	WRITTEN	PROPORTIONS	SYMBOL	PERCENTAGE RANGE BY WEIGHT*
Principal	CAPITALS	--		50 or more
Minor	Lower Case	and some little trace	a.	35 to 50
			s.	20 to 35
			l.	10 to 20
			t.	1 to 10

*Minus sign (-) lower limit, plus sign (+) upper limit, no sign middle range.

III. Glossary of Modifying Abbreviations

CATEGORY	SYMBOL	TERM	SYMBOL	TERM	SYMBOL	TERM
A. Borings	U/D	Undisturbed	B	Exploratory	A	Auger
B. Samples	C	Casing	L	Lost	U	Undisturbed
	D O.E.	Denison Open End	S	Spoon	W	Wash
C. Colors	bk	black	gn	green	wh	white
	bl	blue	or	orange	yw	yellow
	br	brown	rd	red	dk	dark
	gr	gray	tn	tan	lt	light
D. Organic Soils	dec	decayed	o	organic	veg	Vegetation
	dec'g	decaying	rts	roots	pt	peat
	lig	lignite	ts	topsoil		
E. Rocks	LS	Limestone	rk	rock	Shst	Schist
	Gns	Gneiss	SS	Sandstone	Sh	Shale
F. Fill and Misc. Material	bldr(s)	boulder(s)	cbl (s)	cobble (s)	gls	glass
	brk(s)	brick(s)	wd	wood	misc	miscellaneous
	cndr(s)	cinder(s)	dbr	debris	rbl	rubble
G. Misc. Terms	do	ditto	pp	pocket	ref	refusal
	el, El	elevation		penetrometer	sm	small
	fgmt (s)	fragment(s)	P.I.	Plasticity	W.L.	water level
	frqt	frequent		Index	W.H.	weight of
	lrg	large	P	pushed	W.R.	hammer
	mtld	mottled		pressed		weight of
	no rec	no recovery	pc(s)	piece(s)		rods
	pen	penetration	rec or R	recovered		
H. Stratified Soils	alt	alternating				
	thk	thick				
	thn	thin				
	w	with				
	prt	parting		-) to 1/16" thickness		
	seam	seam		- 1/16 to 1/2" thickness		
	lyr	layer		- 1/2 to 12" thickness		
	stra	stratum		- greater than 12" thickness		
	vvd c	varved Clay		- alternating seams or layers of sand, silt and clay		
	pkt	pocket		- small, erratic deposit, usually less than 1 foot		
Ins	lens		- lenticular deposit			
occ	occasional		- one or less per foot of thickness			
freq	frequent		- more than one per foot of thickness			

IV. Other Descriptive Criteria

A. Relative density of coarse-grained soils and non-plastic silts.

N-VALUE	DESCRIPTIVE TERM	RELATIVE DENSITY (%)
0-4	Very Loose	0-15
4-10	Loose	15-45
10-30	Medium Dense	45-70
30-50	Dense	70-85
50+	Very Dense	85-100

