

1959 HIGHWAY 34 BUILDING A, SUITE 102 WALL, NJ 07719 732.592,2101 whitestoneassoc.com

March 20, 2024

via email

TWO HILL PROPERTIES, LLC P.O. Box 1175 Medford, New Jersey 08055

Attention:

Mr. Jeffrey Green

Owner

Regarding:

EXISTING FOUNDATION EVALUATION PROPOSED BUILDING IMPROVEMENTS

TWO HILL ROAD BLOCK 22, LOT 9

ATLANTIC HIGHLANDS, MONMOUTH COUNTY, NEW JERSEY

WHITESTONE PROJECT NO.: GS2321179.001

Dear Mr. Green:

Whitestone Associates, Inc. (Whitestone) has completed an existing foundation evaluation at the above referenced site. The results of the existing foundation evaluation are presented below.

SCOPE OF SERVICES

The foundation evaluation for the existing structure was conducted in general accordance with Whitestone's February 2, 2024 proposal to Two Hill Properties, LLC and included conducting test pits adjacent to the existing building's foundations. The purpose of the investigation was to evaluate the foundation system of the existing structure.

PROJECT DESCRIPTION

The subject site located at Two Hill Road in Atlantic Highlands, Monmouth County, New Jersey currently houses a 2.5-story residential dwelling with a deck and associated pavements, landscaped areas, and utilities. The proposed development will include the improvements to the existing building. The depths and dimensions of the existing building's foundations were evaluated to assist with the structural design for the development.

FIELD & LABORATORY WORK

Field Work

Field work at the project site was conducted by means of two test pits (identified as TP-1 and TP-2) advanced with hand-excavation equipment. The test pits were conducted adjacent to the existing building and were terminated at a depth of approximately three feet below ground surface (fbgs). The test pits were backfilled to the surface with soils generated during the investigation upon completion. The

Office Locations: New Jersey Pennsylvania Massachusetts Connecticut Florida New Hampshire New York	appr	oximate test pit loc surface Exploration	ations are shown o	n the Test Location	n Plan included	as Figure 1. Record	ds of
MACCACHICETTE CONNECTICIT PLORIDA NEW I PART OF THE				Office Locations:			
	New Jersey	PENNSYLVANIA	MASSACHUSETTS	CONNECTICUT	FLORIDA	New Hampshire	New Yo



Two Hill Properties, LLC Existing Foundation Evaluation Two Hill Road Atlantic Highlands, New Jersey March 20, 2024 Page 2

The test pits were conducted in the presence of a Whitestone engineer who conducted field tests, recorded visual classifications, and collected samples of the various strata encountered. The test pits were located in the field using normal taping procedures and estimated right angles. These locations are presumed to be accurate within a few feet.

Groundwater level observations, although not encountered, were recorded during and immediately after the completion of field operations prior to backfilling the test pits. Groundwater elevations derived from sources other than seasonally observed groundwater monitor wells may not be representative of true groundwater levels.

3.2 Laboratory Program

Representative samples of the various strata encountered were subjected to a laboratory program that included moisture content determinations (ASTM D-2216) and washed gradation analyses (ASTM D-422) in order to conduct supplementary engineering soil classifications in general accordance with ASTM D-2487. The soil strata tested were classified by the Unified Soil Classification System (USCS) and results of the laboratory testing are summarized in the following table. Quantitative test results are provided in Appendix B.

		PHYSICA	L/TEXTURAL	ANALYSES S	SUMMARY		
Boring	Sample	Depth (fbgs)	% Passing No. 200 Sieve	Moisture Content (%)	Liquid Limit (%)	Plastic Index (%)	USCS Classification
TP-1	S-1	2.0	13.3	16.7	NP	NP	SM
TP-2	S-1	2.0	3.4	3.2	NP	NP	SP

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 the soil's behavior under construction and service loads. Laboratory test results are provided in Appendix B.

4.0 SUBSURFACE CONDITIONS

The subsurface soil conditions encountered within the test pits consisted of the following generalized strata in order of increasing depth. Records of Subsurface Exploration are provided in Appendix A.

