STORMWATER BASIN AREA INVESTIGATION REPORT

PROPOSED RESIDENTIAL DEVELOPMENT

621 Valley Road (C.R. 512) Block 10801, lot 3 Township of Long Hill, Morris County, New Jersey

Prepared for:

Elite Properties PO Box 4449 Warren, NJ 07509

Prepared by:



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NJ PE License No. 24GE05355900

Project #0555-99-010E April 16, 2020

STORMWATER BASIN AREA INVESTIGATION REPORT

Proposed Residential Development 621 Valley Road (C.R. 512) Block 10801, Lot 3 Township of Long Hill, Morris County, New Jersey TABLE OF CONTENTS

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1.0 PROJECT DESCRIPTION

Dynamic Earth, LLC (Dynamic Earth) has completed an exploration and evaluation of the subsurface conditions for the proposed stormwater management facilities associated with the proposed residential development at 621 Valley Road in the Township of Long Hill, Morris County, New Jersey. The subject site is further identified as Block 10801, Lot 3 and is shown on the *Soil Profile Pit Location Plan* included within the appendix of this report.

At the time of Dynamic Earth's investigation, the site was relatively heavily wooded. A portion of the site included the remains of a gravel driveway. We understand the proposed site development includes construction of a residential building with associated new stormwater management facilities, pavements, and utilities. Conceptual site development details were provided on a March 16, 2020 *Grading Plan* prepared by Dynamic Engineering Consultants, PC (Dynamic).

Topographic information was provided on a April 6, 2020 *Boundary & Topographic Survey* prepared by Control Point Associates, Inc. Based on the aforementioned plan, site elevations are based on the North America Vertical Datum (NAVD) 1988.

Existing site elevations within the area of the proposed redevelopment area ranges from approximately 224 feet the central portion of the site and approximately 208 feet within the southern portion of the site. The existing site elevation within the northern portion of the subject site is in approximately 214 feet.

The subject site is bound to the north by Passaic Valley Road with commercial property beyond; to the east by existing residential housing; to the south by wooded areas; and to the west by existing commercial properties.

2.0 SCOPE OF SERVICES

Dynamic Earth's scope of services pertaining to this report included evaluating the subsurface conditions at soil profile pit locations to estimate the apparent seasonal high groundwater level and collecting samples for laboratory permeability testing. Six soil profile pits (identified as SPP-1 through SPP-6) were excavated at the site using a client provided track mounted excavator and operator. Test locations were located within the area of potential stormwater management facilities and were backfilled by the client's provided contractor to the surface with excavated soils at completion. The test locations are shown on the attached *Soil Profile Pit Location Plan*.

The soils encountered were classified in general conformance with the Field Book for Describing and Sampling Soils (Version 3), published by the National Soil Survey Center, Natural Resources

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Conservation Service, U.S. Department of Agriculture (USDA). Observations were made for groundwater and/or redoximorphic features indicative of zones of saturation or seasonal high groundwater. Soil logs are included in the Appendix of this report.

Undisturbed tube permeability samples were collected in general accordance with New Jersey Department of Environmental Protection (N.J.D.E.P.) *Stormwater Best Practices Manual – Appendix E* test methods on representative samples obtained from anticipated stormwater management facility locations. Detailed results of the permeability testing are included herein.

3.0 UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) SOIL SURVEY

Based on a review of the United States Department of Agriculture – Natural Resources Conservation Services (USDA-NRCS) soil survey the following soil resources are mapped underlying the area of the proposed site improvements:

Whippany Silt Loam, three to eight percent slopes (WhpB): Whippany Silt Loam, three to eight percent slopes is mapped within the northern portion of the proposed site. The typical soil profile (as reported in the survey) consists of silt loam to a depth of 15 inches; silty clay loam to a depth of 40 inches; underlain by silt loam to a depth of 60 inches below the natural ground surface (limit of the report). The depth to the groundwater table is reported to range between six to 18 inches below the natural ground surface (limit of report).

Biddeford Silt Loam, zero to two percent slopes, frequently flooded (BhdAt): Biddeford silt loam, zero to two percent slopes, frequently flooded is mapped within the central portion of the proposed site. The typical soil profile (as reported in the survey) consists of muck to a depth of 8 inches; silt loam to a depth of 22 inches; silty clay loam to a depth of 44 inches; underlain by silt loam to a depth of 60 inches below the natural ground surface (limit of the report). The depth to the groundwater table is reported to be at the natural ground surface (limit of report).

