

July 5, 2022

Mr. Thomas Crews
Dan Ryan Builders – North Carolina, LLC
3131 RDU Center Drive, Suite 120
Morrisville, North Carolina 27560

**Subject: Summary of Foundation Bearing Material Evaluation & 3rd Party Inspection
Lot No. 119 – (62 Winding Creek Drive)
The Farm at Neills Creek Subdivision
Lillington, North Carolina
Permit Number: 2205-0041
SUMMIT Project Number: 3241-14R (36190-00)
Order No.: N/A**

Dear Mr. Crews:

On June 24 and 25, 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 and to perform a third-party footing inspection for the proposed residential structure. The following is a summary of our onsite observations and evaluation.

SUMMIT returned on June 25, 2022 to perform a third-party footing inspection. We observed that the interior and exterior wall foundations, thickened slab sections, and lugs were prepared per the structural plans provided onsite. Additionally, we observed that the vapor barrier was installed. It should be noted that foundation insulation was not observed on this date. The Dan Ryan representative informed SUMMIT that the foundation insulation would be placed after concrete placement.

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 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 between our hand auger boring locations.

The materials exposed at the bottom of the foundation excavations generally consisted of orange, sandy-clay (residual soils) and were free of significant quantities of organics and debris. 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**. The foundation bearing soils are in accordance with HUD requirements. Concrete is ready to be placed for the foundation and slab areas.

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.

Phanikumar Turlapati, P.E.
Project Engineer



Adam D. Perry, E.I.
Staff Professional