B. Consistency of fine-grained soils with some plasticity.

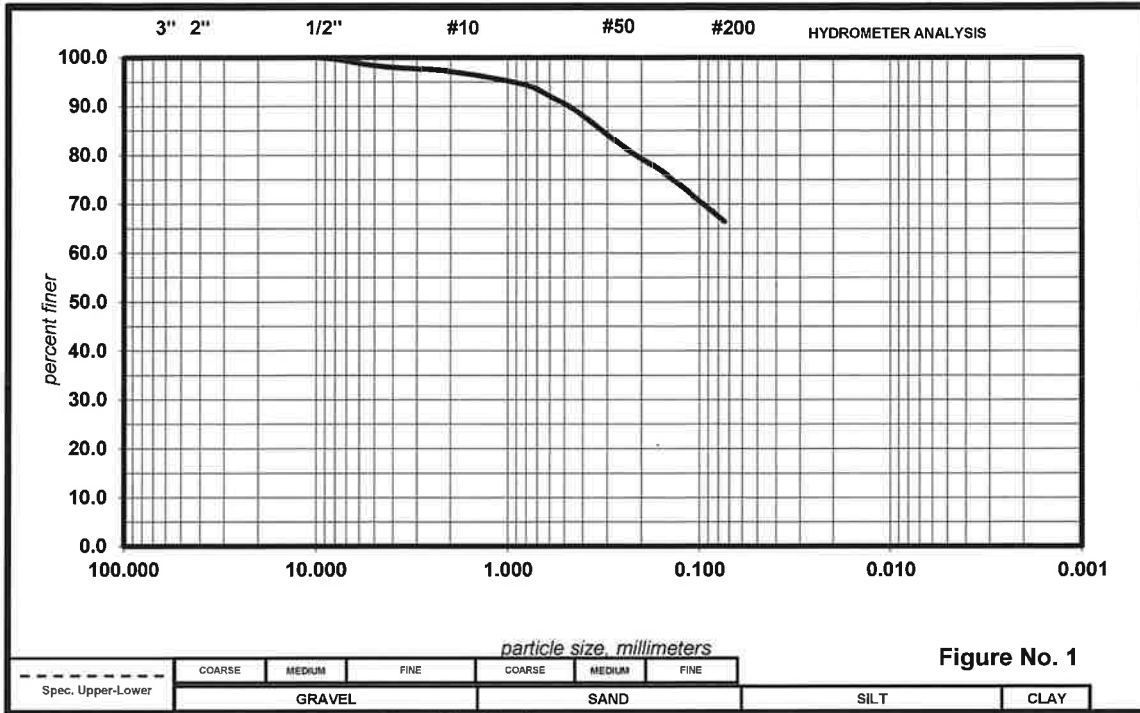
N-VALUE	DESCRIPTIVE TERM	UNCONFINED COMPRESSIVE STRENGTH (tsf)
0-2	Very Soft	Less than 0.25
2-4	Soft	0.25-0.50
4-8	Medium	0.50-1.00
8-16	Stiff	1.00-2.00
16-32	Very Stiff	2.00-4.00
32+	Hard	4.00+

APPENDIX III
LABORATORY SOIL TEST RESULTS

SOR TESTING LABORATORIES, INC.

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PARTICLE SIZE DISTRIBUTION TEST REPORT



