

Geotechnical Report

Allstate Ventures, LLC New Mixed-Use Building

64 Centre Avenue
New Rochelle, New York

July 13, 2018

Prepared for:

Allstate Venture, LLC
13 Hayes Court – Unit 112
Monroe, NY 10950

Prepared by:

SKYLANDS ENGINEERING, LLC
124 Milton Road
Sparta, NJ 07871

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Certificate of Authorization No. 0013524

Eugene J. Schwarzrock, Professional Engineer Date
New York License No. 077007-1

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INTRODUCTION

This project involves the design and construction of a new mixed-use building at 64 Centre Avenue, New Rochelle, Westchester County, New York. The property consists of two adjoining tax lots, Lot 8 to the left (northwest), and Lot 6 to the right (southeast). Both lots are ± 50 ft. wide, and the left lot is ± 100 ft. deep and the right lot is 155 ft. deep. Current plans indicate the building will be 14 to 16 story tall, with two (2) levels of below ground parking and storage. The below ground levels will be constructed out to the lot lines encompassing a footprint of $\pm 12,540$ SF, and beginning at the 3rd floor the left side of the building will end ± 15 ft. in from the rear lot line. The ground floor elevation will match the adjacent sidewalk.

The site currently contains mostly asphalt pavement, however a 50 ft. wide x 57 ft. deep one story stucco garage is situated in the rear of the left lot, and a 47.5 ft. wide x 22 ft. deep covered car wash area is situated in the rear of the right lot. Site elevations are unknown at this time, but the site is generally flat.

This report presents the findings of a subsurface investigation conducted specifically for this project, as well as recommendations for foundation design and construction of the proposed improvements.

GEOLOGY

Based on our review of topographic maps and published geologic data for this area of New Rochelle, including the *Surficial Geologic Map of New York - Lower Hudson Sheet*, 1989, by the New York State Geological Survey, this site is expected to be underlain by glacial till consisting of a mixture of grain sizes ranging from clay and silt, to sand, cobbles and boulders. Underlying bedrock is expected to consist of schists, based on the *(Bedrock) Geologic Map of New York - Lower Hudson Sheet*, 1970, by the New York State Museum and Science Service.

SUBSURFACE INVESTIGATION

Soiltesting, Inc. performed five (5) borings to identify the subsurface conditions present beneath the project site, including borings B-1, B-2, B-3, and B-4 which were drilled on March 22, 2018, and borings B-2A, B-3A, and B-5 which were drilled between June 19 and 20, 2018. Borings B-1, B-2/B-2A and B-3/B-3A were located in the right lot, rear to front, respectively, and Borings B-4, and B-5 were located in the left lot, front to rear, respectively, with boring B-5 drilled inside the existing garage. All borings were sampled continuously to a depth of ± 6 ft. to ± 17 , then at 5 ft. intervals to the completion of each boring. Borings B-2, B-3 and B-5 were terminated on auger refusal at depths of 12.5 ft., 11 ft., and 18 ft., respectively, while 5 ft. of bedrock was cored at the bottom of borings B-1, B-2A, B-3A and B-4, with the first three (3) borings terminated at a depth of 25 ft., and boring B-4 terminated at a depth of 17 ft.

All borings were drilled using a truck-mounted nominal 4- $\frac{1}{4}$ in. hollow stem auger to advance and maintain the hole. Sampling was performed using a 2 in. O.D. split spoon sampler driven by a 140 lb. safety hammer with a 30 in. drop and the number of blows for each 6 in. increment was recorded, in accordance with procedures outlined in ASTM D1586 - Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils. Bedrock was sampled using a double-tube core barrel in accordance with procedures outlined in ASTM D2113 - Standard Practice for Rock Core Drilling and Sampling.

Soil samples were classified by an experienced geologist in general accordance with D.M. Burmister's "Suggested Test Methods for Identification of Soils" (ASTM, 1958) and bedrock samples were classified according to their rock type, and measured percentage recovery and rock quality designation (RQD).

Groundwater was recorded in the field when it was first encountered in the borings and also from two (2) groundwater measurement wells installed in borings B-2 and B-3 in March. These wells were read after 24 hr. in March, and again in June during the subsequent drilling program

A Boring Location Plan and the boring logs are presented in the Appendix.

