



HAYES STRUCTURAL

Consulting & Design, PLLC

NC FIRM LICENSE NO.: P-2854
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Date: March 19, 2025

To: Tyler Appel
Drees Homes
8521 Six Forks Road, Suite 500
Raleigh, NC 27615

Re: 25-FND-013
Lot 64 Tobacco Road
266 Grading Stick Court
Angier, NC 27501
Permit No.: 2408-0122

Mr. Appel:

At your request, a site visit was made to the above referenced single family residence under construction to inspect the front porch foundation to determine the suitability for backfill.

Observations:

The foundation walls common to the front porch and crawl space and front porch and garage were constructed from 12" CMU to a height of 80". The right front porch foundation wall and the right portion of the front foundation wall were constructed from 8" CMU and brick to a height of 88". The left front porch foundation wall and the left portion of the front foundation wall adjacent to the steps were constructed from 4" CMU and brick.

Analysis and Recommendations:

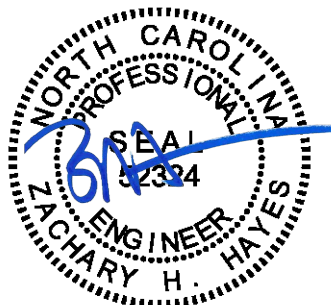
The front porch is to be backfilled with #57/#67 washed stone. Analysis revealed the 8" foundation walls are suitable for unbalanced fill up to 4'-0" and the 12" foundation walls are suitable for unbalanced fill up to 6'-0". Place fill at the exterior sides of the front porch foundation as needed so that unbalanced fill does not exceed the heights noted above. Place a 5" thick concrete slab on top of the washed stone backfill reinforced with #4 rebar spaced 24" o.c. in both directions at the mid-depth. Tie the slab to the porch foundation walls with #4x30" long rebar dowels spaced 24" o.c. embedded 4" into solid or solid-grouted masonry with structural epoxy adhesive.

Concrete slab construction is to conform to section R506 of the 2018 North Carolina Residential Code. Concrete is to have a minimum compressive strength of 3,000 psi at 28 days. The minimum lap splice length for #4 rebar is 24" and the minimum concrete cover is 2". Slab preparation and reinforcement are to be verified by a municipal inspector or qualified design professional prior to concrete placement.

Please call me if you have any questions.

Respectfully submitted,

Zachary H. Hayes, PE
Owner/Structural Engineer
Hayes Structural Consulting & Design, PLLC



Digitally signed
by Zachary H.
Hayes, PE
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