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Samuel Rodriguez
307 Kernstown Rd.
Raeford, NC 28376

Re: Structural Observation — 50 North Ida Street, Coats, NC 27521

Mr. Rodriguez,

At your request, on March 16, 2022 we performed a visual structural observation of prior repairs to the first floor framing at the Coats residence noted above. The structure is a conventionally framed, detached, single family residence with raised first floor framing over a pier/curtain wall foundation system (*see picture 1*).

Our observations are listed below. Indicators such as “left,” “right,” “front,” and “back” are referenced as viewing the front of the home.

PRIOR STRUCTURAL REPAIRS IN CRAWLSPACE

- New floor joists with left/right orientation were noted at the back-right corner of the home. These floor joists were inadequately fastened to the face of the existing girder (*see pictures 2 for example*).
- The back right portion of the perimeter foundation was noted to have been replaced with a new CMU foundation wall. The perimeter rim band and joists were out of contact over the new foundation wall (*see picture 3 for example*).
- Various new 6x6 girders were noted to have been installed throughout the home. The new 6x6 girders were supported by haphazardly constructed wooden supports and CMU piers (*see pictures 4-6 for examples*).
 - Probing of soils beneath the piers indicated that they did not have footing (*see picture 7 for example*).

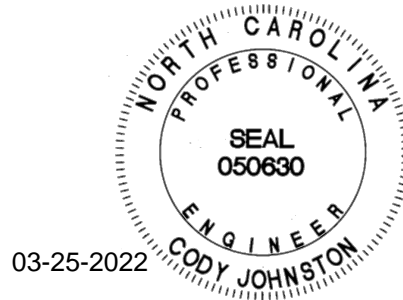
We recommend the following work be performed by a qualified general contractor:

- The above-noted inadequately fastened joists should be secured to the side of the existing girder using Simpson face hangers.
- Install a new treated 2x #2 Southern Yellow Pine (SYP) sill plate along the right foundation wall where the rim band is out of contact. The new sill plate should be fastened to the foundation wall with Simpson “Universal Retrofit Foundation Plates” (or other approved anchor bolt alternative) at 6’ on center max spacing and 12” from sill plate ends and breaks with at least (2) foundation plates installed per sill plate segment.
- Remove the haphazardly constructed CMU piers and wood posts and support the 6x6 girders with new 8”x16” hollow CMU piers with 4” solid caps centered over 24”x24”x10” thick poured concrete footings set at least 12” into suitable bearing soils at the following spacings:

- Along the 6x6 girder with left/right orientation in the middle of the home, piers should be spaced no more than 4'-0" on center.
- Along all other 6x6 girder piers should be spaced no more than 5'-0" on center.
 - New piers should be shimmed with full width treated material to the bottom of the installed supplemental girders.

The above-listed determinations were made in accordance with common engineering principles and the intent of the 2018 edition of the *North Carolina Residential Building Code*. Sequencing, and means and methods of construction are considered to be beyond the scope of this report. 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,
Cody Johnston, PE
Stonewall Structural Engineering, PLLC
Lic. #P-0951



PICTURE ADDENDUM



*Picture 1 – 50 N. Ida Street
Coats, NC 27521*



Picture 2 – New floor joist inadequately fastened to existing girder



Picture 3 – New rim band out of contact over new foundation wall



Picture 4 – Haphazardly constructed wooden support



Picture 5 – New 6x6 girder supported by CMU pier



Picture 6 – Haphazardly constructed wooden support



Picture 7 – New CMU pier with no footing