

PZ21-12000047  
04/17/2024

November 4, 2021

Full-Service USA  
818 NE 8<sup>th</sup> Street  
Hallandale Beach, FL 33009

Attention: Ms. Debora Cusnir

Re: Report of Geotechnical Study  
New Multi Family Residences  
344 NW 6<sup>th</sup> St  
Pompano Beach, FL  
Arco Project No. B-2021.02

Dear Ms. Cusnir,

As requested, Arco Engineering (*ARCO*) has completed the geotechnical exploration and analysis required to present you with this Geotechnical Field Exploration Summary Report for the above referenced project. The project site is located at 344 NW 6<sup>th</sup> St in Pompano Beach, Florida. ARCO understands that the project site is being considered for the construction of New Multi Family Residences

## INTRODUCTION

### Purpose and Scope of Work

The purpose of the geotechnical exploration and evaluation program is to provide subsurface information and determine engineering parameters that may be utilized in the foundation design for the proposed residence. Copies of all field and laboratory tests are attached. As agreed, to prior to commencing our field exploration and based on our understanding of the project requirements, the following tasks were performed.

1. Explored the subsurface soil and groundwater conditions by drilling (6) Standard Penetration Test (SPT) boring to 15 feet depth.
2. Performed (two) field borehole permeability tests
3. Compiled data from the field exploration and laboratory testing program.
4. Provided this report summarizing our findings and recommendations.

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**FIELD EXPLORATION AND LABORATORY TESTING PROGRAM****Field Exploration Program**

The field exploration for this project was conducted on October 30, 2021. The program included a visual reconnaissance of the site by an engineering representative of ARCO. As previously discussed, subsurface conditions at the project site were explored by drilling Four SPT boring tests. Refer to the attached Figure No. 1 for boring locations plan. AN ARCO engineering representative-maintained field logs of soils encountered during all borings. All soil samples obtained during the field exploration program were immediately sealed in the field and brought to the ARCO laboratory for further examination. The boundaries of the site were provided by a representative of the owners.

**Laboratory Testing Program**

Classification of each soil sample was based on the visual inspection by a geotechnical engineer in accordance with ASTM D 2488 standard. No other laboratory tests were performed. All samples obtained from the field exploration program are currently stored at the Arco laboratory. These samples will be retained for a period of 30 days from the date of release of this report and then discarded, unless advised otherwise in writing from the client.

**GROUNDWATER AND SOIL CONDITIONS****Site Features and Groundwater Conditions**

The project site has not been cleared for construction. The site is relatively level. At the time of the field exploration program, standing water, or sinkhole-related depressions were not observed. The groundwater table will vary depending on rainfall and seasonal fluctuations.

The groundwater level was measured during the drilling work at an average depth of 5' 0" below ground surface. It should be anticipated, however, that groundwater levels will fluctuate due to seasonal climate variations, surface water runoff patterns, construction operations, and other factors. Therefore, since groundwater level variations are anticipated, drainage design and specifications should accommodate such possibilities and construction planning should be based on the assumption that such variations will occur.

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**Subsoil Conditions**

AVERAGE DEPTH (FEET)		SOIL DESCRIPTION
From	To	
Surface	6"	Topsoil
6"	2	Dark Brown Sand
2	6	Light Gray Sand with Brown Sand
6	10	Dark Brown/Black Sand
10	15*	Gray Sand

\*Maximum Terminal Depth of the boring

**DESIGN AND CONSTRUCTION RECOMMENDATIONS**

Based on the results of our field observations and tests, we believe that the site soils can safely support shallow foundations designed for an allowable bearing pressure of 2,500 pounds per square foot (psf) provided the earthwork recommendations given in this report are followed.

Prior to beginning of construction activities, all surficial topsoil and organics should be removed from the entire building area plus a 5' wide perimeter area on all sides. The stripped grade should be compacted to the degree specified below. Any fill brought in should be granular and free of deleterious material, with no more than 10% of the material passing the U.S. No. 200 Sieve. The fill should also have no particle with a dimension greater than 3 inches.

