

**SUBSOIL
INVESTIGATIONS****SOIL MECHANICS DRILLING CORP.**3770 MERRICK ROAD • SEAFORD, L. I., NEW YORK 11783
(516) 221-2333 • FAX (516) 221-0254

August 9, 2013

50 Lex Development LLC
c/o Ceruzzi Properties
1720 Post Road
Fairfield, CT 06824
Att: Kenneth Cartelli, Sr. Vice President

Re: 138 E. 50th St. &
151 E. 49th St.
New York, NY
Our Job #13-294

Gentlemen:

Forwarded herewith are copies of the boring logs for drilling work completed at the above referenced site.

The purpose of the subsurface investigation was to determine the nature and extent of the underlying soil deposits and determine the structural engineering characteristics of the soil at the site. A 2" diameter, 2'0" long split spoon sampler was advanced into the subsurface by the use of an automatic 140 lb. hammer with a 30" drop. From the drops of the hammer, blow counts required to advance the split spoon sampler over each 6" interval were recorded and is shown on the boring logs.

Our investigation revealed that the areas drilled are blanketed by from 2 ft. to 4 ft. of loose to moderately dense soil and rubble fill, underlain, generally, by a moderately dense to dense silty sand with traces of gravel and rock fragments extending to decomposed rock or rock. Decomposed rock was encountered between 3-1/2 ft. to 15 ft. below the existing basement floor.

Water was encountered in three or the five borings at depths ranging from 4'-5" to 6'-4" at the time the work was done and is not considered reliable due to the impervious nature of the soils encountered.

The natural sand below the fill is capable of supporting foundation loads of 2 to 4 tons per square foot. The decomposed rock is capable of supporting 8 tons per square foot and the hard rock (1C) is capable of supporting 20 tons per square foot.

With respect to liquefaction, the site is classified as Category "C", liquefaction unlikely.

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With respect to seismic, the site is classified as Site Class "C" per the New York City Code.

Frost penetration in this area is 4 feet. All exterior foundations must have a minimum of 4 foot of cover.

It would appear, due to the high loads and the configuration of the building, you may need to install rock sockets into the lower hard rock. We recommend taking some additional borings and test pits to better define the rock profile and condition.

Soil samples recovered during drilling operations will be stored in our lab for a period of 30 days after which they will be destroyed. During this period we will deliver these samples to any prescribed location upon request.

If after you examine the enclosed you have any further questions, please feel free to call and discuss them with us.

Billing is enclosed.

Very truly yours,

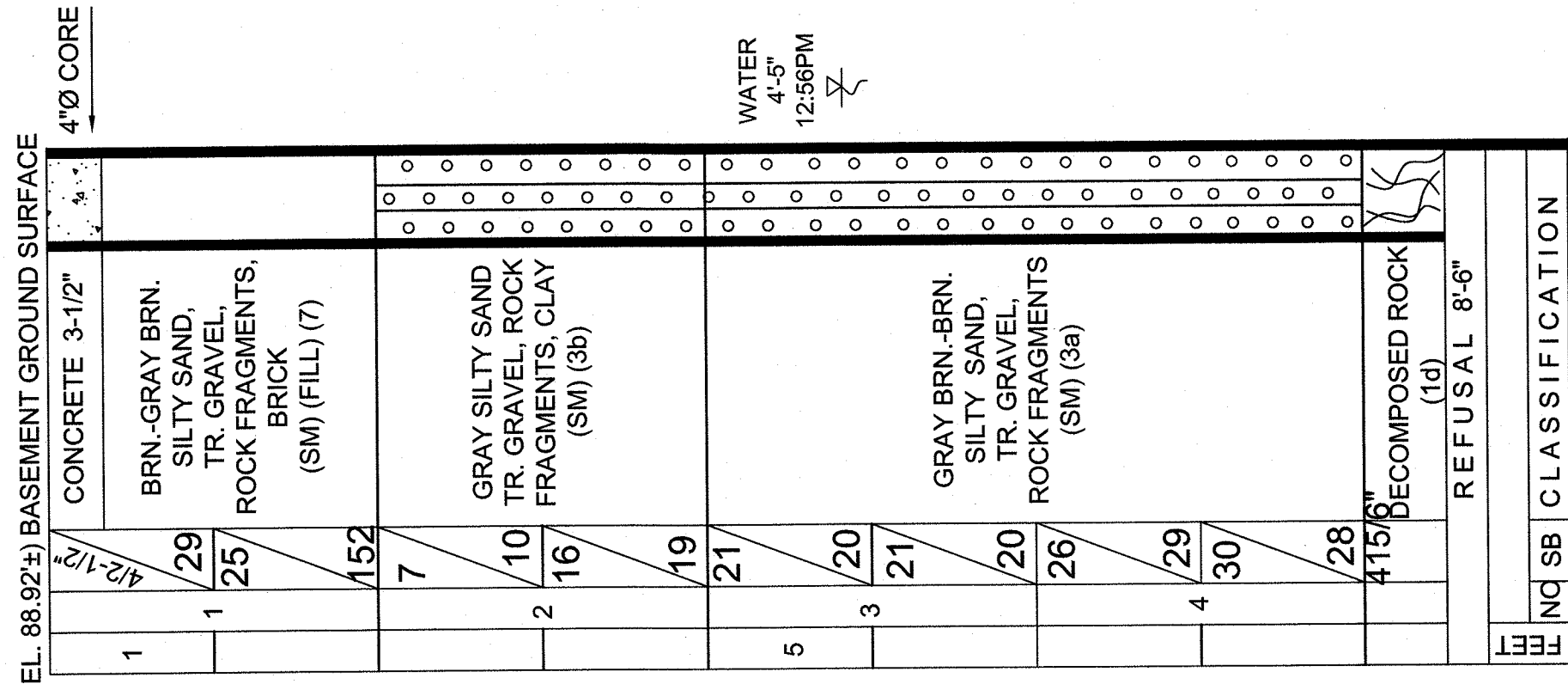
SOIL MECHANICS DRILLING CORP.