SUBSURFACE CONDITIONS

The subsurface conditions encountered beneath this site are generally consistent with the published geologic literature. Beneath the pavements, which contained 2 in. to 6 in. of asphalt over 0 in. to 10 in. of concrete, in situ conditions generally contained 3 ft. to 8 ft. of very loose to mostly medium dense granular fill. The majority of the fill was classified as silt with minor amounts of medium to fine sand, however the fill at boring B-4 was predominantly well-graded sand with silt and gravel. Wood and other organic material was also present in the fill from 6 ft. to 8 ft. deep at boring B-4. Beneath this fill, decomposed bedrock was present at boring B-4, while 2 ft. to 5 ft. of medium dense and dense silt or sand was present above weathered bedrock at borings B-1, B-2/2A, and B-3/3A. No fill was encountered at boring B-5 within the garage, and this boring contained well-graded sand with silt and fine gravel from beneath the concrete slab to the top of weathered bedrock at a depth of 11 ft.

Weathered bedrock was encountered in all five (5) borings at depths varying from 7 ft. to 11 ft. This softer bedrock was augered into for a distance of 3 ft. to 13 ft. before either terminating each boring on auger refusal, and/or beginning to core sample the lower, more competent bedrock. Based on the rock cores recovered from borings B-1, B-2A, B-3A, and B-4, underlying bedrock consists of schist.

SPT N-values in the upper fill layer ranged from 4 to 17 blows per foot (bpf). N-values in the underlying virgin soils ranged from 19 bpf to 70 bpf, with an average N-value of 45.

The four (4) bedrock cores had fair to excellent recoveries and RQDs, with recoveries ranging from 72.5% to 100% with an average of 89%, and RQDs ranging from 30% to 90% with an average of 56%.

Water was encountered in most borings at or just below the top of decomposed bedrock during drilling. Readings 24 hr. after installation of the two (2) wells at borings B-2 and B-3 indicated water to present at depths of 5.5 ft. at B-2 near the middle of the site, and 9.5 ft. at B-3 near the front of the site. The June readings from these wells indicated groundwater had stabilized at depths of 7.75 ft. and 7.25 ft., respectively. Given the underlying soil conditions, flat topography of the project site and surrounding area, and the fact that the borings were drilled without the introduction of water, we believe the readings obtained are not a temporary or perched condition and the depth to groundwater varies from 5 ft. to 7 ft. as a function of season.

DESIGN RECOMMENDATIONS

Based on the findings of the above-described subsurface investigation program, it is recommended that conventional spread footings are suitable for support of the proposed building. The recommended frost depth for this area of New York is 42 in. below exterior grade therefore all footings will be well below

this depth. With the planned construction of two (2) underground levels, footings will be ± 20 ft. below grade, which means they will likely be supported on the more competent bedrock present below the weathered bedrock. Based on the results of this investigation, an allowable bearing capacity of 10 tons per square foot (tsf) is recommended for footings constructed on weathered bedrock and a higher allowable bearing capacity of 20 tsf may be used for footings founded on unweathered bedrock. Both these values are higher than the presumptive load-bearing values presented in Table 1806.2 of the New York 2015 Building Code; however, we believe these values are still somewhat conservative and therefore reasonable. The recommended coefficient of friction between cast in place concrete footings and the weathered bedrock is 0.60, which is also higher than that shown in Table 1806.2, but we feel is reasonable.

Following the above recommendations, it is estimated that post construction settlements will be no more than $\frac{1}{4}$ in., with no more than $\frac{1}{4}$ in. differential settlement between adjacent columns. These values are within generally accepted tolerance limits for this type of structure and use. Settlement will be elastic (instantaneous), and essentially complete at the end of construction.

It is expected that construction of the lowest level floor will require backfilling and leveling with granular fill in order to fill areas of excavation. A minimum of 3 in. of granular fill is recommended for placement beneath this slab(s) in order to avoid hard points of contact with the underlying bedrock. Additional granular fill may be preferred so that sub-slab drainage piping can be installed to handle long term dewatering. A modulus of subgrade reaction equal to 250 pci is recommended for a slab-on-grade constructed in this manner. Since groundwater is expected to be ± 13 ft. above the lower level slab, waterproofing or dampproofing with groundwater control is required per section 1805 of the Code.

