

BORING B-1			
DEPTH FT.	SPOON BLOWS PER 1/2 FT.	HOLLOW STEM AUGER	MATERIAL
GROUND SURFACE			
	4 6		Uncontrolled Fills With Clayey Sands.
5.0	16 35	25 32	Granular Soils SM Fine Brown Sands With Pieces Of Boulders And Traces Of Silts. Class 3a MOIST
10.0	36 38	22 48	Granular Soils SM Fine Brown Sands With Pieces Of Boulders And Traces Of Silts. Class 3a MOIST
15.0	34 42	19 34	Granular Soils SM Fine Brown Sands With Pieces Of Boulders And Traces Of Silts. Class 3a MOIST
20.0	31 18	24 28	Granular Soils SM Fine Brown Sands With Gravel And Traces Of Silts. Class 3a MOIST
25.0	22 24	17 28	Granular Soils SM Fine Brown Sands With Gravel And Traces Of Silts. Class 3a MOIST
30.0	19 17	27 21	Granular Soils SM Fine Brown Sands With Gravel And Traces Of Silts. Class 3a MOIST End of Hole 32'
35.0			

BORING B-2			
DEPTH FT.	SPOON BLOWS PER 1/2 FT.	HOLLOW STEM AUGER	MATERIAL
GROUND SURFACE			
	6 9	8 11	Uncontrolled Fills With Fine Brown Sands.
5.0	18 38	26 30	Granular Soils SM Fine Brown Sands With Pieces Of Boulders And Traces Of Silts. Class 3a MOIST
10.0	34 31	21 32	Granular Soils SM Fine Brown Sands With Pieces Of Boulders And Traces Of Silts. Class 3a MOIST
15.0	32 26	46 31	Granular Soils SM Fine Brown Sands With Pieces Of Boulders And Traces Of Silts. Class 3a MOIST
20.0	26 21	17 19	Granular Soils SM Fine Brown Sands With Gravel And Traces Of Silts. Class 3a MOIST
25.0	25 20	19 18	Granular Soils SM Fine Brown Sands With Gravel And Traces Of Silts. Class 3a MOIST
30.0	21 19	16 23	Granular Soils SM Fine Brown Sands With Gravel And Traces Of Silts. Class 3a MOIST End of Hole 32'
35.0			

SB-4321
Note: During drilling operation the Ground Water Table was not encountered.
Please note the moist condition listed on the borings.

