SUMMIT
ENGINEERING • LABORATORY • TESTING

March 25, 2020

Mr. Austin Brown
Capital City Homes
5711 Six Forks Road, Suite #200
Raleigh, North Carolina 27609

Subject: **Summary of Foundation Bearing Material Evaluation & 3rd Party Inspection**
Lot No. 1101 – (87 Education Drive)
Academy at Anderson Creek Subdivision
Spring Lake, North Carolina
Permit Number: N/A
Project Number: 6603.500 (27390-00)

Dear Mr. Brown:

On March 12 and 13, 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 and to perform a third-party inspection for the proposed residential structure. The following is a summary of our onsite observations and evaluation.

During our site visit on March 13, 2020, **SUMMIT** performed a third-party inspection. The residential footings were excavated approximately 18 inches wide and approximately 20 inches to 5 feet below the existing ground surface prior to our site visit. We observed that the interior and exterior wall foundations were prepared per the structural plans provided onsite.

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 was 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 ½ inch diameter steel probe rod to check for soft areas at the surface intermediate of our hand auger boring locations.

The materials encountered in our hand auger borings generally consisted of gray-orange, sandy-clay (residual soils) and were free of significant quantities of organics and debris. It should be

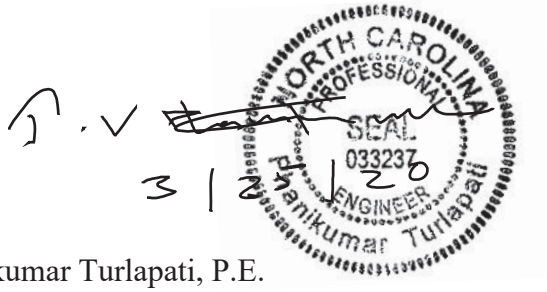
noted that the footing was excavated to approximate depths ranging from 3 to 5 below the existing ground surface prior to our site visit at the left rear corner and near the left wall of the garage. We recommend backfilling the over-excavated areas with compacted clean washed stone (NCDOT No. 57 stone) wrapped in a woven geotextile (Mirafi 500x or equivalent). Additionally, we observed wet conditions throughout the footing bearing soils. We recommended removing surficial west soils (if any) and installing a foundation drain prior to placement of the stone. 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, once the remedial measures are completed, and our site observations, the soils encountered are 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.



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