In accordance with the provisions of Section 1613.3.2 of Code, and ASCE 7 Chapter 20, a seismic site class of B, rock, is recommended for design of the new addition, based on the conditions encountered during the investigation. Based on the project location, in conjunction with the above site class, the following seismic parameters follow from the Code:

$S_s = 0.275$	$S_1 = 0.072$
$F_a = 1.0$	$F_v = 1.0$
$S_{MS} = 0.275$	$S_{M1} = 0.072$
$S_{DS} = 0.184$	$S_{D1} = 0.048$

Seismic Design Category Based on Short Period Response Accelerations = B*

Seismic Design Category Based on 1-sec Period Response Accelerations = A*

* based on assumed Risk Category II

Liquefaction is not a concern since this building will be founded on bedrock.

CONSTRUCTION RECOMMENDATIONS

Footings shall not be constructed on frozen or overly wet subgrade materials. All frozen or saturated subgrade soil should be removed and replaced with compacted structural fill, or clean crushed stone, as required. Bedrock surfaces should be protected from ponding or freezing water since these conditions may weaken the in situ rock during construction. Foundation concrete should be placed as quickly as possible, and within a few days of completing each footing excavation, so that precipitation or freezing temperatures do not adversely affect the bearing rock.

The wood and organic soils encountered in boring B-4 will be removed completely during basement construction therefore these materials should be removed off site and not used as site or structural backfill. Other organic soils were not encountered within the other borings; however, if other organic soils are encountered they should be removed off site and not be used as backfill.

Cobbles and boulders were encountered sporadically in most borings. Any cobbles or boulders encountered during construction should be removed so that no part protrudes into the bottom or sides of foundation excavations.

Based on the reported recoveries and RQD's of the bedrock samples we believe the weathered bedrock may be removed and shaped to the required elevations using conventional hydraulic equipment such as large excavators and rock hammers. The lower, more competent bedrock may need to be drilled and hydraulically split in order to be removed. Blasting is not recommended due to the proximity of the adjacent buildings.

Dewatering is expected to be required during foundation construction since groundwater was observed to be as high as 5.5 ft. below grade, or ± 8 ft. above the anticipated bottom of footing excavations. Depending on the type of support of excavation chosen (see next paragraph), if interlocking steel sheeting is installed around the perimeter of the foundation and that the sheets are toed into the weathered bedrock, it is anticipated that most of the water will be prevented from entering the excavation once the initial volume is removed. Therefore on-going dewatering operations may be accomplished using conventional sump pumps. Should soldier piles and lagging be used, then inflows of groundwater will be higher.

Due to the proximity of adjacent buildings, they will either need to be underpinned down to weathered bedrock, or the support of excavation will need to be designed to handle these additional loads, if it can be so designed. The surrounding buildings are 1 and 2 story brick and 1 story stucco finish so while the loads are not significant, the façades will be susceptible to cracking at very little settlement.

Compacted structural fill should consist of predominately well-graded, coarse to fine sand and/or gravel with a maximum 10% non-plastic fines (material passing a No. 200 sieve) and be free of organics and other deleterious materials. Aggregate size should be limited to no bigger than 1 in. in the largest dimension. It is estimated that none of the in situ materials will be suitable for use as structural fill due to the high silt content. Representative samples of any proposed fill material should be tested for gradation and moisture-density relationship prior to use to confirm its suitability.

Structural fill material should be placed in maximum 12 in. loose lifts and compacted to 95% of its maximum dry density at optimum moisture content as determined by the Modified Proctor Density Test (ASTM D1557). These operations should be performed under full-time geotechnical inspection and testing by either the Sand Cone Method (ASTM D1556), Nuclear Density Gauge (ASTM D2922 and D3012), or other moisture/density test methods. These density tests should be performed by an experienced geotechnical inspector at sufficient frequency and spacing to ensure proper compaction, with the following criteria suggested as guidelines:

Location	Frequency of Testing
Structural fill beneath foundations, adjacent to structures & beneath slabs-on-grade	1 test every 2,500 SF min. 1 test per lift
Utility trenches	1 test every 50-100 LF per lift min. 3 tests per day
General site fill (beyond building limits)	1 test every 5,000 SF per lift min. 1 test per lift

The soils present on site are not considered moisture sensitive, however proper grading and compaction techniques are still required to prevent soils from softening and/or pumping.