Carl Vernick, P.E.
President

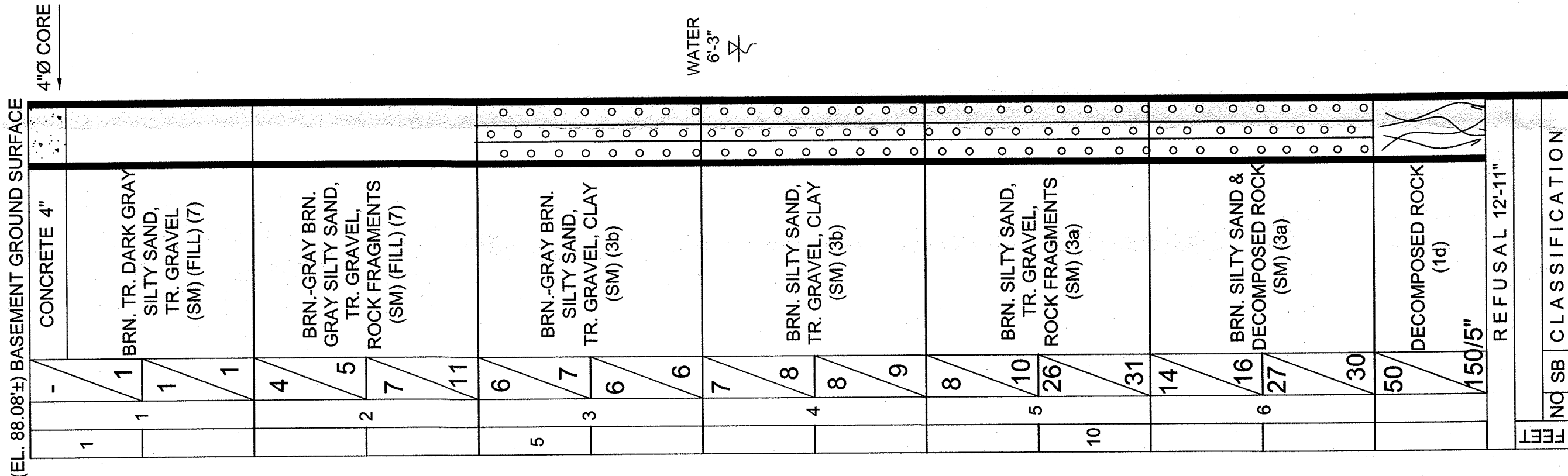


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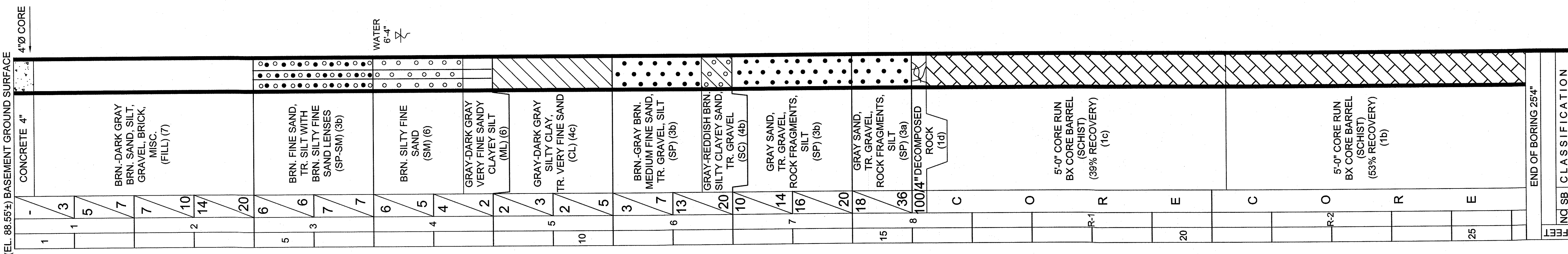
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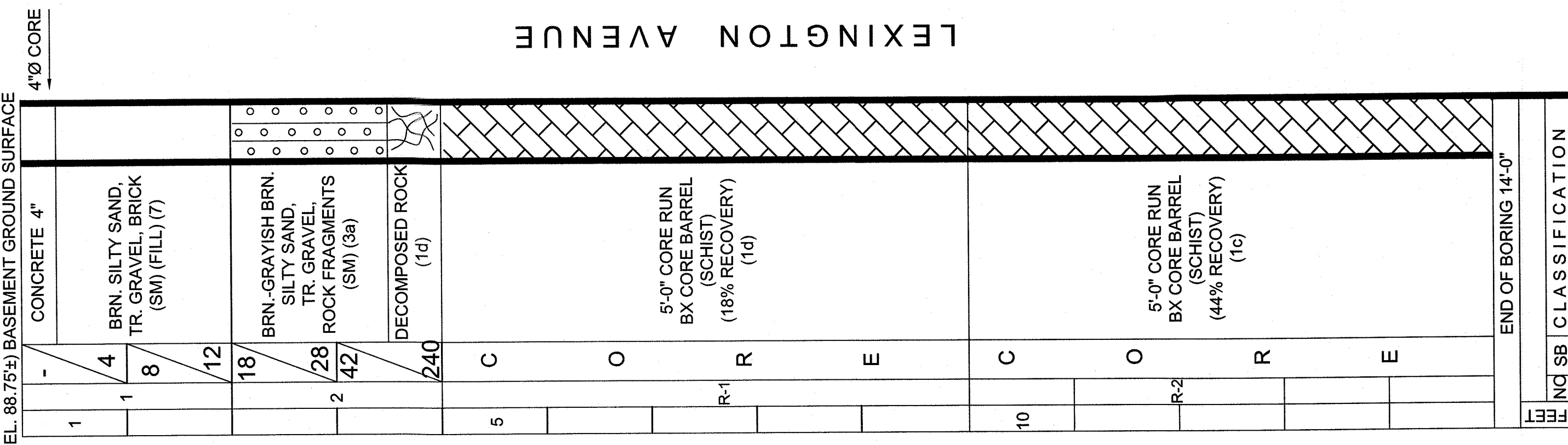
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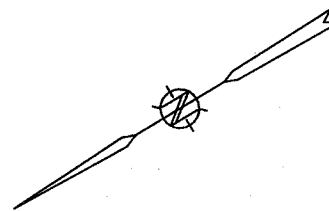
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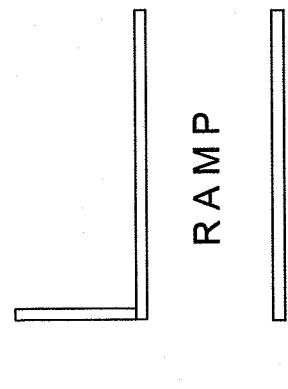
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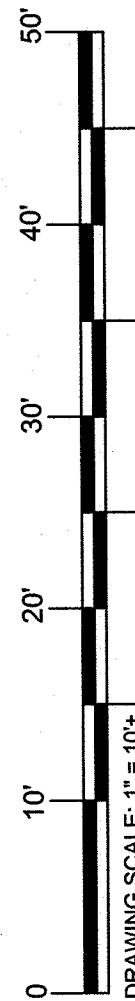
EAST 50th. STREET