Parsippany Silt Loam, zero to three percent slopes, frequently flooded (PbpAt): Parsippany silt loam, zero to three percent slopes, frequently flooded is mapped within the southern portion of the proposed site. The typical soil profile (as reported in the survey) consist of silt loam to a depth of seven inches; silty clay loam to a depth of 22 inches; silty clay to a depth of 36 inches, fine sandy loam to a depth of 41 inches, loamy fine sand to a depth of 53 inches; underlain by loamy sand to a depth of 64 inches (limit of the report). The depth to the groundwater table is reported to range between the ground surface and six inches below the natural ground surface (limit of the report).

4.0 RESULTS

Detailed descriptions of the subsurface conditions encountered at each location are provided on the *Records of Subsurface Exploration* included herein and were generally consisted with mapped soil series for the site. A summary of the subsurface conditions encountered is included below.

4.1 Subsurface Soil Profile

The soil profile pits were performed within existing grass covered areas and encountered approximately six to 14 inches of topsoil at the surface. Existing fill material was encountered below the surface cover at several locations. The existing fill material generally consisted of loamy sand, sandy loam, and loam with variable amounts of cobbles, gravel and debris. The debris encountered included concrete. The existing fill material was encountered to depths ranging between approximately two feet to five feet below the ground surface; corresponding to elevations ranging between 217.0 feet and 214.2 feet. Beneath the surface cover and/or existing fill material, natural glacial deposits were encountered that generally consisted of loam, silt loam, and silty clay with variable amounts of gravel and cobbles. The natural glacial deposits were encountered to depths ranging between approximately two feet and 13 feet below the ground surface, corresponding to elevations ranging between 218.8 feet and 205.2 feet. Beneath the surface cover and/or natural glacial deposits, weathered rock was encountered to refusal depths ranging between six feet and 11 feet below the ground surface, corresponding to elevations ranging between 216.0 feet above mse and 211.0 feet above mse.

4.2 Seasonal High Groundwater and Groundwater

Evidence of seasonal high groundwater was encountered during this investigation at depths ranging between 0.8 feet and 4.6 feet below the ground surface; corresponding to elevations ranging between 218.8 feet and 214 feet. Groundwater was encountered at SPP-3 at a depth of 4.7 feet below the ground surface; corresponding to an elevation of 213.8 feet. Groundwater levels are expected to fluctuate seasonally and following significant periods of precipitation. A summary of the conditions encountered is presented in the following table:

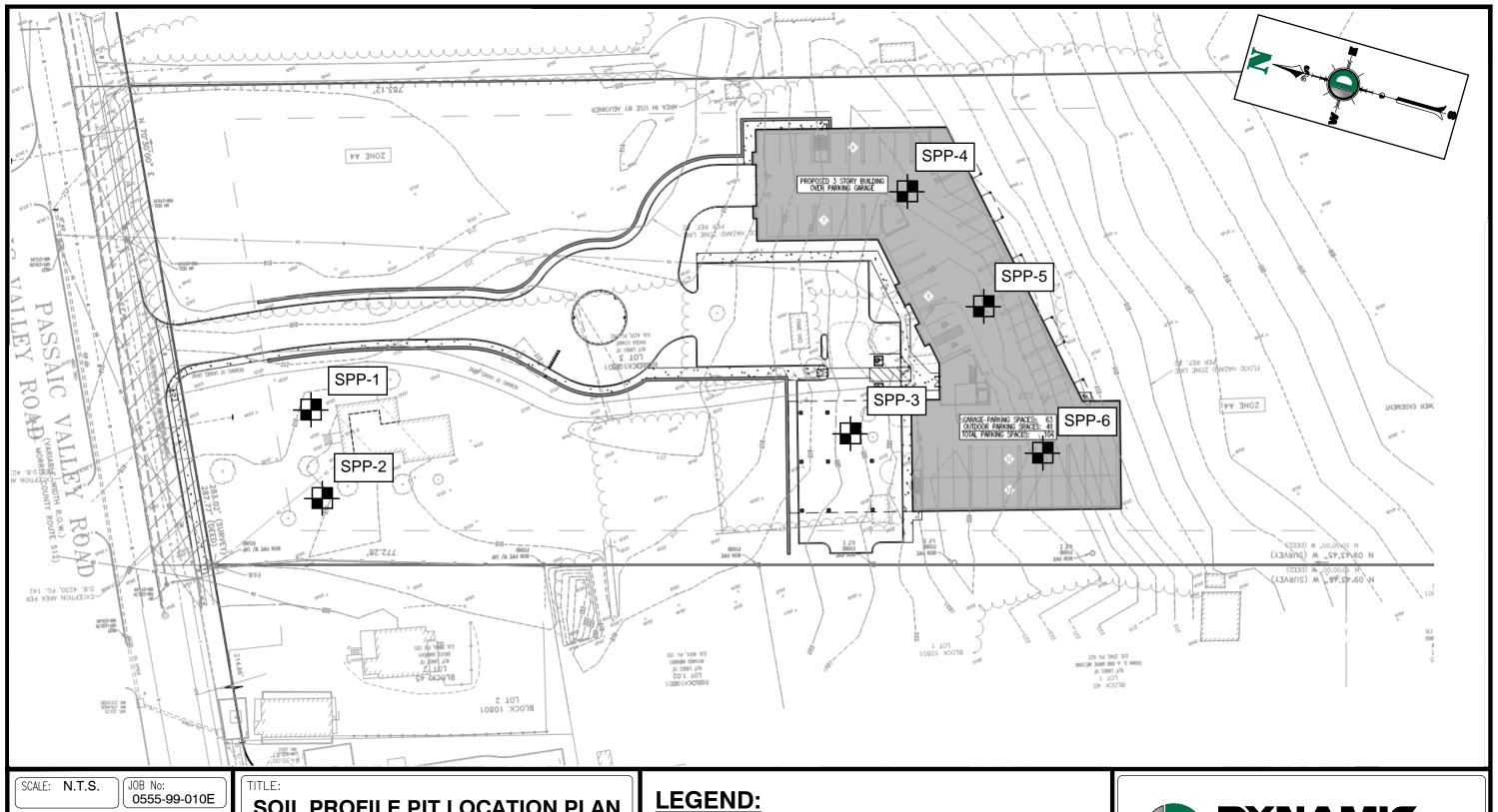
SEASO	ONAL HIG	H GROUND	WATER, GRO ROCK SU	OUNDWATE JMMARY	ER AND TOP	OF WEAT	THERED
Location	Surface		easonal High Idwater	Groun	dwater	_	Weathered lock
Location	Elevation (mse)	Depth (Feet)	Elevation (mse)	Depth (Feet)	Elevation (mse)	Depth (feet)	Elevation (mse)
SPP-1	218.2	2.0	216.0	Not Enc	ountered	Not En	countered
SPP-2	218.8	0.8	218.0	Not Enc	ountered	Not En	countered

