

Date: May 12, 2022

Attention: Ty Bledsoe (via [tybledsoe@gmail.com](mailto:tybledsoe@gmail.com))

Subject: Structural Foundation Inspection Report (Level B)  
Slab Foundation  
1708 Woodlawn Trail, Prosper, TX

Good Afternoon:

Crosstown Engineering (CE) was retained to inspect the subject foundation and to provide an opinion regarding the performance of the foundation. This report provides our reasonable professional opinion of the condition of the foundation on the date of our inspection and does not take into consideration any changes in the condition of the foundation or soils after that date.

Scope of Work Limitations:

This report is for informational purposes only and is not intended to provide a detailed inventory of defects or a technical evaluation of the property. The inspection excludes the framed superstructure, detached buildings, privacy or retaining walls, general site drainage away from the structure, material and soil sampling/testing, and verification of concrete reinforcement or knowledge of the location of interior grade beams, boxed structural members not in plain sight or previous repair work. Removal of floor coverings or performance of invasive tests or procedures is not included. Visual inspection of the structure is limited to the areas that are accessible and uncovered by curtains, couches or other elements within the structure.

Document Review:

Documents were not provided for review. If existing piers are shown in the limited repair plan, their locations were provided by the client and are approximated. We do not certify their performance or existence. If the reader would like to determine if they are present, they must contact the owner or contractor to obtain an engineering certificate for them.

General Observation:

For the purposes of this report directions will be described using the terms left, right, front, and back with the front referring to the side of the structure indicated on the relative elevation map.

The structure is two stories tall with a slab-on-grade foundation. The primary structural system of the structure is a wood framed system with exterior brick veneer and interior drywall with various finishes. The foundation was not exposed during our inspection.

Grading, Drainage, Erosion and Vegetation Observations:

The terrain immediately surrounding the structure was visually observed during the inspection. We observed the following:

- The gutter system is inadequate and needs improvement.
- The drainage system is inadequate and needs improvement.



- The terrain is landscaped with grass, several trees, and some shrubbery. No trees and/or shrubs are close to the foundation.

#### Floor Elevation Discussion:

A relative elevation floor survey was performed using a Ziplevel Pro-2000B to map the surface topography of the floor of the living area and garage (if present). The floor plans and the elevations are illustrated in the attached relative elevation map. The elevations were adjusted based on the flooring type encountered to be on the same plane as the base point floor type. If a garage was present, the garage ceiling was measured and adjusted to be on the same plane as the foundation. Garage floors are designed to slope and are not as effective in measuring foundation movement.

#### Visual Observations:

Minor distress was observed in the form of drywall cracks and brick joint separations.

#### Conclusions:

Based on our visual observations of the structure and our review of the elevation map, it is our opinion that the structure is experiencing seasonal movement and the foundation is performing as intended.

#### Foundation Repair Recommendations:

We do not recommend foundation repairs at this time. This does not rule out the possibility of needing a foundation repair plan in the future should damages or foundation movement worsen. Re-evaluation of the structure in the future may be prudent.

We recommend regrading approximately 66 LF of soil on the left side of the structure to 2" below the brickline, regrading approximately 30 LF of soil on the front to pitch water away from foundation, and adding downspout extensions to the current guttering system.

This foundation has an overall deflection along section A-A that almost exceeds  $L/360$ . It is likely that a full underpin will be necessary to repair this foundation in the future. However, it does not fail overall deflection or tilt analysis currently.

#### Maintenance Opportunities:

Plumbing issues are known to create major dis-elevation and damage to a structure's foundation. If foundation work has been completed, post-repair plumbing test of the sewer and potable lines is also recommended to identify plumbing issues. If foundation repairs were not completed and the structure has not had a plumbing test on sewer lines within the last year, we recommend that a test be completed. All leaks shall be repaired immediately.

If the structure has endured differential movement and foundation repairs in the past, residual differential elevation and perceptible floor slope may remain following the foundation repairs (if performed). The soils beneath and surrounding the structure are known to shrink and swell as the seasonal soil moisture content fluctuates. Moving forward, we anticipate that some cracks in the interior and exterior walls will surface due to seasonal movement within the soils, even after foundation repair (if performed). Periodic repair of this type of cracking may be needed. However, if cracks appear to worsen and there are new indications of foundation movement, we recommend re-evaluating the structure.



Maintaining a fully functioning gutter system will minimize ponding, soil loss and erosion, and will help control seasonal movement near the foundation. The gutter system should direct storm-water discharge away from the foundation through downspouts to a well-drained area that is graded away from the foundation. Optimally, we recommend the gutter system discharge via in-ground solid pipe to a low-lying area far away from the foundation.

