STORMWATER AREA INVESTIGATION REPORT

PROPOSED WAREHOUSE DEVELOPMENT

401 Cottontail Lane Franklin Township, Somerset County, New Jersey

Prepared for:

Active Acquisitions 5 Tenafly Road, Suite 416 Englewood, NJ 07631

Prepared by:



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Senior Geotechnical Engineer

Project #3532-99-001E November 20, 2020

STORMWATER AREA INVESTIGATION REPORT

PROPOSED WAREHOUSE DEVELOPMENT

401 Cottontail Road Block 517.01, Lot 8.06 Franklin Township, Somerset County, New Jersey

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Active Acquisitions i 3532-99-001E

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 to be located at 401 Cottontail Lane in Franklin Township, Somerset County, New Jersey. The site is further identified as Block 68.05, Lot 1.

The subject property is bound to the north by an existing warehouse development (Barret Distribution Centers); to the east by Cottontail Lane; to the south by commercial property (ReadyRefresh by Nestle); and to the west by a wooded area, with commercial property beyond. The site of the proposed construction is shown on the *Test Location Plan* included in the Appendix of this report.

At the time of our subsurface investigations, the subject site was an undeveloped parcel with trees and vegetation at the surface. The proposed site development will include construction of a new warehouse building that will occupy a footprint area of approximately 105,205 square feet. Additional improvements include associated new pavement, utilities and stormwater management facilities. Proposed site development details were provided on an August 6, 2020 *Conceptual Site Plan 'A'* prepared by Dynamic Engineering Consultants, P.C. (Dynamic). Proposed grading plans were not available at this time; however, we preliminarily anticipate earth fills on the order of five to ten feet will be required to achieve proposed site grades within the western portion of the property.

Based on topographic information provided on a November 3, 2020 (last revised) *ALTA/NSPS Land Title Survey* prepared by Dynamic Survey, LLC. Existing site grades generally slope downward from east to west, ranging from a high elevation of approximately 72 feet within the western portion of the site (along Cottontail Lane) to a low elevation of 46 feet within the eastern portion of the site. All elevations noted herein are referenced to North American Vertical Datum of 1988 (NAVD88).

2.0 SCOPE OF SERVICES

Dynamic Earth's scope of services pertaining to this report included evaluating the subsurface conditions at soil profile pits to estimate the apparent seasonal high groundwater level. Six soil profile pits (identified as SPP-1 through SPP-6) were initially excavated with a rubber-tire backhoe at the site. Based on results of the initial subsurface investigation, relatively shallow weathered rock and machine refusal on apparent rock was encountered. As such, additional authorized scope of services included the excavation of four supplemental soil profile pits (identified as SPP-100 through SPP-103) and in-situ infiltration testing which included pit bail testing and basin flood

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testing. Test locations were located within or near the area of the proposed stormwater management facilities and were backfilled to the surface with excavated soils at completion.

The soils encountered were classified using the United States Department of Agriculture (USDA) classification system. Observations were made for groundwater and/or soil mottling and mineral deposits potentially indicative of zones of saturation or seasonal high groundwater. Soil profile pit logs are included in the Appendix of this report.

Infiltration testing was performed at select soil profile pit locations in general accordance with New Jersey *Stormwater Best Management Practices Manual- Appendix E* using basin flooding or pit bail test methods. Detailed results of the in-situ infiltration testing are included in the Appendix of this report.

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 series are mapped within the area of the proposed site improvements. The USDA-NRCS *Soil Survey Map* is included as within the Appendix of this report.

Penn silt loam, two to six percent slopes (PenB): Penn silt loam with two to six percent slopes is mapped underlying the area of the subject site. The typical soil profile of this series soil (as reported in the soil survey) consists of silt loam to a depth of 12 inches; channery silt loam to a depth of 25 inches; very channery silt loam to a depth of 30 inches; underlain by bedrock to a depth of 40 inches below the natural ground surface (limit of report). The depth to a restrictive bedrock layer is reported to range between 20 inches and 40 inches in below the natural ground surface. The depth to the water table is reported to be more than 80 inches below the natural ground surface (limit of report).

4.0 RESULTS

Detailed descriptions of the subsurface conditions encountered at each location are provided on the *Records of Subsurface Exploration* included herein. A summary of the subsurface conditions encountered is included below.

4.1 Subsurface Soil Profile

The soil profile pits were performed within existing undeveloped, grass/brush covered areas and encountered between approximately two inches to 16 inches of topsoil at the surface. Beneath the surface cover or at the ground surface, select soil profile pits encountered existing fill materials

generally consisting of loam and silt loam with variable amounts of gravel and debris. The debris encountered consisted of plastic, metal, and wood fragments. Where encountered, the existing fill materials extended to depths ranging between approximately one foot and 2.5 feet below the ground surface; corresponding to elevations ranging between approximately 61 feet and 58.1 feet.

The top of weathered rock (shale) was encountered beneath the surface cover and/or existing fill materials at depths ranging between approximately 0.2 feet and 2.7 feet below existing site grades; corresponding to elevations ranging between approximately 61.6 feet and 58.1 feet above the referenced elevation. Each soil profile pit was terminated due to machine refusal on apparent intact bedrock at depths ranging between approximately 2.8 and 7.2 feet below the ground surface. These depths correspond to elevations ranging between approximately 60.9 feet and 52.4 feet above the referenced elevation.

4.2 Groundwater and Estimated Seasonal High Groundwater

Evidence of seasonal high groundwater (i.e. soil mottling) was encountered at one location within the south-central portion of the site at a depth of approximately 4.5 feet below the ground surface; corresponding to an elevation of approximately 55.3 feet above the reference elevation. Where encountered, groundwater was noted at depths ranging between approximately 3.4 feet and 3.5 feet below existing site grades; corresponding to elevations ranging approximately between 58.5 feet and 56.2 feet above the referenced elevation.

Groundwater levels are expected to fluctuate seasonally and following significant periods of precipitation. A summary of the groundwater and estimated seasonal high groundwater levels are presented in the following table:

	SUM	IMARY OF	SUBSURFAC	E CONDITI	ONS	
Location	Approx. Surface	Mo	ttling	Groun	dwater	Comments
	Elevation (feet)	Depth (Feet)	Elevation (Feet)	Depth (Feet)	Elevation (Feet)	002222
SPP-1	63.8	Not Enc	countered1	Not Enc	ountered	Refusal at 2.8 ft.
SPP-2	62.0	Not Enc	ountered1	Not Enc	ountered	Refusal at 4.3 ft.
SPP-3	59.8	4.5	55.3	Not Enc	ountered	Refusal at 6.0 ft.
SPP-4	62.8	Not Enc	ountered1	Not Enc	ountered	Refusal at 6.0 ft.
SPP-5	60.0	Not Enc	ountered1	Not Enc	ountered	Refusal at 5.0 ft.
SPP-6	59.6	Not Enc	ountered1	Not Enc	ountered	Refusal at 7.2 ft.

	SUM	IMARY OF	SUBSURFAC	E CONDITION	ONS	
Location	Approx. Surface	Mot	ttling	Groun	dwater	Comments
	Elevation (feet)	Depth (Feet)	Elevation (Feet)	Depth (Feet)	Elevation (Feet)	
SPP-100	62.0	Not Enc	ountered1	3.5	58.5	Refusal at 6.0 ft.
SPP-101	61.5	Not Enc	ountered ¹	Not Enc	ountered	Refusal at 5.5 ft.
SPP-102	60.5	Not Enc	ountered ¹	Not Enc	ountered	Refusal at 4.0 ft.
SPP-103	59.6	Not Enc	ountered ¹	3.4	56.2	Refusal at 5.1 ft.

¹Since soil mottling was not encountered, the depth to the seasonal high groundwater can be estimated based on the published/mapped soil series and/or through direct readings during the "wet" season.