Compact all construction areas with a heavy self-propelled roller to a minimum of 95% of ASTM D-1557 but not less than 20 passes in each direction. Backfill construction areas to required elevation using clean granular homogenous material placed in lifts not to exceed 12 inches in thickness and compact as indicated above.

To provide an adequate factor of safety against a bearing capacity failure, the new footings should bottom a minimum of 12 inches below the lowest adjacent grade for monolithic footings and 18 inches for stem wall footings. Continuous footings should have a width of at least 18 inches and isolated footings 24 inches. Such footings are estimated to sustain maximum total settlements of about one inch and differential settlements of 1/2 inch. Footings should also be reinforced adequately.

Footings & slab subgrade soils should be compacted to 95 percent of the ASTM D 1557 maximum dry density prior to placing reinforcing steel and substructures. A vapor barrier should be placed over the building pad fill, prior to placement of concrete for the floor slab. This will minimize the entrance of subgrade moisture into the slab.

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## WARRANTY

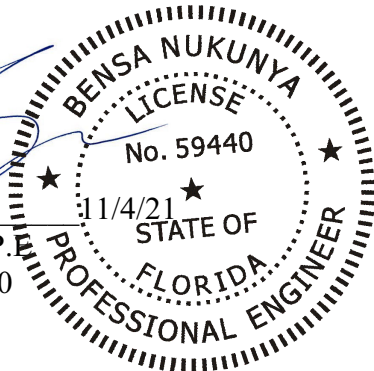
The soils engineer warrants that the findings, recommendations, specifications, or professional advice contained herein, have been promulgated after being prepared in accordance with generally accepted professional engineering practice in the field of foundation engineering, soil mechanics and engineering geology. No other warranties are implied or expressed.

*Arco Engineering* appreciates the opportunity to be of service. If we may answer any additional questions or be of further service, please call.

