H & H Homes
2919 Breezewood Avenue
Suite 400
Fayetteville, NC 28303

01/14/2021

Attention : Eric Baxley
Tim Adams

RE: Daily Field Report for 01/13/2021
Lot 105 Anderson Creek Academy ACX (CMT) Spring Lake, NC
Building & Earth Project No : RD210021

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-1 : Field Observations made on this date.

- Foundation Inspection-Monolithic — For Information Only

Comment 1 : Based on our observations and test results, we recommend the following: 1. Undercut the back half perimeter footings an additional 2 feet from the planned bottom of the footings. 2. Install a tail drain to remove water from the foundation to drain to the lowest point. 3. Replace with washed NCDOT #57, wrapping in filter fabric such as Mirafi 140N.

ST-1 : In place field density testing was performed for Finished Subgrade Soils -Building. The field density testing was performed in general accordance with ASTMD1556, using the results of field one-point as compared to the laboratory proctors. One(1) in-place field density test was 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

610 Spring Branch Road
Dunn, NC 28334
Phone 910-292-2085 Fax 910-292-2192
www.BuildingandEarth.com

Rachael Heath
Reviewed By

Enclosures : FO-1, ST-1

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Dunn, NC 28334
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www.BuildingandEarth.com

Rachael Heath
Reviewed By

Field Observations Report

Project Name:	**Lot 105 Anderson Creek Academy ACX (CMT) Spring Lake, NC**	Project Number:	**RD210021**
Client Name:	**H & H Homes**	Placement#:	**FO-1**
Contractor:	**H & H Homes**	Technician:	**Michael Dammer**
Monitoring:	**DCP**		

1 : Foundation Inspection-Monolithic

We arrived onsite to evaluate the building pad area for this residential lot. We understand the residence has been designed to be supported on a monolithic slab foundation. Upon arrival, the contractor had not finished excavating the footings. 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 front to back. 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 toward the rear.

Comments on Improvements:

The site has been stripped of surface cover and topsoil. It appears that 6 inches of topsoil has been removed from the building pad area.

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----------18 inches of fill
Center----------15 inches of fill
Right Front----------12 inches of fill
Right Rear----------18 inches of fill

Future Footing Tests

Hand Rod Probing: Our representative performed hand rod probing of the surface of the building pad. Hand rod probing of the bearing material generally showed an average penetration of approximately 2 inches.

DCP Testing: Our representative performed Dynamic Cone Penetration (DCP) testing in general accordance with ASTM STP-399 at four representative locations to a depth of 36-60inches. Our representative did 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 ---- 6.5---- Orange ----- SC--------
--- -1' ------ 10---- Orange ----- SC---------

Field Observations Report

Project Name:	**Lot 105 Anderson Creek Academy ACX (CMT) Spring Lake, NC**	Project Number:	**RD210021**
Client Name:	**H & H Homes**	Placement#:	**FO-1**
Contractor:	**H & H Homes**	Technician:	**Michael Dammer**
Monitoring:	**DCP**		

--- -2' ------ 7------ Orange ----- SC -----
--- -3' ------ 15+--- Orange ----- SC -----

Test 2: [Front Left Corner]

-- Depth----"N"------Soil Color---USCS--------
--- FSG ---- 7---------- Orange ----- SC--------
--- -1' ------ 15+------ Orange ----- SC---------
--- -2' ------ 15+------ Orange ----- SC -----
--- -3' ------ 15+------ Orange ----- SC -----

Test 3: [Back Left Corner]

-- Depth----"N"------Soil Color---USCS--------
--- FSG ---- 6------ Orange ------ SC--------
--- -1' ------ 7------ Orange ----- SC---------
--- -2' ------ 6------ Orange ----- SC -----
--- -3' ------ 3------ Orange ----- SC -----
---- -4' ------ 3----- Orange ----- SC ----- WATER ENCOUNTERED
--- -5' ------ 6.5---- Orange ----- SC -----

Test 4: [Back Right Corner]

-- Depth----"N"------Soil Color---USCS--------
--- FSG ---- 6-------- Orange ----- SC--------
--- -1' ------ 10------ Orange ----- SC---------
--- -2' ------ 8.5----- Orange ----- SC -----
--- -3' ------ 3.5----- Orange ----- SC ----
---- -4' ------ 5------ Orange ----- SC ----- WATER ENCOUNTERED
--- -5' ------- 5------ Orange ----- SC -----

Soil Density Testing:

Soil density testing was performed using the sand cone method of compaction in general accordance with ASTM D1556. The results of our tests are attached as ST-1.

Results:

Based on our observations and test results, we recommend the following:

1. Undercut the back half perimeter footings an additional 2 feet from the planned bottom of the footings.
2. Install a tail drain to remove water from the foundation to drain to the lowest point.
3. Replace with washed NCDOT #57, wrapping in filter fabric such as Mirafi 140N.

Recommendations:

Field Observations Report

Project Name:	**Lot 105 Anderson Creek Academy ACX (CMT) Spring Lake, NC**	Project Number:	**RD210021**
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Contractor:	**H & H Homes**	Technician:	**Michael Dammer**
Monitoring:	**DCP**		

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 3 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.

Comments

Comment	Log Date	Log Time
Based on our observations and test results, we recommend the following: 1. Undercut the back half perimeter footings an additional 2 feet from the planned bottom of the footings. 2. Install a tail drain to remove water from the foundation to drain to the lowest point. 3. Replace with washed NCDOT #57, wrapping in filter fabric such as Mirafi 140N.	01/14/2021	08:12:14

610 Spring Branch Road
Dunn, NC 28334
Phone 910-292-2085 Fax 910-292-2192
www.BuildingandEarth.com

Rachael Heath
Reviewed By

BUILDING & EARTH
Geotechnical, Environmental, and Materials Engineers

ST-1

Test Date: 01/13/2021
Field Technician: Michael Dammer
Tests requested by: N/R
Results provided to: N/R

Report of Field Density Testing

Project Name:	Lot 105 Anderson Creek Academy ACX (CMT) Spring Lake, NC	Ambient Temperature:	50-70
Project Number:	RD210021	Weather:	Mostly Sunny
Project Location:	Spring Lake, NC	Wind Conditions:	Breezy
Client:	H & H Homes	Results Provided To:	N/R
Contractor:	H & H Homes	Superintendant:	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	Finished Subgrade Soils -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 (%)
1-point			118.6	12.3%

Density Test Data

Test #	IDs		Test Type	Location	Probe Depth (in)	Elev. (ft)	Dry Density(pcf)	% Moisture	% Compaction	Result
	Area	Proctor								
1	FSG-Bldg	1-point	ASTMD1556	Finished Subgrade Soils -Building : Back left corner 15' Right : 20' front		FSG	115.5	13.0	97%	PASS

Equipment Used:
Last Calibration:
Standard Counts:
Density:
Moisture:

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