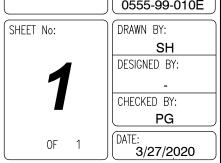
SEASO	ONAL HIG	H GROUND	WATER, GRO ROCK SU	OUNDWATE JMMARY	ER AND TOP	OF WEAT	THERED
Location	Surface Elevation		easonal High ndwater	Groun	dwater	-	Weathered lock
Location	(mse)	Depth (Feet)	Elevation (mse)	Depth (Feet)	Elevation (mse)	Depth (feet)	Elevation (mse)
SPP-3	220.5	4.6	215.9	6.7	213.8	6.7	213.8
SPP-4	220.8	2.0	218.8	Not Enc	ountered	2.0	218.8
SPP-5	222.0	Not enc	countered	Not Enc	ountered	5.0	217.0
SPP-6	222.0	Not enc	countered	Not Enc	ountered	1.2	220.9

4.3 Supplemental Investigation

Relatively shallow mottling was encountered within soil profile pits SPP-1 through SPP-4. The mottling encountered could be due to seasonal high groundwater levels or a potentially perched groundwater condition above the underlying weathered rock/rock stratum. As such, we would recommend installing a temporary wells at the site in an attempt to determine if the mottling was due to a perched groundwater condition. Due to relatively shallow rock encountered during our investigation, in-situ basin flood testing is recommended to evaluate the potential permeability of the underlying weathered rock/rock material.







SOIL PROFILE PIT LOCATION PLAN

PROJECT: **ELITE PROPERTIES**

PROPOSED RESIDENTIAL DEVELOPMENT

621 VALLEY ROAD BLOCK 10801, LOT 3

TOWNSHIP OF LONG HILL, MORRIS COUNTY, NEW JERSEY

Rev. # DEC Client Code: 0555 0



APPROXIMATE LOCATION OF SOIL PROFILE PIT

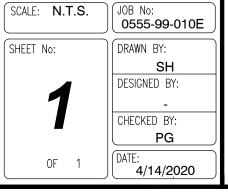
NOTES:

- 1. THIS PLAN IS NOT FOR CONSTURCTION AND WAS PREPARED TO ILLUSTRATE TEST LOCATIONS ONLY AND MAY NOT REFLECT THE MOST CURRENT REVISION OF THE BASE
- 2. THIS PLAN HAS BEEN PREPARED BASED ON A MARCH 16, 2020 GRADING PLAN PREPARED BY DYNAMIC ENGINEERING.



