Vuncannon & Sons Builders, Inc.
112 Strickland Lane
Lillington, NC 27546

02/27/2024

Attention : Zachary Cabe

RE: Daily Field Report for 01/12/2024
7612 Overhills Road (CMT) Spring Lake, NC
Building & Earth Project No : RD230748

Ladies and Gentlemen:

On this date, representative(s) of Building & Earth were present to perform construction material testing services at this project site. Our testing and observations for this date include the following:

FO-5 : Field Observations made on this date.

• Foundation Inspection	For Information Only
• Project Management Review	Passed

ST-5 : In place field density testing was performed for Structural Fill- Building. The field density testing was performed in general accordance with ASTMD1556 and ASTMD6938, using the results of field one-point as compared to the laboratory proctors. A total of 5 in-place field density tests were performed on this date. The testing results indicate that in-place compaction and moisture content at the location and depth tested meet or exceed the specified requirements outlined in the project plans and specifications. For additional details of our testing, please refer to the attached Field Density Test Report.

Closing

The testing and observations identified above have been reviewed by our project manager. If you have questions regarding this information, please do not hesitate to contact us.

Respectfully Submitted,
Building & Earth Sciences, LLP

Enclosures : FO-5, ST-5

NORTH CAROLINA PROFESSIONAL SEAL 024482 ENGINEER KURT A. MILLER

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Dunn, NC 28334
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Rachael Heath
Reviewed By

Field Observations Report

Project Name:	**7612 Overhills Road (CMT) Spring Lake, NC**	Project Number:	**RD230748**
Client Name:	**Vuncannon & Sons Builders, Inc.**	Placement#:	**FO-5**
Contractor:	**Vuncannon & Sons Builders, Inc.**	Technician:	**Paul Harris**
Monitoring:	**DCP**		

1 : Foundation Inspection

We arrived onsite to evaluate the building pad area for this residential lot. Our evaluation as documented in this report includes:

1) A visual description of the residential lot
2) Comments on any improvements that hat affect the foundations of the residence
3) Hand rod probing of the footing excavations
4) Performing Dynamic Cone Penetration (DCP) tests at representative locations
5) Soil Density tests on fill, if applicable.

Visual Description of the Lot:

The lot generally slopes from the back to the front. Building locations are referenced from the street looking at the front of the residence. Maximum relief across the lot is approximately 10 feet. Surface water runoff appears to drain back to front.

Comments on Improvements:

Structural fill has been placed at the site to level the building pad. Based on our observations, we understand the pad has been filled according to the following:

Section----------Thickness of Fill
Left Front----------12 inches of fill
Left Rear----------60 inches of fill
Center----------60 inches of fill
Right Front----------60 inches of fill
Right Rear----------60 inches of fill

Future Footing Tests

DCP Testing: Our representative performed Dynamic Cone Penetration (DCP) testing in general accordance with ASTM STP-399 at two representative locations to a depth of 96 inches. Our representative did not observe water within the DCP boreholes as noted below.

The following information provides the results of our hand auger borings and DCP testing:

Test 1: [Front Right Corner]

-- Depth----"N"------Soil Color---USCS--------
--- FSG ---- 5---- Yellowish Red -- SC/SM -----
Notes: soils @ FSG were wet at time of testing due to rain
--- -1' ------ 15+ -----Yellowish Red -- SC/SM --------
--- -2' ------ 15+ ------Grey ----- Lean Clay -----
--- -3' ------ 15+ ------ Grey ----- Lean Clay -----
--- -4' ------ 15+ ------Grey ----- Lean Clay -----
--- -5' ------ 15+ ------Grey ----- Lean Clay -----
--- -6' ------ 15+ ------ N/A ----- Stone -----
Notes: unable to advance any farther due to stone

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Test 2: [Back Left Corner]

-- Depth----"N"------Soil Color---USCS-------
--- FSG ---- 4---- Brown/ Grey -- SC/SM -----
Notes: soils @ FSG were wet at time of testing due to rain
--- -1' ------ 7.5 -----Brown/ Grey -- SC -----
--- -2' ------ 6 --------Brown/ Grey -- SC ------
--- -3' ------ 10.5 -----Brown/ Grey -- SC-----
--- -4' ------- 8.5 -----Brown/ Grey -- SC -----
--- -5' ------ 15+ -----Brown/ Grey -- SC -----
--- -6' ------ 15+ ------Reddish Brown ----- SM -----
--- -7' ------ 15+ ------Reddish Brown ----- SM -----
--- -8' ------ 15+------Reddish Brown ----- SM-----

Results:

Based on our observations and test results, the newly placed fill/existing soils appear to be suitable to provide support for the floor slab and footings, provided the floor slab has a loading of less than 150 pounds per square foot, and the footings have a design bearing capacity of 2,000, or less.

Recommendations:

To minimize the potential for future softening of the bearing materials due to water infiltration, the surface soils should be protected from construction traffic and inclement weather. The construction of the footings and structure should commence without delay. In the event that the subgrade soils become wet, or otherwise compromised from their current condition, should be observed and retested as necessary by Building and Earth Sciences.