4.3 In-Situ Permeability Testing

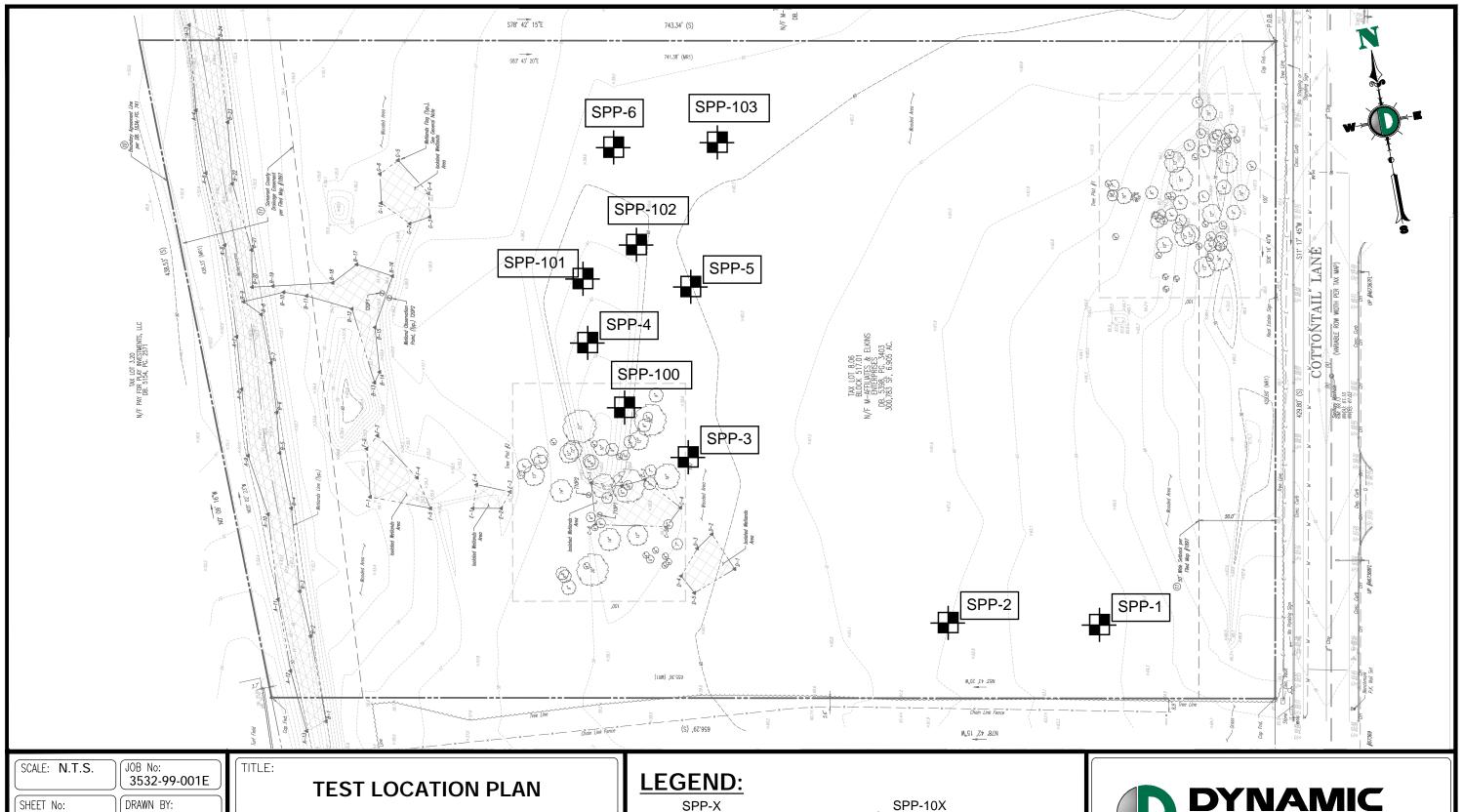
A summary of the in-situ permeability test results is presented in the following table:

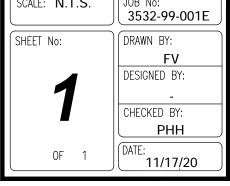
	SUMMAR	Y OF SUPPI	LEMENTAL P	ERMEABILI	TY TESTING	
		Grou	ıdwater			
Location	Approx. Surface Elevation	Depth	Elevation	Test Depth (feet)	In-situ Test Method	Permeability (Inches/hour)
SPP-100	62.0	3.5	58.5	6.0	Pit Bail	13.5
SPP-101	61.5	Not En	countered	4.5	Basin Flood	See below
SPP-102	60.5	Not End	countered	4.0	Basin Flood	See below
SPP-103	59.6	3.4	56.2	5.1	Pit Bail	3.6

The basin flood tests did not drain within 24 hours of the initial filling. Therefore, per the NJ BMP manual, the limiting zone beneath these locations may be considered a massive rock substratum and a permeability rate cannot be determined.

Due to the highly variable permeability results, infiltration of stormwater is not recommended at this site.







PROJECT: ACTIVE ACQUISITIONS

PROPOSED WAREHOUSE DEVELOPMENT

BLOCK 517.01, LOT 8.06 401 COTTONTAIL LANE

FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY

Rev. # 0 DEC Client Code: 3532 SPP-X



APPROXIMATE LOCATION OF SOIL PROFILE PIT -SEPTEMBER, 2020



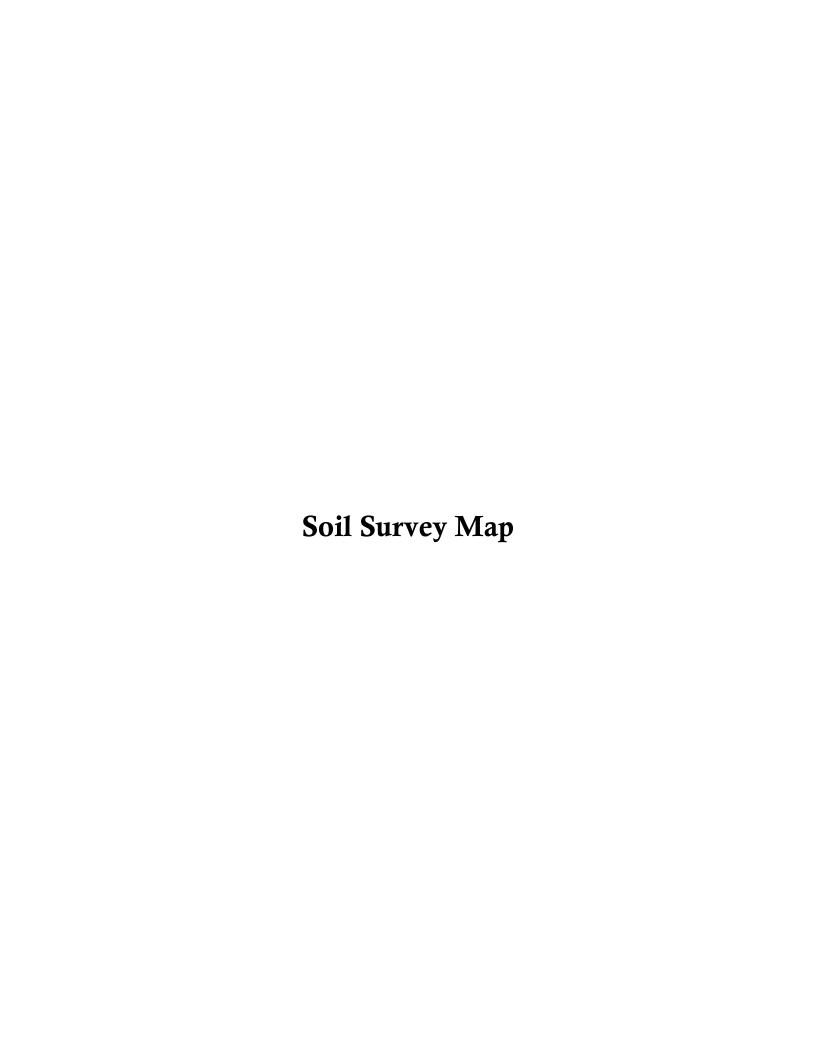
APPROXIMATE LOCATION OF SUPPLEMENTAL SOIL PROFILE PIT - OCTOBER, 2020

NOTES:

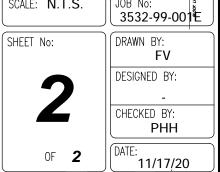
- 1. THIS PLAN IS NOT FOR CONSTRUCTION AND WAS PREPARED TO ILLUSTRATE TEST LOCATIONS ONLY AND MAY NOT REFLECT THE MOST CURRENT REVISION OF THE BASE
- 2. THIS PLAN HAS BEEN PREPARED BASED ON AN OCTOBER, 30 2020 DRAFT ALTA/NSPS LAND TITLE SURVEY PREPARED BY DYNAMIC SURVEY, LLC.



