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Devin Hunt
Tar Heel Basement Systems
8005 Knightdale Blvd.
Knightdale, NC 27545

Re: Review of Proposed First-Floor Framing Reinforcement — 502 A.C. Morrison Road, Lillington, NC 27546

Mr. Hunt,

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 September 26, 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 (502 A.C. Morrison Road, Lillington, NC 27546)



Picture 2 – Typical crawlspace conditions and first-floor framing

The following issues were reported by Tar Heel Basement Systems:

1. It was reported that an improperly constructed supplemental support was installed within the back-right area of the crawlspace (see pictures 3-4).

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

1. Remove the above reported improperly constructed supplemental support and replace with an approximate 8'-0" span of supplemental S4x7.7 beam located approximately 8'-0" from the right wall and 13'-0" from the front wall. The new beam should be supported by (2) equally spaced IntelliJacks.



Picture 3 – Improperly constructed support



Picture 4 – Improperly constructed support

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

1. Remove and replace the haphazardly constructed supplemental girders with a new S4x7.7 supplemental dropped girder located within the middle $\frac{1}{3}$ of the joist bay. The new girder should span across the locations shown in the attached repair schematic (see *Detail 1*) over IntelliJack supports on well-compacted 18"x18"x18" gravel footings spaced no more than 6'-6" apart (see *Detail 2*).
 - a. The supplemental dropped girders may be comprised of multiple segments provided individual segments are supported by at least (2) supports and any splices between adjoining segments are located over supports.
 - b. Additional lengths of supplemental girder may be installed such that the girder ends are located under existing walls to help mitigate undesirable changes in floor stiffness that could occur if the new girder terminates in the middle of a room.

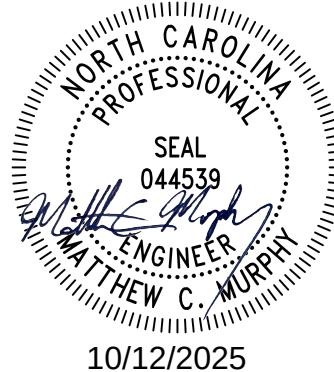
General Comments and Limitations

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 reinforcement(s)/foundation repair(s) 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.

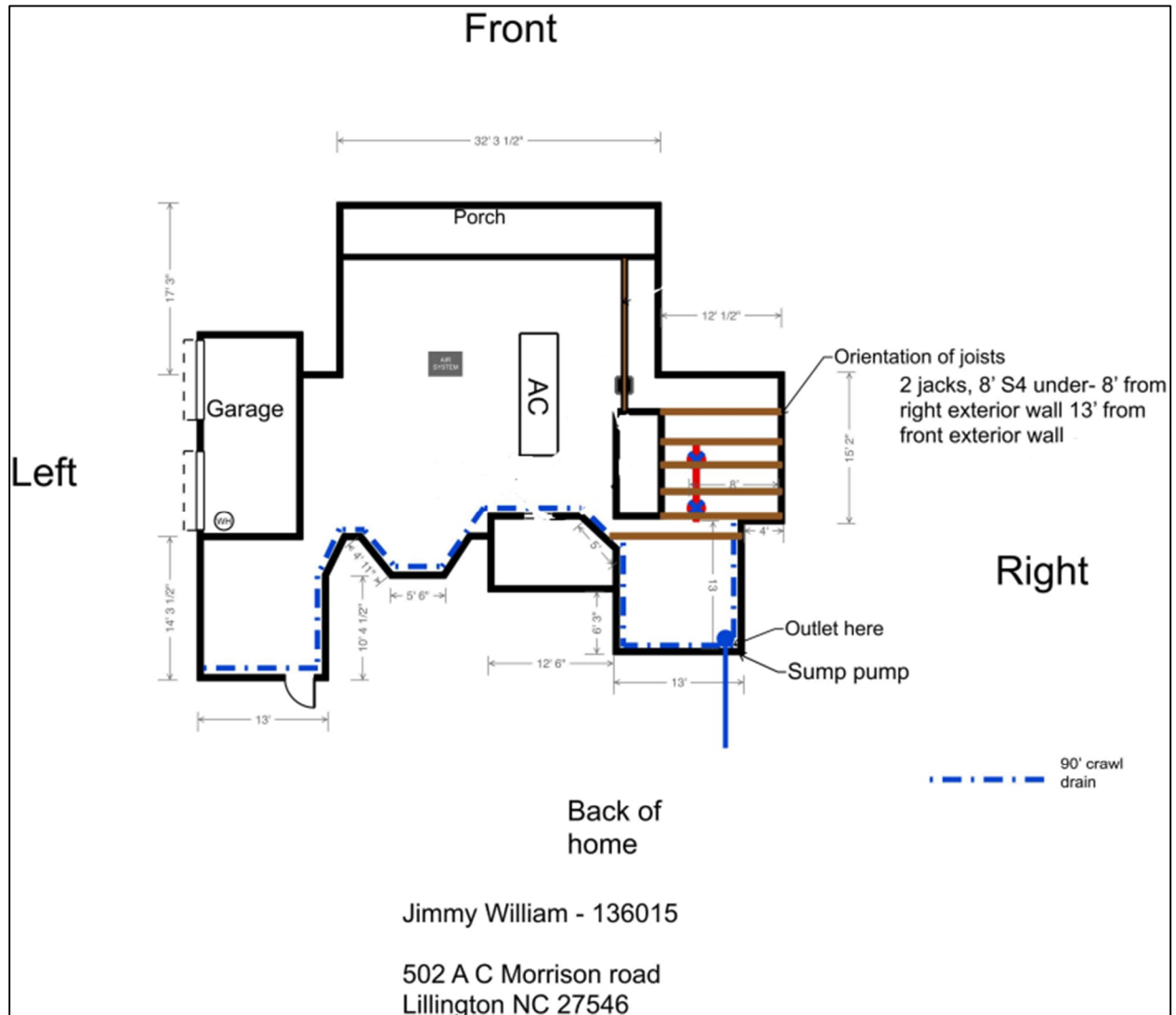
Sequencing, and means and methods of construction are considered to be beyond the scope of this report. A qualified contractor is to provide adequate temporary shoring prior to cutting or removing any structural load-bearing elements. All work is to conform to applicable provisions of current building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

