



January 29, 2024

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Reference: Engineering Services  
504 CC Byrd Ln.  
Linden, NC 28356  
TE&D Project No.: 2401-020053

To Whom It May Concern;

As requested by the builder, a representative of Tyndall Engineering & Design, PA (TE&D) was onsite to inspect and analyze the following issues:

1. Analysis of the existing basement foundation walls for proposed construction.

The following conclusions and recommendations were noted:

1. We observed an 8'-0" tall CMU basement foundation comprised of 10" wide CMU blocks at the exterior walls and 8" wide CMU blocks at the interior walls. The foundation wall was installed on an 18" wide by 8" deep continuous concrete footing. The exterior foundation was reinforced with #4 rebar installed vertically at 48" o.c. and with horizontal "H-wire" installed at 16" o.c. Based on our observations and analysis, the following modifications and repairs are to be installed:
  - A. Impact damage was observed at the right exterior foundation wall. All damaged CMU blocks are to be removed and the damaged section of the foundation wall is to be rebuilt per the 2018 North Carolina Residential Building Code by a certified mason.
  - B. Impact damage was observed at the back-exterior foundation wall. All damaged CMU blocks are to be removed and the damaged section of the foundation wall is to be rebuilt per the 2018 North Carolina Residential Building Code by a certified mason.
  - C. Multiple vertical #4 rebar was missing from the back-exterior wall of the foundation. New vertical #4 rebar reinforcement is to be installed at 48" o.c. in the back wall per the 2018 North Carolina Residential Building Code.
  - D. Not all cells housing the vertical rebar reinforcement were filled solid with concrete. Due to the lack of concrete cover, the rebar reinforcement has been exposed to inclement weather since initial construction and may have started to corrode. TE&D recommends installing a new vertical #4 rebar reinforcement in the cell beside the rebar exposed to inclement weather. The new rebar is to be installed per the 2018 North Carolina Residential Building Code. All rebar cells are to be filled solid.
  - E. The top course of CMU on the foundation walls is to be fully grouted per the 2018 North Carolina Residential Building Code.

Note: TE&D recommends cleaning the interior of all CMU cells with compressed air to remove dust and debris before installing the repairs above.



Upon completion, the reinforced basement foundation wall 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  
BH | 2401-020053

Prentice Tyndall Jr., P.E.







Foundation Observed (rear view)

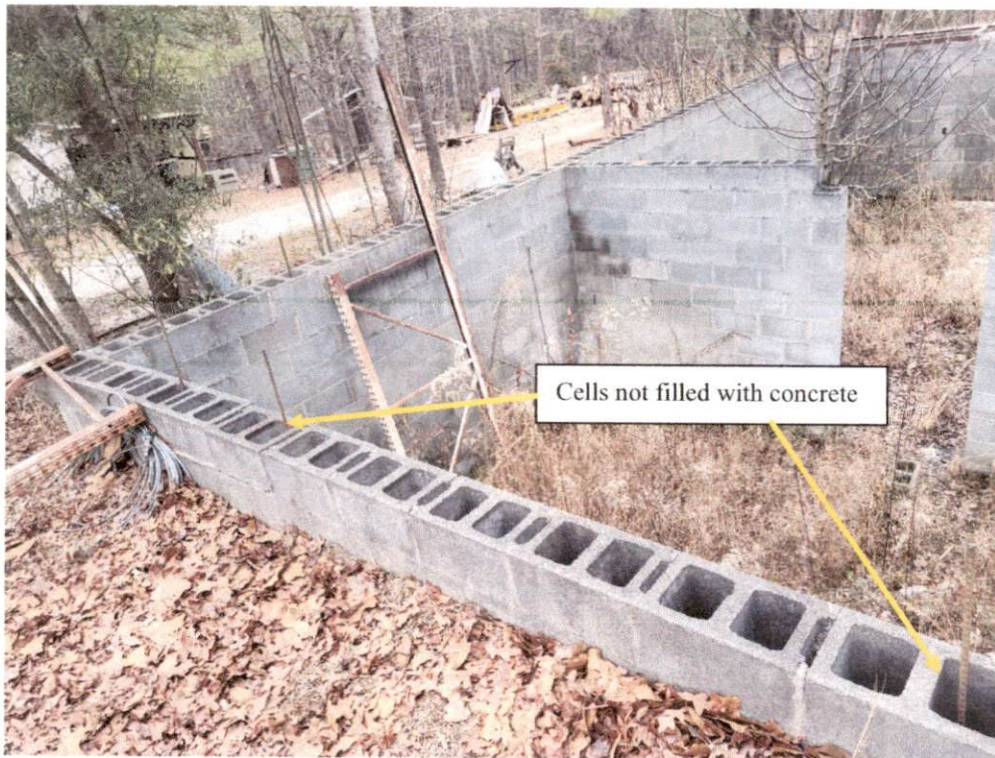


Damaged Right Foundation Wall





Damaged Back Foundation Wall



Section of missing Vertical Reinforcement