We note that our testing was isolated to the upper 8 feet of the soil profile from the finished subgrade elevation as observed on this date. As such, we cannot be aware of any soil or groundwater conditions below this depth that could adversely affect the support of the new construction. If additional information is required, please contact our office.

We are also not aware of any geotechnical work that may have been performed prior to our arrival onsite. If a geotechnical report is available, please forward it to our office for review. If no report is available, our client accepts all liability for long and short term performance of the foundations.

2 : Project Management Review Passed

Our client has authorized Building & Earth Sciences to perform an evaluation of the prepared building pad for this project. We understand that the structure will have a crawl space foundation that will be supported by the newly placed structural fill soils. It appears that between 8 and 10 feet of structural fill soils have been placed to achieve the desired grades. The intent of our testing was to determine if the newly placed structural fill soils are adequate to provide a bearing capacity of 2,000 psf for the foundations, and have been compacted to 95% to support the floor slab for the new structure.

Our evaluation included hand rod probing, advancing hand auger borings with DCPs and performing a density test on the surface. Based upon our hand rod probing the newly placed soils are firm and resistant to significant penetration. Hand auger borings were

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Monitoring:	**DCP**		

then advanced at 2 selected location across the building envelope to determine the consistency of the below grade soils. At 12-inch increments in the hand auger boring, to a depth of 8 feet, Dynamic Cone Penetrometer (DCP) Testing was performed in accordance with ASTM STP-399. With proper evaluation, DCP Testing can be correlated to both bearing capacity and percent compaction. Based upon the results of this testing, the below grade soils that will support the foundations and floor slab are acceptable.

While on site, our representative also performed in place density testing to confirm compaction of the surface soils. Our testing was performed using the sand cone method in general accordance with ASTM D-1556. Our results were compared to an in-field proctor that was performed in general accordance with ASTM D-698. Based upon our tests results, the soils have been properly compacted at the surface.

It is important to note that our testing was isolated to the upper 8 feet. As such, we are not able to comment upon the settlement characteristics of deeper soils. Additionally, inclement weather (rain or snow), as well as construction traffic across the pad, can compromise the stability and support characteristics of the surface soils. If the surface soils become compromised, it will be necessary to return to the site for re-testing. This decision should be executed by your onsite Quality Control and Superintendents.

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Monitoring:	**DCP**		

Photographs

Picture ID	
76037	

Picture ID	
76038	

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Photographs

Picture ID	
76040	

Picture ID	
76041	

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BUILDING & EARTH
Geotechnical, Environmental, and Materials Engineers

ST-5

Test Date: 01/12/2024
Field Technician: Paul Harris
Tests requested by: N/R
Results provided to: N/R

Report of Field Density Testing

Project Name:	7612 Overhills Road (CMT) Spring Lake, NC	Ambient Temperature:	35-45
Project Number:	RD230748	Weather:	Partly Cloudy
Project Location:	Spring Lake, NC	Wind Conditions:	Breezy
Client:	Vuncannon & Sons Builders, Inc.	Results Provided To:	N/R
Contractor:	Vuncannon & Sons Builders, Inc.	Superintendent:	N/R

Notes:
1 Test location by technician
2 Elevation by Contractor
3 Fill/backfill placed prior to technician arriving

Design & Specification Data

Area ID	Area Description	Depth (ft)	Test Method	% Compaction	Moisture Range	
					Min	Max
fSG-Bldg	Structural Fill- Building	0.0 - 2.0	ASTM D-698	95 %	- 10.0	+ 10.0

Laboratory Proctors

Proctor ID	Description of Material	USCS/AASHTO	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
Fld 230748	Silty Sand	SM	117.0	13.0%

Density Test Data

Test #	IDs		Test Type	Location	Probe Depth (in)	Elev. (ft)	Dry Density(pcf)	% Moisture	% Compaction	Result
	Area	Proctor								
1	fSG-Bldg	Fld 230748	ASTMD1556	Structural Fill- Building : Back left corner 20 feet south : 10 feet west		FSG	112.7	18.4	96%	PASS
2	fSG-Bldg	Fld 230748	ASTMD6938	Structural Fill- Building : For correlation purposes only :	8		108.3	19.9	93%	WAIVED
3	fSG-Bldg	Fld 230748	ASTMD6938	Structural Fill- Building : Station 1 (see pic) :	8	FSG -5.5'	118.8	16.2	100+	PASS
4	fSG-Bldg	Fld 230748	ASTMD6938	Structural Fill- Building : Station 2 (see pic) :	8	FSG -8.5'	114.8	16.8	98%	PASS
5	fSG-Bldg	Fld 230748	ASTMD6938	Structural Fill- Building : Station 3 (see pic) :	8	FSG -11.5'	113.6	17.5	97%	PASS

Equipment Used: 38368-Troxler3430
Last Calibration: 00/00/0000

Standard Counts: Density: 1960
Moisture: 589

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ST-5

Test Date: 01/12/2024
Field Technician: Paul Harris
Tests requested by: N/R
Results provided to: N/R

Photographs

Picture ID	
73080	

Picture ID	
73081	

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ST-5

Test Date: 01/12/2024
Field Technician: Paul Harris
Tests requested by: N/R
Results provided to: N/R

Photographs

Picture ID	
73082	

Picture ID	
73083	

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