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PROJECT: ACTIVE ACQUISITIONS PROPOSED WAREHOUSE DEVELOPMENT

BLOCK 517.01, LOT 8.06 401 COTTONTAIL LANE FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY

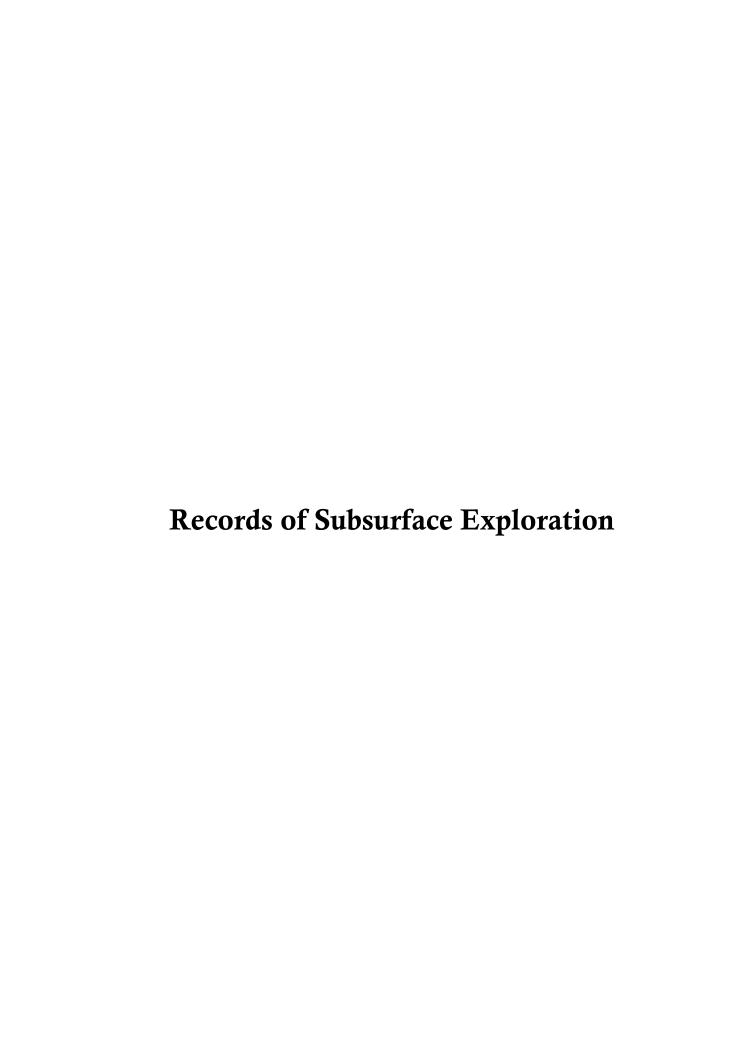
Rev. # DEC Client Code: 3532 0

NOTES:

- 1. THIS PLAN IS NOT FOR CONSTRUCTION AND WAS PREPARED TO ILLUSTRATE TEST LOCATIONS ONLY AND MAY NOT REFLECT THE MOST CURRENT REVISION OF THE BASE PLAN.
- THIS PLAN HAS BEEN PREPARED BASED ON A MAP FROM THE USDA WEB SOIL SURVEY INTERACTIVE MAP.

DYNAMIC EARTH, LLC

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Soil Profile Pit: SPP-1
Page 1 of 1

Projectic: Proposed Warehouse Development
Location: 401 Centennia Lane, Franklin, New Jersey
Location: 401 Centennia Lane, Pranklin, New Jersey
Date Starriet:
Termination Depth (1): 2.8
Proposed Location: SWM
Location: SWM
Location: Loc 3532-99-001E Project No.: Active Acquisitions Groundwater Data Groundwater Comments 9/28/20 S. Hume Logged by: Contractor: Seepage Groundwater Tierno & Sons Link Belt 160 LK Rig Type: STRUCTURE CONSISTENCY BOUNDARY MOTTLING SAMPLING DEPTH (IN) COLOR SOIL TEXTURE COARSE FRAGMENTS (%) ROOTS LAB RESULTS Grade Size Resistance to Rupture Quantity Size Contrast Type Depth (in) No. Shape Stickiness Plasticity Topography GRAVEL COBBLES STONES BOULDERS 0-2 TOPSOIL VERY FLAGGY LOAM FRIABLE NONSTICKY NONPLASTIC CLEAR <2.5* WAVY FEW (5% MAX) MEDIUM NONE MOIST WEAK MEDIUM CHANNERS FLAGSTONES STONES BOULDERS Reddish Brown (5YR 4/3) 2-20 SILT LOAM MOIST HARD NONSTICKY NONPLASTIC CLEAR <2.5* WAVY NONE NONE SUBANGULAR BLOCKY WEAK FINE 50 STRUCTURELESS CHANNERS FLAGSTONES STONES BOULDERS MASSIVE Reddish Brown (2.5YR 4/4) SILT LOAM MOIST VERY HARD NONSTICKY NONPLASTIC NONE NONE

Additional Remarks: Weathered rock was encountered between 2 to 34 inches. Soil profile pit SPP-1 encountered refusal at 34 inches on apparent rock.



Soil Profile Pit: SPP-2

Page <u>1</u> of <u>1</u>

	Proposed Warehous 401 Cottontail Lane,											Project No.: Client:			3532-99-001E Active Acquisition									
ocation: urface Elev		Franklin, New 3	Date Started:				9/28/20		C	water Data			Depth		Active Acquisition	IS El.					C	ater Comm	to	
ermination	Depth (ft):	4.3	Date Completed:				9/28/20		Ground	water Data			(ft)			(msl)					Groundw	ater Comm	ents	
roposed Lo	cation:	SWM		Logged by:			S. Hume mo & Sons		Seepage				NE NE											
/ Test	Visual Observation			Contractor:			Belt 160 LK		Groundwater				NE NE											
Method:			1	Rig Type:		LIIK	Dell 100 LK		Mottling								1							
EPTH (IN)	COLOR	9011	TEXTURE		COARSE FRA	OMENTS (IV)			STRUCTURE		WATER		CONSISTENCY		BOUN	IDARY	ROOT	TS		MOTTLING			SAMPLING	LAB RESULT:
(,		OOIL	TEXTORE		OUNITOE I III	1011121110 (70)		Shape	Grade	Size	CONTENT	Resistance to Rupture	Stickiness	Plasticity	Distinctness	Topography		-	Quantity	Size	Contrast	Type	Depth (in)	No.
				GRAVEL	0000150	OTOLUE O	00110500		1			Rupture											(111)	
				GRAVEL	COBBLES	STONES	BOULDERS											ļ						
0-2	TOPSOIL		LOAM	5	0	0	0	SUBANGULAR BLOCKY	WEAK	MEDIUM	MOIST	FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	FEW (5% MAX)	MEDIUM	NONE					
				CHANNERS	FLAGSTONES	STONES	BOULDERS																	
				OTHEREIN	TENCOTOREC	1	DOOLDENO	-												İ				
2-30	Reddish Brown (5YR 4/3)	EXTREMELY CHANNERY	SILT LOAM	35	45	0	0	SUBANGULAR BLOCKY	WEAK	FINE	MOIST	HARD	NONSTICKY	NONPLASTIC	GRADUAL <5"	WAVY	NONE		NONE					
				CHANNERS	FLAGSTONES	STONES	BOULDERS	MASSIVE	STRUCT	TURELESS														
30-52	Reddish Brown (2.5YR 4/4)	EXTREMELY FLAGGY	SILT LOAM	40	55	<5	0	-			MOIST	VERY HARD	NONSTICKY	NONPLASTIC			NONE		NONE					
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Soil Profile Pit: <u>SPP-3</u>
Page <u>1</u> of <u>1</u>