Sincerely,

*Arco Engineering Consultants, LLC.*

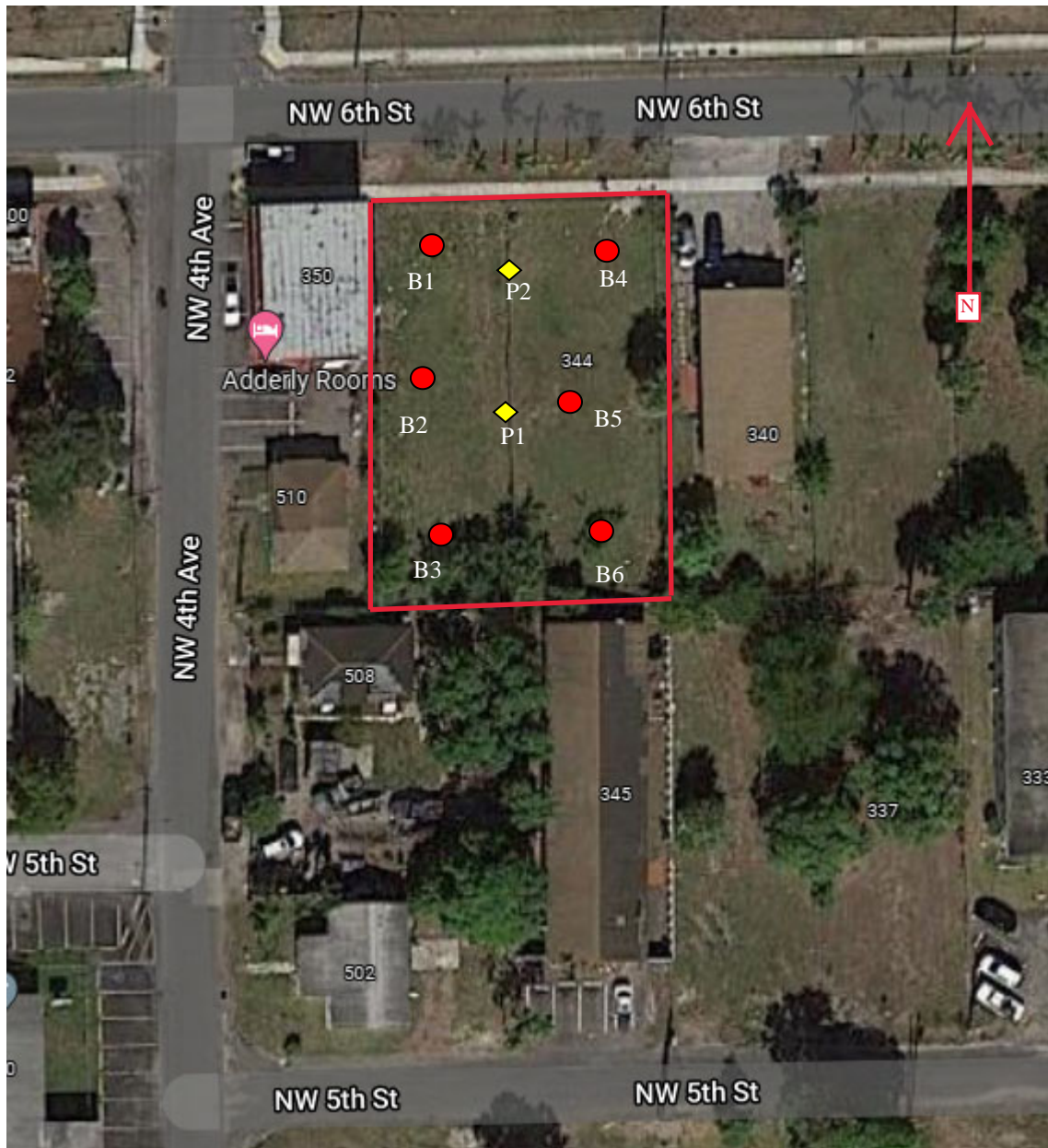
  
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Fl. Reg. No 59440



Attachments: Site Boring Location & Boring Logs

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## Boring Locations:



<b>Client:</b> Full-Service Corp	<b>Date:</b> October 30, 2021
<b>Project:</b> 344 NW 6 <sup>th</sup> St, Pompano Beach, FL	<b>Scale:</b> NTS

## BORING LOG

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Project Name	New Multi Unit Family Residence 344 NW 6th St, Pomapno Beach, FL		Project Number	B-2021.02	
Client Name	Full Service Corp		Boring Number	B-1	
Boring Location	See attached for location		Date Drilled	10/30/21	
Water Depth	5' 3"		Drilled By	Serco	

DEPTH (FT)	SYM- BOL	DESCRIPTION OF MATERIAL	Blow Counts	Depth (Ft)	N-Value
0.5		Topsoil		0.50	
1.0		Dark Brown Sand	3	1.00	
1.5				1.50	
2.0				2.00	
2.5		Light Gray Sand		2.50	
3.0			8	3.00	
3.5				3.50	
4.0				4.00	
4.5				4.50	
5.0			8	5.00	
5.5				5.50	
6.0				6.00	
6.5		Dark Brown/Black Sand		6.50	
7.0			10	7.00	
7.5				7.50	
8.0				8.00	
8.5				8.50	
9.0			7	9.00	
9.5				9.50	
10.0				10.00	
10.5		Gray Sand		10.50	
11.0				11.00	
11.5				11.50	
12.0				12.00	
12.5				12.50	
13.0			10	13.00	
13.5				13.50	
14.0				14.00	
14.5		Gray Sand		14.50	
15.0				15.00	
		End of Boring			

Ground Elev.	Not Known	Completion Depth	15 Feet
Type of Boring	Standard Penetration Test	Casing	N/A
Hammer Wt.	140 Pounds	Hammer Drop Ht.	30 Inches

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Project Name	New Multi Unit Family Residence 344 NW 6th St, Pomapno Beach, FL		Project Number	B-2021.02	
Client Name	Full Service Corp		Boring Number	B-2	
Boring Location	See attached for location		Date Drilled	10/30/21	
Water Depth	5' 3"		Drilled By	Serco	

