

MARK A. FETZER, INC.

*Structural Engineering and Consulting*

P.O. Box 2301

Rapid City, SD 57709-2301

Tel.: (605)348-8481

Email: markf@rapidnet.com

Mr. Kevin Jensen  
Raben Real Estate  
302 Main Street  
Rapid City, SD 57701

Feb. 22, 2010

RE: Structural Review Of Home  
1720 West Boulevard  
Rapid City, South Dakota

Mr. Jensen:

At your request I have performed an observation of the home at the above referenced address. Purpose of this review is to determine reason for interior sheetrock cracking located in the north-east bedroom. Please note this observation and review is based only on visual data collected during the observation period and no physical tests were taken during the observation. No warranty is given or implied with this review.

Based on visual observation of the north portion of the home, it appears the northeast corner foundation has settled approx. 1/2". This likely occurred over the past several years. The east wall of the same bedroom also has settled a small amount. The sheetrock crack extends from the bottom corner of the window (on the east wall) down to the floor. This portion of the home is supported by normal spread footings over a crawl space. Some minor cracking has also occurred in the brick veneer on the exterior walls at the same location.

I recommend the northeast corner footing and the east wall footing of the bedroom be stabilized using steel push piers or compaction grouting. This work can be done on the exterior walls with some small demolition required at the back patio. I have listed below the companies that can perform this work. Once the footings are stabilized the interior and exterior walls can be repaired.

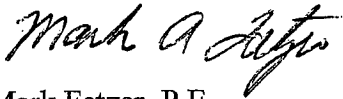
*NAHAN*  
Steel piers - Rapid Foundation Repair 605/593-3798 (Black Hawk, SD)  
Compaction grouting - Hayward Baker Geotech. 303/469-1136 (Denver, CO)

I can also provide further information to the contractors and attempt to answer any questions they may have.

Please call me if you have any questions on the above.

Sincerely,

Mark A. Fetzer, Inc.



Mark Fetzer, P.E.

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**Rapid Foundation Repair, Inc.**

12025 Quaal Rd. Unit B  
Black Hawk, SD. 57718  
Phone: 605-716-0300  
Fax: 605-716-0322  
Email: [Nathan@rapidfoundationrepair.com](mailto:Nathan@rapidfoundationrepair.com)

Date: 3/04/10

**Attention: Mr. Kevin Jensen**

Raben Real Estate  
302 Main Street  
Rapid City, SD 57701  
Phone: 605-381-4272  
Fax: 605-343-8900

Reference: Foundation Movement at  
1720 West Boulevard  
Rapid City, SD

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Dear: Mr. Jensen

Rapid Foundation Repair, Inc. (RFR) is pleased to present this proposal to repair the upper crawl space at the above mentioned property. A site visit was made by Nathan Parkin.

**Overview:** It is RFR's understanding that the house was built on a poured concrete foundation wall sitting on concrete footers with an upper crawl space at the north end of the home built on concrete blocks. This upper crawl space has experienced some soil settlement, as evidenced by the drywall cracks and outside brick veneer. RFR performed a relative elevation survey showing the upper crawl to be up to 3 ½ inches out of plumb. The most severe area is at the N/E corner of the crawl space.

No structural repair plans and or soils test was available for RFR to review. However Mr. Mark Fetzer of Fetzer Engineering did perform an observation of the property on Feb. 22, 2010. RFR proposes to install steel push piles in the upper crawl space at the N/E corner to prevent further movement and to recover as much elevation as possible.

**Procedure:** RFR proposes to install steel push piles (piers) on the north east corner an east wall. A total of 5 piles will be installed. It is estimated that the depth of each pier will be approx. 20 ft. Attached you will find an elevation survey along with a proposed pier layout. RFR recommends the H/O hire a local structural engineer to review this project.

**Quality Assurance and Quality Control Program:**

RFR's QA/QC program consists of a preconstruction walk thru with the client and clients engineer. Field documentation will include daily installation logs of the piles filled out as each pile is installed showing depth and torque applied.

**General Construction Sequence:**

The general construction sequence is as follows:

1. Perform pre-con walk thru with client.
2. All personal belongings to be removed by H/O prior to RFR starting work.
3. RFR will mobilize to site and set up.
4. General demo and containment takes place. This includes the removing of exterior brick patio on east side and excavation of soils at pier install locations.
5. Installation of steel piles.
6. Attempt to re-level to as close to plumb as possible
7. All trash and debris are cleaned and removed from site.
8. Final walk thru with H/O takes place.

**Pricing:**

Attached is RFR's schedule of prices and list of conditions. This letter and attachments represent RFR's proposal and is between Kevin Jensen and RFR. We trust this proposal is of interest to you and we look forward to serving and working with you on this project. We appreciate the opportunity to bid on this project. If you have and questions, please feel free to contact us at 605-716-0300

Sincerely,  
Rapid Foundation Repair, Inc.



Nathan Parkin