Vegetation maintenance and a foundation and yard-watering program will also help control seasonal movement. Maintaining consistent moisture levels in supporting soils at all times of the year is necessary. It is important that the soils be stabilized and maintained with grass or ground cover around the perimeter of the structure to prevent erosion and an exposed or improperly embedded foundation. Large to medium-sized trees, and even large or numerous shrubs, growing too close to a foundation can dramatically effect the moisture content of the soils within the zone of influence beneath the structure. Root systems extract large quantities of water from underlying soils and result in large volumetric changes in the soils (shrinkage). As the tree absorbs water from the soil and the soil volume decreases, the foundation will settle in unsupported. If problematic roots are observed, we recommend removal or installation of tree root barriers.

Disclaimer:

We do not warrant the future performance of the subject foundation and the reader is urged to review the Disclosure & Disclaimer for other limitations and standard recommendations. The limit of liability is limited to the fee paid for this opinion. No further agreement shall be made, altered, or varied except by written instrument.

The above referenced inspection was completed to provide an opinion regarding the performance of the foundation. If foundation repair work was completed, neither Crosstown Engineering nor Adam Green, P.E., are responsible for liability to the owner or others for acts or omissions of the foundation repair contractors to carry out the repairs in accordance with their agreement or for the construction means, methods, techniques, sequences, procedures or the safety precautions incident thereto.

Please see the relative elevation map for more information.

Sincerely,

Crosstown Land Development Services  
Texas Engineering Firm (F-15944)

Adam Green, P.E., MBA  
Professional Engineer (TX #116597)

*Adam Green*  
5.12.22





## **DISCLOSURE & DISCLAIMER**

It is known to knowledgeable professional engineers that the soils in this area are subject to movement due to expansion, contraction or densification of the soils etc. This soil movement could possibly cause the foundation to move after the remediation plan within the attached report has been implemented and may impact the stability of the foundation and cause damage.

NO WARRANTY IS EXPRESSED OR IMPLIED BY THIS ENGINEER AS TO THE PERFORMANCE OF THIS FOUNDATION OR THE REPAIRS THERETO. Diligent foundation maintenance to maintain consistent soil conditions along the perimeter should reduce further problems after the recommendations within this report have been implemented. However, seasonal moisture variations, water leaks, erosion and other factors may affect the stability of the foundation and put it in danger of further damage.

## **REPORT LIMITATIONS**

This report is written for informational purposes only and is not intended to be a detailed technical evaluation of the property or an inventory of defects. The opinions expressed in this report are based on a visual evaluation of current conditions observed at the time of the inspection. THERE IS NO WARRANTY, EXPRESSED OR IMPLIED, CONCERNING THIS ENGINEERING REPORT.

The information in this report supersedes any verbal comments, expressed or implied, made by Crosstown Land Development Services or its principals, agents or employees. The client agrees that neither CLDS nor its employees or owners will be responsible for:

1. Knowledge of the subsurface conditions without extensive geotechnical data obtained from onsite drilling and testing of the recovered samples,
2. Knowledge of cracks, vertical differential displacement of floors without uncovering of the floor by the client; and
3. Any other element such as joists or beams and other structural members that is boxed or otherwise not readily available to CE for viewing, and releases CE from any liability attributable to such knowledge or conditions.

Any prescribed repair or maintenance plan detailed by this report is based on observations of apparent performance of the facility at the time of this structural survey. Compliance with any code or specification other than as expressly noted is specifically excluded.

The provided Floor Elevation Map and resulting recommendations are based on conditions as they now exist and DOES NOT IMPLY OR WARRANT THAT OTHER PROBLEMS AND OR AREAS MAY NOT MANIFEST IN THE FUTURE.

This report was prepared expressly for the client and expressly for the purposes indicated by the client. Permission for use by any other person for any purpose, or by the client for different purpose is denied unless otherwise stated in writing by CE.

