



April 15, 2021

Duffy Johnson
505 W F Street
Erwin, NC 28339
Email: duffyjohnson@outlook.com

Reference: Engineering Services
301 Denim Dr.
Erwin, NC 28339
TE&D Project No.: 2101-020236

To Whom It May Concern;

As requested, a representative of Tyndall Engineering & Design, PA (TE&D) was on-site to observe the following items:

- 1) Dry stacked foundation wall.
- 2) New first floor framing.
- 3) New ceiling framing and supporting headers/beams.
- 4) New roof framing and supporting members.

The following conclusions and recommendations were noted:

- 1) Based on our observations and analysis, the dry stacked foundation wall at the rear of the addition is not suitable. The foundation is to be constructed with an 8" masonry wall with a continuous 8" x 16" concrete footing.
- 2) Based on our observations and analysis, the existing first floor conditions are as follows:
 - a. The added 2 x 8 floor joists at 16" o.c. are suitable
 - b. The existing stem wall slab under the mid-section of the addition is suitable.
 - c. The existing girder running front to back between the existing house and addition is not suitable. We recommend a (3) 2 x 10 girder with 8" x 16" piers at 5'-0" o.c. Piers are to be supported by 24" x 24" x 8" footings. The girder is to extend from the right rear corner of the living room to the left rear bedroom corner adjacent to the back door. See attachment.
- 3) Based on our observations and analysis, the new ceiling framing is to be modified per the following:
 - a. (2) 2 x 6 headers at the new exterior door and window openings are suitable.
 - b. (2) 2 x 10 headers at the interior doors are suitable.
 - c. (2) 2 x 6 pocket door headers are to be modified to (2) 2 x 8 headers. (2) 2 x 6 interior headers for the swing doors are suitable.
 - d. The (2) 1-3/4" x 11-7/8" LVL at the rear living room wall is suitable. The stud columns are to be blocked solid to new 8" x 16" piers with 24" x 24" x 8" footings.
 - e. The (2) 1-3/4" x 9-1/4" LVL above the kitchen is not suitable and is to be modified to a (2) 1-3/4" x 14" LVL beam.
 - f. The 2 x 6 ceiling joists at 16" o.c. are suitable; however, spliced joists are not suitable and are to be replaced or "sistered" with full length joists.



- 4) Based on our observations and analysis the new roof framing is to be modified per the following:
- The 2 x 6 and 2 x 8 rafters at 16" o.c. are suitable; however, spliced rafters are not suitable and are to be replaced or "sistered" with full length members.
 - The rafter support above the kitchen is not suitable. We recommend shifting the wall to the left to bear on the (2) 1-3/4" x 14" LVL beam above the kitchen.
 - The rafters support wall at the shared wall between the addition and existing house is suitable.

Upon completion, the modified framing listed above will provide the required support for the anticipated loading conditions. We appreciate being able to assist you during this phase of the project. If you need further assistance or require additional information, please do not hesitate to contact us.

Sincerely,
Tyndall Engineering & Design

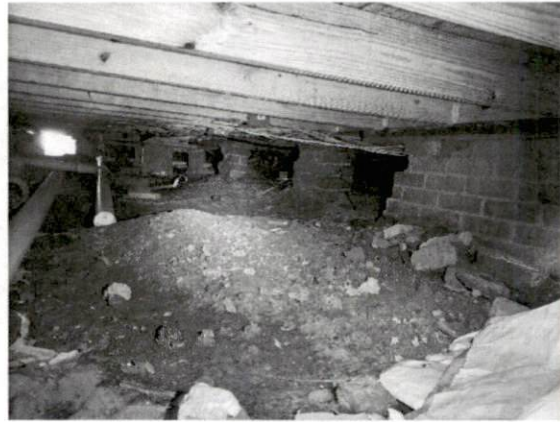
Tripp Amos
TA | 2101-020236

Prentice Tyndall Jr., P.E.

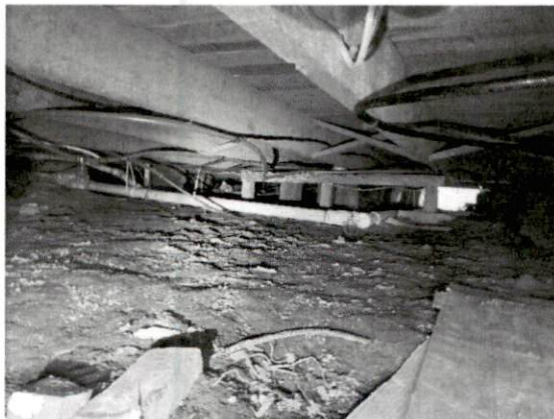




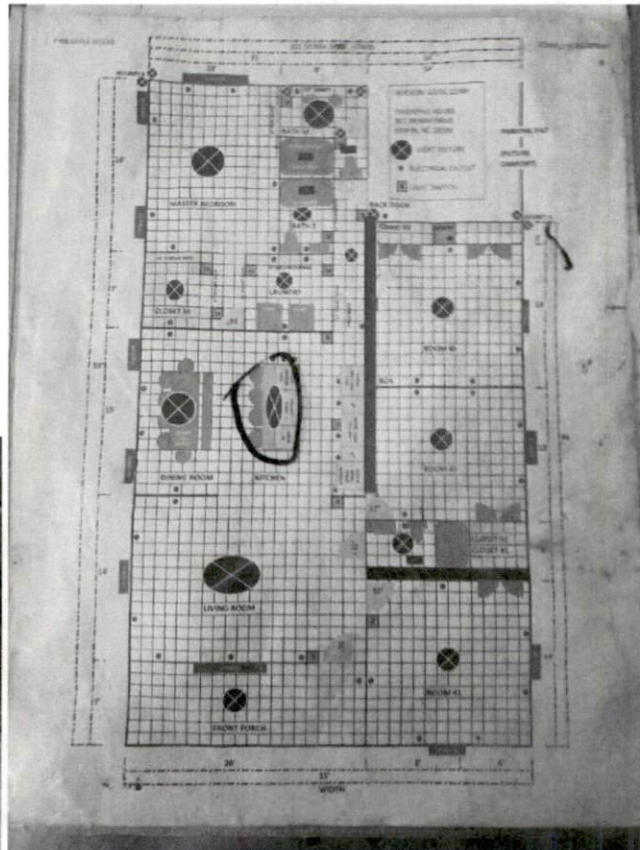
Example of Dry Stacked Foundation Wall



Example of New Floor Joists



Example of Existing Girder



Location of Modified Girder



Example of Exterior Openings



Example of Interior (2) 2 x 10 Door Headers



Example of Pocket Door Headers



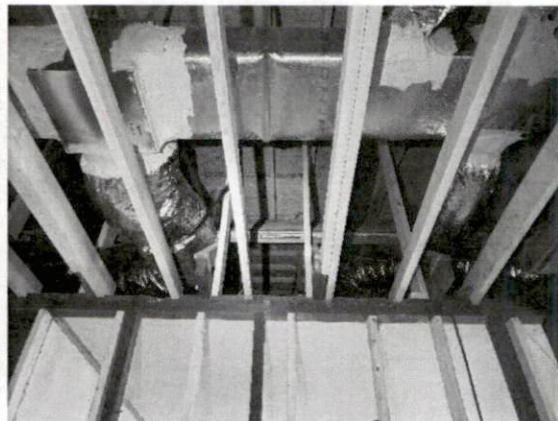
LVL at Rear Living Room Wall



LVL above Kitchen



Roof Support above Kitchen



Roof Support above Shared Wall