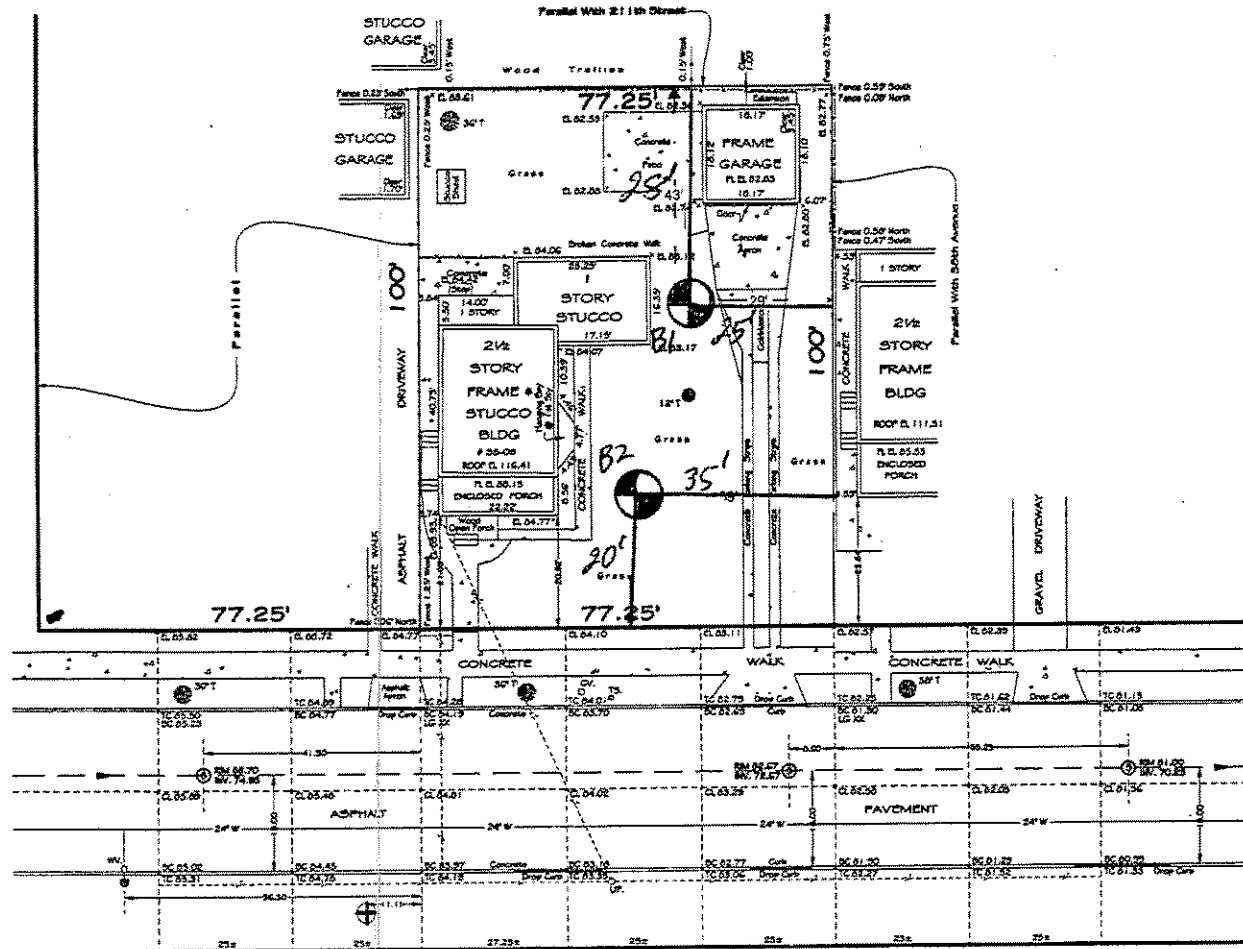
SB-4321
B-1 PERCOLATION TEST RESULTS

TIME (MINUTES)		DROP IN WATER LEVEL (FEET)	
1		1.0	
5		1.8	
10		3.0	
15		4.5	
30		5.7	
45		7.0	
60		8.2	

Major Divisions		Group Symbols		Typical Names		Field Identification and Description		Laboratory Required for Descriptions		Laboratory Classification Criteria	
Fine-grained Soils		Coarse-grained Soils		The No. 200 sieve size is about the smallest visible to the naked eye.		The No. 200 sieve size is about the smallest visible to the naked eye.		Use grain-size curve in identifying the fractions as given under field identification.		Plasticity Index	
Sands and Silts		Gravels		Sands with Fine (Appreciable amount of fines)		Clean Sands (Little or no fines)		Gravels with Fine (Appreciable amount of fines)		Clean Gravels (Little or no fines)	
SC		SM		SP		SW		GC		GW	
Silty sands, sand-silt mixtures, clayey sands, sand-clay mixtures.		Silty sands, sand-silt mixtures, clayey sands, sand-clay mixtures.		Silty sands, sand-silt mixtures, clayey sands, sand-clay mixtures.		Silty sands, sand-silt mixtures, clayey sands, sand-clay mixtures.		Silty sands, sand-silt mixtures, clayey sands, sand-clay mixtures.		Silty sands, sand-silt mixtures, clayey sands, sand-clay mixtures.	
CL		ML		CL		ML		CL		ML	
Clays with liquid limit greater than 50		Clays with liquid limit less than 50		Clays with liquid limit greater than 50		Clays with liquid limit less than 50		Clays with liquid limit greater than 50		Clays with liquid limit less than 50	
CH		MH		CH		MH		CH		MH	
Highly compressible clays with liquid limit greater than 50		Highly compressible clays with liquid limit less than 50		Highly compressible clays with liquid limit greater than 50		Highly compressible clays with liquid limit less than 50		Highly compressible clays with liquid limit greater than 50		Highly compressible clays with liquid limit less than 50	
OH		OM		OH		OM		OH		OM	
Organic clays with liquid limit greater than 50		Organic clays with liquid limit less than 50		Organic clays with liquid limit greater than 50		Organic clays with liquid limit less than 50		Organic clays with liquid limit greater than 50		Organic clays with liquid limit less than 50	
PT		PT		PT		PT		PT		PT	
Peat and other highly organic soils		Peat and other highly organic soils		Peat and other highly organic soils		Peat and other highly organic soils		Peat and other highly organic soils		Peat and other highly organic soils	