Surface Materials: The test pits were conducted within brick paved areas at the site. The test pits encountered approximately 2.5 inches of brick at the surface.

Existing Fill: Beneath the surface cover, the test pits encountered existing fill that consisted of silty sand. The existing fill extended to a depth of approximately 0.5 fbgs.

Coastal Plain Deposits: Beneath the surface cover and existing fill, the test pits encountered natural coastal plain deposits consisting of poorly graded sand (USCS: SP) with gravel and silty sand (USCS: SM) with gravel. The test pits were terminated within the coastal plain deposits at a depth of approximately three fbgs.

Environmental & Geotechnical Engineers & Consultants



Two Hill Properties. LLC Existing Foundation Evaluation Two Hill Road Atlantic Highlands, New Jersey March 20, 2024 Page 3

Groundwater: Groundwater was not encountered within the test pits conducted with the deepest depth explored of approximately three fbgs. Groundwater levels should be expected to fluctuate seasonally and following periods of precipitation. Seasonal variations, temperature effects, and recent rainfall conditions also will influence the levels of the groundwater.

5.0 EXISTING FOUNDATIONS

The test pits were excavated on the exterior of the existing building to expose and document readily-observable existing foundation dimensions. The existing foundations associated with the building appeared to consist of conventional shallow continuous strip footings.

The approximate test pit locations are shown on the *Test Location Plan* included as Figure 1. The foundation details disclosed by the test pits are shown on the *Existing Foundation Plan* included as Figure 2.

6.0 CLOSING

Whitestone appreciates the opportunity to be of continued service to Two Hill Properties, LLC. Please contact us with any questions or comments regarding this report.

Laurence W. Keller, P.E.

Vice President

Sincerely,

WHITESTONE ASSOCIATES, INC.