Mark State																									
untine Description (1)	Project: Proposed	Warehouse	Development																						
SAMPLING SAMPLING		ntail Lane, F						vino ino				1				Active Acquisition									
Contraction Contraction										Groundw	water Data									1		Groundw	vater Com	ments	
Treat Visual Observation Final Page			6.U SWM	Date Completed:	Logged by					F		1		(II) NE		1				l					
Treat Visual Observation Treat Visual Observation Treat Visual Observation Treat Visual Observation Treat Visual Observation Treat Visual Observation Treat Visual Observation Treat Visual Observation Treat Visual Observation Treat	Excavation		SVIM																	1					
Moderate Market Market Moderate Mo	/ Test Visual Obs	servation															553								
COLOR SOIL TEXTURE COARSE FRAGMENTS (N)	Method:			l .	кіg Туре:		Link						1			1									_
COLOR SULLEATURE COLOR SULLEATURE COLOR SULLEATURE COLOR SULLEATURE COLOR SULLEATURE COLOR SULLEATURE COLOR SULLEATURE Shape Grade Size CONTENT Resistance to Rupture Shape Grade Size CONTENT Resistance to Rupture Sulckiness Plusticity Distinciness Topography Color Sulckiness Plusticity Distincines Topography Color Sulckiness Plusticity Distincines Topography Color Sulckiness Plusticity Distincines Topography Color Sulckiness Plusticity Distincines Topography Color Sulckiness Plusticity Distincines Topography Color Sulckiness Plusticity Disti		00								STRUCTURE		WATER	1	CONSISTENCY		BOU	NDARY		T.C.		MOTTLING		1	SAMPLIN	
CHANNERY SILL LOAM CORNERS FLAGSTONES STONES SOULDERS SOULDERS	DEPTH (IN) COL	LUR	SOIL 1	IEXTURE		COARSE FRA	AGMENTS (%)		Shane	Grade	Siza			Stickinger	Placticity	Distinctness	Tonography	ROO	115	Quantity	Siza	Contract	Type	Depth	No.
14-54 TOPSOIL SILT LOAM S UNAVERS FLAGSTONES STONES BOULDERS 4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4									Onape	Ordac	O.Z.C		Rupture	Stickiness	riasticity	Districticus	ropograpity			quantity	OILC	Commuse	. , , ,	(in)	140.
14-54 Reddish Brown (SYR 4/3) Reddish Brown (SYR 4/3) EXTREMELY CHANNERY SILT LOAM EXTREMELY SILT LO					GRAVEL	COBBLES	STONES	BOULDERS									l		1		ļ	į			
14-54 Reddish Brown (SYR 4/3) Reddish Brown (SYR 4/3) EXTREMELY CHANNERY SILT LOAM EXTREMELY SILT LO						i –	 	i	-								i		İ		į.	i			
14-54 Reddish Brown (SYR 4/3) EXTREMELY CHANNERY SILT LOAM 65 20 0 0 0 SUBANGULAR WEAK MEDIUM MOIST MODERATELY NONSTICKY NONPLASTIC CLEAR <2.5* WAVY NONE NONE NONE BAG 24 S-2 CHANNERS FLAGSTONES STONES BOULDERS MASSIVE STRUCTURELESS 54-72 Reddish Brown EXTREMELY SILT LOAM FEW 2-1/2 STRUCTURELESS 54-72 Reddish Brown EXTREMELY SILT LOAM FEW 2-1/2 STRUCTURELESS 54-72 Reddish Brown EXTREMELY SILT LOAM FEW 2-1/2 STRUCTURELESS 54-72 Reddish Brown EXTREMELY SILT LOAM FEW 2-1/2 STRUCTURELESS 54-72 Reddish Brown EXTREMELY SILT LOAM FEW 2-1/2 STRUCTURELESS 54-72 Reddish Brown EXTREMELY SILT LOAM FEW 2-1/2 STRUCTURELESS 54-72 Reddish Brown EXTREMELY SILT LOAM FEW 2-1/2 STRUCTURELESS 54-72 Reddish Brown EXTREMELY SILT LOAM FEW 2-1/2 STRUCTURELESS 54-72 Reddish Brown EXTREMELY SILT LOAM FEW 2-1/2 STRUCTURELESS 54-72 Reddish Brown EXTREMELY SILT LOAM FEW 2-1/2 STRUCTURELESS 54-72 Reddish Brown EXTREMELY SILT LOAM FAINT BAG 50 S-3	0-14 TOPS	SOIL		SILT LOAM	5	0	0	0	SUBANGULAR BLOCKY	MODERATE	MEDIUM	MOIST	FRIABLE	NONSTICKY	NONPLASTIC	GRADUAL <5"	WAVY	CMN (20% MAX)	MEDIUM	NONE			BAG	8	S-1
(SYR 4/3) CHANNERY SILL LOAM 65 20 0 0 SUBANGULAR WEAK MEDIUM BUSY HARD NONSTICKY NONPLASTIC CLEAR CLE					CHANNERS	FLAGSTONES	STONES	BOULDERS																	
54-72 Reddish Brown EXTREMELY SILT LOAM FAINT BAG 60 S-3			EXTREMELY CHANNERY	SILT LOAM	65	20	0	0		WEAK	MEDIUM	MOIST	MODERATELY HARD	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	NONE		NONE			BAG	24	S-2
34-72 (2 SVP AIA) FLAGGY SILL DAM FAINT BAG 00 3-3					CHANNERS	FLAGSTONES	STONES	BOULDERS	MASSIVE	STRUCT	URELESS														
				SILT LOAM	35	60	<5	0				MOIST	VERY HARD	NONSTICKY	NONPLASTIC			NONE		FEW 2%		FAINT	BAG	60	S-3
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Additional Remarks: Weathered rock was encountered between 14 to 72 inches. Soil profile pit SPP-3 encountered refusal at 72 inches on apparent rock.



Soil Profile Pit: SPP-4

Page <u>1</u> of <u>1</u>

Project:	Proposed Warehou 401 Cottontail Lane	se Development	lorony									Project No.: Client:			3532-99-001E Active Acquisition									
Surface Elev Termination	ration (ft):	62.8 6.0	Date Started: Date Completed:				/28/20 /28/20		Groundwa	iter Data			Depth (ft)		Active Acquisition	El. (msl)					Groundwa	ater Comm	nents	
Proposed Lo Excavation		SWM		Logged by:			. Hume		Seepage				NE											
/ Test	Visual Observation			Contractor:			no & Sons	4	Groundwater				NE											
Method:				Rig Type:	:	Link	3elt 160 LK		Mottling				NE			-								
DEPTH (IN)	COLOR	SOIL	TEXTURE		COARSE FRA	GMENTS (%)			STRUCTURE		WATER CONTENT		CONSISTENCY		BOUN	IDARY	ROO	TS		MOTTLING			SAMPLING	LAB RESULTS
					1		ı	Shape	Grade	Size	CONTENT	Resistance to Rupture	Stickiness	Plasticity	Distinctness	Topography		,	Quantity	Size	Contrast	Туре	Depth (in)	No.
				GRAVEL	COBBLES	STONES	BOULDERS																	
0-16	TOPSOIL		LOAM	25	15	0	0	SUBANGULAR BLOCKY	WEAK	MEDIUM	MOIST	FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	FEW (5% MAX)) MEDIUM	NONE			BAG	8	S-1
				CHANNERS	FLAGSTONES	STONES	BOULDERS																	
16-24	Reddish Brown (5YR 4/3)	EXTREMELY GRAVELLY	SILT LOAM	45	15	0	0	SUBANGULAR BLOCKY	MODERATE	MEDIUM	MOIST	FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	FEW (5% MAX)) FINE	NONE			BAG	18	S-2
				CHANNERS	FLAGSTONES	STONES	BOULDERS																	
24-32	Reddish Brown (5YR 4/3)	EXTREMELY GRAVELLY	SILT	60	30	<5	0	SUBANGULAR BLOCKY	MODERATE	COARSE	MOIST	FRIABLE	SLIGHTLY STICKY	NONPLASTIC	CLEAR <2.5"	WAVY	NONE		NONE			BAG TUBE	28	S-3 T-1
				CHANNERS	FLAGSTONES	STONES	BOULDERS	MASSIVE	STRUCTU	IRELESS														
32-72	Reddish Brown (2.5YR 4/4)	EXTREMELY FLAGGY	SILT LOAM	40	50	0	0				MOIST	VERY HARD	NONSTICKY	NONPLASTIC			NONE		NONE					
					İ													İ						