Sincerely,

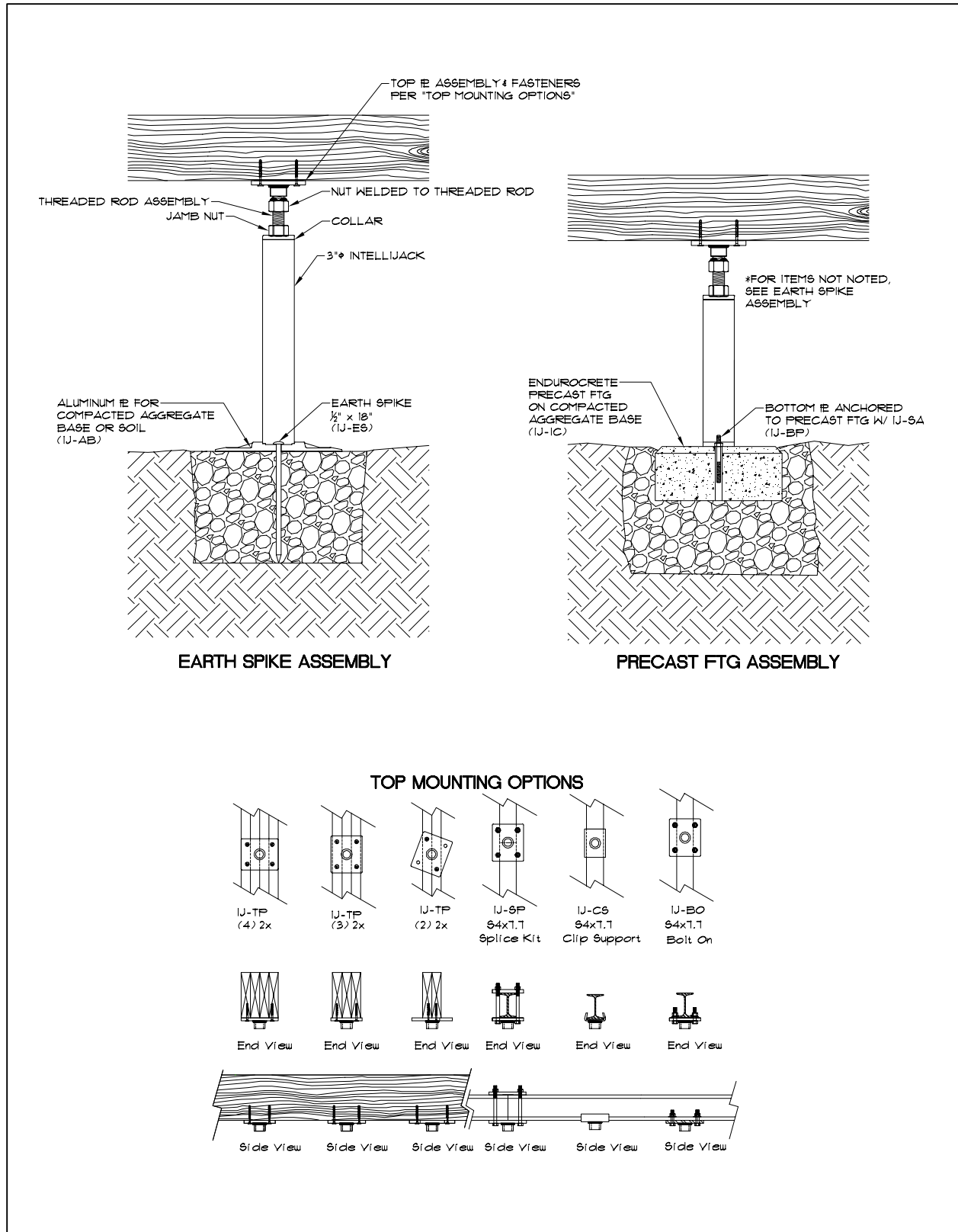
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DETAIL ADDENDUM



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



Detail 2 – IntelliJack Installation Specifications