Mudar Khantamr, P.E. Senior Associate

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Enclosures

Brian Pamagian, AIA, Pamagian Architects Travis Pummer, Pamagian Architects

Environmental & Geotechnical Engineers & Consultants



FIGURE 1
Test Location Plan

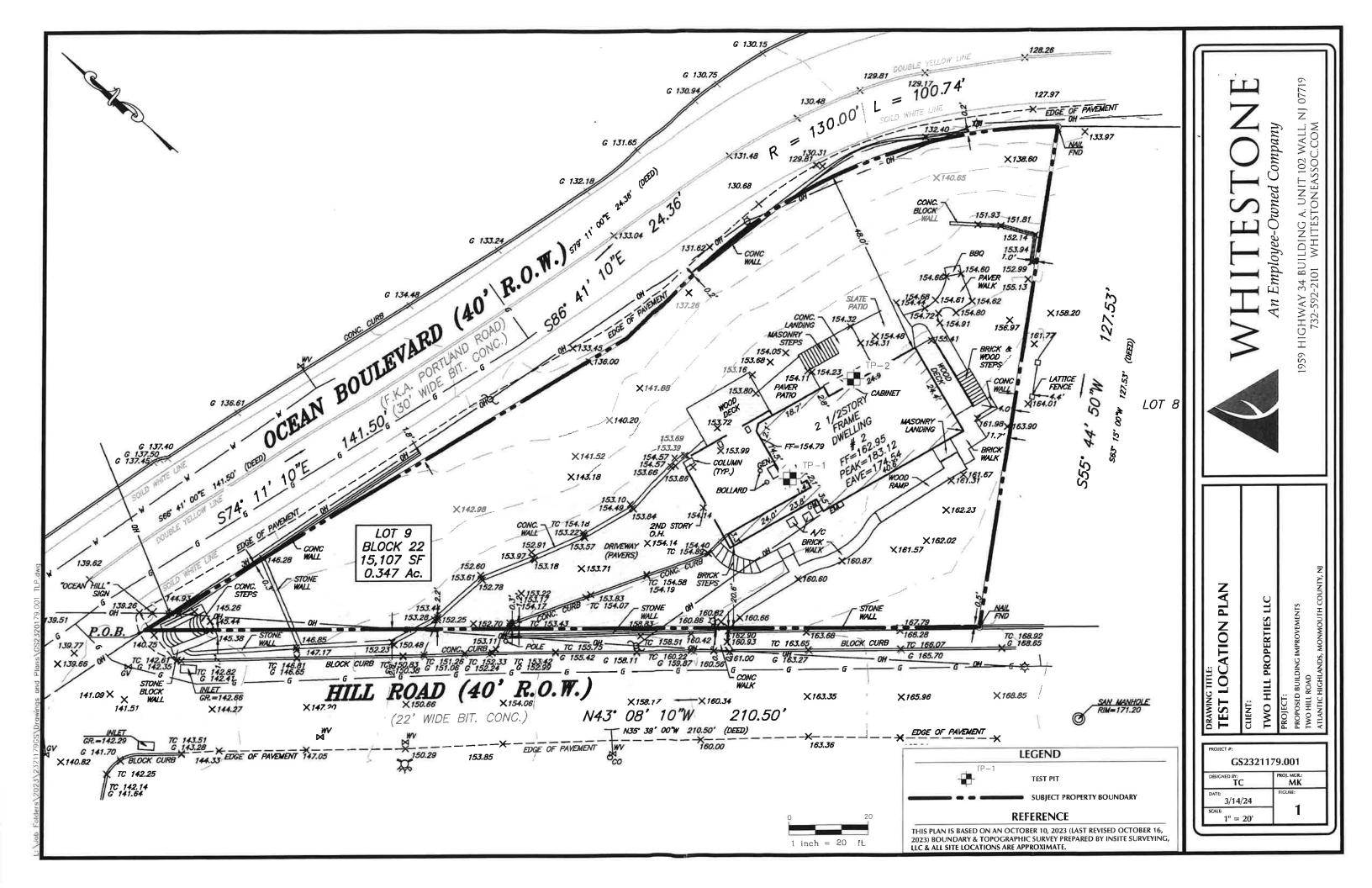
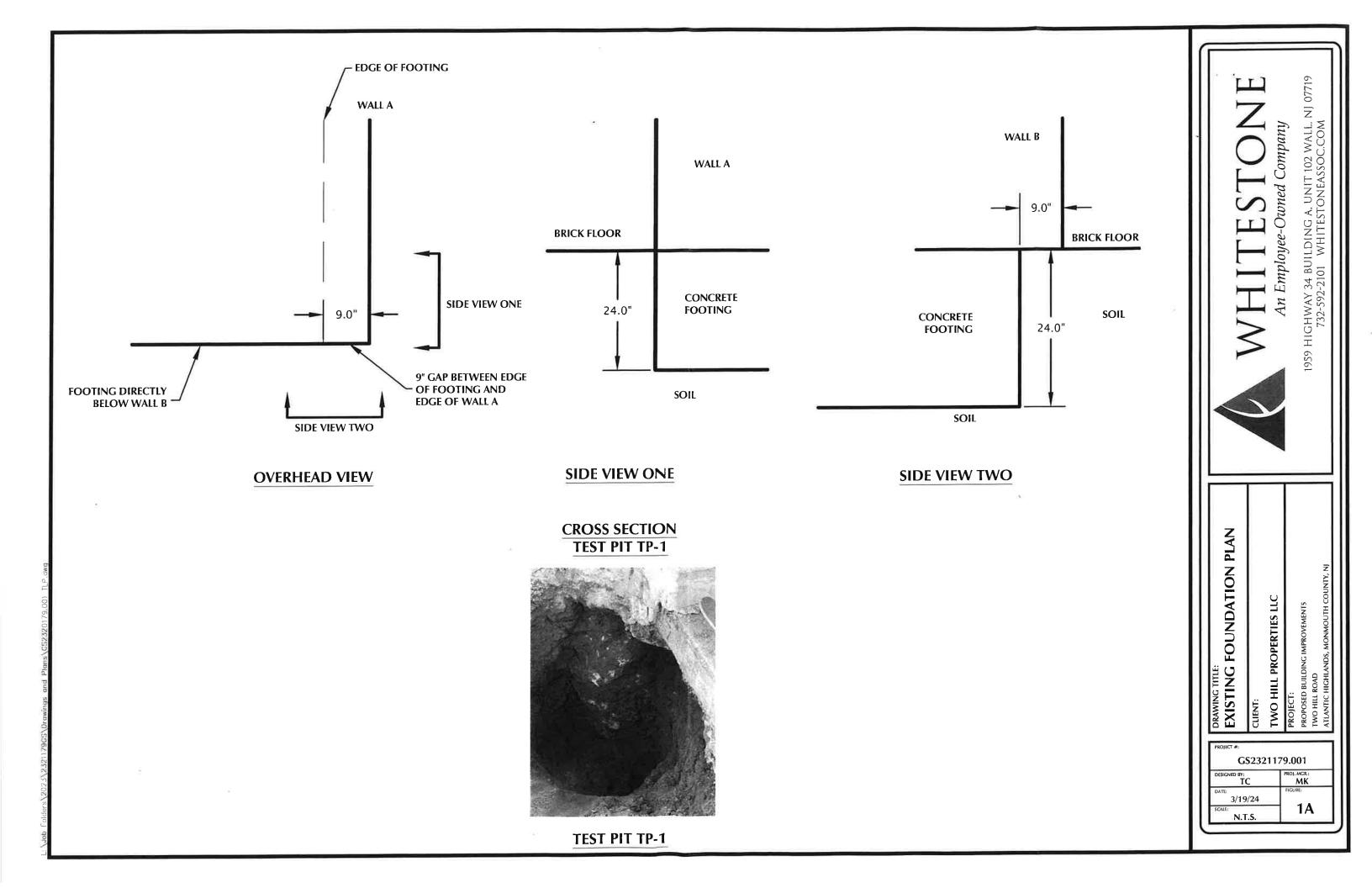
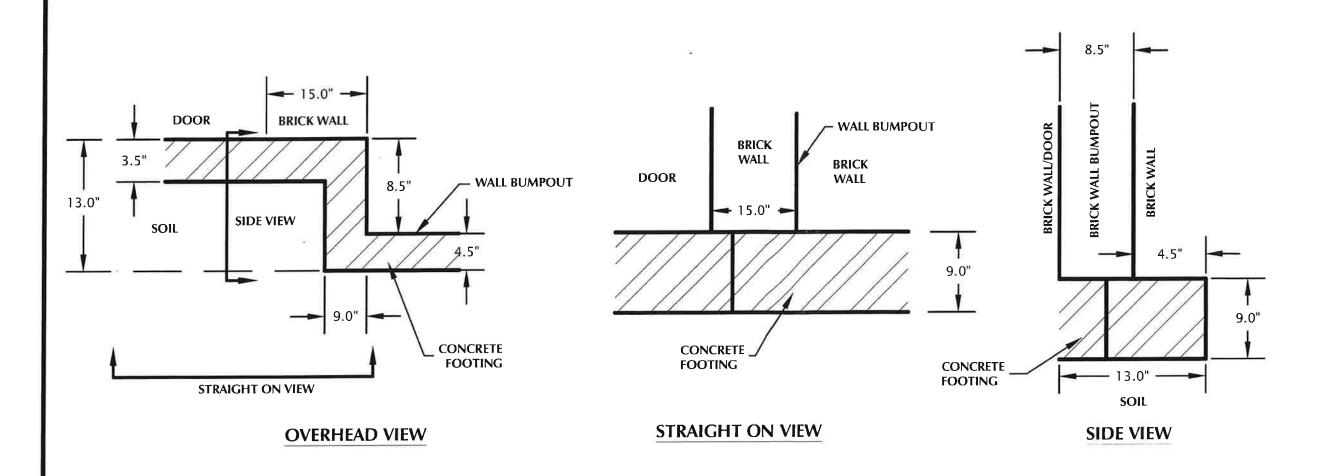




