FDN Engineering, LLC

Date: February 9, 2023
Project: Lampkins Residence
Address: 1527 McDougald Rd
Lillington, NC 27546

Floor Support Analysis

This report is prepared for Southeast Foundation Repair (contractor) by FDN Engineering (engineer). Wood main beam replacement and sistering of existing floor joists are specified for installation at the above referenced project where existing floor framing is damaged or rotten. The support system is intended to provide a long-term, structurally safe floor structure. Load requirements for the floor were calculated at areas identified by the contractor. See page 2 for engineering analysis assumptions and results. See page 3 for a layout of the floor on a footprint of the structure provided by the contractor.

To the best of our professional knowledge and belief, the design of the floor framing support repairs meet the structural requirements of the 2018 North Carolina State Building Code to the extent that it applies to our scope of work.

Upon completion of the floor support system, the contractor shall supply engineer a log of the installed framing. Engineer will evaluate the installed locations and prepare a letter of completion, if necessary.

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Project Assumptions (contractor to confirm assumptions):

1. Structure is one-story, single family residential with wood-frame floors.
2. Engineer assumes new joists and girders do not support load bearing walls or columns.
3. All structural lumber & framing to be #2 SPF or approved equivalent.
4. Any wood below the required base flood elevation shall be 0.40 CCA treated (flood resistant).
5. New wood-frame girders/joists that replace existing girders/joists to be at least as large as the original member, from like material, and supports placed no further than original distance.
6. Follow all requirements of 2018 International Residential Code for all wood framing including but not limited to allow span lengths, joist spacing, connections, bracing bridging, and nailing.

Analysis Notes and Results:

7. Interior floor load is assumed to not exceed 55 psf nominal load (15 psf DL + 40 psf LL), per Code.
8. Wind loading shall be per Code. Note: not applicable to this scope of repair.
9. New framing replacements do not change the load path of the existing structure.
10. 2" x 8" wood joists to have a maximum span length of 12'-0" when placed at 16" o.c.
11. (3) 2" x 8" wood girder to have a maximum span length of 6'-0" (w/ 12'-0" trib. width).
11. (3) 2" x 10" wood girder to have a maximum span length of 6'-6" (w/ 12'-0" trib. width).

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Chad Keller
02/09/2023

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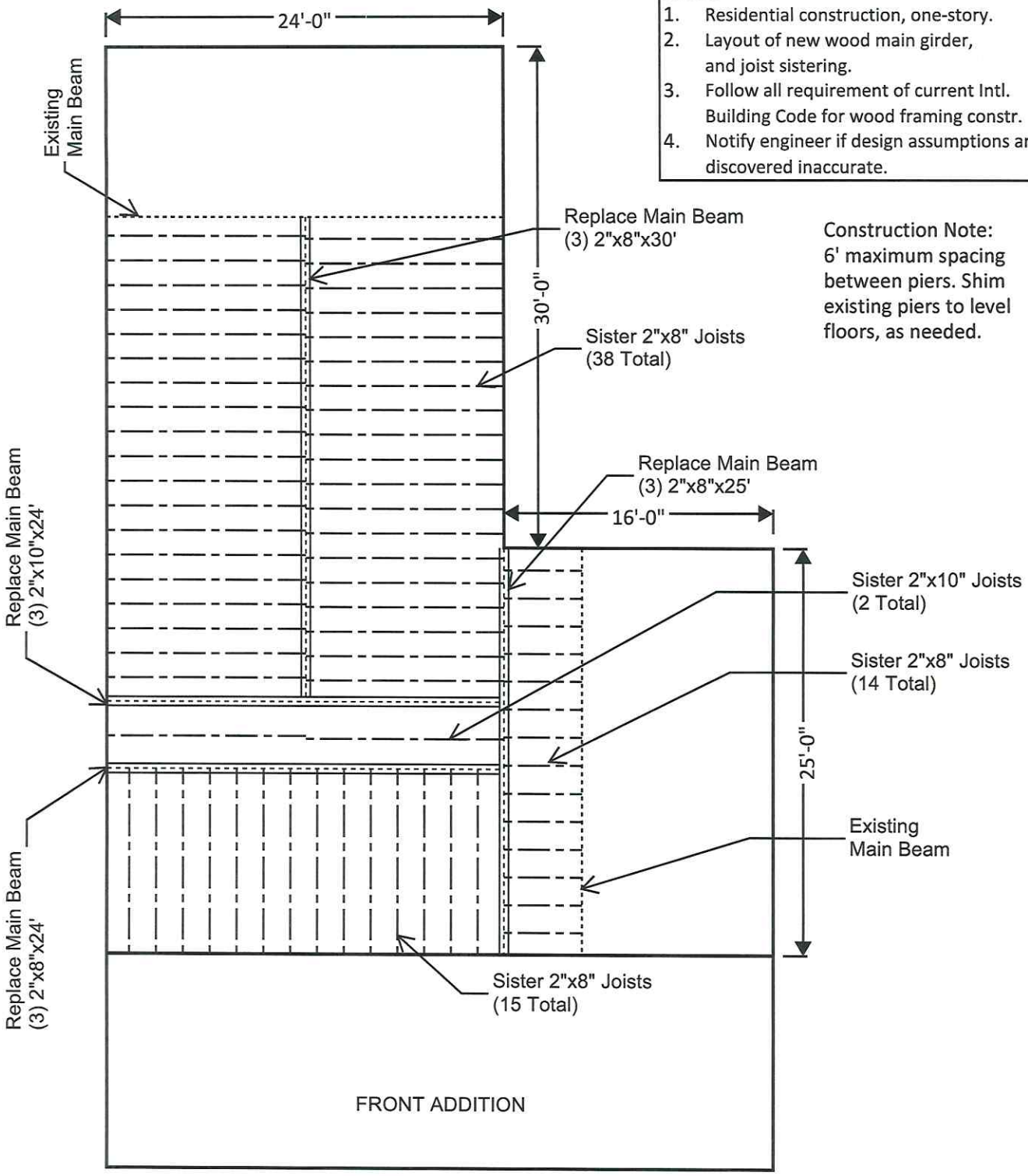
Notes:
1. Residential construction, one-story.
2. Layout of new wood main girder, and joist sistering.
3. Follow all requirement of current Intl. Building Code for wood framing constr.
4. Notify engineer if design assumptions are discovered inaccurate.



Construction Note:
6' maximum spacing between piers. Shim existing piers to level floors, as needed.

FOOTPRINT OF RESIDENCE

DRAWING NOT TO SCALE

Project:		
Lampkins Residence 1527 McDougald Rd Lillington, NC 27546	**FDN Engineering, LLC** 2412 N 179th St. Omaha, NE 68116 (402) 739-9642	NORTH CAROLINA PROFESSIONAL SEAL 044330 ENGINEER CHAD KELLER Chad Keller 02/09/2023 Firm License # P-2438