DEPTH (FT)	SYM- BOL	DESCRIPTION OF MATERIAL	Blow Counts	Depth (Ft)	N-Value
0.5		Topsoil		0.50	
1.0		Gray Brown Sand	3	1.00	
1.5				1.50	
2.0				2.00	
2.5		Light Gray Sand		2.50	
3.0			8	3.00	
3.5				3.50	
4.0				4.00	
4.5				4.50	
5.0			8	5.00	
5.5				5.50	
6.0				6.00	
6.5		Dark Brown/Black Sand		6.50	
7.0			10	7.00	
7.5				7.50	
8.0		Brown Sand		8.00	
8.5				8.50	
9.0			7	9.00	
9.5				9.50	
10.0				10.00	
10.5		Light Gray Sand		10.50	
11.0				11.00	
11.5				11.50	
12.0				12.00	
12.5				12.50	
13.0			10	13.00	
13.5				13.50	
14.0				14.00	
14.5		Gray Sand		14.50	
15.0				15.00	
		End of Boring			

Ground Elev.	Not Known	Completion Depth	15 Feet
Type of Boring	Standard Penetration Test	Casing	N/A
Hammer Wt.	140 Pounds	Hammer Drop Ht.	30 Inches

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Project Name	New Multi Unit Family Residence	Project Number	B-2021.02
Client Name	Full Service Corp	Boring Number	B-3
Boring Location	See attached for location	Date Drilled	10/30/21
Water Depth	5' 1"	Drilled By	Serco

DEPTH (FT)	SYM- BOL	DESCRIPTION OF MATERIAL	Blow Counts	Depth (Ft)	N-Value
0.5		Topsoil		0.50	
1.0		Gray Brown Sand	3	1.00	
1.5				1.50	
2.0				2.00	
2.5		Light Gray Sand		2.50	
3.0			8	3.00	
3.5				3.50	
4.0				4.00	
4.5				4.50	
5.0			10	5.00	
5.5				5.50	
6.0				6.00	
6.5		Dark Brown/Black Sand		6.50	
7.0			10	7.00	
7.5				7.50	
8.0		Brown Sand		8.00	
8.5				8.50	
9.0			9	9.00	
9.5				9.50	
10.0				10.00	
10.5		Light Gray Sand		10.50	
11.0				11.00	
11.5				11.50	
12.0				12.00	
12.5				12.50	
13.0			11	13.00	
13.5				13.50	
14.0				14.00	
14.5		Gray Sand		14.50	
15.0				15.00	
		End of Boring			

Ground Elev.	Not Known	Completion Depth	15 Feet
Type of Boring	Standard Penetration Test	Casing	N/A
Hammer Wt.	140 Pounds	Hammer Drop Ht.	30 Inches

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Project Name	New Multi Unit Family Residence 344 NW 6th St, Pomapno Beach, FL	Project Number	B-2021.02
Client Name	Full Service Corp	Boring Number	B-4
Boring Location	See attached for location	Date Drilled	10/30/21
Water Depth	5' 0"	Drilled By	Serco

DEPTH (FT)	SYM- BOL	DESCRIPTION OF MATERIAL	Blow Counts	Depth (Ft)	N-Value
0.5		Topsoil		0.50	
1.0		Gray Light Brown Sand	5	1.00	
1.5				1.50	
2.0				2.00	
2.5		Light Gray Sand		2.50	
3.0			7	3.00	
3.5				3.50	
4.0				4.00	
4.5				4.50	
5.0			10	5.00	
5.5				5.50	
6.0				6.00	
6.5		Dark Brown/Black Sand		6.50	
7.0			2	7.00	
7.5				7.50	
8.0				8.00	
8.5				8.50	
9.0		Dark Brown Sand	1	9.00	
9.5				9.50	
10.0				10.00	
10.5		Light Gray Sand		10.50	
11.0				11.00	
11.5				11.50	
12.0				12.00	
12.5				12.50	
13.0			4	13.00	
13.5				13.50	
14.0				14.00	
14.5		Gray Sand		14.50	
15.0				15.00	
		End of Boring			