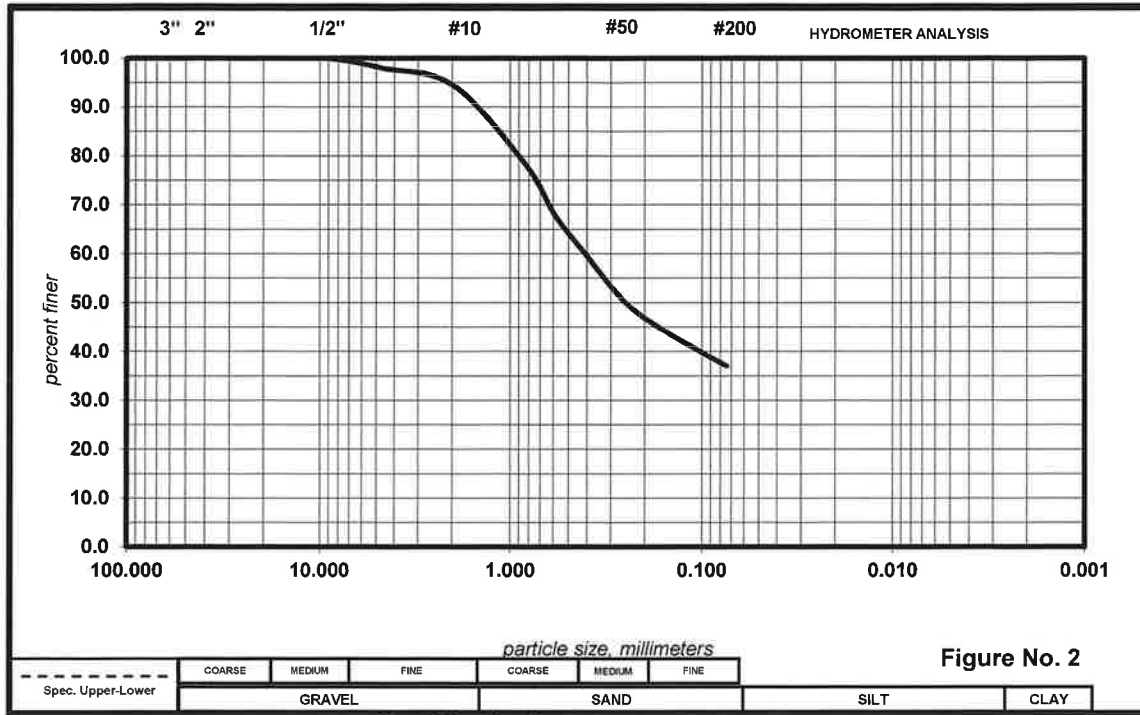
Specification*

Sieve Size	% Finer	Min.(%)	Max.(%)	Sample Identification		
3" (75 mm)				Sample No.: B-1, S-1 Lab No.: A25-89-01 Source/Location: 0.5'-2.5' Description: Brown SILT and, cf Sand, trace mf Gravel <i>sample description in accordance with Burmister System</i>		
2 1/2" (63 mm)						
2" (50 mm)						
1 1/2" (38.1 mm)						
1" (25 mm)				LL :	PL :	PI :
3/4" (19 mm)				As received Moisture Content: 20.2 %		
5/8" (16 mm)						
1/2" (12.5 mm)				Classification: USCS: [ML] AASHTO:		
3/8" (9.5 mm)	100.0					
5/16" (8 mm)				Remarks: Sample received in lab on October 15, 2025		
1/4" (6.3 mm)						
#4 (4.75 mm)	98.3					
#6 (3.35 mm)						
#8 (2.36 mm)				Client: Hillcrest Farms Project: Commercial & Residential Mixed Use Buildings Location: Date: 17-Oct-25 Job No.: 25-C-08 Report No.: 25-C-12		
#10 (2 mm)	97.2					
#14 (1.4 mm)						
#16 (1.18 mm)						
#20 (850 µm)	94.6					
#30 (600 µm)						
#40 (425 µm)	88.7					
#50 (300 µm)						
#60 (250 µm)	81.8					
#100 (150 µm)	76.0					
#200 (75 µm)	66.5					

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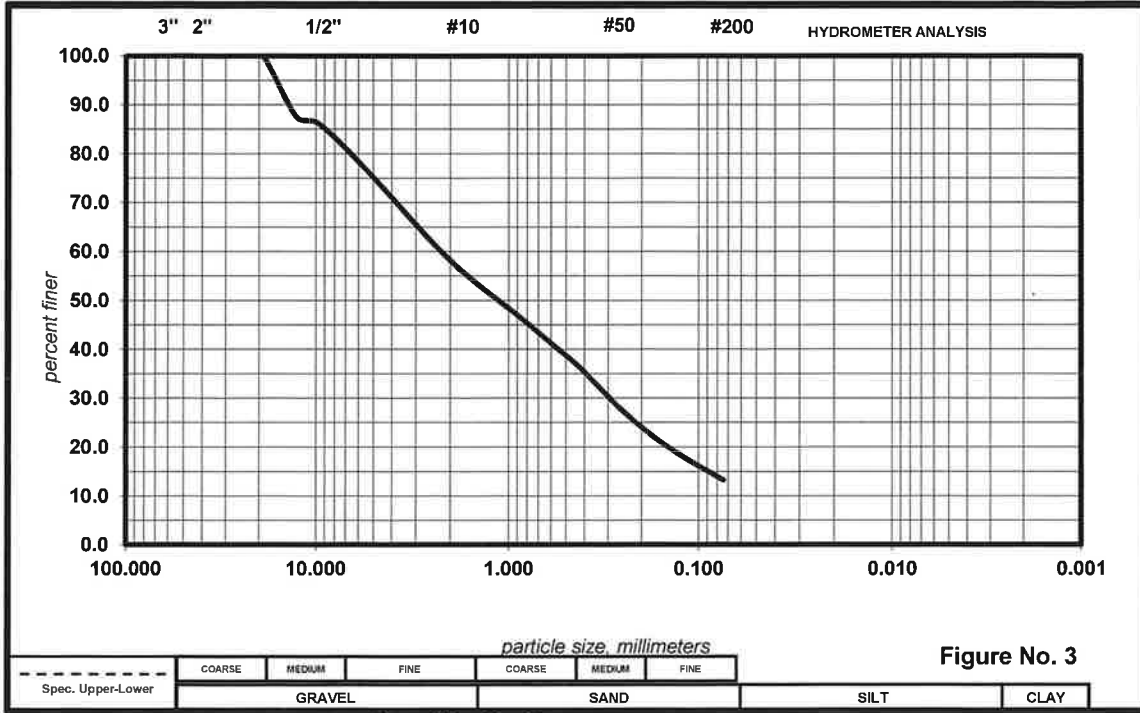
Specification*