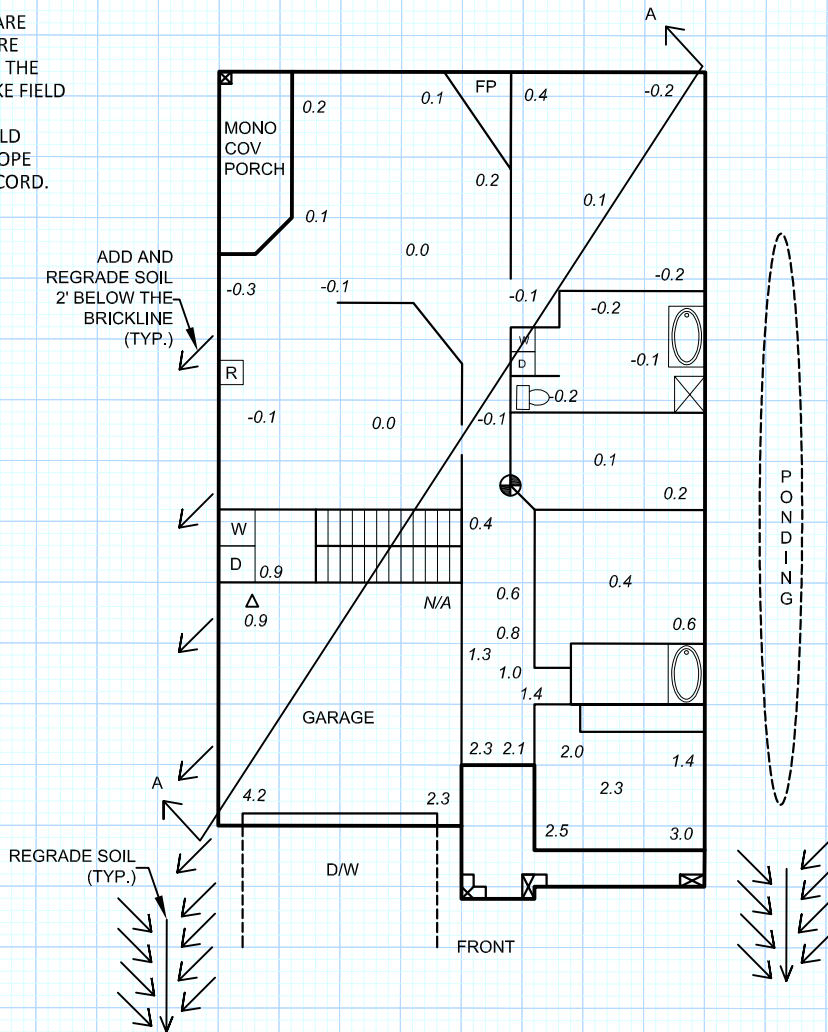
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CE expressly DISCLAIMS ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE and the client expressly disclaims that it has contracted for or received any warranty of fitness for a particular purpose with respect to this report. THE REPORT UNDER THIS AGREEMENT IS THE OPINION OF CE AND THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS AGREEMENT.



CONSTRUCTION NOTE: IF INTERIOR PILING LOCATIONS ARE SHOWN ON THIS MAP THEY ARE APPROXIMATED AND ARE LOCATED WITHOUT KNOWLEDGE OF THE LOCATIONS OF THE INTERIOR GRADE BEAMS. THE CONTRACTOR SHALL MAKE FIELD JUDGEMENTS BASED OFF OF THEIR GRADE BEAM INVESTIGATIONS AND OBSERVED SLAB QUALITIES TO FIELD LOCATE THE FINAL INTERIOR PIER LOCATIONS. FINAL SCOPE CHANGES SHALL BE APPROVED BY THE ENGINEER OF RECORD.

PLEASE NOTE: IF EXISTING PILINGS ARE SHOWN ON THIS MAP, THEIR LOCATION WAS PROVIDED BY THE CLIENT AND IS APPROXIMATE. CE DOES NOT CERTIFY THEIR PERFORMANCE OR EXISTENCE. IF THE READER WOULD LIKE TO DETERMINE IF THEY ARE ACTUALLY PRESENT, THEY MUST CONTACT THE OWNER OR CONTRACTOR TO OBTAIN AN ENGINEERING CERTIFICATE FOR THEM.



- NO FOUNDATION REPAIRS RECOMMENDED ATR THIS TIME.
- REGRADE APPROXIMATELY 66 LF OF SOIL ON THE LEFT SIDE OF THE STRUCTURE TO 2" BELOW THE BREAKLINE.
- REGRADE APPROXIMATELY 30 LF OF SOIL ON THE FRONT TO PITCH WATER AWAY FROM FOUNDATION.
- ADD DOWNSPOUT EXTENSIONS TO THE CURRENT GUTTERING SYSTEM.
- THIS FOUNDATION HAS AN OVERALL DEFLECTION ALONG SECTION A-A THAT ALMOST EXCEEDS L/360. IT IS LIKELY THAT A FULL UNDERPIN WILL BE NECESSARY TO REPAIR THIS FOUNDATION IN THE FUTURE. HOWEVER, IT DOES NOT FAIL OVERALL DEFLECTION OR TILT ANALYSIS CURRENTLY.

#### LIMITED REPAIR PLAN

PRE-LIFT ELEVATIONS BY CE (5.11.22) 0.0

\*NOT TO SCALE - ALL LOCATIONS APPROXIMATE\*

POST-LIFT ELEVATIONS BY CE ( )

#### LEGEND

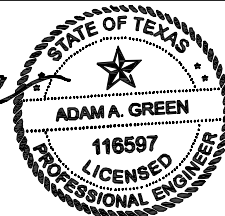
⊕ ELEVATION BASEPOINT  
— PROPOSED BEAM  
— EXISTING BEAM

■ PROPOSED PAD/BLOCK  
■ EXISTING PAD/BLOCK  
● PROPOSED PIER

✕ EXISTING PIER  
⊙ PROPOSED BREAKOUT PIER  
⊗ EXISTING BREAKOUT PIER

*Adam Green*

5.12.22



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