FIGURE 2 Existing Foundation Plan





CROSS SECTION TEST PIT TP-2



TEST PIT TP-2



DRAWING TITLE:

EXISTING FOUNDATION PLAN

CLIENT:

TWO HILL PROPERTIES LLC

PROJECT #:	
GS2321	179.001
DESIGNED BY:	PRÖJ. MĞR.:
DATE: 3/19/24	FIGURE:
SCALE: N.T.S.	1B



APPENDIX A
Records of Subsurface Exploration



RECORD OF SUBSURFACE EXPLORATION

Test	Pit	No.:	TP-1
Page	1	of	1

		21 7000 W						MALALE	roject No.:	GS2321179,001	
		Building Imp		Authorities and the Co.				WAIF		Two Hill Properties	II C
				lonmouth County,	NJ		T		Client:		n Depth Elevation
Surface Eleva	tion: ±	154.0	feet	Date Started:	-	2/29/2024			Elevation		
Termination [Depth:	3.0	feet bgs	Date Comple	ted: _	2/29/2024		t bgs)		(†	eet bgs) (feet)
Proposed Loc		Existing Fo	oting	Logged By:	RL		During:	NE			
Excavating M		Test Pit Ex	cavation	Contractor:	TS		At Completion:	NE	<u> </u>	At Completion:	DNC —
Fest Method:		Visual Obs	ervation	Rig Type:	Hand-	Excavation	24 Hours:				
		I ATTION			885AD #			W 0= -	MATERIALC	A PERIOR	
SAMPLE	INFORM	ATION	DEPTH	STRATA		No. Inc.	DESCRIPTIO				REMARKS
Depth (ft.)	Number	Туре	(feet)			AN TORK	(Clas	sificat	ion)		
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			0.2	PAVEMENT		2.5" Brick Pav	ement				
			0.5	FILL		Grayish-Browt	Silty Sand, Dry (FILL)				
	(1 7	COASTAL PLAIN DEPOSITS		Light Brown S	ilty Sand, Dry (SM)				
			_	DEPOSITS							
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NOTES: bgs = below ground surface, DNC = Did Not Cave, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

RECORD OF SUBSURFACE EXPLORATION 21179.001 TP Logs 3/18/2024



RECORD OF SUBSURFACE EXPLORATION

Test	Pit	No.: _	TP-2
Page	1	of	1

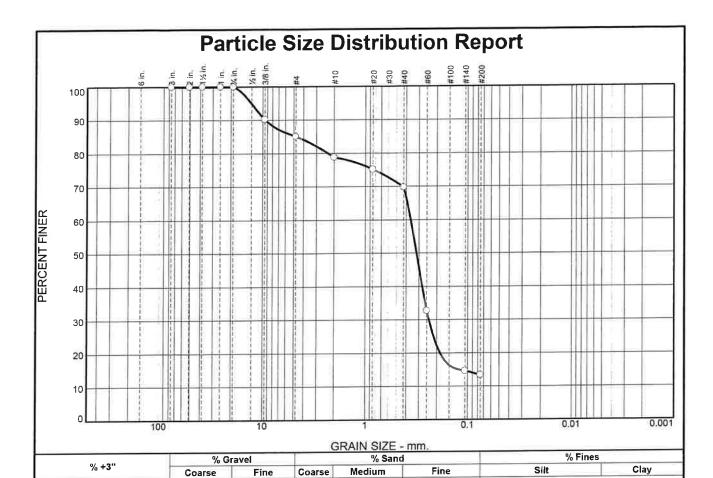
THE STATE OF THE S		D. Halland Inc.						NAI Proje	ect No :	GS2321179.001			
Project:			provements	Nonmouth County.	N.J				Client:	Two Hill Propertie	es LLC		
ocation: Surface Eleva		154.0	feet	Date Started		2/29/2024	Water De					Elevation	
Termination I		3.0	feet bgs	Date Comple		2/29/2024		gs) (fe			(feet bgs)		
roposed Lo		Existing Fo	_	Logged By:				NE				•	
Excavating M		Test Pit Ex		Contractor:				NE —	— *	At Completion:	DNC	<u> </u>	
est Method:		Visual Obs		Rig Type:		Excavation	24 Hours:					-	
			- I	, ag . ypc.									UK
SAMPLE	INFORM	MATION	DEPTH	STRATA			DESCRIPTION				R	EMARKS	
Depth (ft.)	Number	Туре	(feet)	C. TASATISTA	inla		(Classii	ncation,		ALL DIVINE US	Market II		
			0.0										
			0.2	PAVEMENT		2.5" Brick Pav					1		
			0,5	FILL COASTAL PLAIN			Silty Sand, Dry (FILL) porly Graded Sand, Dry (SP)				1		
				DEPOSITS	2.5	Light Brown F	only Gladed Salid, Dry (Sr)						
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NOTES: bgs = below ground surface, DNC = Did Not Cave, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

