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Stonewall Structural Engineering, PLLC
2 N Front St 8th Floor
Wilmington, NC 28401
(910) 444-0208



Thomas Myers
Tar Heel Basement Systems
8005 Knightdale Blvd.
Knightdale, NC 27545

Re: Review of Proposed First-Floor Framing Reinforcement — *416 Victoria Hills Drive South, Fuquay-Varina, NC 27526*

Mr. Myers,

At your request, Stonewall Structural Engineering, PLLC (Stonewall) was consulted to review and provide recommendations for first-floor framing reinforcement proposed by Tar Heel Basement Systems at the above-referenced address. The purpose of the proposed first-floor framing reinforcement is to address issues observed by Tar Heel Basement Systems while on-site October 15, 2025.

Conditions Evaluated

Based on the information provided by Tar Heel Basement Systems, we understand the subject structure to be a conventionally framed, detached, single-family residence with raised first-floor framing over a pier/girder foundation system with perimeter masonry foundation walls (*see pictures 1-2*). Indicators such as “left,” “right,” “front,” and “back” are referenced as viewing the front of the home.



Picture 1 – Front of home (416 Victoria Hills Drive South, Fuquay-Varina, NC 27526)



Picture 2 – Typical crawlspace conditions and first-floor framing

The following issues were reported by Tar Heel Basement Systems:

1. Uneven floors were reported in the home.
 - a. The interior masonry support piers were reported to have settled by as much as approximately $\frac{3}{4}$ " relative to the perimeter of the home.

In order to address the issues noted above, Tar Heel Basement Systems has proposed the following first-floor framing reinforcement:

1. Additional IntelliJack supports between each girder span are proposed to share load with existing foundation elements and reduce the likelihood of future settlement.

Engineering Assessment and Recommendations

- The above-reported uneven floors have likely been the result of differential settlement of interior masonry piers.

Based on our review of the information provided, the proposed first-floor framing reinforcement is recommended to be installed as follows:

1. Reinforce each girder bay using an IntelliJack support on a well-compacted 18"x18"x18" gravel footing. Jacks should be located within the middle 1/3 of each girder span and at the approximate locations shown in the attached repair schematic (*see detail 2*).

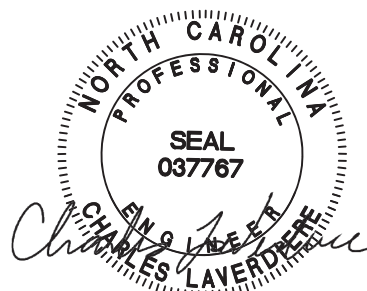
General Comments and Limitations

The determinations above were made in accordance with common engineering principles and the intent of the 2018 edition of the *North Carolina Residential Building Code*. Our review and assessment of the proposed reinforcements was limited to the information provided by Tar Heel Basement Systems, and Stonewall was not consulted to visit the subject project site. As such, Stonewall is not liable for any issues arising beyond the scope of information provided to Stonewall. Should additional information become available, or if site conditions are found to vary from those reported, Stonewall is to be notified and consulted regarding possible impacts to the structure's integrity and/or the effectiveness of the recommendations presented.

Sequencing, and means and methods of construction are considered to be beyond the scope of this report. A qualified contractor is to provide adequate temporary shoring prior to cutting or removing any structural load-bearing elements. All work is to conform to applicable provisions of current building standards. Please feel free to contact us should you have any questions or concerns regarding this matter.

