

April 19, 2022

Mr. Sean Wilson
Mattamy Homes
1210 Trinity Road, Suite 102
Raleigh, North Carolina 27607



**Subject: Summary of Foundation Bearing Material Evaluation
Lot No. 87 – (58 Hartford Lane)
Providence Creek Subdivision
Fuquay-Varina, North Carolina
Permit Number: 2202-0041
SUMMIT Project Number: 1852-10R (35418-00)
Order No.: 32826714-000**

Dear Mr. Wilson:

On April 5 and 8, 2022, a representative of SUMMIT Engineering, Laboratory and Testing, Inc. (SUMMIT) visited the subject site for the purpose of observing 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 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 were 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 excavations generally consisted of tan-brown, sandy-clay (residual soils) and were free of significant quantities of organics and debris. SUMMIT revisited the site on April 8, 2022 to re-evaluate the excavated footing after being exposed to inclement weather. SUMMIT observed that the footing was free of standing water and wet soils. SUMMIT probed the bottom of the footings with a 1/2" diameter steel probe rod and firm soils were encountered. 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, hand probing, 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.

We appreciate the opportunity to assist you during this phase of the project. If you need further assistance or additional information, please do not hesitate to contact us.

Sincerely,
SUMMIT Engineering, Laboratory and Testing, Inc.



Jeff A. Taylor, P.E.
Geotechnical Engineer

Adam D. Perry, E.I.
Staff Professional