

Jay V. Hamm
Civil Engineering Consultant

INVOICE

November 1, 2006

TO: **Mr. Mike Werle**
11500 Jollyville Rd.
Apt. 3011
Austin, TX 78759

FROM: **Jay Victor Hamm PE**
PMB 284
5114 Balcones Woods Drive, Suite 307
Austin, TX 78759

<u>Property Address</u>	<u>DATE</u>	<u>AMOUNT</u>
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12006 West Cow Path Austin, TX.	11-01-06	\$ 375.00
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Amount Paid	\$ 375.00
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Invoice # D110106slab

THANK YOU.

Jay V. Hamm P.E.
Civil Engineering Consultant
5114 Balcones Woods Drive, Suite 307—Austin, TX, 78759
(512) 657-0950 / fax: (512) 338-4308

ENGINEERING REPORT

DATE: November 1, 2006

RE: Engineering Foundation Inspection @ 12006 West Cow Path--Austin, Texas

On this date, I performed an on-site visual evaluation of the foundation for the subject property. The house is a single story residence with exterior brick and wood surfaces. The foundation of the house is a concrete slab-on-grade type with integral grade beams. The house is situated on relatively flat clay type terrain. For orientation purposes, the house faces south.

OBSERVATIONS:

On the exterior, there are no signs of distress..

Inside the house, the front porch and utility room doorframes are not aligned with their frames. The interior is in some stages of remodeling. The chimney has pulled away from the house.

Interior structural floor areas slope downward from the central slab area to the back and right perimeter sides of the house. A maximum vertical differential of two-inches was measured across the slab. Three roof rafters in the attic have separated from the center ridge beam.

Elevation readings for this residence were performed using a Stanley CompuLevel.

CONCLUSIONS:

The foundation structure of this house has experienced differential vertical deflections predominately along the back and right perimeter side of the house. The deflection in the foundation slab has caused corresponding distress to the roof structure. Roof rafters have pulled away from the ridge beam causing decreased support to the roof.. No other areas of the house appear to have structural damage caused from foundation settlement.

The slab deflections appear old. The chimney settlement has probably stabilized although the deflection exceeds tolerances at this time. Repair of the chimney base may not be necessary at this time but repair of roof rafters is recommended for structural support of the roof.

The slab deflects in a manner common with seasonal with variations in moisture content of supporting clay soils. Clay type soils in this region may expand or shrink in volume with loss or addition of moisture in the clay.

Mechanical foundation repair procedures are recommended along the settled perimeter side of the house to correct deflections in the foundation slab and relieve stress in the house and roof frame, and stabilize the slab as much as possible.

Engineering Inspection --- November 1, 2006
12006 West Cow Path--Austin, Texas

Expansive clay soils are common in Central Texas. These soils can expand in volume (swell) when wet and can decrease in volume (shrink) when dry. This change in volume of supporting clay soils can cause a corresponding reaction to a house foundation. Pilings such as those proposed in this application support and improve stability of the foundation by compressing pilings and transferring weight to deeper and expectedly more stable soil strata where moisture contents do not expect to vary as much as more shallow soils. Maintaining a consistent moisture level in the soil should help result in maintaining stability in the foundation.

This inspection was performed as an on-site inspection with non-invasive observations.

RECOMMENDATIONS:

- a. Mechanically raise, level and stabilize the affected perimeter area of the slab as much as practical using, as a minimum, procedures outlined in this report. (optional)
- b. Consult with reputable carpenter for repair of roof rafters. (strongly recommended)

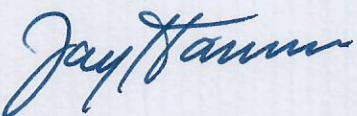
Foundation maintenance procedures such as those attached should be followed at all times.

No warranty is expressed or implied as to the performance of this foundation.

AGREEMENTS:

This report was based on an on-site non-invasive visual inspection.