Additional Remarks: Existing fill material encountered up to 32 inches. Debris within the fill included decomposed wood. Weathered rock was encountered between 32 to 72 inches. Soil profile pit SPP-4 encountered refusal at 72 inches on apparent rock.



Page <u>1</u> of <u>1</u>

Soil Profile Pit: SPP-5

Declarate	Proposed Warehou	D										Declare No.			3532-99-001E										
Project:	401 Cottontail Lane	- Franklin Na	ent									Project No.: Client:			Active Acquisitions	_									
Surface Elev		60.0	Date Started:				9/28/20						Depth		Active Acquisitions	El.									
Termination		5.0	Date Completed:				9/28/20		Ground	water Data			(ft)			(msl)					Groundw	ater Comr	nents		
Proposed Lo	cation:	SWM	Date Completed.	Logged by			S. Hume		Seepage				NE			(IIISI)									
Excavation				Contractor:			mo & Sons		Groundwater				NE												
/ Test	Visual Observation						Belt 160 LK						NE												
Method:				Rig Type	:	Lin	DON 100 EIX		Mottling																
									STRUCTURE		WATER		CONSISTENCY		BOUN	DARY				MOTTLING			SAMPLING	•	
DEPTH (IN)	COLOR	s	OIL TEXTURE		COARSE FRA	AGMENTS (%)				1	CONTENT	Resistance to					ROOT	rs					Donth		LAB RESULTS
								Shape	Grade	Size		Rupture	Stickiness	Plasticity	Distinctness	Topography			Quantity	Size	Contrast	Type	Depth (in)	No.	
																				!					
				GRAVEL	COBBLES	STONES	BOULDERS								1 1			į		į.	l				
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0-2	TOPSOIL		LOAM			į.		SUBANGULAR			MOIST	FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	FEW (5% MAX)	FINE	NONE	į					
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2-60	Reddish Brown	EXTREME	LY LOAM			1					MOIST	VERY HARD	NONSTICKY	NONPLASTIC			NONE	İ	NONE	į					
	(5YR 4/3)	CHANNER	Y	40	40	15	0								1			İ		į	i				
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Additional	Romarks: Weath	orod rook u	vas encountered be	turoop 2 to 60	inchos Coil r	profile pit CD	D E angount	ared refused at 6	n inches on on	narant rook	I.	1		l	1		ı			<u> </u>	!				
nuullional	nemarks, weath	ici ca tack v	vas encountered be	ween∠ to 60	11111111111111111111111111111111111111	JIUIIIE DIL SP	r-s encounte	ereu rerusar at bi	U INCHES ON AD	paretti tuuk.															



Page <u>1</u> of <u>1</u>

Soil Profile Pit: SPP-6

	Proposed Warehous											Project No.: Client:			3532-99-001E										
Surface Ele		59.6	Date Started:				9/28/20		Groundwa	ater Data			Depth		Active Acquisition	El.					Groundw	ater Comm	nents		
Terminatio	n Depth (ft):	7.2 SWM	Date Completed:	Logged by:			9/28/20 3. Hume						(ft) NE			(msl)									
Proposed I Excavation	ocation:	SVVIII		Contractor:			no & Sons		Seepage Groundwater				NE			**									
/ Test Method:	Visual Observation			Rig Type:		Link	Belt 160 LK		Mottling				NE												
									STRUCTURE		WATER		CONSISTENCY		BOU	IDARY	ROOT			MOTTLING		:	SAMPLING		
DEPTH (IN	COLOR	SOIL	TEXTURE		COARSE FRA	GMENIS (%)		Shape	Grade	Size	CONTENT	Resistance to Rupture	Stickiness	Plasticity	Distinctness	Topography	ROOI	3	Quantity	Size	Contrast	Туре	Depth (in)	No.	LAB RESULTS
				GRAVEL	COBBLES	STONES	BOULDERS																		
0-18	Reddish Brown (5YR 4/3)		SILT LOAM	45	30	0	0	SUBANGULAR BLOCKY	MODERATE	MEDIUM	MOIST	FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	FEW (5% MAX)	FINE	NONE						
				CHANNERS	FLAGSTONES	STONES	BOULDERS	MASSIVE	STRUCTU	JRELESS															
18-56	Reddish Brown (5YR 4/3)	EXTREMELY GRAVELLY	SILT LOAM	45	45	0	0				MOIST	MODERATELY HARD	NONSTICKY	NONPLASTIC	GRADUAL <5"	WAVY	NONE		NONE						
				CHANNERS	FLAGSTONES	STONES	BOULDERS	MASSIVE	STRUCTU	JRELESS															
56-86	Reddish Brown (2.5YR 4/4)	EXTREMELY GRAVELLY	SILT	35	60	<5	0				MOIST	VERY HARD	NONSTICKY	NONPLASTIC			NONE		NONE						

Additional Remarks: No topsoil. Existing fill material from from 0 to 18 inches. Debris encountered included plastic and metal. Weathered rock was encountered between 18 to 86 inches. Sol profile pit SPP-6 encountered refusal at 86 inches on apparent rock.