ALLOWABLE BEARING PRESSURES, N.Y.C. BLDG. CODE BC-1804		
CLASS OF MATERIALS (NOTES 1 AND 3)	MAXIMUM ALLOWABLE FOUNDATION PRESSURE (TSF)	MAXIMUM ALLOWABLE FOUNDATION PRESSURE (KIPS)
1. BEDROCK (NOTES 3, 4, 5)		
1a Hard sound rock—granite, diorite, schist	60	5,746
1b Medium hard rock—marble, serpentine	40	3,830
1c Intermediate rock—slate, sandstone	20	1,915
1d Soft rock—weathered rock	8	766
2. SANDY GRAVEL AND GRAVEL (ON GP)		
(Notes 3, 4, 5 & 9)	10	958
2a Dense	10	958
2b Medium	6	575
3. GRANULAR SOILS (GC, GM, SW, SP, SM, SC)		
3a Dense	6	575
3b Medium	3	287
4. CLAYS (SC, CL, CH)		
4a Hard	5	479
4b Soft	3	287
4c Medium	1.5	144
5. SILTS AND SILTY SOILS (ML, MH)		
(Notes 4, 5 & 9)	3	287
5a Dense	3	287
5b Medium	1.5	144
6. ORGANIC SILTS, ORGANIC CLAYS, PEATS, SOFT CLAYS, LOOSE GRANULAR SOILS AND MIXED SILTS.	See 1804.2.1	See 1804.2.1
7. CONTROLLED AND UNCONTROLLED FILLS.	See 1804.2.2 OR 1804.2.3	See 1804.2.2 OR 1804.2.3
NOTES:		
1. WHERE THERE IS DOUBT AS TO THE APPLICABLE CLASSIFICATION OF A SOIL STRATUM, THE ALLOWABLE BEARING PRESSURE APPLICABLE TO THE LOWER CLASS OF MATERIAL TO WHICH THE GIVEN STRATUM MIGHT CONFORM SHALL APPLY.		
2. THE TABULATED VALUES OF ALLOWABLE BEARING PRESSURES APPLY ONLY FOR MASSIVE ROCKS OR FOR SEDIMENTARY OR FOLIATED ROCKS, WHERE THE STRATA ARE LEVEL OR NEARLY SO, AND THEN ONLY IF THE AREA HAS ADEQUATE LATERAL SUPPORT, TILTED STRATA AND THEIR RELATION TO NEARBY SLOPES OR EXCAVATIONS SHALL RECEIVE SPECIAL CONSIDERATION. THE TABULATED VALUES FOR CLASS 1c MATERIALS (HARD SOUND ROCK) MAY BE INCREASED BY 25 PERCENT PROVIDED THE GEOTECHNICAL ENGINEER PERFORMS ADDITIONAL TESTS AND/OR ANALYSIS SUBSTANTIATING THE INCREASE.		
3. FOR INTERMEDIATE CONDITIONS, VALUES OF ALLOWABLE BEARING PRESSURE SHALL BE ESTIMATED BY INTERPOLATION BETWEEN INDICATED EXTREMES.		
4. FOOTING EMBEDMENT IN SOILS SHALL BE IN ACCORDANCE WITH SECTION 1805.2 AND THE WIDTH OF THE LOADED AREA NOT LESS THAN 2 FEET (610MM), UNLESS ANALYSIS DEMONSTRATES THAT THE PROPOSED CONSTRUCTION WILL HAVE A MINIMUM FACTOR OF SAFETY OF 2.0 AGAINST SHEAR FAILURE OF THE SOILS ANALYZED. ESTIMATES OF SETTLEMENTS SHALL GOVERN THE ALLOWABLE BEARING VALUE, SUBJECT TO THE MAXIMUM GIVEN IN THIS TABLE AND AS PROVIDED IN SECTION 1804.2.		