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TITLE:

SOIL SURVEY MAP

PROJECT: **ELITE PROPERTIES**

PROPOSED RESIDENTIAL DEVELOPMENT 621 VALLEY ROAD

BLOCK 10801, LOT 3

TOWNSHIP OF LONG HILL, MORRIS COUNTY, NEW JERSEY

Rev. # DEC Client Code: 0555 0

LEGEND:

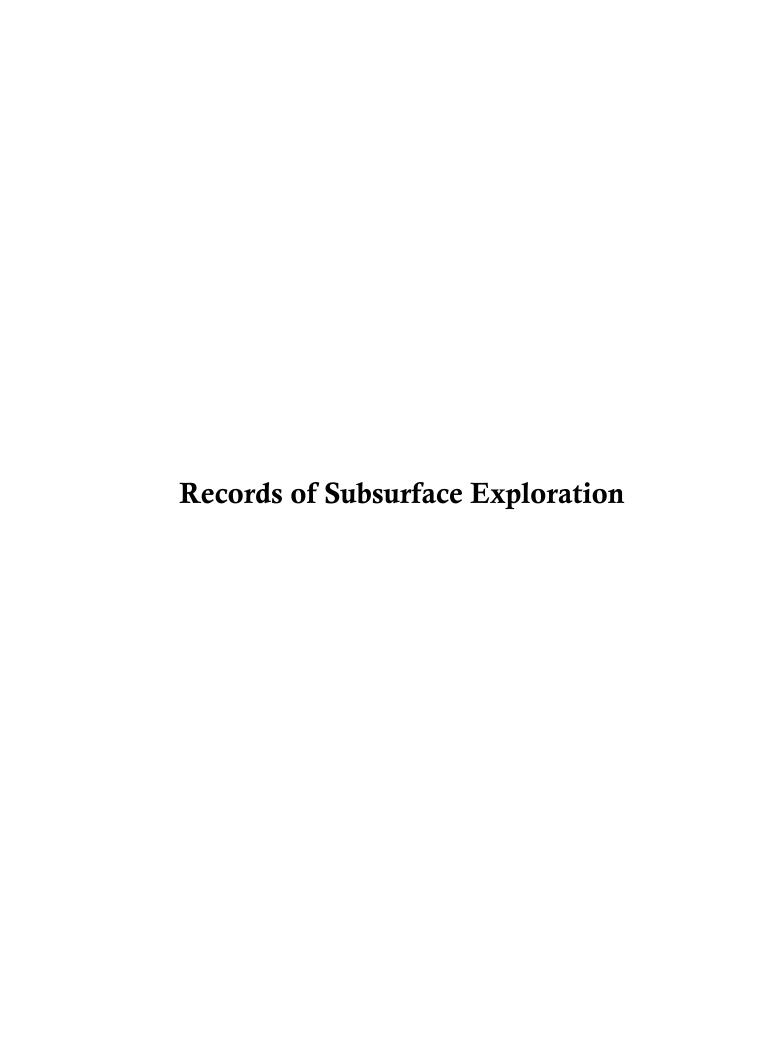


NOTES:

- THIS PLAN IS NOT FOR CONSTURCTION AND WAS PREPARED TO ILLUSTRATE MAPPED SOIL CONDITIONS ONLY AND MAY NOT REFLECT THE MOST CURRENT REVISION OF THE BASE PLAN.
 THIS PLAN HAS BEEN PREPARED BASED ON THE MAPPED WEB SOIL SURVEY FOR THE SITE.