Sieve Size	% Finer	Min.(%)	Max.(%)	Sample Identification					
3" (75 mm)				Sample No.: B-2, S-1 Lab No.: A25-89-02 Source/Location: 0'-2' Description: D.brown of SAND, and Silt, trace mf Gravel <i>sample description in accordance with Burmister System</i>					
2 1/2" (63 mm)									
2" (50 mm)									
1 1/2" (38.1 mm)									
1" (25 mm)									
3/4" (19 mm)									
5/8" (16 mm)									
1/2" (12.5 mm)									
3/8" (9.5 mm)	100.0						LL :	PL :	PI :
5/16" (8 mm)							As received Moisture Content: 13.3 %		
1/4" (6.3 mm)				Classification: USCS: [SM] AASHTO: Remarks: Sample received in lab on October 15, 2025					
#4 (4.75 mm)	98.1								
#6 (3.35 mm)									
#8 (2.36 mm)									
#10 (2 mm)	94.6								
#14 (1.4 mm)									
#16 (1.18 mm)									
#20 (850 μm)	78.4								
#30 (600 μm)									
#40 (425 μm)	60.4								
#50 (300 μm)				Client: Hillcrest Farms Project: Commercial & Residential Mixed Use Buildings Location: Date: 17-Oct-25 Job No.: 25-C-08 Report No.: 25-C-12					
#60 (250 μm)	49.9								
#100 (150 μm)	43.7								
#200 (75 μm)	37.1								

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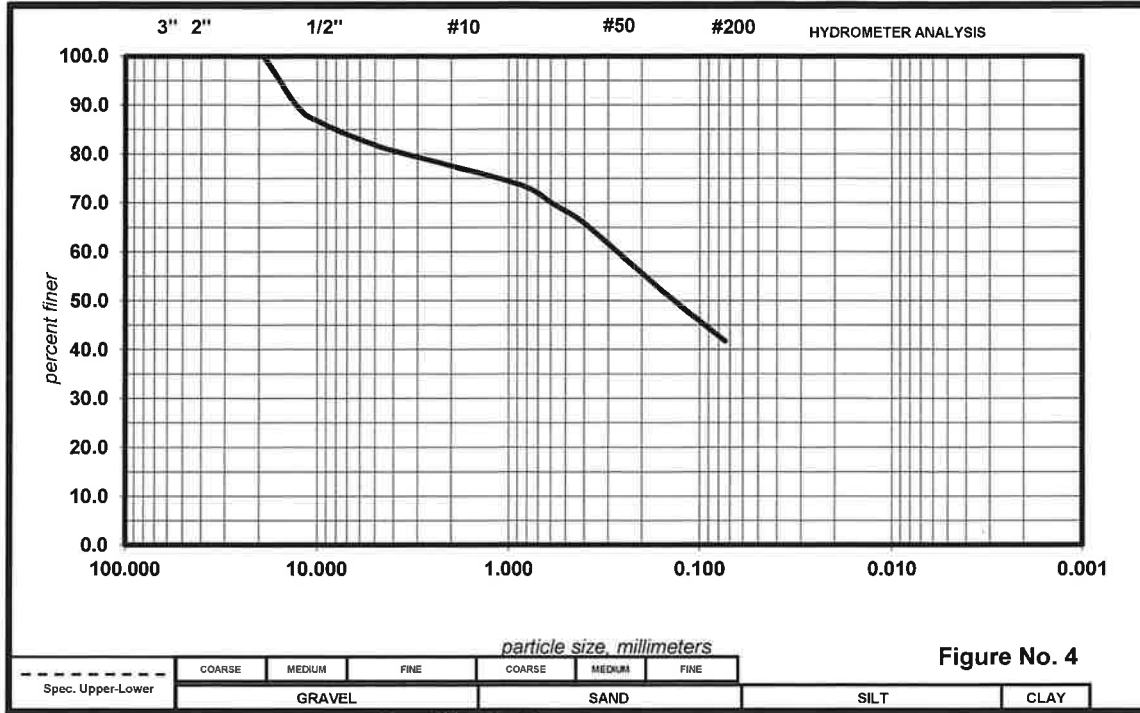


