

Alton E. Greeven, P .E.
Consulting Engineer, TBPE Firm F-18
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Austin, Texas 78703
Phone 512-477-8811 - Fax 512-474-2266

June 21, 2010

Mr. Lloyd Lochridge
3400 Hillview
Austin, Texas 78703

Pursuant to your request, the undersigned visited your residence on June, 19, 2010. The purpose for this visit was to address the following concerns: 1) excessive differential foundation movement has occurred since our structural surveys of September 1988, June 1996, and March 1999, requiring additional foundation underpinning, and 2) the residence is unsafe.

Based on exterior and interior observations the following is concluded:

- Vertical foundation movement has occurred since 1999;
- The cause for this movement, see the enclosed previous reports, is the underlying Del Rio Clay;
- Although vertical and horizontal foundation movement is causing problems with respect to the appearance of the exterior masonry work, interior partitions, and terrazzo floors, this movement has not progressed to the point where the structural performance of the residence or the safety of the inhabitants is impaired;
- No additional underpinning is recommended at this time;
- Considering the antiquated structural framing system of this residence, see previous reports, any required structural remediation of any component framing member may or may not be possible. And, if possible, would be extremely expensive;
- Expect continued foundation movement to occur as it has in the past requiring remedial cosmetic repair of walls, flooring, and ceilings. Also, repair or replacement of component structural members and additional foundation underpinning may be required; and
- Continue to monitor these movements, and should they appear excessive, contact a structural or a geotechnical engineer to issue instructions.

Should you require additional service, please contact me.

The professional services that form the basis for this opinion have been performed using that degree of care and skill ordinarily exercised under similar circumstances, by reputable engineers practicing in the same locality. No other representation expressed or implied, and no warranty or guarantee is included or intended with regard to the professional advice set forth herein.

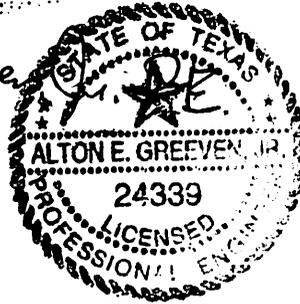
The results, conclusions and recommendations contained in this report are directed at, and intended to be utilized within the scope of work contained in the oral proposal executed by Alton E. Greeven, Jr., P. E., and client. This report is not intended to be used for any other purposes. Alton E. Greeven makes no claim or representation concerning any activity or condition falling outside the specified purposes to which this report is directed, said purposes being specifically defined in said oral agreement. Inquiries as to said scope of work or concerning any activity or condition not specifically contained therein should be directed to Alton E. Greeven, Jr., P. E., for determination and, if necessary, further investigation.

Sincerely,



Alton E. Greeven, Jr., P. E.

Attachments: 3



**Structural Condition Study
3400 Hillview
Austin, Texas 78703**

**Report to:
Lloyd Lochridge**

Submitted by :

**Alton E. Greeven, Jr., P. E.
Consulting Engineer
Austin, Texas**

March 1999

March 22, 1999

Mr. Lloyd Lochridge
3400 Hillview
Austin, Texas 78703

Following your instructions, a limited structural condition study of your residence was initiated by the undersigned on March 18, 1999. The purpose for the study was to assess the importance of cracked and crushed masonry at the lower corner of the dining room/kitchen door and diagonal cracking in this wall. Pursuant to this task, two trips to the site, March 19 and 22, were necessary to observe, photograph, and measure existing framing conditions.

This report is based on exterior and interior observations. No testing of materials, inspection for insect infestation, elevation measurements, or destructive investigations were performed.

For the purposes of this study, the house faces east on Hillview.

Observations indicated that the foundation has moved considerably since my studies of September 1988 and June 1996. This movement is evidenced by the cracking and crushing at the above mentioned masonry wall. To investigate whether or not this recent movement is the result of a major foundation failure, it was necessary to observe foundation conditions from the crawl space. Accordingly, observations were made and photographs taken, see appendix, from beneath the dining room and the kitchen. Findings from these observations are recorded below.

