



Home & Land Development
 32 & 14 North Peak Street
 Highlands, N.J.

7/19/2024

Re: 32 & 14 North Peak St., Highlands, N.J.: Soil Bearing Capacity Determination.

Dear Mr. Farkouh:

On 7/19/2024 Tulmark, LLC completed 8 soil borings in order to accomplish **Standard Penetration Tests (SPT's)** using the **Meyerhof Bearing Capacity Theory Based on Standard Penetration Test (N) Values** to determine soil bearing capacity for a retaining wall at burial depths indicated in drawing from Garden State Precast. Groundwater was not detected in any of the soil boring locations.

Soil Boring (B-1)

Depth Feet	Allowable Soil Bearing Capacity Lbs./Sq. Ft.	Blow Counts	USCS	Depth to Ground Water ft.
1	2,211.	20	SM	None
2	2,101.	19	SM	None
3				
4				
5				
6				
7				
8				
9				
10				

USCS = Unified Soil Classification System

Soil Boring (B-2)

Depth Feet	Allowable Soil Bearing Capacity Lbs./Sq. Ft.	Blow Counts	USCS	Depth to Ground Water ft.
1	-	Auger	SM	None
2	-	Auger	SM	None
3	>3,500.	39	SM	None
4	>3,500.	40	SM	None
5				
6				
7				
8				
9				
10				

USCS = Unified Soil Classification System



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Soil Boring (B-3)

Depth Feet	Allowable Soil Bearing Capacity Lbs./Sq. Ft.	Blow Counts	USCS	Depth to Ground Water ft.
1	580.	7	SM	None
2	2,101.	19	SM	None
3	>3,500.	34	SM	None
4	>3,500.	34	SM	None
5				
6				
7				
8				
9				
10				

USCS = Unified Soil Classification System

Soil Boring (B-4)

Depth Feet	Allowable Soil Bearing Capacity Lbs./Sq. Ft.	Blow Counts	USCS	Depth to Ground Water ft.
1	415.	5	SM	None
2	884.	8	SM	None
3	1,106.	8	SM	None
4	3,317.	20	SM	None
5	3,676.	19	SM	None
6				
7				
8				
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Soil Boring (B-5)

Depth Feet	Allowable Soil Bearing Capacity Lbs./Sq. Ft.	Blow Counts	USCS	Depth to Ground Water ft.
1	1,078.	13	SM	None
2	2,764.	25	SM	None
3				
4				
5				
6				
7				
8				
9				
10				

Soil Boring (B-6)

Depth Feet	Allowable Soil Bearing Capacity Lbs./Sq. Ft.	Blow Counts	USCS	Depth to Ground Water ft.
1	2,073.	25	SM	None
2				
3				
4				
5				
6				
7				
8				
9				
10				



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Soil Boring (B-7)

Depth Feet	Allowable Soil Bearing Capacity Lbs./Sq. Ft.	Blow Counts	USCS	Depth to Ground Water ft.
1	2,073.	25	SM	None
2				
3				
4				
5				
6				
7				
8				
9				
10				

Soil Boring (B-8)

Depth Feet	Allowable Soil Bearing Capacity Lbs./Sq. Ft.	Blow Counts	USCS	Depth to Ground Water ft.
1	2,073.	25	SM	None
2				
3				
4				
5				
6				
7				
8				
9				
10				



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Unified Soil Classification System: (SM) Silty Sand

Each boring log attached to this letter shows all of the SPT's completed and their values. **There is a safety factor of 3 built into the allowable soil bearing capacity calculations.** The information provided in this letter is based on field measurements/information at the depth indicated. This report is nontransferable.

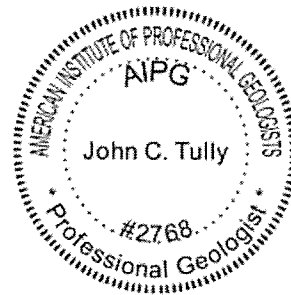
Tulmark suggests reviewing the above calculations with your Architect, or Structural Engineer before installation. This report is valid for 30 days.

If you have any questions, please call Tulmark, LLC. at: (732) 291-5030.

I hereby certify that the information furnished in this letter report (and attachments thereto) is true and accurate.

John C. Tully

AIPG Professional Geologist #2768



UNIFIED SOIL CLASSIFICATION SYSTEM

Name			Group Symbols	LABORATORY CRITERIA				
				Fines (%)	Grading	Plasticity	Notes	
coarse grained (more than 50% larger than 63 μm BS or No.200 US sieve size (0.074 mm))	Gravels (more than 50% of coarse fraction of gravel size)	Well graded gravels, with little or no fines	GW	0-5	$C_u > 4$ $1 < C_c < 3$		Dual symbols if 5-12% fines. Dual symbols if above A-line and $4 < PI < 7$	
		Poorly graded gravels, sandy gravels, with little or no fines	GP	0-5	Not satisfying GW requirements			
		Silty gravels, silty sandy gravels	GM	> 12		Below A-line or $PI < 4$		
		Clayey gravels, clayey sandy gravels	GC	> 12		Above A-line and $PI > 7$		
	Sands (more than 50% of coarse fraction of sand size)	Well graded sands, gravelly sands, with little or no fines	SW	0-5	$C_u > 6$ $1 < C_c < 3$		<i>Reminder</i> $C_u = \frac{D_{60}}{D_{10}}$ $C_c = \frac{D_{30}^2}{D_{10} * D_{60}}$ $PI = LL - PL$	
		Poorly graded sands, gravelly sands, with little or no fines	SP	0-5	Not satisfying SW requirements			
		Silty sands	SM	> 12		Below A-line or $PI < 4$		
		Clayey sands	SC	> 12		Above A-line and $PI > 7$		
	Name			Group Symbols	LABORATORY CRITERIA			
	fine grained (more than 50% smaller than 63 μm BS or No.200 US sieve size (0.074 mm))	Silts and Clays (liquid limit less than 50)	Inorganic silts, silty or clayey fine sands, with slight plasticity	ML	Use plasticity chart			
Inorganic clays, silty clays, sandy clays of low plasticity			CL	Use plasticity chart				
Organic silts and organic silty clays of low plasticity			OL	Use plasticity chart				
Silts and Clays (liquid limit greater than 50)		Inorganic silts of high plasticity	MH	Use plasticity chart				
		Inorganic clays of high plasticity	CH	Use plasticity chart				
		Organic clays of high plasticity	OH	Use plasticity chart				
Highly organic soils		Peat and other highly organic soils	Pt	Use plasticity chart				