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Soil Profile Pit: SPP-1

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	Proposed Residentia											Project No.:			0555-99-010E								
<u>-ocation:</u> Surface Elev	621 Passaic Valley R vation (ft):		Date Started:	rsey			3/10/20		Groundw	votar Data		Client:	Depth		Elite Properties	El.				Cround	water Comm	ante	
	Depth (ft):	13.0 SWM	Date Completed:	Logged by	,,		3/10/20 S. Hume		-	ratti Data			(ft)			(msl)				Ground	water Comm	Circs	
roposed Lo xcavation /	Viewel Observation	SVVIVI		Logged by Contractor:			ent Provided		Seepage Groundwater				NE										
Test Method:	Visual Observation			Rig Type) :	De	eere 160G		Seasonal High Gro	oundwter		T	2.0			216.2							
	001.00	0011	TEXTUDE		004005 504	A OMENITO (0/)			STRUCTURE		WATER		CONSISTENCY		BOUN	IDARY	Воото		MOTTLING			SAMPLING	LAB BEOULTS
DEPTH (IN)	COLOR	SUIL	TEXTURE		COARSE FRA	AGWENTS (%))	Shape	Grade	Size	CONTENT	Resistance to Rupture	Stickiness	Plasticity	Distinctness	Topography	ROOTS	Quantity	Size	Contrast	Туре	Depth (in)	LAB RESULTS
				GRAVEL	COBBLES	STONES	BOULDERS			<u> </u>		Kupture										(111)	
	TOPSOIL			OTTALL	JOBBLES	O TOTAL O	BOOLDENO																
0-6	Brown		LOAMY SAND	_		0		SUBANGULAR			MOIST	FRIABLE	NONSTICKY	NONPLASTIC	GRADUAL <5"	WAVY	CMN (20% MEDIUN	NONE					
	(7.5YR 4/2)			5	0	0	0	BLOCKY	WEAK	MEDIUM													
																					+ +		
				GRAVEL	COBBLES	STONES	BOULDERS																
6-24	Yellowish Brown		LOAMY SAND								MOIST	FRIABLE	NONSTICKY	NONPLASTIC	GRADUAL <5"	WAVY	NONE	NONE					
	(10YR 5/6)			20	0	0	0	SUBANGULAR BLOCKY	WEAK	FINE													
				GRAVEL	COBBLES	STONES	BOULDERS																
04.40	Grayish Brown		1044								моют	EDIADI E	SLIGHTLY	NONDI ACTIO	ODADUAL 4511	14/41/5/		1411V > 000/	FINE	FAINT			4
24-48	(10YR 5/2)		LOAM	5	0	0	0	SUBANGULAR	WEAK	MEDIUM	MOIST	FRIABLE	STICKY	NONPLASTIC	GRADUAL <5"	WAVY	FEW (5% MAX) FINE	MNY >20%	<5MM	FAINT	BAG	36 S-	1
								BLOCKY															
				GRAVEL	COBBLES	STONES	BOULDERS																
	Dark Grayish			0.2									MODERATELY	MODERATELY									
48-72	Brown (10YR 4/2)		SILTY CLAY LOAM	10	5	0	0	SUBANGULAR	MODERATE	MEDIUM	MOIST	FRIABLE	MODERATELY STICKY	MODERATELY PLASTIC	GRADUAL <5"	WAVY	FEW (5% MAX) VERY FINE	MNY >20%	FINE <5MM	FAINT	BAG	60 S	2
	(1011(4/2)			10	J 3	U	U	BLOCKY	WODERATE	MEDIOM													
				0541/51	0000150	0.70.150															+ +		
	Dowle Doddiele			GRAVEL	COBBLES	STONES	BOULDERS	_															
72-156	Dark Reddish Brown		SILTY CLAY					SUBANGULAR			MOIST	FRIABLE	MODERATELY STICKY	MODERATELY PLASTIC			NONE	MNY >20%	FINE <5MM	FAINT	BAG TUBE	84 S-	3/ .1
	(5YR 3/4)			5	0	0	0	BLOCKY	MODERATE	COARSE			o non	1 LAGITO									•
																					+ +		
								-															
	 Remarks: Fill to 48	<u> </u>									<u> </u>		<u> </u>										