For excavations that extend deeper than 5 ft., sheeting, shoring, sloping, or benching of the excavation sidewalls is required per OSHA standards. Considering the proximity of adjacent properties, buildings, and sidewalks, it is expected that sheeting or shoring will be required. For the design of temporary sheeting or shoring, the following soil parameters may be used:

Fill (0 - ±8 ft.)

Moist unit weight of soil, $\gamma_t = 115$ pcf
 Angle of internal friction, $\phi = 28^\circ$

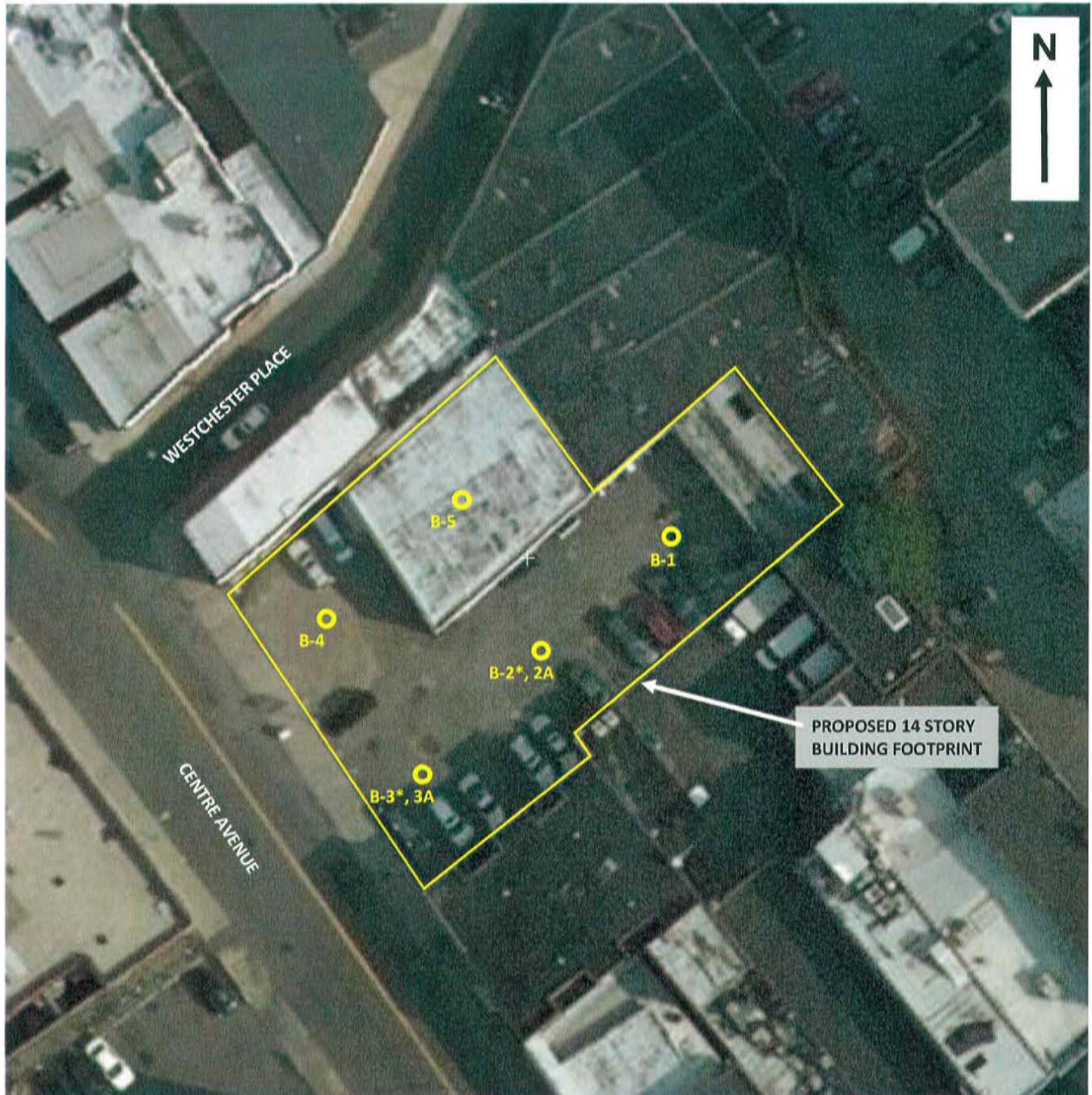
Silty sand (±8 - 11 ft. top of weathered bedrock)

