

MDL Engineering Services

213 Linton Banks
Cary, NC 27513

(919) 999-8153
(919) 524-4319

Date: March 29, 2023

To: Dale Tanner
Red Door Homes
DaleT@reddoorhomesnc.com
(910) 835-8335

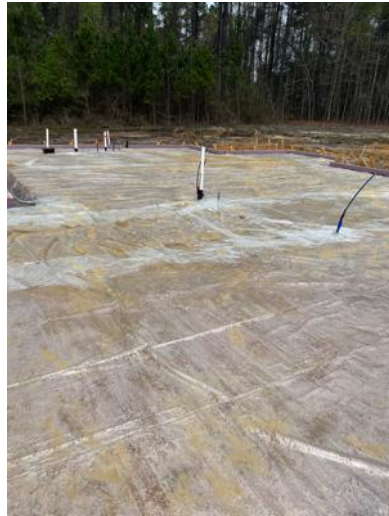
Re: Soil Bearing & Compaction Evaluation
5465 Spring Hill Church Road
Lillington, NC 27546
Project No 106-22-152
MDL Project No. SD20165

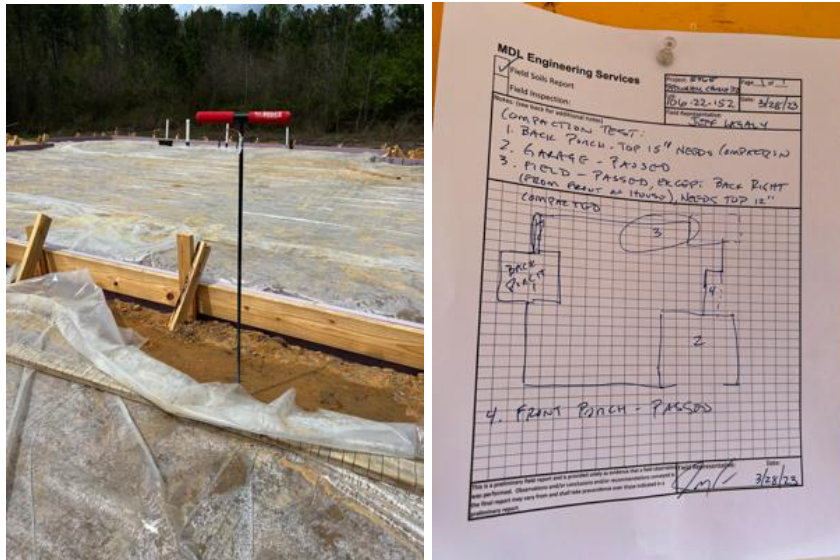
Dear Mr. Tanner,

MDL Engineering Services was contacted on March 27, 2023 to perform a compaction test on the sandy infill placed in the field and perimeter footings of the home listed above. Soil compaction is necessary to increase the bearing capacity and stiffness of added soils. Compaction increases the shear strength of soils by adding friction from the interlocking of particles. The removal of voids reduces the chance of the soil settling or shrinking or expanding and it decreases water seepage that would lead to deleterious shrinking and swelling soil properties. Soil compaction is the practice of applying mechanical compactive effort to densify a soil by reducing the void space between soil particles. Compaction occurs when particles are pressed together to reduce the air space between them, highly compacted soils contain very few spaces resulting in soil with higher unit weight.

Observations

March 28, 2023





The material inside the field of the home, the perimeter footings and the front porch were visually evaluated by the engineer, probed with a 1/2" rod and/or use of a DCP technique to correlate surface soil conditions with bearing capacity. This test was performed in ten different locations in the field and in multiple locations in the footings. The material passed the compaction testing. The area marked 3 on the field report did have some soft infill, but was close enough to the adjacent footing to maintain support. In addition, there was no visible sign of organic materials present.

The footing soils meet the requirements of the site drawings and the 2018 edition of the North Carolina Residential Building Code and are good to pour.

These services have been performed with the usual and customary standard of care consistent with other professional engineers performing similar work under similar circumstances. This report is the work product of an engineering investigation. It is confidential in nature and will not be released to a third party without your expressed consent. The use of this letter is limited to the express purpose for which it is intended and may not be reused, copied or distributed for any other purpose.

I appreciate the opportunity to provide these services for this phase of your project and look forward to working with you for any future needs. Please do not hesitate to contact me if you have any questions or concerns.

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Cary, NC 27513

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Regards,
MDL Engineering Services



Michael A. Lagaly, P.E.
Engineering Manager

Alteration of this seal without the express written consent of the sealing engineer is a violation of the provisions set forth in the North Carolina Engineering and Land Survey Act (G.S. 89C) and may result in legal action by the North Carolina Board for Engineers and Land Surveyors.