

GeoConsultants, LLC

Geotechnical and Forensic Engineering Services

August 28, 2012

Mr. Ralph Miles
Ralph Miles Construction Company
15852 County Road
Lindale, Texas 75771

Re: **Visual Inspection**
Residence at 185 C.R. 2142
Canton, Texas
GeoConsultants, LLC Project No. 1224

Dear Mr. Miles:

This letter is to document the results of our August 24, 2012 visual inspection to the above captioned residence and present our opinion for the noted conditions. The purpose of the inspection was to determine the most probable cause for the slope of the foundation and floor slab. The site visit included a relative floor elevation survey to determine the slab elevations relative to an arbitrary point of reference. The results of our floor elevation and visual inspection are summarized below.

The residence is approximately four years old, is wood-framed and appears to sit on a conventionally reinforced slab-on-grade foundation. The structure has a brick veneer with a gabled roof with asphalt shingles. The house faces generally east and has moderate grades for positive drainage on all sides of the foundation. The floor slab appears to be placed on a minor fill to elevate the slab above the adjacent grades, and the grade beams are most likely bearing within undisturbed subgrade soil. There were no adjacent trees or large shrubs to affect the foundation soils at the perimeter of the house. The previous owners of the house reportedly stated for the three years that they occupied the residence, there were no apparent problems with the structure.

Conditions Observed - A visual inspection to the exterior of the structure did not indicate any evidence of differential movements that would manifest as cracking in the brick veneer and separations in the frieze and trim boards around the eaves of the roof. Additionally, the interior of the residence had no signs of movements that would cause cracking in the sheetrock walls or separation of the interior finishes. The doors to the two front bedrooms swing partially closed towards the downhill slope, but the rear (west) door swings in the uphill direction, indicating that the door frames are slightly out of level. The corners of the door moldings did not indicate that the unlevel conditions were the result of post-construction movements within the door frames.

The interior and exterior walls were checked with four-foot levels and were found to be plumb in the vertical direction. Interior measurements taken from the top of the floor slab to the bottom of the crown molding indicated longer measurements on the west ends of continuous walls.

The results of our relative floor elevation survey are attached to this letter. A review of the plan indicates that the foundation has a change in elevation of approximately seven (7) inches with the high side on the north end. The contours for the changes in elevation appear to be fairly uniform along the slope, indicating that the concrete for the slab surface was most likely placed and finished in the elevations noted across the foundation.

* **Conclusions** - Based on the conditions observed and the discussion herein, it is my professional opinion that the slope of the foundation is most likely the result of the foundation forms being placed out of level during construction. If the noted slopes were from settlement, there should be more areas exhibiting distress with cracking and trim separations. Additionally, this magnitude of post-construction movement should have resulted in broken water and drain lines and poor drain line performance on the lower (west) side of the foundation. Without these conditions present, it becomes intuitively obvious that this was an error made in the layout of the foundation forms.

It is also our opinion that the structural integrity of the residence and foundation are intact and should provide satisfactory performance for the estimated design life of the structure.

This letter is based on information provided by the owner and/or others, and a visual survey of the elements exposed to GeoConsultants, LLC at the time of the field investigation. GeoConsultants, LLC will not be responsible for 1) knowledge of subsurface conditions without extensive geotechnical information supplied by a competent geotechnical engineer, 2) knowledge of cracks, or differential displacements that have occurred in a floor slab or flatwork without removing the floor covering and 3) any other element such as joists or beams and other structural members that are not readily visible to us.

The observations and notes in this letter are based solely on the August 24, 2012 visual site survey. The observed conditions are subject to change with the passage of time. This office reserves the right to revise this report upon receiving additional data or further field investigation. This letter does not constitute a guarantee or warranty as to future life, performance, need for repair or suitability for any other purpose at this site. This investigation was performed by GeoConsultants, LLC and the engineer in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, expressed or implied, and no warranty or guarantee is intended for the opinions or observations represented in this report.

Unless otherwise indicated, this Forensic Survey was prepared exclusively for Ralph Miles Construction Company. Permission for use by any other persons for any purpose, or by the client for a different purpose must be provided by GeoConsultants, LLC in writing.

We appreciate the opportunity to have provided you with our engineering services. If you have any questions concerning this letter, or if we may be of further service, please contact our office.

Respectfully submitted,
GeoConsultants, LLC

N. J. Gorsha
N. J. Gorsha, P.E.
N.JG/nlg



Attachment: Relative Floor Elevation Survey

GeoConsultants, LLC
Texas Registered
Engineering Firm
F-9351

GeoConsultants, LLC

185 C.R. 2142

Canton, Texas

Project No. 1224

Relative Floor Elevation Survey

Date of Survey: 8/24/12