From under the dining room.

- Certain intermediate concrete block (cmu) piers have cracked, see photographs;

- Certain intermediate 4 x 6 wood floor support beams are cantilevered, see photographs;
- Intermediate cmu piers supporting the 4 x 6 beams are spaced too far apart; and
- The duct opening through the existing masonry bearing wall below the crushed door frame has been widened, see photographs. This widening has undermined the end support for the header joist framing the opening.

From under the kitchen.

- Conditions at the duct opening are similar to those observed at the dining room;
- South of the duct opening and adjacent to the transverse wall, an opening approximately 5' - 6" long x 1' - 0" deep has been cut through the continuous masonry footing. This cut was more likely than not made to facilitate the construction of the intermediate support beams under the dining room and living room floors. This cut has resulted in excess deflection of the floor above;
- When entering the crawl space from the garage, it was noted that the masonry bearing wall separating the kitchen from the garage has deflected horizontally approximately 1-1/2-inches at mid-height; and
- In general, the soil in the crawl space is damp.

As stated in reports of 1988 and 1996, the cause for the foundation movements and resulting distress to the floors, walls, and trim is the underlying Del Rio Clay.

From our discussion on March 18, it is understood that you intend to live in this residence for ten years.

Based on the foregoing the following corrective measures are recommended:

- Replace all cracked intermediate cmu piers. This may require temporary shoring each side of the pier;
- Support the cantilevered ends of all support beams with cmu piers;
- Add cmu piers to support the 4 x 6 beams so that the spacing between piers is not more than 4' - 0";
- At the duct opening below the kitchen/dinning room door, reinforce the header joist each side of the opening. See attached detail;
- At the opening cut through the continuous masonry footing, reinforce as shown on the attached detail;

- Stiffen the garage wall as shown on the attached detail. These details may require revision pending a detailed study of their effect to the interior wall surfaces;
- Provide foundation vents based on the following: 1 square foot of vent area to every 150 square feet of under floor area. The vents should be located as near corners as possible and provide for cross ventilation;
- The bearing walls, especially the wall at the kitchen/dining room, should be monitored for major displacements. Should major displacements occur, the continuous masonry footing should be stiffened. See attached detail; and
- The cracked and crushed masonry at the kitchen/dining room door is the result of differential foundation movements and not a major collapse of the masonry footing.

The above recommendations cover only those structural deficiencies observed during this study.

It should be recognized, considering the type of construction of the foundation and the high shrink/swell potential of the underlying soil, that the foundation will move much as it has in the past; there is not a practical method to stabilize this foundation. Therefore, a budget should be established, based on past history, for remedial repairs (e.g., taping, floating, painting, plastering and pointing masonry, aligning doors, etc.).

Should you require additional service, please contact me.

The professional services that form the basis for this opinion have been performed using that degree of care and skill ordinarily exercised under similar circumstances, by reputable engineers practicing in the same locality. No other representation expressed or implied, and no warranty or guarantee is included or intended with regard to the professional advice set forth herein.

The results, conclusions and recommendations contained in this report are directed at, and intended to be utilized within the scope of work contained in the oral proposal executed by Alton E. Greeven, Jr., P. E., and client. This report is not intended to be used for any other purposes. Alton E. Greeven makes no claim or representation concerning any activity or condition falling outside the specified purposes to which this report is directed, said purposes being specifically defined in said oral agreement. Inquiries as to said scope of work or concerning any activity or condition not specifically contained therein should be directed to Alton E. Greeven, Jr., P. E., for determination and, if necessary, further investigation.

Sincerely,

Alton E. Greeven, Jr., P. E.

COPY

original signed log

AEG

**Appeal of Lloyd P. Lochridge, Jr. to the Travis Appraisal Review Board
from the 2010 Alleged Market Value for the .71 acres
of land and improvements at 3400 Hillview Road**

You may be surprised that the appraiser's figure of \$779,909.00 is more than 40 times the assessed value of \$19,110.00 some 50 years earlier in 1960. However, I realize that the controlling questions for your decision are the fair market value, of the improvements and land on January 1, 2010.