Moist unit weight of soil, $\gamma_t = 120$ pcf
 Angle of internal friction, $\phi = 36^\circ$

All sheeting, shoring and bracing shall be designed by a professional engineer licensed in the State of New York. Shorter, unbraced excavations will experience localized instability (i.e., sloughing) if left open for more than a few days due to the gradation of the material and lack of moisture. To reduce the severity of this sloughing, such excavations should be covered with plastic sheeting for protection from rainfall and moisture changes.

It is recommended that all foundation and slab-on-grade subgrade preparation procedures be inspected by a qualified geotechnical engineer experienced with this type of construction.

APPENDIX



LEGEND

- BORING
- B-1
- * TEMP. GW MEASURING WELL

SCALE
N.T.S.

NOTES:

1. BASE IMAGERY © ZOOM.EARTH, 7-12-2018

BORING LOCATION PLAN
ALLSTATE VENTURES, LLC 64 CENTRE AVENUE NEW ROCHELLE, NEW YORK
SKYLANDS ENGINEERING, LLC
124 MILTON ROAD SPARTA, NJ 07871 CERTIFICATE OF AUTHORIZATION NO. 0013524
DATE: 7-13-2018

Boring Logs

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: Allstate Ventures, LLC	SHEET <u>1</u> OF <u>1</u>
	PROJECT NO. G41-0946-18	HOLE NO. B-1
	PROJECT NAME 64 Centre Avenue	BORING LOCATIONS per Plan
FOREMAN - DRILLER BD/ms - D-120 II	LOCATION New Rochelle, NY	
INSPECTOR	CASING TYPE HSA	SAMPLER SS
GROUND WATER OBSERVATIONS AT <u>none</u> FT AFTER <u>0</u> HOURS AT <u> </u> FT AFTER <u> </u> HOURS	CORE BAR NWD4	OFFSET
	SIZE I.D. 4 1/4"	DATE START 3/22/18
	HAMMER WT. 140#	DATE FINISH 3/22/18
	HAMMER FALL 30"	SURFACE ELEV.
		GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE					BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE)		CORE TIME PER FT (MIN)	DENSITY OR CONSIST	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		NO	Type	PEN	REC	DEPTH @ BOT	0 - 6	6 - 12				
5		1	ss	24"	18"	2'0"	2 / 12"			moist	3'6"	6" ASPHALT
						1 / 12"			v soft	Brn SILT		
		2	ss	24"	18"	4'0"	2	4		moist/wet	Brn SILT, sm FM sand (fill)	
							9	15		stiff		
		3	ss	24"	17"	6'0"	7	7		moist/wet	8'0"	Brn SILT & FM SAND, lit C gravel, cobbles (poss fill to 6')
						8	9		stiff	Brn SILT, sm FMC sand, FC gravel		
10		4	ss	24"	17"	8'0"	14	14		dry/moist		
							26	27		hard		
		5	ss	11"	10"	8'11"	27	50/4"		hard		partially weathered BEDROCK
15		6	ss	5"	5"	10'5"	50/5"			dry		SAME
		7	ss	1"	0"	15'1"	50/1"			hard		
20											20'0"	AUGER REFUSAL
		1	c	60"	50"	25'0"	RQD = 60%		2			BEDROCK (Schist)
							Rec = 83%		3			
									3			
									2			
25									3		25'0"	
30												E.O.B. 25'0"
35												
40												