Soil Profile Pit: <u>SPP-2</u>

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	Proposed Residentia		of Long Hills, New Je	rsev								Project No.: Client:			0555-99-010E Elite Properties							
urface Eleva	ation (ft):	218.8	Date Started:	13 c y			3/10/20		Groundw	vater Data		Onent.	Depth		Line Properties	El.				Groundy	ater Comments	
ermination [13.0 SWM	Date Completed:	Logged by	<u>'</u> :		3/10/20 S. Hume		Seepage				(ft) 0.0			(msl) 218.8						
oposed Loc ccavation / Test	Visual Observation	2		Contractor:		Clie	ent Provided		Groundwater				NE					Ponded Water at	surface. Perched	water from zero	to 10 inches belo	w the ground surface.
Method:	vioual Obeelvation			Rig Type): 	D	eere 160G		Seasonal High Gro	oundwter		1	0.8			218.0	T				<u> </u>	
EPTH (IN)	COLOR	SOII	TEXTURE		COARSE FR	AGMENTS (%)	1		STRUCTURE		WATER		CONSISTENCY	_	BOUN	IDARY	ROOTS		MOTTLING		SAMPL	ING LAB R
)	3323K	OOIL	TEXTORE		JOANOL I N	AGMENTO (70)	,	Shape	Grade	Size	CONTENT	Resistance to Rupture	Stickiness	Plasticity	Distinctness	Topography		Quantity	Size	Contrast	Type Dept	No.
				GRAVEL	COBBLES	STONES	BOULDERS		<u> </u>												,	
	TOPSOIL																CMN (20%					
0-10	Brown (7.5YR 4/2)		SANDY LOAM	5	0	0	0	SUBANGULAR	WEAK	FINE	MOIST	FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	MAX) MEDIUM	NONE				
	(13333 112)							BLOCKY	WEAR													
				CDAVEL	CORRIGO	CTONEC	DOLU DEDC															
				GRAVEL	COBBLES	STONES	BOULDERS	_														
10-24	Grayish Brown (10YR 5/2)		LOAM					SUBANGULAR			MOIST	FRIABLE	SLIGHTLY STICKY	SLIGHTLY PLASTIC	GRADUAL <5"	IRREGULAR	FEW (5% MAX) MEDIUM	CMN 2%-20%	MEDIUM 5MM-15MM	DISTINCT	BAG 16	S-1
	,			5	0	0	0	BLOCKY	WEAK	MEDIUM												
				GRAVEL	COBBLES	STONES	BOULDERS															
24-60	Brown		SILT LOAM								MOIST	FRIABLE	SLIGHTLY	SLIGHTLY	CLEAR <2.5"	WAVY	NONE	CMN 2%-20%	FINE	FAINT	BAG 48	S-2
	(7.5YR 5/4)			5	0	0	0	SUBANGULAR BLOCKY	MODERATE	MEDIUM			STICKY	PLASTIC					<5MM			
				GRAVEL	COBBLES	STONES	BOULDERS															
60-112	Reddish Brown		SILTY CLAY								MOIST	FIRM	SLIGHTLY	SLIGHTLY	CLEAR <2.5"	WAVY	NONE	FEW 2%	FINE	FAINT	BAG 90	S-3/
00-112	(5YR 4/3)		SILT T CLAT	5	0	0	0	SUBANGULAR BLOCKY	MODERATE	COARSE	IVIOIST	I IIXIVI	STICKY	PLASTIC	OLLAN \2.5	WAVI	NONL	1 L VV 2 /0	<5MM	I AINT	TUBE	T-1
				GRAVEL	COBBLES	STONES	BOULDERS															
	Dark Reddish							_					SLIGHTLY	SLIGHTLY					FINE			
112-156	Brown (5YR 3/4)		SILTY CLAY	5	0	0	0	SUBANGULAR	MODERATE	MEDIUM	MOIST	VERY FIRM	STICKY	PLASTIC			NONE	FEW 2%	<5MM	FAINT	BAG 132	S-4
								BLOCKY														
								_														
								-														
																			1			



Soil Profile Pit: SPP-3

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	Proposed Reside			lawa ay								Project No.:			0555-99-010E									
Location: Surface Eleva		ey Road, Townshi 220.5	Date Started:	versey			3/10/20		~ .	at. D.		Client:	Depth		Elite Properties	El.					<i></i>	-4. C		
Termination	Depth (ft):	9.0	Date Completed:				3/10/20		Groundw	vater Data			(ft)			(msl)					Groundwa	ater Comments		
Proposed Loc Excavation /	cation:	SWM		Logged by			S. Hume		Seepage				4.6			215.9 213.8			_					
Test	Visual Observatio	n		Contractor			nt Provided eere 160G		Groundwater				4.6			215.8			-					
Method:				Rig Typ	<u>e:</u>				Seasonal High Gro	oundwter			7.0											
DEPTH (IN)	COLOR	so	IL TEXTURE		COARSE FR	AGMENTS (%)			STRUCTURE	_	WATER		CONSISTENCY		BOUN	IDARY	ROO	TS		MOTTLING			PLING	LAB RESULTS
						(**)		Shape	Grade	Size	CONTENT	Resistance to Rupture	Stickiness	Plasticity	Distinctness	Topography			Quantity	Size	Contrast	Type De (ii		
				GRAVEL	COBBLES	STONES	BOULDERS		I			Trap can c											-7	
	TOPSOIL			OTOTVEE	OODDEEO	OTONEO	BOOLDENO	_																
0-8	Brown (7.5YR 4/2)		LOAM	5	0	0	0	SUBANGULAR BLOCKY	WEAK	MEDIUM	MOIST	FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	CMN (20% MAX)	MEDIUM	NONE					
				GRAVEL	COBBLES	STONES	BOULDERS																	
8-24	Brown (7.5YR 4/2)		LOAM	5	0	0	0	ANGULAR BLOCKY	MODERATE	MEDIUM	MOIST	FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	FEW (5% MAX) FINE	NONE			BAG 1	2 S-1	
				GRAVEL	COBBLES	STONES	BOULDERS																	
24-55	Strong Brown (7.5YR 4/2)		SILT LOAM	10	0	0	0	SUBANGULAR BLOCKY	MODERATE	MEDIUM	MOIST	FRIABLE	SLIGHTLY STICKY	NONPLASTIC	CLEAR <2.5"	WAVY	NONE		NONE			BAG 4	8 S-2	
				GRAVEL	COBBLES	STONES	BOULDERS																	
55-80	Very Dark Grayis Brown (10YR 3/2)	sh GRAVELLY	CLAY LOAM	25	15	0	0	SUBANGULAR BLOCKY	MODERATE	FINE	WET	FIRM	MODERATELY STICKY	MODERATELY PLASTIC	CLEAR <2.5"	WAVY	NONE		CMN 2%-20%	MEDIUM 5MM-15MM	DISTINCT	BAG 6	6 S-3	
				CHANNERS	S FLAGSTONES	S STONES	BOULDERS																	
80-108	Dark Reddish Brown (5YR 3/4)	EXTREMEL' CHANNERY			35	0	0	SUBANGULAR BLOCKY	WEAK	FINE	WET	HARD	NONSTICKY	NONPLASTIC			NONE		NONE					
												P inches helevy the a												