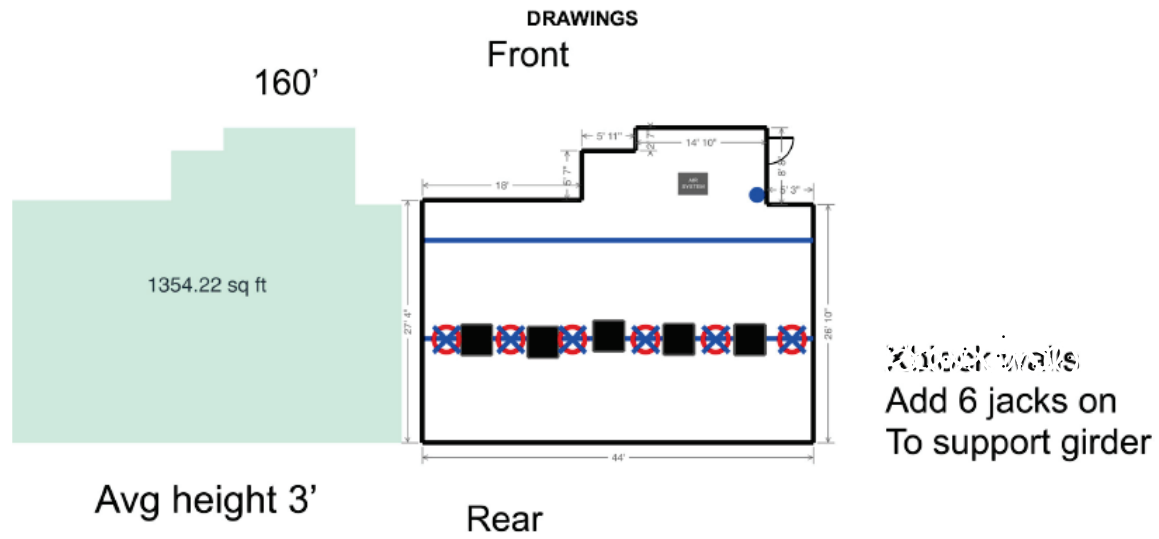
Sincerely,

Charles LaVerdiere, PE
Stonewall Structural Engineering, PLLC
Lic. #P-0951

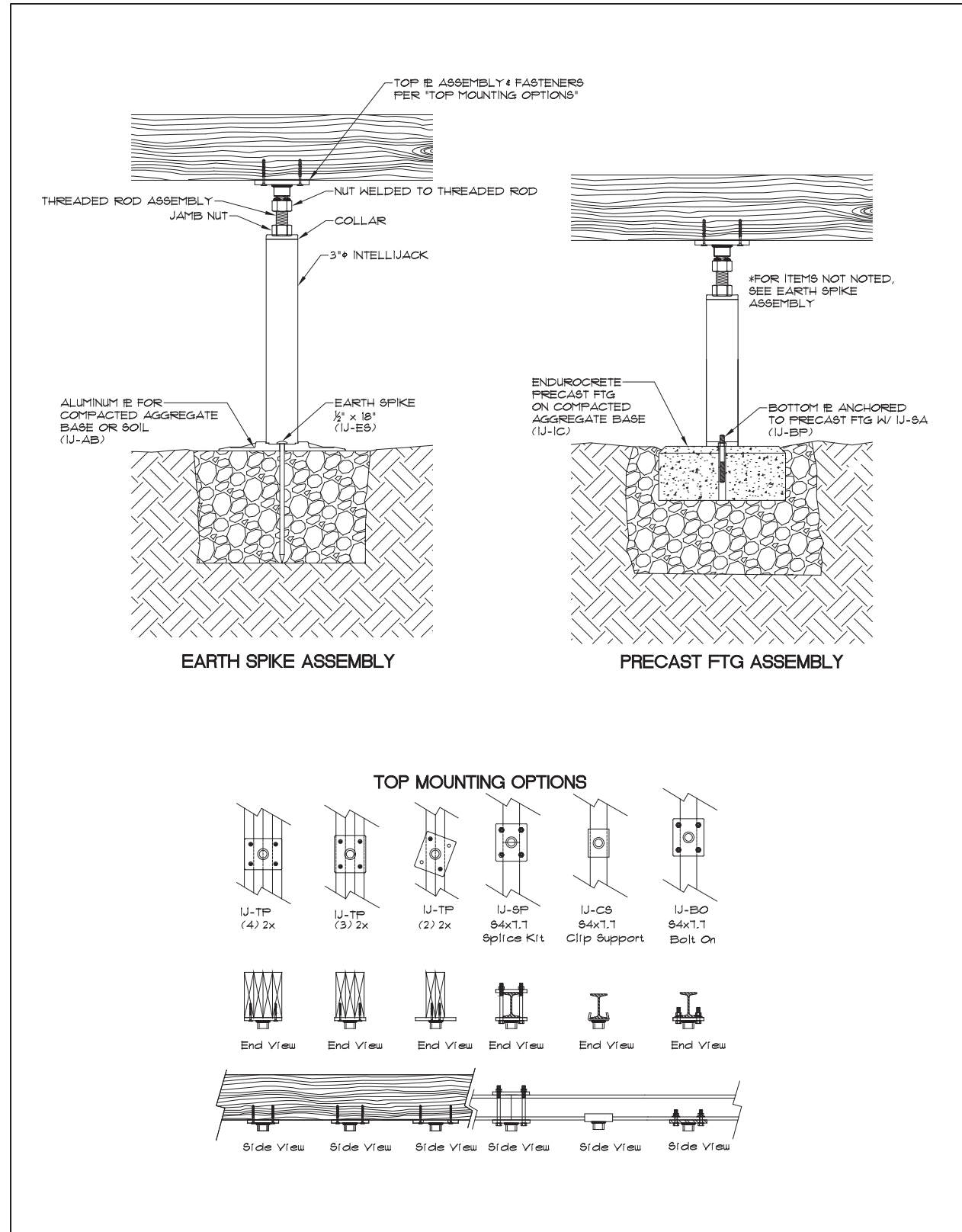


10-30-2025

DETAIL ADDENDUM



*Detail 1 – Repair Schematic
(Provided by Tar Heel Basement Systems)*



Detail 2 – IntelliJack Installation Specifications