Specification*				Sample Identification		
Sieve Size	% Finer	Min.(%)	Max.(%)	Sample No.:		
3" (75 mm)				B-2, S-3		
2 1/2" (63 mm)				Lab No.:	A25-89-03	
2" (50 mm)				Source/Location:	4'-6'	
1 1/2" (38.1 mm)				Description:	Red.brown of SAND, little Silt, some mf Gravel	
1" (25 mm)				<i>sample description in accordance with Burmister System</i>		
3/4" (19 mm)	100.0			LL :	PL :	PI :
5/8" (16 mm)				As received Moisture Content: 9.9 %		
1/2" (12.5 mm)	87.7			Classification:		
3/8" (9.5 mm)	86.0			USCS: [SM]		
5/16" (8 mm)				AASHTO:		
1/4" (6.3 mm)				Remarks:		
#4 (4.75 mm)	74.3			Sample received in lab on October 15, 2025		
#6 (3.35 mm)				Client: Hillcrest Farms		
#8 (2.36 mm)				Project: Commercial & Residential Mixed Use Buildings		
#10 (2 mm)	58.2			Location:		
#14 (1.4 mm)				Date: 17-Oct-25		
#16 (1.18 mm)				Job No.: 25-C-08 Report No.: 25-C-12		
#20 (850 µm)	46.0					
#30 (600 µm)						
#40 (425 µm)	36.1					
#50 (300 µm)						
#60 (250 µm)	27.4					
#100 (150 µm)	20.4					
#200 (75 µm)	13.2					

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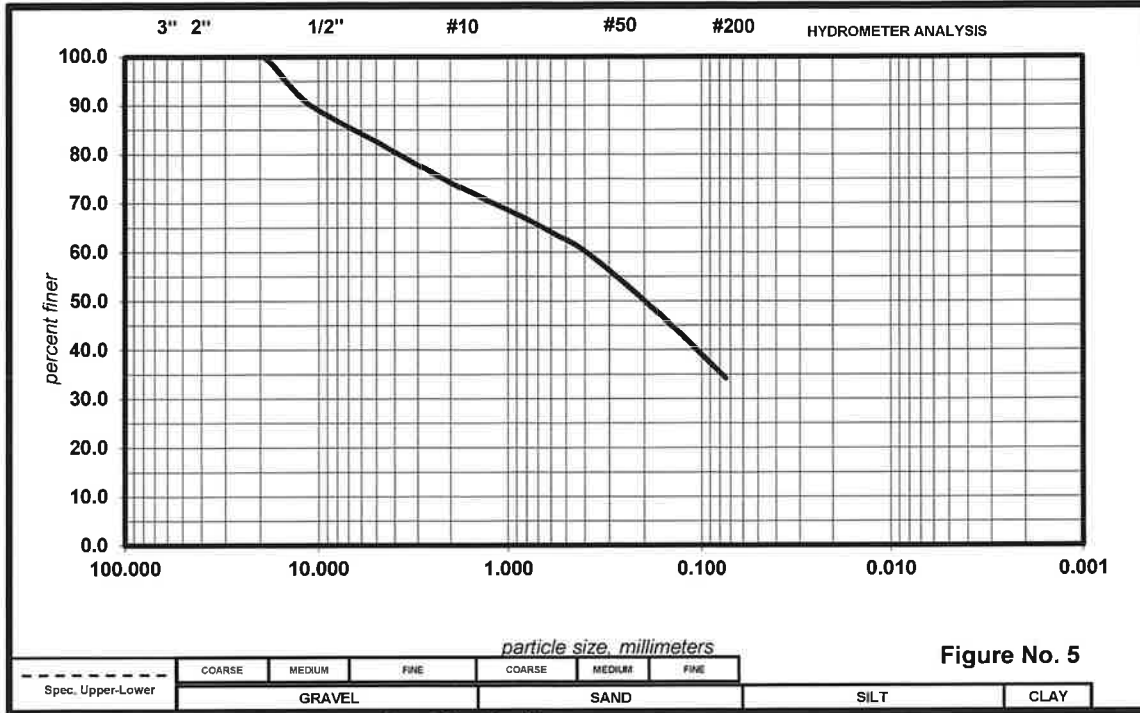