5. THE BEARING CAPACITY OF CLAY SOILS SHALL BE ESTABLISHED ON THE BASIS OF THE STRENGTH OF SUCH SOILS AS DETERMINED BY FIELD OR LABORATORY TESTS AND SHALL PROVIDE A FACTOR OF SAFETY AGAINST FAILURE OF THE SOIL OF NOT LESS THAN 2.0 COMPUTED ON THE BASIS OF A RECOGNIZED PROCEDURE OF SOILS ANALYSIS. SHALL ACCOUNT FOR PROBABLE SETTLEMENTS OF THE BUILDING AND SHALL NOT EXCEED THE TABULATED MAXIMUM VALUES.		
6. INCREASES IN ALLOWABLE BEARING PRESSURE DUE TO EMBEDMENT OF THE FOUNDATION, THE ALLOWABLE BEARING VALUES FOR INTERMEDIATE TO HARD ROCK SHALL APPLY WHERE THE LOADED AREA IS ON THE SURFACE OF SOUND ROCK, WHERE THE LOADED AREA IS BELOW THE ADJACENT ROCK SURFACE AND IS FULLY CONFINED BY THE ADJACENT ROCK MASS AND PROVIDED THAT THE ROCK MASS HAS NOT BEEN SPALLING BY BLASTING OR OTHERWISE, IS OR HAS BEEN RENDERED UNSOUND, THESE VALUES MAY BE INCREASED 10 PERCENT OF THE BASE VALUE FOR EACH 1 FOOT (0.3 METERS) OF EMBEDMENT BELOW THE SURFACE OF THE ADJACENT ROCK SURFACE IN EXCESS OF 1 FOOT (0.3 METERS), BUT SHALL NOT EXCEED 200 PERCENT OF THE VALUES.		
7. THE ALLOWABLE BEARING VALUES FOR SOILS OF CLASSES 2, 3, 4, AND 5 DETERMINED IN ACCORDANCE WITH NOTES THREE, FOUR AND FIVE ABOVE, SHALL APPLY WHERE THE LOADED AREA IS EMBEDDED 4 FEET (1219MM) OR LESS IN THE BEARING STRATUM, WHERE THE LOADED AREA IS EMBEDDED MORE THAN 4 FEET (1219MM) BELOW THE ADJACENT SURFACE OF THE BEARING STRATUM, AND IS FULLY CONFINED BY THE WEIGHT OF THE ADJACENT SOIL. THESE VALUES MAY BE INCREASED 5 PERCENT OF THE BASE VALUE FOR EACH 1-FOOT (305MM) ADDITIONAL EMBEDMENT, BUT SHALL NOT EXCEED TWICE THE VALUES INCREASES IN ALLOWABLE BEARING PRESSURE DUE TO EMBEDMENT SHALL NOT APPLY TO SOFT ROCK, CLAYS, SILTS AND SOILS OF CLASSES 6 AND 7.		
