



SMITH
STRUCTURAL
ENGINEERS

OBSERVATION REPORT

TO: Borowicz Architecture
ATTN: Patricia Borowicz
TIME/DATE: 10:00 AM / May 18, 2017
PROJECT: 4208 Wilshire Parkway
LOCATION: Austin, TX
PRESENT: Patricia Borowicz – Borowicz Architecture, Chris Helms – R
Builders, Whit Smith – Smith Structural Engineers

Our office conducted a site visit with the Architect and Builder as an introduction to the project and to observe the existing structural systems. The scope of work was not completely defined at the time of the site visit; however, the design team asked for our input and opinions to assist in determining what the options might include. Additionally, we were provided with a slab elevation survey dated September 15, 2015 and a home inspection report from Four Points Inspection Service dated 9/26/16. The following is a brief summary of our observations and opinions.

Foundation

The foundation is very uneven throughout the home. Changes in elevation were documented to be up to 4” or more. For reference, 1” of movement is considered to be the industry accepted tolerance for new construction. Extensive cracking was observed in the masonry walls and the diagonal, stair-stepping patterns of the cracks were consistent with those resulting from foundation movement (either heaving or settlement). Portions of the foundation were also observed to be lower than the exterior grades, presenting an opportunity for water intrusion.

Walls

The walls consisted of a combination of masonry and wood stud framing. Many of the walls at the front of the home between windows were observed to be comprised of two wythes of stone, approximately 4” wide, with an air space between them. No insulation or structural framing was observed at these areas, but the walls were believed to be load-bearing.

Roof

Attic access was not available at the time of the site visit, but photos were available for review in the inspection report. The photos showed rafters that were separating from the ridge board, which is consistent with foundation movement-related issues, and the roof decking was shown to be rotted in multiple locations.



Retaining walls

Though not a primary focus during the site visit, it shall be noted that many of the existing site walls and retaining walls along the creek were observed to be failing and shall be considered a safety concern. Property maintenance along these walls shall be largely reduced or ceased until measures are installed to shore up the walls.

Structural Opinion

In order to salvage any of the existing structural systems for the home, the first priority shall be to completely repair the foundation. A true repair will likely consist of new drilled concrete piers around the perimeter of the foundation, and voids and soil retainers installed at all exterior beams to reduce the potential for heaving at the perimeter of the foundation. Some void filling below the slab might also be required once the foundation is lifted. The site shall be regraded such that the foundation is at least 8" above all surrounding grades.

The existing wall system is structurally deficient to the point of becoming a life-safety concern. All exterior walls that do not currently consist of a minimum of 2x4 studs at 24" o.c. shall be completely re-framed. During the reconstruction, a new building envelope and proper insulation shall be provided to construct a code-compliant wall system.

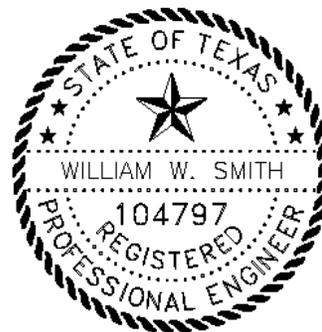
To accurately evaluate the roof framing, better access shall be provided for additional observation. At a minimum, the rotted portions of the roof deck shall be replaced, and the rafters that are pulling away from the ridge shall be removed and re-attached.

Conclusion

The existing building is in extremely poor condition, structurally speaking. Several aspects of the home, with the walls and foundation being the most notable examples, are deficient to the point of making the home unsafe to be occupied. **Action shall be taken to repair or replace portions of the foundation and framing to address these critical safety concerns prior to occupying the home.** Our office is available for additional consultation to assist with options for foundation and framing repairs.

Respectfully submitted,

William W. Smith, P.E.



6-27-17