RECORD OF SUBSURFACE EXPLORATION 21179.001 TP Logs 3/18/2024



APPENDIX B Laboratory Test Results



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
		PERCENT	(X-NO)
3	100.0		
2	100.0		
1.5	100.0		
1	100.0		
.75	100.0		
.375	90.2		
#4	85.0		
#10	78.7		
#20	75.2		
#40	69.8		
#60	32.7		
#140	14.6		
#200	13.3		
200			

0.0

15.0

6.3

8.9	56.5		13.3
Silty Sa	Materia nd with Gravel	l Description	
PL= N		berg Limits NV	PI= NP
D ₉₀ = 9 D ₅₀ = 0 D ₁₀ =		efficients = 4.7091 = 0.2387	D ₆₀ = 0.3623 D ₁₅ = 0.1224 C _c =
USCS=		ssification AASHTO=	A-2-4(0)
$W_n = 6$		<u>emarks</u>	

(no specification provided)

Source of Sample: TP-1 Sample Number: S-1

0.0

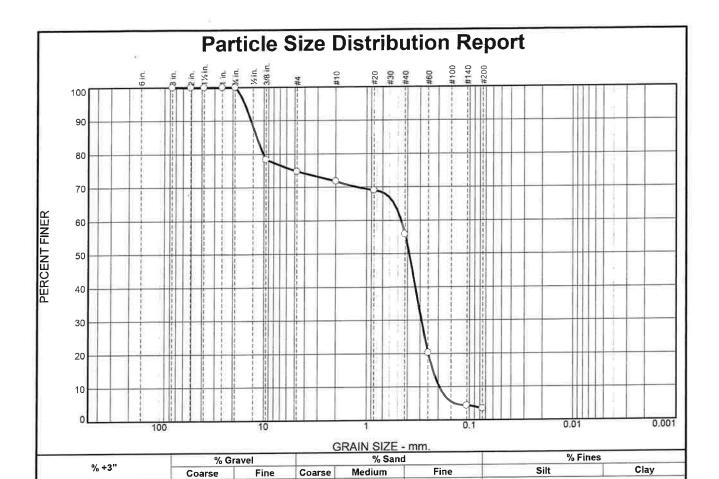
Depth: 2.0'

Date: 03/15/2024

WHITESTONE ASSOCIATES, INC. Warren, New Jersey Client: Two Hill Properties, LLC

Project: Proposed Building Improvements
Two Hill Road, Atlantic Highlands, Monmouth County, New Jersey

Figure Project No: GS2321179.001



_				
1	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	3	100.0		
1	2	100.0		
1	1.5	100.0		
	1	100.0		
	75	100.0		
	.375	78.4		
l	#4	74.8		
l	#10	71.8		
ı	#20	69.0		
ı	#40	55.8		
l	#60	20.2		
1	#140	4.4		
1	#200	3.4		
1				
1				
1			1	

0.0

25.2

3.0

16.0	16.0 52.4 3.4					
Poorly (Material Description Poorly Graded Sand with Gravel					
PL= N	Atte	erberg Limits = NV	PI= NP			
D ₉₀ = 1 D ₅₀ = 0 D ₁₀ = 0	3.3459 De 3.3855 De	oefficients 35= 11.7042 30= 0.2912 u= 2.39	D ₆₀ = 0.4651 D ₁₅ = 0.2249 C _c = 0.94			
USCS=	USCS= SP Classification AASHTO= A-3					
W _n = 3.2 %						