Soil Profile Pit: SPP-100

Page <u>1</u> of <u>1</u>

tontall Lane, : t): Dbservation	e Development Franklin, New Je 62.0 6.0 SWM	Date Started:				10/20/20					Project No.: Client:			3532-99-001E Active Acquisition									
: t): Observation	62.0 6.0	Date Started:				0/20/20																	
Observation		Date Completed:						Groundy	water Data			Depth			El.					Groundw	ater Commer	nts	
	O11111		Logged by:			10/22/20 S. Hume		Seepage				(ft) NE			(msl)								
			Contractor:			Carroccia		Groundwater				3.5			58.5								
OLOR			Rig Type:		CASE 580	/Link Belt 160 Li		Mottling				NE											
OLOR								STRUCTURE		WATER		CONSISTENCY		BOUN	IDARY				MOTTLING		S/	MPLING	
	SOIL '	TEXTURE		COARSE FRA	GMENTS (%)		Shape	Grade	Size	CONTENT	Resistance to Rupture	Stickiness	Plasticity	Distinctness	Topography	ROO	TS	Quantity	Size	Contrast	Туре	Depth (in)	LAB RESUL
			GRAVEL	COBBLES	STONES	BOULDERS																	
PSOIL		SILT LOAM	10	0	0	0	SUBANGULAR BLOCKY	WEAK	MEDIUM	MOIST	FRIABLE	SLIGHTLY STICKY	SLIGHTLY PLASTIC	CLEAR <2.5"	WAVY	CMN (20% MAX)	MEDIUM	NONE					
			CHANNERS	FLAGSTONES	STONES	BOULDERS																	
sh Brown (R 4/3)	VERY FLAGGY	SILT LOAM	5	50	0	0	SUBANGULAR BLOCKY	WEAK	FINE	MOIST	FRIABLE	SLIGHTLY STICKY	SLIGHTLY PLASTIC	GRADUAL <5"	WAVY	NONE		NONE					
			CHANNERS	FLAGSTONES	STONES	BOULDERS	MASSIVE	STRUCT	URELESS														
sh Brown 'R 4/3)	EXTREMELY CHANNERY SILT LOAM 45 45 -5									MOIST	HARD	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	NONE		NONE					
			CHANNERS	FI AGSTONES	STONES	BOLIL DERS	MASSIVE	STRUCT	URELESS										1	1			
sh Brown YR 4/4)	EXTREMELY CHANNERY	SILT LOAM	45	45	<5	0	-			WET	HARD	NONSTICKY	NONPLASTIC			NONE		NONE					
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ssh /R ·	Brown M/3) Brown M/4)	Brown Drown EXTREMELY CHANNERY BROWN EXTREMELY CHANNERY	Brown VERY FLAGGY SILT LOAM Brown EXTREMELY CHANNERY SILT LOAM Brown EXTREMELY CHANNERY SILT LOAM CHANNERY SILT LOAM	Brown VERY FLAGGY SILT LOAM 5 CHANNERS CHANNERS CHANNERS CHANNERS CHANNERS CHANNERS 45 CHANNERS	SILT LOAM	SILT LOAM	CHANNERS FLAGSTONES STONES BOULDERS	SILT LOAM	SILT LOAM	DIL. SILT LOAM 10 0 0 0 SUBANQULAR WEAK MEDIUM PURPY FLAGGY SILT LOAM 10 0 0 0 SUBANQULAR WEAK MEDIUM 10 0 0 0 SUBANQULAR WEAK MEDIUM 10 0 0 0 SUBANQULAR WEAK MEDIUM 10 0 0 0 SUBANQULAR WEAK FINE 10 0 0 SUBANQULAR WEAK FINE 11 0 0 0 0 SUBANQULAR WEAK FINE 12 0 SUBANQULAR WEAK FINE 13 0 SUBANQULAR WEAK FINE 14 0 SUBANQULAR WEAK FINE 14 0 SUBANQULAR WEAK FINE 15 0 0 SUBANQULAR WEAK FINE 16 0 SUBANQULAR WEAK FINE 17 0 SUBANQULAR WEAK FINE 18 0 SUBANQULAR WEAK FINE 18 0 SUBANQULAR WEAK FINE 18 0 SUBANQULAR WEAK MEDIUM 18 0 SUBANQULAR WEAK MEDIUM 18 0 SUBANQULAR WEAK FINE 18 0 SUBANQULAR WEAK	OIL. SILT LOAM 10 0 0 0 SUBANGULAR WEAK MEDIUM TO 0 0 SUBANGULAR WEAK MEDIUM CHANNERS FLAGSTONES STONES BOULDERS TO 0 SUBANGULAR WEAK FINE MOIST CHANNERS FLAGSTONES STONES BOULDERS EXTREMELY CHANNERY SILT LOAM 45 45 45 0 MASSIVE STRUCTURELESS BROWN CHANNERY SILT LOAM 45 45 45 0 MASSIVE STRUCTURELESS WET CHANNERS FLAGSTONES STONES BOULDERS WET WEAK FINE MOIST WEAK FINE MOIST CHANNERY SILT LOAM 45 45 45 0 MASSIVE STRUCTURELESS WET	OIL SILT LOAM	OIL SILT LOAM	OR SILT LOAM 10 0 0 0 0 0 0 0 0	OIL SILT LOAM 10 0 0 0 SUBANGULAR WEAK MEDIUM MOIST FRIABLE SLIGHTLY STICKY PLASTIC CLEAR <2.5" CHANNERS FLAGSTONES STONES BOULDERS STOWN (3) CHANNERY SILT LOAM 45 45 <5 0 CHANNERS FLAGSTONES STONES BOULDERS CHANNERS FLAGSTONES STONES BOULDERS CHANNERS FLAGSTONES STONES BOULDERS CHANNERS FLAGSTONES STONES BOULDERS TO SUBANGULAR WEAK FINE MOIST FRIABLE SLIGHTLY STICKY PLASTIC GRADUAL <5" MOIST FRIABLE SLIGHTLY STICKY STICKY PLASTIC CLEAR <2.5" CHANNERS FLAGSTONES STONES BOULDERS CHANNERY SILT LOAM 45 45 <5 0 CHANNERS FLAGSTONES STONES BOULDERS CHANNERS FLAGSTONES STONES BOULDERS MASSIVE STRUCTURELESS WET HARD NONSTICKY NONPLASTIC CLEAR <2.5"	ORAPHICAN COMPANY SILTLAM 10 0 0 0 0 0 0 0 0	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Marie Mari	Maria Mari	March Marc	March Marc	March Marc	March Marc



Soil Profile Pit: <u>SPP-101</u>
Page <u>1</u> of <u>1</u>

Projects	Proposed Warehous	co Douglonmont										Project No.:			3532-99-001E										
	401 Cottontail Lane,		ersev									Client:			Active Acquisition	ıs									
Surface Elev			Date Started:			1	0/20/20		Groundwa				Depth		Autre Acquisition	El.					e :	ater Comn			
Termination			Date Completed:				0/22/20		Groundwa	ater Data			(ft)			(msl)					Groundw	ater Comn	ments		
Proposed Lo Excavation		SWM		Logged by:			S. Hume		Seepage				NE												
Excavation	Visual Observation			Contractor:			rno & Sons		Groundwater	-		-	NE	·											
/ Test Method:	visual Observation			Rig Type:		CASE 580	/Link Belt 160 LI	K	Mottling				NE												
									STRUCTURE				CONSISTENCY		BOU	NDARY				MOTTLING			SAMPLING	1	
DEPTH (IN)	COLOR	SOIL	TEXTURE		COARSE FRA	AGMENTS (%)					WATER CONTENT						ROOTS	s				 			LAB RESULTS
								Shape	Grade	Size	CONTENT	Resistance to Rupture	Stickiness	Plasticity	Distinctness	Topography			Quantity	Size	Contrast	Type	Depth (in)	No.	
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				GRAVEL	COBBLES	STONES	BOULDERS										1								
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0-18	TOPSOIL	GRAVELLY	LOAM		i	İ	i	SUBANGULAR			MOIST	FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	FEW (5% MAX)	MEDIUM	NONE						
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				FLAGSTONES	CHANNERS	STONES	BOULDERS										1 1			į	į				
	Reddish Brown				1	1	1										1 1			į	į				
18-28	(5YR 4/3)	VERY FLAGGY	SILT LOAM		i	i .		SUBANGULAR	MODERATE		MOIST	HARD	NONSTICKY	NONPLASTIC	GRADUAL <5"	WAVY	NONE		NONE	İ	İ				
				5	45	0	0	BLOCKY	MODERATE	COARSE							1				1				
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28-66	(5YR 4/3)	CHANNERY	SILT LOAM		i	i .					MOIST	VERY HARD	NONSTICKY	NONPLASTIC			NONE		NONE	İ	İ				
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Additional Remarks: Reworked onsite soils encountered to 18 inches. Weathered rock was encountered between 26 to 66 inches. Soil profile pit SPP-101 encountered refusal at 66 inches on apparent rock. Basin flood test performed.