Exhibit 1, an historical record of assessed values for 3400 Hillview Road from 1960 to 2010 demonstrates that in the 40 years from 1960 to 2000 the Travis County Appraiser increased the total market value by 19 times the 1960 market value. Then, in the next 10 years from 2000 to 2010 the Appraiser proposes a market value of \$779,909.00 and an assessed value of \$768,653.00 an additional 21 times the 1960 figure for a total increase to 40 times the 1960 figure. During these 50 years the land has not changed. Neither have the improvements except as to age. The Appraiser probably will agree that this states the facts but say that the question is whether the proposed market value of \$779,909.00 and assessed value of \$768,653.00 now reflects the actual market value of the improvements and land at 3400 Hillview Road.

I submit they do not.

Exhibit 2 consists of 5 reports on inspection and work done by Alton E. Greeven, P.E., a consulting engineer. These reports are dated as follows:

September 30, 1988
June 3, 1996
March 22, 1999
August 10, 1999
June 21, 2010

Mr. Greeven in his September 30, 1988 report describes the improvements at 3400 Hillview Road as follows: "The residence is a two-story masonry structure built approximately fifty years ago. The first, second and attic floors are suspended reinforced concrete ribbed slabs with a terrazzo finish on the first and second levels. The structural components of the ribbed slabs were formed by using hollow clay tile masonry units. The joists or ribs are clay tile units filled with concrete and reinforced with steel reinforcing bars. Joists are spaced approximately twenty-four (24) inches on center. The floor joists span to interior and exterior load bearing masonry walls. The load bearing walls are supported on continuous footings on grade. Depth of joists, slabs thickness, and size of reinforcing steel could not be determined for lack of as-built drawings."

You will want to read these reports in full but engineer Greeven continues in his most recent report of June 21, 2010 to state: "Expect continued foundation movement to occur as it has in the past requiring remedial cosmetic repair of walls, flooring and ceilings. Also, repair or replacement of component structural members and additional foundation underpinning may be required, . . ."

In 1980, before Mr. Greeven was consulted, we in our family observed that the center of the living room 18 by 24 foot concrete terazo floor had dropped and become 8 or 10 inches lower than the levels of the floor at the four sides of the room. I obtained the assistance of an experienced house moving contractor who came in with his crew in the crawl space beneath the first floor slab. He installed two or three I-beams about the size of railroad tracks. These ran beneath the living room longitudinally and perpendicular below the failing clay joists supporting the living room. Then using jacks he was able to

bring the living room floor back to level. The I-beams were supported by masonry columns on grade.

This experience coupled with observations of our own in the area of the kitchen and dining room brought about the consultation with Mr. Greeven in 1988 and again in 1996 and 1999 when supporting work was done on the kitchen/garage wall and the failing area beneath the kitchen and dining room and the masonry wall between them.

Mr. Greeven's drawings of reinforcements for the kitchen/garage wall and in the area of the kitchen and dining room floors are part of his reports. That wall was also deteriorating.

Before Mr. Greeven did his work in 1996 or 1999 I had conferred with a building contractor who has done work on the houses of other members of our family here in Austin. He went under the house in the crawl space to see what was going on in the kitchen/dining room area and then called me at the office saying that he thought that no member of our family should spend another night in the house. It was not safe. I have been comforted by engineer Greeven's different conclusion that there is not an issue of risk but his conclusion that continued foundation movement will occur, thanks to underlying Del Rio clay and his saying that any required structural remediation may not be possible or if possible would be extremely expensive is very troubling. I think all this affects the value of this 75 year old improvement at 3400 Hillview Road.

At the informal hearing that I had with Residential Appraiser Stacey J. Poole in June 4, 2010 I described the foundation and Del Rio clay problems and told him that I had brought these to the attention of the appraiser's office at times in the past. He said that it would be important that pictures be provided showing manifestations of all this.