Sieve Size	% Finer	Min.(%)	Max.(%)	Sample Identification		
3" (75 mm)				Sample No.: B-5, S-1		
2 1/2" (63 mm)				Lab No.: A25-89-04		
2" (50 mm)				Source/Location: 7'-9'		
1 1/2" (38.1 mm)				Description: Red.brown cf Sand, and Silt, little mf Gravel		
1" (25 mm)				<i>sample description in accordance with Burnister System</i>		
3/4" (19 mm)	100.0			LL :	PL :	PI :
5/8" (16 mm)				As received Moisture Content: 15.6 %		
1/2" (12.5 mm)	89.8			Classification:		
3/8" (9.5 mm)	86.4			USCS: [SM]		
5/16" (8 mm)				AASHTO:		
1/4" (6.3 mm)				Remarks: Sample received in lab on October 15, 2025		
#4 (4.75 mm)	81.6			Client: Hillcrest Farms		
#6 (3.35 mm)				Project: Commercial & Residential Mixed Use Buildings		
#8 (2.36 mm)				Location:		
#10 (2 mm)	77.7			Date: 17-Oct-25		
#14 (1.4 mm)				Job No.: 25-C-08 Report No.: 25-C-12		
#16 (1.18 mm)						
#20 (850 µm)	73.5					
#30 (600 µm)						
#40 (425 µm)	66.4					
#50 (300 µm)						
#60 (250 µm)	59.0					
#100 (150 µm)	51.5					
#200 (75 µm)	41.7					

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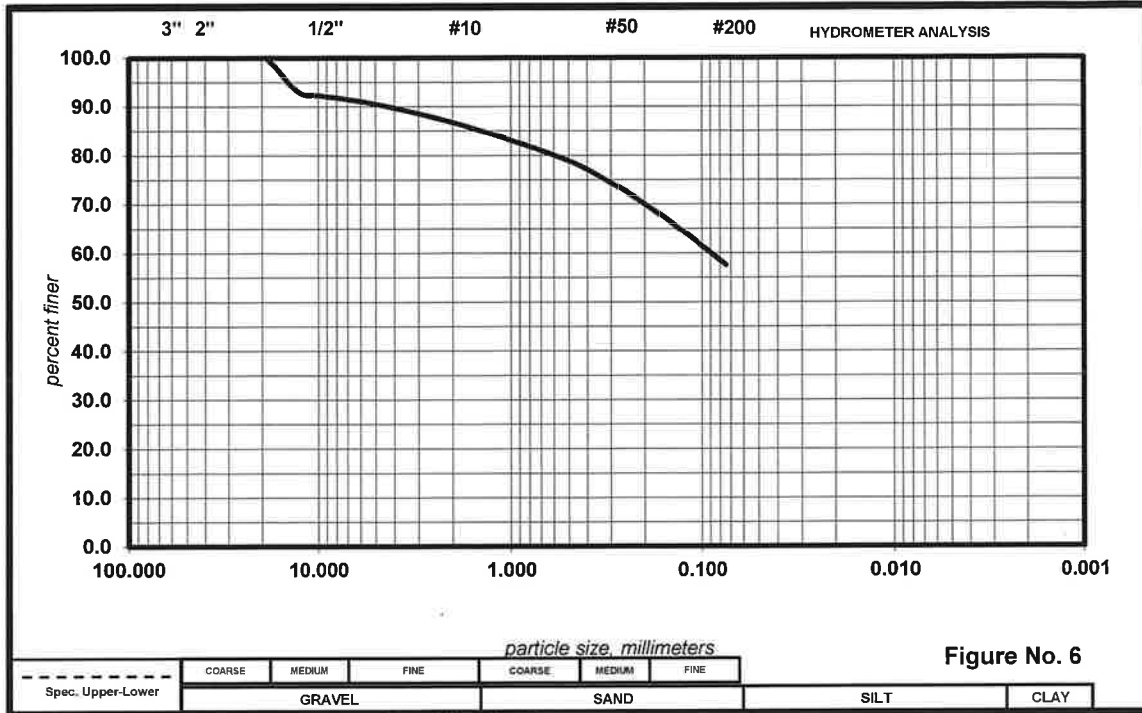
Specification*