Opinions expressed in this report are based on sound engineering judgment and evaluation regarding past performance of the property inspected on the day of this inspection. This report also gives engineering advice with regard to the best and most economical method to stabilize and maintain the property. This advice assumes normally expected subsurface conditions and conventional construction methods. This engineer or this report does not warrant or predict the future performance of the structure of the foundation repairs. The contractor normally offers warranties. Information provided in this report is intended for the private use of our client. If you have any questions or comments regarding this report or if I can be of further assistance, please call.



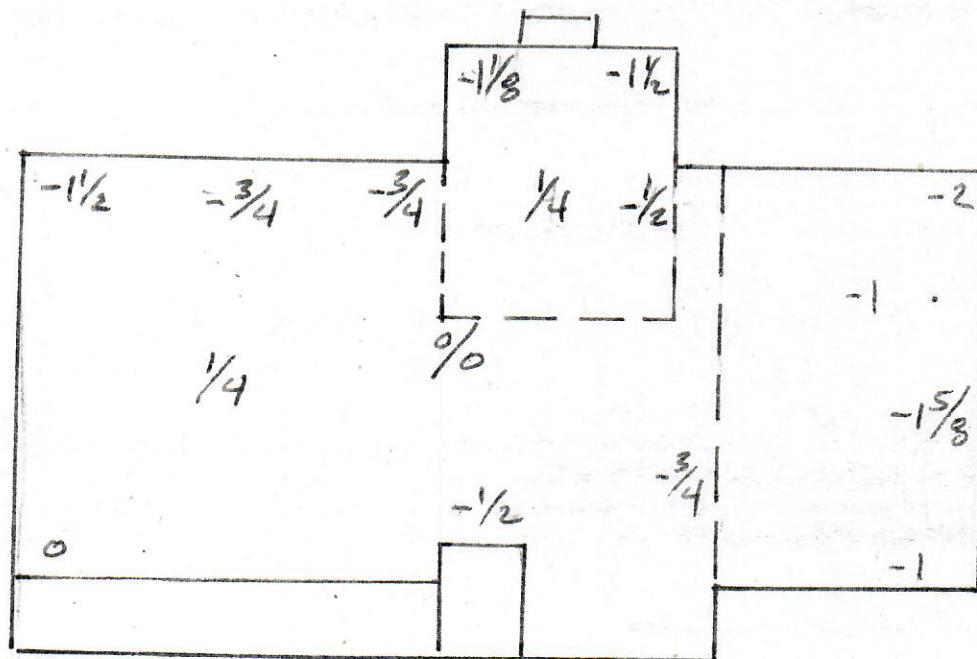
Jay V. Hamm
Registered Professional Engineer
State of Texas
No. 46400



Attachments: plans, specifications, maintenance procedures
D100106

Jay V. Hamm
Civil Engineering Consultant

5114 Balcones Woods Drive, Suite 307—Austin, TX 78759
(512) 657-0950 fax (512) 338-4308



-- Proposed pier locations

-- Floor elevations in inches

**RECOMMENDED FOUNDATION IMPROVEMENTS for
12006 West Cow Path--Austin, TX**

MINIMUM SPECIFICATIONS FOR PIERS

Pilings

Concrete segment block pilings spaced maximum seven (7) feet on center be installed in locations on attached drawing.

Piers for this application should be a Minimum: eight (8) inches in diameter concrete blocks pressed and extended in depth to point of refusal at specified support ratings. Concrete shall be a minimum of five (5) sack mix, 3000psi @ 28 days.

Minimum support ratings for pilings or piers (if used) shall be fifteen (15) tons.

SUBSTITUTIONS

Substitutions for pilings, such as drilled piers or other type support systems, shall be adequate to yield a minimum of fifteen (15) tons measured vertical capacity and be subject to Engineer's approval.

Backfill with excess soil along all perimeter sides of the foundation as necessary to provide for positive drainage away from the foundation.