Ground Elev.	Not Known	Completion Depth	15 Feet
Type of Boring	Standard Penetration Test	Casing	N/A
Hammer Wt.	140 Pounds	Hammer Drop Ht.	30 Inches

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Project Name	New Multi Unit Family Residence 344 NW 6th St, Pomapno Beach, FL		Project Number	B-2021.02	
Client Name	Full Service Corp		Boring Number	B-5	
Boring Location	See attached for location		Date Drilled	10/30/21	
Water Depth	4' 8"		Drilled By	Serco	

DEPTH (FT)	SYM- BOL	DESCRIPTION OF MATERIAL	Blow Counts	Depth (Ft)	N-Value
0.5		Topsoil		0.50	
1.0		Gray Light Brown Sand	5	1.00	
1.5				1.50	
2.0				2.00	
2.5		Light Gray Sand		2.50	
3.0			10	3.00	
3.5				3.50	
4.0				4.00	
4.5				4.50	
5.0		Dark Brown /Black Sand	10	5.00	
5.5				5.50	
6.0				6.00	
6.5		Dark Brown/Black Sand		6.50	
7.0			1	7.00	
7.5				7.50	
8.0				8.00	
8.5		Brown Sand		8.50	
9.0			1	9.00	
9.5				9.50	
10.0				10.00	
10.5		Gray Sand		10.50	
11.0				11.00	
11.5				11.50	
12.0				12.00	
12.5				12.50	
13.0			4	13.00	
13.5				13.50	
14.0				14.00	
14.5		Gray Sand		14.50	
15.0				15.00	
		End of Boring			

Ground Elev.	Not Known	Completion Depth	15 Feet
Type of Boring	Standard Penetration Test	Casing	N/A
Hammer Wt.	140 Pounds	Hammer Drop Ht.	30 Inches

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Project Name	New Multi Unit Family Residence 344 NW 6th St, Pomapno Beach, FL		Project Number	B-2021.02	
Client Name	Full Service Corp		Boring Number	B-6	
Boring Location	See attached for location		Date Drilled	10/30/21	
Water Depth	5' 0"		Drilled By	Serco	

DEPTH (FT)	SYM- BOL	DESCRIPTION OF MATERIAL	Blow Counts	Depth (Ft)	N-Value
0.5		Topsoil		0.50	
1.0		Gray Light Brown Sand	5	1.00	
1.5				1.50	
2.0				2.00	
2.5		Light Gray Sand		2.50	
3.0			8	3.00	
3.5				3.50	
4.0				4.00	
4.5				4.50	
5.0		Dark Brown /Black Sand	10	5.00	
5.5				5.50	
6.0				6.00	
6.5		Dark Brown/Black Sand		6.50	
7.0			2	7.00	
7.5				7.50	
8.0				8.00	
8.5		Brown Sand		8.50	
9.0			1	9.00	
9.5				9.50	
10.0				10.00	
10.5		Gray Sand		10.50	
11.0				11.00	
11.5				11.50	
12.0				12.00	
12.5				12.50	
13.0			5	13.00	
13.5				13.50	
14.0				14.00	
14.5		Gray Sand		14.50	
15.0				15.00	
		End of Boring			

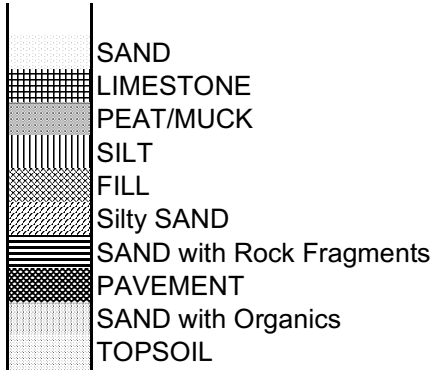
Ground Elev.	Not Known	Completion Depth	15 Feet
Type of Boring	Standard Penetration Test	Casing	N/A
Hammer Wt.	140 Pounds	Hammer Drop Ht.	30 Inches

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