Soil Profile Pit: SPP-102
Page 1 of 1

Project:	Proposed Warehous	se Development										Project No.:			3532-99-001E										
Location: Surface Elev	401 Cottontail Lane	Franklin, New . 60.5	Date Started:			1	0/20/20				I	Client:	Depth		Active Acquisition	ns El.			I						
Termination	Depth (ft):	4.0	Date Started: Date Completed:			1	0/22/20		Groundw	rater Data			(ft)			(msl)					Groundy	vater Com	ments		
Proposed Lo Excavation	ation:	SWM		Logged by:			3. Hume		Seepage				NE												
/ Test	Visual Observation		1	Contractor:			mo & Sons		Groundwater		1		NE		1										
Method:			1	Rig Type:		CASE 580	/Link Belt 160 LF	<	Mottling				NE			-									
									STRUCTURE		WATER		CONSISTENCY		BOU	NDARY				MOTTLING			SAMPLIN		
DEPTH (IN)	COLOR	SOIL	TEXTURE		COARSE FRA	AGMENTS (%)		Shape	Grade	Size	CONTENT	Resistance to	Stickiness	Plasticity	Distinctness	Topography	ROOT	rs	Quantity	Size	Contrast	Туре	Depth (in)	No.	LAB RESULTS
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				GRAVEL	COBBLES	STONES	BOULDERS									ļ		ĺ		į	İ				
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0-12	TOPSOIL		SILT LOAM	_	0		0	SUBANGULAR	MODERATE	MEDIUM	MOIST	FRIABLE	STICKY	NONPLASTIC	CLEAR <2.5"	WAVY	MAX)	FINE	NONE	1	1	BAG	8	S-1	
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				CHANNERS	FLAGSTONES	S STONES	BOULDERS	MASSIVE	STRUCTU	URELESS															
12-48	Reddish Brown	EXTREMELY	SILT LOAM		55 30 0 0						MOIST	MODERATELY	NONSTICKY	NONPLASTIC			NONE		NONE			BAG	24	S-2	
12-48	(5YR 4/3)	CHANNERY	SILI LUAM	55	55 30 0 0						MOIST	HARD	NONSTICKY	NUNPLASTIC		l	NONE	l	NONE	1		BAG	24	5-2	
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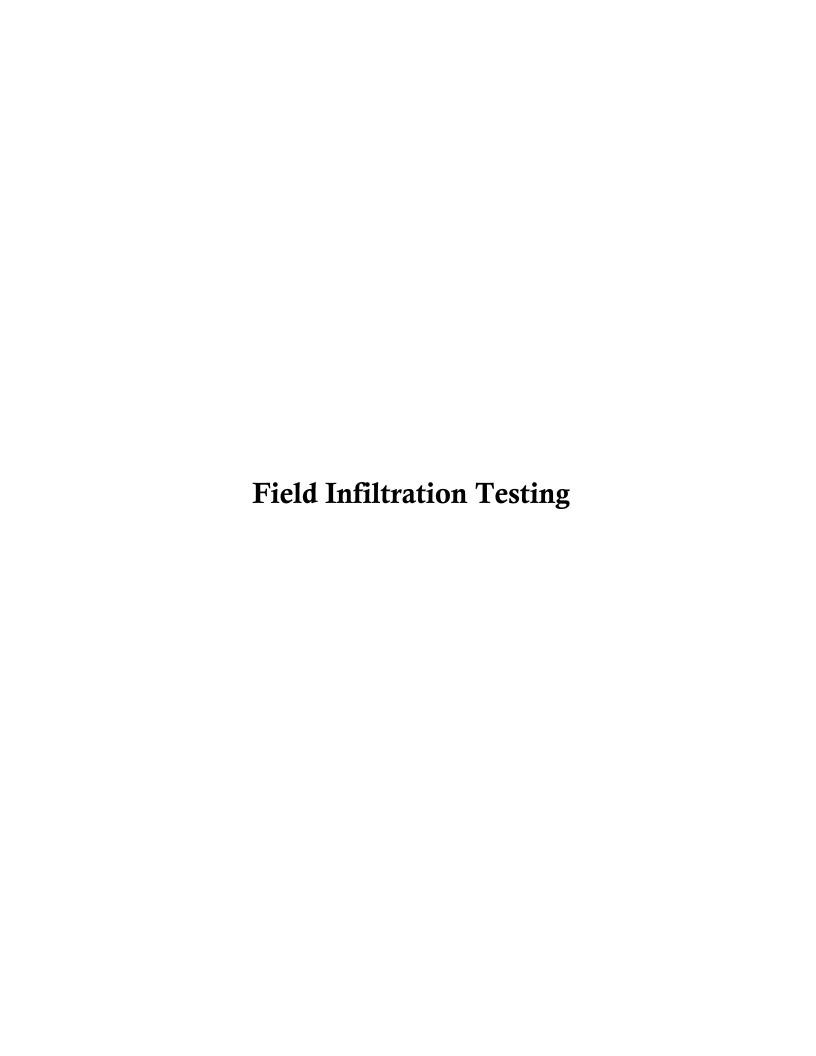
Additional Remarks: Weathered rock was encountered between 12 to 48 inches. Soil profile pit SPP-102 encountered refusal at 48 inches on apparent rock. Basin flood test performed.



Soil Profile Pit: SPP-103

Page <u>1</u> of <u>1</u>

Project: Proposed Warehouse Developmen Location: 40 Cottontal Lane, Franklin, New Surface Elevation (ft): 59.6 Termination Depth (ft): 5.1 Proposed Location: SVM Excavation / Test Visual Observation Method:				1						Project No.: Client:			3532-99-001E									
Termination Depth (ft): 5.1 Proposed Location: SWM Excavation / Test Visual Observation				1									Active Acquisition	S								
Proposed Location: SWM Excavation / Test Visual Observation		10/20/20 10/22/20			Groundwater Data			Depth (ft)				El. (msi)				Groundwater Comments						
/ Test Visual Observation		Logged by:		S	. Hume	Seepage		NE														
		Contractor:			no & Sons		Groundwater		3.4			56.2										
			Rig Type: CASE 580/Link Belt 160 Li		/Link Belt 160 LK	Mottling		NE .														
DEPTH (IN) COLOR SOIL TEXTURE		COARSE FRAGMENTS (%)				STRUCTURE		WATER	CONSISTENCY		BOUNDARY		ROOTS		MOTTLING SAMPLING			LAB RESULTS				
. ,		COARSE FRAGMENTS (/s)			Shape	Shape Grade Size		CONTENT	Resistance to Stickiness Plasticity		Distinctness Topography			Quantity Size Contrast Type		pe Depth (in)	epth No. (in)					
		GRAVEL	COBBLES	STONES	BOULDERS																	
0-2 TOPSOIL GRAVELLY	LOAM	25	15	0	0	SUBANGULAR BLOCKY	WEAK	MEDIUM	MOIST	FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	CMN (20% MAX)	MEDIUM	NONE					
		CHANNERS	FLAGSTONES	STONES	BOULDERS																	
2-41 Reddish Brown EXTREMELY (5YR 4/3) CHANNERY	SILT LOAM	45	15	0	0	SUBANGULAR	MODERATE	MEDIUM	MOIST	HARD	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY			NONE					
						BLOCKY																
		CHANNERS	FLAGSTONES	STONES	BOULDERS																	
41-61 Reddish Brown (5YR 4/3) EXTREMELY CHANNERY	SILT LOAM	45	15	0	0	SUBANGULAR BLOCKY	MODERATE	MEDIUM	MOIST	HARD	NONSTICKY	NONPLASTIC					NONE					
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Job Number: 3532-99-001E

Client: Active Acquisitions

Project: Proposed Warehouse Development

Basin Flood Test Data

Logged By: S. Hume Test Pit No.: SPP-101 Franklin Township MUNICIPALITY BLOCK 517.01 LOT 8.06 1. Test Number: 2. Depth of Test Pit: 4.5 Feet 3. Area of Test Pit: 52.5 Square Feet 4. Description of Rock Stratum: Type of Rock: Shale Passaic Formation Name of Formation: Average Fracture Spacing: inches Type of Fractures: Open (wide), Clean, Width of Openings Open (wide), Infilled with Fines, Width of Openings Tight (Closed) Orientation of Fractures: Horizontal (Parallel to Pit Bottom) or Nearly So Inclined Vertical (Parallel to Sides of Pit) or Nearly So Hardness of Rock: Rippable by Hand Tools Not Rippable by Hand Tools, Rippable by Machine Not Rippable by Machine, Explosives Used 5a. Date of First Basin Flooding: 10/21/2020 5b. Time of First Basin Flooding: 11:25 AM 6. Result of First Basin Flooding: Basin Drained within 24 hours by Basin Did Not Drain within 24 hours 7a. Date of Second Flooding: 7a. Time of Second Flooding: 8. Result of Second Basin Flooding: Basin Drained within 24 hours on (Drained within 12 hrs?) Basin Did Not Drain within 24 hours