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

GROUND SURFACE TO _____ FT. USED _____ CASING THEN _____ CASING TO _____ FT.	HOLE NO. B-1
A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST	
WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS C = COARSE	
SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER M = MEDIUM	
PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND = 35 - 50%	F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: Allstate Ventures, LLC	SHEET <u>1</u> OF <u>1</u>
	PROJECT NO. G41-0946-18	HOLE NO. B-2
	PROJECT NAME 64 Centre Avenue	BORING LOCATIONS per Plan
FOREMAN - DRILLER BD/ms - D-120 II	LOCATION New Rochelle, NY	
INSPECTOR	CASING TYPE HSA	SAMPLER SS
GROUND WATER OBSERVATIONS AT <u>none</u> FT AFTER <u>0</u> HOURS AT <u>5'6"</u> FT ON <u>3-23-18</u> AT <u>7'9"</u> FT ON <u>6-20-18</u>	SIZE I.D. 4 1/4"	CORE BAR NWD4
	HAMMER WT. 140#	OFFSET DATE START 3/22/18
	HAMMER FALL 30"	DATE FINISH 3/22/18
		SURFACE ELEV.
		GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE					BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE)		CORE TIME PER FT (MIN)	DENSITY OR CONSIST	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		NO	Type	PEN	REC.	DEPTH @ BOT	0 - 6	6 - 12				
5	1	ss	24"	12"	2'0"	2	1		moist	8" ASPHLAT / 2" CONCRETE Brn SILT Brn SILT (poss fill to 4'6") Brn SILT, tr F sand, cobbles SAME; tr boulders		
	2	ss	24"	10"	4'0"	4	10		moist/wet			
	3	ss	24"	14"	6'0"	5	7		stiff			
	4	ss	24"	16"	8'0"	9	9		moist			
	5	ss	24"	16"	8'0"	10	14		v stiff			
10	4	ss	24"	16"	8'0"	15	22		moist	8'6" partially decomposed BEDROCK		
	5	ss	11"	10"	8'11"	26	25		hard			
	6	ss	2"	2"	10'2"	27	50/5"		moist			
15									dry/moist	12'6" AUGER REFUSAL E.O.B. 12'6"		
									hard			
20										Installed 1" SCH 40 PVC observation well with 10' screen to 12'6" Depth. Set curb box at surface.		
25												
30												
35												
40												

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

GROUND SURFACE TO _____ FT. USED _____ CASING THEN _____ CASING TO _____ FT. **HOLE NO. B-2**

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST
 WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS C = COARSE
 SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER M = MEDIUM
 PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND = 35 - 50% F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: Allstate Ventures, LLC	SHEET <u>1</u> OF <u>1</u>
	PROJECT NO. G115-1034-18	HOLE NO. B-2A
FOREMAN - DRILLER DJD/mk	PROJECT NAME 64 Centre Avenue	BORING LOCATIONS per Plan
INSPECTOR	LOCATION New Rochelle, NY	
GROUND WATER OBSERVATIONS AT <u>7'6"</u> FT AFTER <u>0</u> HOURS AT <u> </u> FT AFTER <u> </u> HOURS	CASING TYPE HSA SIZE I.D. 4 1/4" HAMMER WT. 140# HAMMER FALL 30"	SAMPLER SS CORE BAR NQ2 1 3/8" BIT 30" dia
	OFFSET	DATE START 6/19/18
		DATE FINISH 6/20/18
		SURFACE ELEV.
		GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE					BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 6 - 12 12- 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		NO	Type	PEN	REC.	DEPTH @ BOT					
5										2" ASPHALT / 10" CONCRETE (see B-2)	
10								moist/wet	7'0"	partially decomposed BEDROCK	
20									20'0"	AUGER REFUSAL	
		1	c	60"	46.5"	25'0"	RQD = 30%	2		BEDROCK (Schist / Gniess)	
							Rec = 78%	2			
								3			
								2			
25								2	25'0"		
30										E.O.B. 25'0"	
35											
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

GROUND SURFACE TO _____ FT. USED _____ CASING THEN _____ CASING TO _____ FT. **HOLE NO. B-2A**

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST
 WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS C = COARSE
 SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER M = MEDIUM
 PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND = 35 - 50% F = FINE

