



April 1, 2020

Mr. Chris Martin
Caviness and Cates
639 Executive Place, Suite 400
Fayetteville, North Carolina 28305

**Subject: Summary of Foundation Bearing Material Evaluation
Lot No. 657 – (439 Pittfield Run)
Lexington Plantation Subdivision
Cameron, North Carolina
Permit Number: 2003-0014
SUMMIT Project Number: 2662-12R (27548-00)**

Dear Mr. Martin:

On March 25, 2020, a representative of SUMMIT Engineering, Laboratory and Testing, P.C. (SUMMIT) visited the subject site for the purpose of observing and evaluating the near surface foundation bearing materials for the proposed residential structure. The following is a summary of our onsite observations and evaluation.

Our work included testing and bearing grade evaluations of the in-place soil at the bottom of the foundation excavations. Hand auger borings were incrementally advanced by manually twisting a sharpened steel auger into the soil at selected locations along the footing excavation. The soil consistency in the bottom of the excavation and at selected intervals below the bearing grade were evaluated by Dynamic Cone Penetrometer (DCP) testing. The conical point of the DCP was first seated to penetrate any loose cuttings and then driven three additional 1-3/4 inch increments with blows from a 15-pound hammer falling 20 inches. The soil's strength characteristics and foundation support capability was determined based on the average blows per increment (bpi) over the last two increments to achieve this penetration. Additionally, the entire excavated foundation was evaluated by hand probing using a 1/2 inch diameter steel probe rod to check for soft areas at the surface intermediate of our hand auger boring locations.

The materials exposed at the bottom of the footing excavations generally consisted of gray-tan, silty-sand (residual soils). It should be noted that soft soils were encountered to an approximate depth of 12 inches below the planned foundation bearing elevation at the front exterior wall foundation corners. The contractor was informed and SUMMIT recommended over-excavating to firm soils in the areas designated in marking paint. Once the recommended remedial measures have been completed, we recommend backfilling the over-excavated areas with compacted clean washed stone (NCDOT No. 57 stone) or place full depth concrete. If additional testing for the

purpose of estimating volumetric change (shrink/swell) potential or to estimate consolidation is desired, **SUMMIT** can provide these services.

Based on the results of our DCP testing, our site observations, and once the recommended remedial measures have been completed, the soils encountered will be suitable for support of the residential structure utilizing a net allowable soil bearing pressure of **2,000 pounds-per-square-foot**.

If foundation bearing materials are exposed to inclement weather or adverse construction activities, **SUMMIT** should be contacted to re-evaluate the foundation bearing materials prior to concrete placement. If it is imminent that inclement weather is forecasted prior to concrete placement, then the footings can be over-excavated (deepened) approximately 2 to 4 inches and a mud-mat (lean concrete) can be placed up to the foundation bearing elevation to help protect the foundation bearing materials from softening.

SUMMIT appreciates the opportunity to provide our professional services to you on this project. If you have any questions concerning the information in this report or if we can be of further service, please contact us.

Sincerely,
SUMMIT Engineering, Laboratory and Testing, P.C.



Jason B. Coble, P.E.
Raleigh Branch Manager

A handwritten signature in black ink, appearing to read "Adam D. Perry".

Adam D. Perry, E.I.
Staff Professional