Job Number: 3532-99-001E

Client: Active Acquisitions

Project: Proposed Warehouse Development

Basin Flood Test Data

Logged By: S. Hume Test Pit No.: SPP-102 Franklin Township MUNICIPALITY BLOCK 517.01 LOT 8.06 1. Test Number: 4 Feet 2. Depth of Test Pit: 3. Area of Test Pit: 52.5 Square Feet 4. Description of Rock Stratum: Type of Rock: Shale Name of Formation: Passaic Formation Average Fracture Spacing: inches Type of Fractures: Open (wide), Clean, Width of Openings Open (wide), Infilled with Fines, Width of Openings Tight (Closed) Orientation of Fractures: Horizontal (Parallel to Pit Bottom) or Nearly So Inclined Vertical (Parallel to Sides of Pit) or Nearly So Hardness of Rock: Rippable by Hand Tools Not Rippable by Hand Tools, Rippable by Machine Not Rippable by Machine, Explosives Used 5a. Date of First Basin Flooding: 10/21/2020 5b. Time of First Basin Flooding: 11:15 AM 6. Result of First Basin Flooding: Basin Drained within 24 hours by Basin Did Not Drain within 24 hours 7a. Date of Second Flooding: 7a. Time of Second Flooding: 8. Result of Second Basin Flooding: Basin Drained within 24 hours on (Drained within 12 hrs?) Basin Did Not Drain within 24 hours



Pit Bailing Test

(Stormwater Basin Area Investigation)

Soil Profile Pit #: SPP-100

Date 10/20/20 - 10/22/20

Project	Proposed V	Varehouse				Project Number: 3532-99-001E						
Location	401 Cotton	tail Lane, To	wnship of F	ranklin, NJ		Client: Active Acquisitions						
Surface Elevation (ft):	62.0											
Proposed Location:	Stormwater	r Managemei	nt Facility					Logged By:	S. Hume			
MUNICIPALITY:	Tow	nship of Fra	nklin		BLOCK:	517.01	LOT(s):	8.0	06			
Depth of Test Pit:		6.0	Feet		Area of Te		54.0	Square Feet				
•								- 1				
Description of Rock Str	atum:											
Type of Rock/Frac	tured Rock:	Siltstone and	1 Shale			Н	Hardness of Rock:					
		Passaic Forn					Rippable by H	land Tools				
Average Fractu	re Spacing:	0.5	inches		•	X Not Rippable by Hand Tools, Rippable by Machine						
TT (TT)							Not Rippable	by Machine, l	Explosives Used			
Type of Fracture	25.	Open (wide)	Clean Wi	dth of Open	ings (m	nm)						
		Open (wide)		-	· · · · · · · · · · · · · · · · · · ·		ox. 5 mm)	Preparation	1:			
	X	Tight (Close		,		<i>5-7</i> (-11	,	Relatively fla	at & level bottom:	Yes		
		="							d for water rise & stabiliz			
Orientation of Frac	 TT	D 11.1.	Y. D	N. 1.0				il clumps present:	No			
	Horizontal (Inclined	Parallel to P	n Bottom) c	or Nearly So			Seepage pre	slumping continously:	No Yes			
	X	Vertical (Par	rallel to Side	s of Pit) or N	Nearly So			Occpage pro	536111.	1 C5		
Date of First Pit Bail Test: 10/21/2020					,	Time of Fi	irst Pit Bail Te	st:	11:30 AM			
Reference point datum:		62.0				D DATA						
Depth to bottom of pit (i	n):	72	Time Interval(min)	Start Depth (In)	Finish Depth (in)	Height (in)	Area of Surface (sq. ft)	K (in/ hr)				
Depth to intial water lev	el (ft):	3.5	45	60	56.50	3.50	54	22.485666				
Depth to bailed water le	vel(ft):	5.0	30	56.50	55.00	1.50	54	16.159846				
Depth to impearmeable	stratum (ft):	6.0	30	55.00	54.00	1.00	54	11.538697				
			65	54.00	52.00	2.00	54	11.733012				
Permeability Rate: K (in/ hr) = (height/tin)* (A	f Curfoco / 2	27 (HA2 h	^2* 6 0								
H = static water level -	, ,		.27 (H^2 - H									
h=avg. depth of water -	-		stratum									
g												
Depth to static water	er after 24 ho	ours (ft):	3.6									
						K (in/hr) :						
	A Design 1	Permeability							rming the second basin			
	Man Tamas	Ctammu atau D.		_			be 0.5 inches po	er hour				
	ivew jersey i	Stormwater Be	si wianageme	ні Етиспсев N	<i>чиниш- </i> Арре	nuix E (Apri	1 2014)					



Pit Bailing Test

(Stormwater Basin Area Investigation)

Soil Profile Pit #: SPP-103

Date 10/20/20 - 10/22/20

Project	Proposed V	Varehouse				Project Number: 3532-99-001E						
Location	401 Cotton	tail Lane, To	wnship of F	ranklin, NJ			Client: Active Acquisitions					
Surface Elevation (ft):	59.6					Weather: Cloudy, 67°F						
Proposed Location:	Stormwate	r Manageme	nt Facility	Facility				Logged By:	S. Hume			
MUNICIPALITY:	Toy	nship of Fra	nklin		BLOCK:	517.01	LOT(s):	8.0	16			
Depth of Test Pit:	100	5.1	Feet		Area of Te		15.8	Square Feet				
Depth of Test I it.		5.1			71104 01 10	St 11t.	15.0	oquare 1 cer				
Description of Rock Str	atum:											
Type of Rock/Frac	tured Rock	Siltstone an	d Shale			F	Hardness of Rock:					
		Passaic For			-	Rippable by Hand Tools						
Average Fractu	re Spacing:	0	inches		-	X Not Rippable by Hand Tools, Rippable by Machine						
- CP							Not Rippable	by Machine,	Explosives Used			
Type of Fracture	?S:	Open (wide	Clean Wi	dth of Open	inge (n	am)						
		Open (wide					ox 5 mm)	Preparation	1.			
	X	Tight (Close		tii i iiico, **	idin or oper	iiigs, (appi	OA. & IIIII)		at & level bottom:	Yes		
									d for water rise & stabiliz	e (hrs): 2hrs		
Orientation of Frac		~ ## # T					Are large soil clumps present: No Are pit walls slumping continously: No					
	X	Horizontal (Inclined	(Parallel to P	'it Bottom) (or Nearly So			Seepage pre		No		
	X	Vertical (Pa	rallel to Side	s of Pit) or N	Nearly So			Seepage pre	esent.	Yes		
Date of First Pit Bail Te		`	/2020	,,,	, , , , , , , , , , , , , , , , , , ,	Time of F	irst Pit Bail Te	st:	11:50 AM			
Reference point datum:		59.6			FIEL	D DATA						
Depth to bottom of pit (i	n):	61	Time Interval(min)	Start Depth (In)	Finish Depth (in)	Height (in)	Area of Surface (sq. ft)	K (in/ hr)	1			
Depth to intial water lev	•	3.4	28	59	54.00	5.00	15.8	27.692384	,			
Depth to bailed water le	` '	5.1	17	54.00	51.50	2.50	15.8	26.012727				
Depth to impearmeable	stratum (ft):	5.1	24	51.50	50.00	1.50	15.8	12.40551				
			24	50.00	49.00	1.00	15.8	9.0856335				
Permeability Rate:	N			10\d. (0								
K (in/ hr) = (height/tin H = static water level - :	, ,		.27 (H^2 - h	^2)* 60								
h=avg. depth of water -	-		etratum									
ii–avg. ucptii oi watei -	ucptn of in	pearmeable	Stratum									
Depth to static wate	r after 24 h	ours (ft):	3.4									
						K (in/hr)						
	A Design	Permeability							ming the second basin			
	37 7	a		_			be 0.5 inches p	er hour				
	New Jersey I	Stormwater Be	est Manageme	nt Practices N	Manual- Арре	rnaix E (Apri	ıl 2014)					