Sieve Size	% Finer	Min.(%)	Max.(%)	Sample Identification		
3" (75 mm)				Sample No.: B-7, S-4 Lab No.: A25-89-05 Source/Location: 6'-8' Description: Red.brown of Sand, some Silt, little mf Gravel <i>sample description in accordance with Burmister System</i>		
2 1/2" (63 mm)						
2" (50 mm)						
1 1/2" (38.1 mm)						
1" (25 mm)						
3/4" (19 mm)	100.0					
5/8" (16 mm)						
1/2" (12.5 mm)	92.1					
3/8" (9.5 mm)	88.6					
5/16" (8 mm)						
1/4" (6.3 mm)				As received Moisture Content: 12.7 %		
#4 (4.75 mm)	82.1			Classification: USCS: [SM] AASHTO:		
#6 (3.35 mm)						
#8 (2.36 mm)				Remarks: Sample received in lab on October 15, 2025 Client: Hillcrest Farms Project: Commercial & Residential Mixed Use Buildings Location: Date: 17-Oct-25 Job No.: 25-C-08 Report No.: 25-C-12		
#10 (2 mm)	74.2					
#14 (1.4 mm)						
#16 (1.18 mm)						
#20 (850 µm)	67.2					
#30 (600 µm)						
#40 (425 µm)	60.8					
#50 (300 µm)						
#60 (250 µm)	53.6					
#100 (150 µm)	45.5					
#200 (75 µm)	34.2					

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PARTICLE SIZE DISTRIBUTION TEST REPORT



Specification*

Sieve Size	% Finer	Min.(%)	Max.(%)	Sample Identification		
3" (75 mm)				Sample No.: B-8, S-2		
2 1/2" (63 mm)				Lab No.: A25-89-06		
2" (50 mm)				Source/Location: 2'-4'		
1 1/2" (38.1 mm)				Description:		
1" (25 mm)				Grey SILT and, cf Sand, trace mf Gravel		
3/4" (19 mm)	100.0			<i>sample description in accordance with Burmister System</i>		
5/8" (16 mm)				LL :	PL :	PI :
1/2" (12.5 mm)	92.9			As received Moisture Content: 22.5 %		
3/8" (9.5 mm)	92.3			Classification:		
5/16" (8 mm)				USCS: [ML]		
1/4" (6.3 mm)				AASHTO:		
#4 (4.75 mm)	90.4			Remarks:		
#6 (3.35 mm)				Sample received in lab on October 15, 2025		
#8 (2.36 mm)				Client: Hillcrest Farms		
#10 (2 mm)	86.8			Project: Commercial & Residential		
#14 (1.4 mm)				Mixed Use Buildings		
#16 (1.18 mm)				Location:		
#20 (850 µm)	82.1			Date: 17-Oct-25		
#30 (600 µm)				Job No.: 25-C-08		
#40 (425 µm)	77.6			Report No.: 25-C-12		
#50 (300 µm)						
#60 (250 µm)	72.5					
#100 (150 µm)	66.6					
#200 (75 µm)	57.6					

APPENDIX IV
LIMITATIONS

SOR CONSULTING ENGINEERS, INC

LIMITATIONS

The conclusions and recommendations contained in this geotechnical report no. 25-C-12 are based upon the applicable standards of our profession at the time this report was prepared.

The analyses and recommendations submitted in this report are based in part upon the data obtained from eight (8) widely spaced test borings performed for this study. The stratification lines shown on the individual logs of the subsurface explorations represent the approximate boundaries between soil types. However, the transition between soil types may be gradual.

In our opinion, the number of explorations performed for this study are adequate for a general understanding of the site subsurface conditions. However, the nature and extent of variations between the explorations may not become evident until construction. If, during construction, variations become evident, it will be necessary to re-evaluate the recommendations of this report.

In the event that any changes in the nature, design or location of the proposed building are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed, and conclusions of this report modified or verified in writing.

This report may be referred to or included in the project specifications for general information purposes only but should not be solely used as the technical specifications for the work.

This geotechnical engineering report was prepared for the project by Sor Consulting Engineers, Inc. for design purposes only and may not be sufficient to prepare an accurate bid. Contractors utilizing the information in the report should do so with the express understanding that its scope is limited to design considerations. Prospective bidders should obtain the owner's permission to perform whatever additional explorations or data gathering they deem necessary to prepare their bid accurately.

This report has been prepared in accordance with generally accepted geotechnical engineering practices for the exclusive use of Hillcrest Farms and Greenhouses and/or their authorized representatives for specific application to the design of the proposed mixed-use buildings to be constructed at 383 Bloomfield Avenue in Verona, New Jersey. No other warranty, expressed or implied, is made.