8. THE ALLOWABLE BEARING VALUES FOR SOILS OF CLASSES 2, 3, 4, AND 5 DETERMINED IN ACCORDANCE WITH THIS TABLE AND THE NOTES THEREON, MAY BE INCREASED UP TO ONE-THIRD WHERE THE DENSITY OF THE BEARING STRATUM BELOW THE BOTTOM OF THE FOOTINGS INCREASES WITH DEPTH AND IS NOT UNDERLAIN BY MATERIALS OF A LOWER ALLOWABLE BEARING PRESSURE. SUCH ALLOWABLE BEARING VALUES SHALL BE DEMONSTRATED BY A RECOGNIZED MEANS OF ANALYSIS THAT THE PROBABLE SETTLEMENT OF THE FOUNDATION DUE TO COMPRESSION, AND/OR CONSOLIDATION DOES NOT EXCEED ACCEPTABLE LIMITS FOR THE PROPOSED BUILDING.		
9. THE MAXIMUM DE PRESSURE FOR EMBEDMENT OF FOOTINGS MAY EXCEED THE ALLOWABLE BEARING VALUE BY UP TO 25 PERCENT IF IT IS DEMONSTRATED THAT THE HEEL OF THE FOOTING IS NOT SUBJECTED TO TENSION.		
10. SOIL DESCRIPTIONS ARE BY VISUAL EXAMINATION OF SOIL SAMPLES RECOVERED DURING DRILLING OPERATIONS. SOIL DESCRIPTIONS ARE IN ACCORD WITH THE UNITED SOILS CLASSIFICATION SYSTEM AND N.Y.C. BUILDING CODE BC-1804. GROUND WATER WAS MEASURED INSIDE THE DRILL CASING OR HOLLOW AUGER AT THE COMPLETION OF EACH BOREHOLE. ALL BORING ELEVATIONS ARE REFERENCED TO EXISTING GROUND LEVEL AS ZERO ELEVATION.		
"N" STANDARD PENETRATION TEST (2" SPOON, 140LB HAMMER, 30" FALL)		
N = 17 BLOWS PER FOOT		
SPOON BLOW COUNT IS GENERALLY SHOWN IN 6" INCREMENTS FOR 2" DRIVE TO OBTAIN BLOWS PER FOOT (N) USE THE 2ND & 3RD 6" INCREMENT		
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TYPE OF CORE BARRELS AND DIAMOND BITS:		
SIZE O.D. CORE DIAMETERS		
AX 1-7/8" 1-1/8"		
BX 2-1/8" 1-5/8"		
NX 2-1/8" 2-1/8"		
AXM 1-7/8" 1-1/8"		
NXM 2-1/8" 2-1/8"		
B 2" 1-3/8"		
WEIGHT OF HAMMERS:		
300 LBS. ON 2 1/2" CASING—18" DROP		
140 LBS. ON 2" SPOON—30" DROP		
SPOON—SPLIT SAMPLER—2" O.D.—1 3/8" I.D. (24" LONG)		
GROUND WATER TABLE (G.W.T.) AS NOTED ON BORING LOGS, IS ONLY THE FIRST INDICATION OF WATER ENCOUNTERED BY OUR DRILLERS.		
ACE INSPECTION AND TESTING SERVICES, INC. SUBSOIL INVESTIGATION		
107-16 JAMAICA AVENUE, PHONE (718) 441-6009, RICHMOND HILL, NY 11418		
TITLE:		
APPLICANT SEAL		
DRAWN BY: Shazad Khan		
CHECKED BY: Kenneth C. Thomas, P.E.		
DATE DRAWN: 01-11-13		
DATE REVISED:		
PROJECT: 38-09 211 th Street Queens.		
CLIENT: Mr. Run Zhao Mei.		
B-1367.00		
DRAWING REF: SB-4321		
SHEET NO.: 1 OF 1		
DEPARTMENT OF BUILDINGS		
SELF CERTIFICATION		

38th AVENUE



211th STREET