Accordingly, pictures were taken on June 20, 2010. Exhibit 3 are those pictures showing cracks in walls, filled cracks in floors, reinforcements in the kitchen/dining room area and other visual effects of this problem. It was not possible for the photographer to get as far in the crawl space to that below the living room so I ask you to take my word for that. These supporting iron or steel beams are there supported by masonry columns on grade.

Exhibit 3 contains recent photographs of the visual effects of the structural problem and so do pictures and drawings in Mr. Greeven's work.

Effect of the Structure on the Value of the Improvements

We have never offered 3400 Hillview Road for sale but that time may come at which time any prospective purchaser will be informed. It is my opinion that any such prospect wanting such a large house would wish to have one free from these structural problems and such a purchaser is likely to want far more modern fixtures and décor than the accommodations in our 75 year old house provide. It is therefore likely that any ready, willing and able purchaser would be unwilling to attach any value to these brick, clay and concrete improvements and would only want the land at 3400. In that event, there would be nothing but large expense in tearing down the improvements and nothing of substantial value would be realized from the brick, tile and antiquated fixtures.

Value of the Land and Comparable Information Provided by the Appraiser

The Appraiser's office has provided information about 12 properties said to be comparable. (See Exhibit 4) Some of these are located in the same sort of residential area as 3400. Some are located miles away. Most of them are shown to have about

3500-3800 square feet of living area. That alone is not enough to make them comparable to 3400 which is said to have 3800 square feet of living area..

The improvements at 3400 Hillview Road were constructed in 1935. According to the data sheets provided by the appraiser for the 12 “comparable” properties their dates of construction were: 1959, 1950, 1954, 1968, 1947, 1950, 1940, 1971, 1956, 1946, 1950, and 1960. These houses are from 12 to 29 years “younger” than 3400’s.

On June 27, 2010, we took pictures of seven of these so-called comparable properties. (See Exhibit 5) Not one of them has any resemblance to the kind of improvements that are located on 3400 Hillview Road. Most of them are single story houses. Their construction is totally different. It is extremely unlikely that any of them have such serious structural problems as exist at 3400.

Comparison of Appraiser’s Continuing Increase in Valuations
With Data Indicating Declining Values in Recent Years

Exhibit 6 is data based on residential sales in Austin, Texas available from the Texas Real Estate Service at Texas A&M.

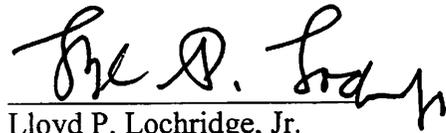
This shows that in the period from about 2008 to 2010 that residential sales in Austin were bringing 8% less than they had in 2008. At the same time, in 2008, 2009 and 2010, the Travis County Appraiser increased his estimate of the market value of 3400 Hillview Road by at least 12%. The net difference reflects an excess of 20% in the Travis County Appraiser’s figures which are contrary to decreasing property values in this market.

This is borne out by the three comparable sales in 2009 provided by the Appraiser (Exhibit 7). These three sales show a 23% decline in one property and 20% decline in

each of the other two properties from the appraisal figures of the Travis County Appraiser for these properties.

Conclusion

The Travis County Appraiser's proposed market value of \$779,909.00 should be reduced by at least 20% and perhaps more if you agree there is no fair market value of \$219,080 attributed by the Travis county Appraiser to the 75 year old improvements at 3400 Hillview Road.


Lloyd P. Lochridge, Jr.
July 14, 2010



**Another picture of crawl space below
kitchen and dining room showing
masonry supports of floor joists**



**Picture of substructure below kitchen
and dining room area showing jack
remaining in place**



**Area beneath dining room showing
masonry block installation supporting
floor joists**



Area below room on west side of garage showing concrete masonry supports of floor joists, the installation of which was made prior to 1959



Another photograph of supporting masonry column believed to have been installed prior to 1959 under floor of room on west side of garage