CONCRETE BASEMENT FLOOR



BORING LOCATION PLAN



NOTES

EAST 49th. STREET

1. SOIL DESCRIPTIONS ARE BY VISUAL EXAMINATION OF SOIL SAMPLES RECOVERED DURING DRILLING OPERATIONS.
2. SOIL DESCRIPTIONS ARE IN ACCORD WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM.
3. WATER WHERE ENCOUNTERED AT THIS SITE WAS MEASURED INSIDE THE DRILL CASING AT THE COMPLETION OF EACH BOREHOLE.
4. SOIL STRATIFICATIONS ARE ACCURATE TO WITHIN TWO FEET VERTICALLY.
5. SOIL SAMPLES WERE OBTAINED USING PORTABLE EQUIPMENT STANDARD PENETRATION TRIPOD MOUNTED ROPE & CATHEAD 140lb. HAMMER
2'0\"/>
6. BORING GROUND SURFACE ELEVATIONS SHOWN ARE REFERENCED TO TOP OF CURB AT ASSUMED B.M. EL. 100.00'.
7. BORINGS DRILLED IN ACCORD WITH THE NEW YORK CITY BUILDING CODE.

UNIFIED SOIL CLASSIFICATION

SOIL GROUPS		TYPICAL NAMES AND SOIL SYMBOLS	
1a THRU 1d			BED ROCK
GW		WELL GRADED GRAVELS, GRAVEL SAND MIXTURES, LITTLE OR NO FINES	
GP		POORLY GRADED GRAVELS OR GRAVEL SAND MIXTURES, LITTLE OR NO FINES	
GM		SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURE	
GC		CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURE	
SW		WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES	
SP		POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES	
SM		SILTY SANDS, SAND - SILT MIXTURES	
SC		CLAYEY SANDS, SAND - CLAY MIXTURES	
ML		INORGANIC SILTS, VERY FINE SANDS, CLAYEY SILTS, SLIGHT PLASTICITY	
CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS	
OL		ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
MH		INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS ELASTIC SILTS	
CH		INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	
OH		ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS	
PT		PEAT AND OTHER HIGHLY ORGANIC SOILS	

ALLOWABLE SOIL BEARING PRESSURES, N.Y.C. BLDG. CODE TABLE 1804.1

CLASS OF MATERIALS	MINIMUM ALLOWABLE SOIL BEARING PRESSURE (PSF)	MINIMUM ALLOWABLE SOIL BEARING PRESSURE (KIP/FT ²)
(Notes 1 and 3) *		
1. BEDROCK (NOTES 2 and 3) *		
1a. MEDIUM HARD ROCK - MARBLE, SERPENTINE	60	5.746
1b. MEDIUM HARD ROCK - GRANITE, GNEISS, DIABASE, SCHIST	40	3.830
1c. MEDIUM HARD ROCK - QUARTZITE, GNEISS, DIABASE, SCHIST	20	1.915
1d. MEDIUM HARD ROCK - WEATHERED ROCK	9	.860
2. SANDY GRAVEL AND GRAVEL (GW, GP) (NOTES 3, 4, 5, and 9) *		
2a. DENSE	10	.959
2b. MEDIUM	5	.479
2c. LOOSE	3	.287
3. GRAVELLY SANDS (GC, GM, GP, SP, SW & SC) (NOTES 4, 5, 6, and 9) *		
3a. DENSE	9	.860
3b. MEDIUM	5	.479
3c. LOOSE	3	.287
4. CLAYEY SANDS, CL & CH (NOTES 4, 5, 6, and 9) *		
4a. HARD	5	.479
4b. MEDIUM	3	.287
4c. LOOSE	2	.192
5. SILTY SANDS, SILTY CLAYS (ML and MH) (NOTES 4, 5, 6, and 9) *		
5a. DENSE	3	.287
5b. MEDIUM	1.5	.144
6. ORGANIC SILTS, ORGANIC CLAYS, PEAT, SOFT CLAYS, PEAT AND OTHER HIGHLY ORGANIC SOILS		
6a. HARD	SEE 1804.2.1 *	SEE 1804.2.1 *
6b. MEDIUM	SEE 1804.2.2 OR 1804.2.3 *	SEE 1804.2.2 OR 1804.2.3 *
6c. LOOSE	SEE 1804.2.2 OR 1804.2.3 *	SEE 1804.2.2 OR 1804.2.3 *

*REFER TO SECTION 1804.2 OR NOTES FOLLOWING TABLE 1804.1 IN THE N.Y.C. BLDG. CODE FOR ADDITIONAL INFORMATION

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