Additional Remarks: Weathered rock (shale) encountered from 80 to 108 inches below the ground surface. Soil profile pit SPP-3 encountered refusal at approximately 108 inches below the ground surface on apparent rock.



Soil Profile Pit: SPP-4

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																							V — —
	Proposed Resider											Project No.:			0555-99-010E								
Location: Surface Elev		y Road, Town 220.8	ship of Long Hills, New Date Started:	w Jersey			3/10/20				1	Client:	Depth		Elite Properties	EL.							
Termination		9.0	Date Completed	d:			3/10/20		Groundy	water Data			(ft)			(msl)					Groundwa	ater Comments	
Proposed Lo Excavation /		SWM		Logged			S. Hume		Seepage				1.5			219.3							
Test	Visual Observatior	n		Contract	or:		ent Provided		Groundwater				NE						Seepage at 1.5 fe	et is anticipated to	be due to a per	ched condition	
Method:	T			Rig Ty	pe:	D	eere 160G		Seasonal High Gro	oundwter			2.0			218.8						T	1
									STRUCTURE		WATER		CONSISTENCY		BOUI	NDARY				MOTTLING		SAMPLING	
DEPTH (IN)	COLOR		SOIL TEXTURE		COARSE FR	RAGMENTS (%))	Shape	Grade	Size	CONTENT	Resistance to	Stickiness	Plasticity	Distinctness	Topography	ROC	OTS	Quantity	Size	Contrast	Type Depth No.	LAB RESULTS
							-	Onape	Grade	O126		Rupture	Ottokiness	riadicity	Distilictiess	Тородгарну			Quantity	O126	Jonast	(in)	
				GRAVEL	COBBLES	STONES	BOULDERS																
	TOPSOIL						*										CMN (20%						
0-10	Brown (7.5YR 4/2)		LOAM	5	0	0	0	SUBANGULAR	WEAK	MEDIUM	MOIST	FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	MAX)	MEDIUM	NONE				
	(1.511(4/2)			5	U	U	U	BLOCKY	WEAR	MEDIUM													
				GRAVEL	COBBLES	STONES	BOULDERS																
								-															
10-24	Brown (7.5YR 4/4)		SILT LOAM					SUBANGUI AR			MOIST	FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	FEW (5% MAX	() FINE	NONE			BAG 12 S-1	
				5	0	0	0	SUBANGULAR BLOCKY	MODERATE	MEDIUM													
				CHANNER	S FLAGSTONE	S STONES	BOULDERS																
	Dark Reddish																						
24-108	Brown	EXTREMI CHANNE	ELY SANDYCLA RY LOAM	Y				SUBANCIII AB			MOIST	HARD	NONSTICKY	NONPLASTIC			NONE		FEW 2%	FINE <5MM	FAINT		
	(5YR 3/4)	CHANNE	KI LOAW	45	45	0	0	SUBANGULAR BLOCKY	WEAK	FINE										- A SIALIAI			
								1															
											·	2 inches holow the s	· · · · · · · · · · · · · · · · · · ·	-	•	•	•	•	+	-	-		•

Additional Remarks: Weathered rock (shale) encountered from 24 to 108 inches below the ground surface. Soil profile pit SPP-4 encountered refusal at approximately 108 inches below the ground surface on apparent rock.