SOIL TESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: Allstate Ventures, LLC	SHEET <u>1</u> OF <u>1</u>
	PROJECT NO. G41-0946-18	HOLE NO. B-3
FOREMAN - DRILLER DJD/jk - D-50T	PROJECT NAME 64 Centre Avenue	BORING LOCATIONS per Plan
INSPECTOR	LOCATION New Rochelle, NY	OFFSET
GROUND WATER OBSERVATIONS AT <u>none</u> FT AFTER <u>0</u> HOURS AT <u>9'6"</u> FT ON <u>3-23-18</u> AT <u>7'3"</u> FT ON <u>6-20-18</u>	CASING TYPE HSA	SAMPLER SS
	SIZE I.D. 3 3/4"	CORE BAR 1 3/8"
	HAMMER WT. 140#	BIT
	HAMMER FALL 30"	DATE START 3/22/18
		DATE FINISH 3/22/18
		SURFACE ELEV.
		GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE					BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE)			CORE TIME PER FT (MIN)	DENSITY OR CONSIST	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		NO	Type	PEN	REC	DEPTH @ BOT	0-6	6-12	12-18				
5		1	ss	24"	6"	2'0"	4	4		moist	3'0"	4" ASPHALT / 8" CONCRETE	
						6	3		stiff	Brn SILT, sm FM sand, tr clay, F gravel			
		2	ss	24"	18"	4'0"	1	4		moist	SAME (fill)		
							13	17		compact	Brn FM SAND & SILT, lit C sand, tr F gravel		
		3	ss	24"	20"	6'0"	16	21		moist	Brn FM SAND & C SAND, SILT, sm F gravel		
							17	19		dense			
10		4	ss	24"	20"	8'0"	13	17		moist	8'0"	Brn Gry FMC SAND & F GRAVEL, sm silt, tr cobbles, boulders	
						12	25		compact				
		5	ss	6"	5"	8'6"	100/6"			v dense	partially decomposed BEDROCK		
		6	ss	1"	1"	10'1"	50/1"			v dense	11'0"	SAME AUGER REFUSAL	
15											E.O.B. 11'0"		
20											Installed 1" SCH 40 PVC observation well with 10' screen to 11' depth. Set curb box at surface.		
25													
30													
35													
40													

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

GROUND SURFACE TO _____ FT. USED _____ CASING THEN _____ CASING TO _____ FT. **HOLE NO. B-3**

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST
 WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS C = COARSE
 SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER M = MEDIUM
 PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND = 35 - 50% F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: Allstate Ventures, LLC	SHEET <u>1</u> OF <u>1</u>
	PROJECT NO. G115-1034-18	HOLE NO. B-3A
	PROJECT NAME 64 Centre Avenue	BORING LOCATIONS per Plan
FOREMAN - DRILLER DJD/mk	LOCATION New Rochelle, NY	
INSPECTOR	CASING TYPE HSA	SAMPLER SS
	CORE BAR NQ2	OFFSET
GROUND WATER OBSERVATIONS AT <u>7'</u> FT AFTER <u>0</u> HOURS	SIZE I.D. 4 1/4"	1 3/8"
AT <u> </u> FT AFTER <u> </u> HOURS	HAMMER WT. 140#	BIT 30"
	HAMMER FALL	dia
		DATE START 6/19/18
		DATE FINISH 6/20/18
		SURFACE ELEV.
		GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE				DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 6 - 12 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		NO	Type	PEN	REC.						
5										3" ASPHALT / 10" CONCRETE (See B-3)	
10								moist/wet	7'0"	partially decomposed BEDROCK	
20									20'0"	AUGER REFUSAL	
		1	c	60"	60"	25'0"	RQD = 90%	2		BEDROCK (Schist / Gniess)	
							Rec = 100%	2.05			
								2.1			
								2.15			
25								2.2	25'0"		
30										E.O.B. 25'0"	
35											
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

