



# HAYES STRUCTURAL

Consulting & Design, PLLC

NC FIRM LICENSE NO.: P-2854  
1991 EDDIE HOWARD ROAD | WILLOW SPRING, NC 27592  
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**Date:** March 7, 2024

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

**Re:** 23-FRM-021  
Framing Inspection  
Lot 17 Tobacco Road  
187 Golden Leaf Farms Rd.  
Angier, NC 27501  
Permit No.: SFD2401-0065

Mr. Appel:

At your request, a site visit was made to the above referenced single family residence under construction to inspect two I-joists within the first floor system beneath bath #2 that were cut to install plumbing.

#### Observations:

The eleventh I-joist from the front foundation wall had a +/- 20" section cut out approximately 40" from the left foundation wall to install the toilet drain. The twelfth I-joist from the front foundation wall had a +/- 20" section cut out approximately 6" from the left foundation wall to install the shower drain.

#### Analysis and Recommendations:

The cut end of the remaining section of the twelfth I-joist at the right side of the shower drain is to be cut back an additional +/- 34" to align with the cut end of the remaining section of the eleventh I-joist at the right side of the toilet drain. A +/- 36" long 14" BCI 5000s-1.8 (or equivalent) I-joist header is to be installed between the tenth and thirteenth I-joists from the front foundation wall to support the cut ends of the remaining sections of the eleventh and twelfth I-joists at the right side of the drains. The remaining sections of the cut I-joists at the left side of the drains are to be removed. New 14" BCI 5000s-1.8 (or equivalent) I-joists spaced 19.2" o.c. are to be installed beneath the toilet and shower spanning between the I-joist header and left foundation wall. New I-joists are to be staggered to avoid interference with the drains while maintaining maximum 19.2" o.c. spacing. The I-joists supporting the header are to be reinforced with an additional full-length 14" BCI 5000s-1.8 (or equivalent) I-joist prior to header installation. Doubled I-joists are to be fastened at the top and bottom flanges with (1) row of 3 1/2" long Simpson Strong-Tie SDS (or equivalent) screws spaced 12" o.c. The header is to be fastened to the supporting joists and the cut and new joists are to be fastened to the header with face-mount I-joist hangers. The webs of the I-joists are to be packed out with OSB per the manufacturer's specifications prior to hanger installation. This prescribed configuration will provide the required support for all imposed loads.

Please call me if you have any questions.

Respectfully submitted,

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



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by Zachary H.  
Hayes, PE  
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