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

03/22/2022

Attention : Eric Baxley
Jimmy Barnard
Tim Adams

RE: Daily Field Report for 03/21/2022
Lot 688 Manor @ Lexington MLP (CMT) Cameron, NC
Building & Earth Project No : RD220154

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 — For Information Only

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

Enclosures : FO-1, ST-1

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

Rachael Heath
Reviewed By

Field Observations Report

Project Name:	**Lot 688 Manor @ Lexington MLP (CMT) Cameron, NC**	Project Number:	**RD220154**
Client Name:	**H & H Homes**	Placement#:	**FO-1**
Contractor:	**H & H Homes**	Technician:	**Bruce Rohr**
Monitoring:	**Shallow Footing Testing**		

1 : Foundation Inspection

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 is 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 1 feet. Surface water runoff appears to drain behind the lot.

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----------4 inches of fill
Left Rear----------12 inches of fill
Center----------8 inches of fill
Right Front----------4 inches of fill
Right Rear----------12 inches of fill

Measurements:
1) How far is the nearest slope from the edge of the foundation? 10+ feet

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 6 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 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]

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-- Depth----"N"------Soil Color---USCS--------
--- FSG ---- 7.5 ---- Brown -- SM --------
--- -1' ------ 7 ----- Brown ---- SM ---------
--- -2' ------ 2 ------ Grey ----- CH ----- WET
--- -3' ------ 2 ------ Grey ----- CH -----
--- -4' ------ 2 ------ Grey ----- CH ----- GROUNDWATER
--- -5' ------ 0.5 ------ Grey ----- CH -----
--- -6' ------ AUGER REFUSAL: Washout/too wet to excavate

Test 2: [Front Left Corner]

-- Depth----"N"------Soil Color---USCS-------
--- FSG ---- 8 ---- Brown -- SM --------
--- -1' ------ 7 ----- Brown ---- SM ---------
--- -2' ------ 6.5 ----- Tan ------ CL -----
--- -3' ------ 4 ----- Grey ------ CH ----- GROUNDWATER
--- -4' ------ 2 ------ Grey ----- CH -----
--- -5' ------ AUGER REFUSAL: Washout/too wet to excavate

Test 3: [Back Left Corner]

-- Depth----"N"------Soil Color---USCS--------
--- FSG ---- 8.5 ---- Brown -- SM --------
--- -1' ----- 7.5 ----- Brown ----- SM ---------
--- -2' ----- 7.5 ------ Tan ------ CL -----
--- -3' ----- 8.5 ------ Tan ------ CL -----

Test 4: [Back Right Corner]

-- Depth----"N"------Soil Color---USCS--------
--- ESG ---- 8 ---- Brown -- SM --------
--- -1' ------ 7 ----- Tan ---- CL ---------
--- -2' ------ 9 ------ Tan ----- CL -----
--- -3' ------ 15+ ------ Tan ----- CL -----

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:

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1. Undercut the perimeter front half of footings an additional 2-3 feet from the intended bottom of the footings (to get below the clay material).
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:

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.

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Photographs

Picture ID	Lot from street
39351	

Picture ID	Lot from front left
39352	

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Photographs

Picture ID	Lot from back right
39353	

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BUILDING & EARTH
Geotechnical, Environmental, and Materials Engineers

ST-1

Test Date: 03/21/2022
Field Technician: Bruce Rohr
Tests requested by: N/R
Results provided to: N/R

Report of Field Density Testing

Project Name:	Lot 688 Manor @ Lexington MLP (CMT) Cameron, NC	Ambient Temperature:	60-70
Project Number:	RD220154	Weather:	Sunny
Project Location:	Cameron, NC	Wind Conditions:	Calm
Client:	H & H Homes	Results Provided To:	N/R
Contractor:	H & H Homes	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	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			119.0	11.0%

Density Test Data

Test #	IDs		Test Type	Location	Probe Depth (in)	Elev. (ft)	Dry Density(pcf)	% Moisture	% Compaction	Result
	Area	Proctor								
1	FSG-Bldg	1-point	ASTMD1556	Finished Subgrade Soils -Building : Front left corner 20 feet back :		FSG	118.1	8.4	99%	PASS

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

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