GROUND SURFACE TO _____ FT. USED _____ CASING THEN _____ CASING TO _____ FT. **HOLE NO. B-3A**

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS C = COARSE

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER M = MEDIUM

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND = 35 - 50% F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: Allstate Ventures, LLC	SHEET <u>1</u> OF <u>1</u>
	PROJECT NO. G41-0946-18	HOLE NO. B-4
	PROJECT NAME 64 Centre Avenue	BORING LOCATIONS per Plan
FOREMAN - DRILLER DJD/jk - D-50T	LOCATION New Rochelle, NY	
INSPECTOR		
GROUND WATER OBSERVATIONS AT <u>none</u> FT AFTER <u>0</u> HOURS AT <u> </u> FT AFTER <u> </u> HOURS	CASING TYPE HSA SAMPLER SS CORE BAR NQ SIZE I.D. 3 3/4" 1 3/8" 2" HAMMER WT. 140# BIT HAMMER FALL 30" dia	OFFSET DATE START 3/22/18 DATE FINISH 3/22/18 SURFACE ELEV. GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE				BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE)			CORE TIME PER FT (MIN)	DENSITY OR CONSIST	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		NO	Type	PEN	REC.	DEPTH @ BOT	0 - 6	6 - 12				
5	1	ss	24"	6"	2'0"	12	9				2" ASPHALT Brn FM SAND & SILT, C SAND, F GRAVEL SAME	
	2	ss	24"	9"	4'0"	5	6					
	3	ss	24"	10"	6'0"	25	72					Brn FMC SAND & F GRAVEL, silt
	4	ss	24"	6"	8'0"	2	1					8'0" SAME; tr wood, organics (fill)
	5	ss	5"	5"	8'5"	100/5"						
10	6	ss	4"	4"	10'4"	50/4"					partially weathered BEDROCK	
	1	c	60"	60"	17'0"	RQD = 43%		2			12'0" AUGER REFUSAL	
15						Rec = 100%		3			BEDROCK (Schist)	
								2				
								3				
								2			17'0"	
20											E.O.B. 17'0"	
25												
30												
35												
40												

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

GROUND SURFACE TO _____ FT.	USED _____ CASING	THEN _____ CASING TO _____ FT.	HOLE NO. B-4
A = AUGER	UP = UNDISTURBED PISTON	T = THINWALL	V = VANE TEST
WOR = WEIGHT OF RODS	WOH = WEIGHT OF HAMMER & RODS		C = COARSE
SS = SPLIT TUBE SAMPLER	H.S.A. = HOLLOW STEM AUGER		M = MEDIUM
PROPORTIONS USED: TRACE = 0 - 10%	LITTLE = 10 - 20%	SOME = 20 - 35%	AND = 35 - 50%
			F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: Allstate Ventures, LLC	SHEET <u>1</u> OF <u>1</u>
	PROJECT NO. G41-0946-18	HOLE NO. B-5
	PROJECT NAME 64 Centre Avenue	BORING LOCATIONS per Plan
FOREMAN - DRILLER DJD/mk	LOCATION New Rochelle, NY	
INSPECTOR	TYPE HSA	CASING HSA
GROUND WATER OBSERVATIONS AT <u>11</u> FT AFTER <u>0</u> HOURS AT <u> </u> FT AFTER <u> </u> HOURS	SIZE I.D. 2 1/2"	SAMPLER SS
	HAMMER WT. 140#	CORE BAR BIT
	HAMMER FALL 30"	OFFSET
		DATE START 6/19/18
		DATE FINISH 6/20/18
		SURFACE ELEV.
		GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE					BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE)			CORE TIME PER FT (MIN)	DENSITY OR CONSIST	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		NO	Type	PEN	REC.	DEPTH @ BOT	0 - 6	6 - 12	12 - 18				
5		1	ss	18"	18"	2'0"	2	2		dry		10" CONCRETE Brn FMC SAND, sm clay, lit F gravel, tr silt Brn FMC SAND, lit F gravel, tr silt Brn Gry FMC SAND & SILT, sm F gravel, tr cobbles Brn Gry FMC SAND & SILT, sm F gravel	
						7				loose			
		2	ss	15"	15"	3'3"	15	26		dry			
							50/3"			v dense			
		3	ss	17"	7"	5'5"	47	62		dry			
10						100/5"				v dense			
		4	ss	2"	2"	6'2"	50/2"			v dense			
15		5	ss	24"	17"	12'0"	32	37		wet	11'0"	SAME	
							33	34		v dense		partially decomposed BEDROCK	
20		6	ss	0"	0"	15'0"	50/0"			v dense		No Recovery	
											18'0"	AUGER REFUSAL	
25												E.O.B. 18'0"	
30													
35													
40													

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

GROUND SURFACE TO FT. USED CASING THEN CASING TO FT. HOLE NO. **B-5**

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST
 WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS C = COARSE
 SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER M = MEDIUM
 PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND = 35 - 50% F = FINE