(no specification provided)

WHITESTONE

ASSOCIATES, INC. Warren, New Jersey

Source of Sample: TP-2 Sample Number: S-1

0.0

Depth: 2.0'

Client: Two Hill Properties, LLC

Project: Proposed Building Improvements
Two Hill Road, Atlantic Highlands, Monmouth County, New Jersey

Date: 03/15/2024

Figure Project No: GS2321179.001



APPENDIX C Supplemental Information (USCS, Terms & Symbols)



1959 HIGHWAY 34 BUILDING A, SUITE 102

L:\Geotechnical Forms and References\Reports\USCSTRMSSYM NJ-Wall.docx

Office Locations:

New York NEW HAMPSHIRE FLORIDA CONNECTICUT MASSACHUSETTS New Jersey PENNSYLVANIA

		SOIL CLASSIFICA	TION CHART	ON SYSTEM			
	MAJOR DIVISIONS		LETTER SYMBOL	TYPICAL DESCRIPTIONS			
	GRAVEL AND	CLEAN GRAVELS	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES			
	GRAVELLY SOILS	(LITTLE OR NO FINES)	GP	POORLY-GRADED GRAVELS, GRAVEL- SAND MIXTURES, LITTLE OR NO FINES			
COARSE GRAINED	MORE THAN 50% OF	GRAVELS WITH FINES	GM	SILTY GRAVELS, GRAVEL-SAND-SILT			
SOILS	COARSE FRACTION RETAINED ON NO. 4 SIEVE	(APPRECIABLE AMOUNT OF	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES			
		CLEAN SAND (LITTLE OR NO	sw	WELL-GRADED SANDS, GRAVELLY SANDS LITTLE OR NO FINES			
	SAND AND SANDY SOILS	FINES)	SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES			
	ARGER THAN SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	SM	SILTY SANDS, SAND-SILT MIXTURES			
50% OF MATERIAL IS <u>LARGER</u> THAN NO. 200 SIEVE			sc	CLAYEY SANDS, SAND-CLAY MIXTURES			
FINE SILTS	LIQUID LIMITS	LIQUID LIMITS	ML	INORGANIC SILTS AND VERY FINE SANDS ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY			
FINE GRAINED SOILS	AND CLAYS	AND	AND	AND	<u>LESS</u> THAN 50	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			МН	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS			
MATERIAL IS SMALLER THAN NO. 200 SIEVE	SILTS AND	LIQUID LIMITS GREATER THAN 50	СН	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS			
SIZE	CLAYS	THAN 30	ОН	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS			
HIGHLY ORGANIC SOILS			РТ	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS			
TE: DUAL SYMBOL	S ARE USED TO INDICA	TE BORDERLINE SC	DIL CLASSIFICATION	NS FOR SAMPLES WITH 5% TO 12% FINES			
GRADATIO	N*	COMPACTNE Sand and/or G		CONSISTENCY* Clay and/or Silt			
% FIN	NER BY WEIGHT		RELATIVE DENSITY	RANGE OF SHEARING STRENGTH IN POUNDS PER SQUARE FOOT			
% FIN TRACE LITTLE SOME		Sand and/or G	Gravel RELATIVE	Clay and/or Silt RANGE OF SHEARING STRENGTH			

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



1959 HIGHWAY 34 BUILDING A, SUITE 102 WALL, NJ 07719 732.592.2101 whitestoneassoc.com

GEOTECHNICAL TERMS AND SYMBOLS

SAMPLE IDENTIFICATION

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 3/8" 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
	30-50
Dense	Over 50
Very Dense	0,4145

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

PARTICLE SIZE

Boulders Cobbles Gravel	8 in.+ 8 in3 in. 3 in5mm	Coarse Sand Medium Sand Fine Sand	5mm-0.6mm 0.6mm-0.2mm 0.2mm-0.074mm	Silt Clay	0.074mm-0.005mm -0.005mm
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Office Locations:

New Jersey Pennsylvania Massachusetts Connecticut Florida New Hampshire New York