Soil Profile Pit: SPP-5

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E	Proposed Resi 621 Passaic Va		_	f Long Hills, New Je	rsey								Project No.: Client:			0555-99-010E Elite Properties									
Surface Eleva	ation (ft):	22	22.0	Date Started: Date Completed:				3/10/20 3/10/20		Groundw	ater Data			Depth (ft)			El. (msl)					Groundw	ater Comments		
Proposed Loc Excavation /			WM	Date Completed.	Logged by			S. Hume		Seepage				NE NE			(msi)								
Test	Visual Observa	tion			Contractor: Rig Type			ent Provided eere 160G		Groundwater Seasonal High Gro	undsstor			NE NE											
Method:					itig i ype	•				STRUCTURE	unuwtei	W4755		CONSISTENCY		BOUN	NDARY				MOTTLING		SAMPLI	NG	
DEPTH (IN)	COLOR		SOIL T	EXTURE		COARSE F	RAGMENTS (%)		Shape	Grade	Size	WATER CONTENT	Resistance to	Stickiness	Plasticity	Distinctness	Topography	ROO	TS	Quantity	Size	Contrast	Type Depth	No.	LAB RESULTS
					054)/51	0000150	OTONEO			Grade	Oize		Rupture	Ottokiness	riasticity	Distiliculess	Тородгарну			Quantity	Oize	Jonast	(in)	NO.	
	TOPSOIL				GRAVEL	COBBLES	STONES	BOULDERS																	
0-12	Brown (7.5YR 4/2)			LOAMY SAND	15	5	0	0	SUBANGULAR BLOCKY	WEAK	FINE	MOIST	FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	CMN (20% MAX)	MEDIUM	NONE					
					GRAVEL	COBBLES	STONES	BOULDERS																	
12-48	Brown (7.5YR 5/3)			SANDY LOAM	5	0	0	0	SUBANGULAR BLOCKY	MODERATE	MEDIUM	MOIST	FRIABLE	NONSTICKY	NONPLASTIC	GRADUAL <5"	IRREGULAR	FEW (5% MAX)) FINE	NONE			BAG 24	S-1	
					GRAVEL	COBBLES	STONES	BOULDERS																	
48-60	Dark Browr (7.5YR 3/3)			LOAM	10	0	0	0	SUBANGULAR BLOCKY	MODERATE	MEDIUM	MOIST	FRIABLE	SLIGHTLY STICKY	NONPLASTIC	CLEAR <2.5"	WAVY	NONE		NONE			BAG 52	S-2	
					CHANNERS	FLAGSTON	ES STONES	BOULDERS																	
60-132	Dark Reddis Brown (5YR 3/4)	EXIR	EMELY	SILTY CLAY	45	45	0	0	SUBANGULAR BLOCKY	WEAK	FINE	MOIST	HARD	NONSTICKY	NONPLASTIC			NONE		NONE					
													was encountered fr												

Additional Remarks: Fill to 60 inches below the ground surface. Debris was approximately 20% by volume and included metal, plastic, and glass. Weathered rock (shale) was encountered from approximately 132 inches below the ground surface on apparant rock.



Soil Profile Pit: SPP-6

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			al Development Road, Township	of Long Hills, New Je	ersey								Project No.: Client:			0555-99-010E Elite Properties									
Surface Elevanter Termination	vation (ft)):	222.0	Date Started: Date Completed:				3/10/20 3/10/20		Ground	water Data			Depth		·	El.					Groundw	ater Comments		
Proposed Loc Excavation /			SWM	Date Completed.	Logged by:		Ç	S. Hume		Seepage				NE			(msl) 								
Test	Visual C	Observation			Contractor:			nt Provided eere 160G		Groundwater				NE NE											
Method:					Rig Type:	<u>:</u>				Seasonal High Gr STRUCTURE	oundwter			CONSISTENCY		BOUN	NDARY				MOTTLING		SAMP	ING	
DEPTH (IN)	C	OLOR	SOIL	ΓEXTURE		COARSE FR	AGMENTS (%)					WATER CONTENT	Resistance to	1	D		1	ROO	OTS	- 4"4			Dont	h	LAB RESULTS
								1	Shape	Grade	Size		Rupture	Stickiness	Plasticity	Distinctness	Topography		***************************************	Quantity	Size	Contrast	Type (in)		
0-14	В	OPSOIL Brown SYR 4/2)		SANDY LOAM	GRAVEL 5	COBBLES	STONES 0	BOULDERS	SUBANGULAR	WEAK	MEDIUM	MOIST	FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	CMN (20% MAX)	MEDIUM	NONE			BAG 6	S-1	
	,	,							BLOCKY																
	Dark	Reddish			CHANNERS	FLAGSTONE	S STONES	BOULDERS																	
14-72	В	Brown YR 3/4)	EXTREMELY CHANNERY	SILTY CLAY	45	45	0	0	SUBANGULAR BLOCKY	WEAK	FINE	MOIST	HARD	NONSTICKY	NONPLASTIC			NONE		NONE					
													ches below the grou												

Additional Remarks: Weathered rock (shale) encountered from 14 to 72 inches below the ground surface. Soil profile pit SPP-4 encountered refusal at approximately 72 inches below the ground surface on apparent rock.