

To: Craig See

From: Jim Golden, P.E.  
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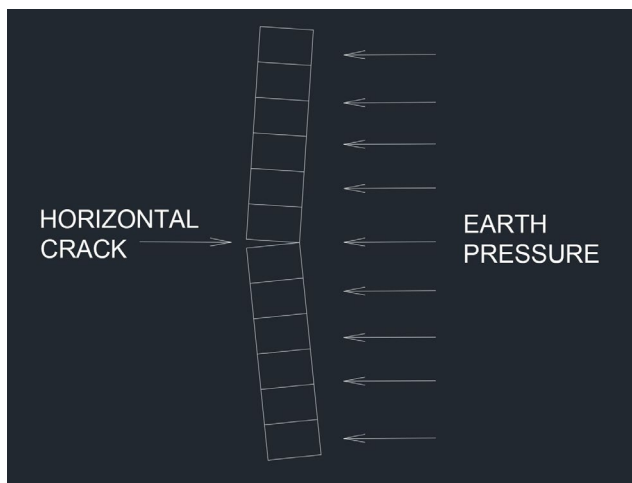
Date: May 4, 2025

Subject: Structural Evaluation of Property Located at  
348 Ashland Drive,  
Ridgely, WV 26753

Dear Craig,

On Wednesday, April 30, 2025, I visited the above-mentioned property to look at some structural issues. There was some concern regarding cracking in the walls of the garage.

I started in the garage. There, I saw both hydraulic fracture cracks and differential settlement cracks.



The horizontal cracks are from hydraulic pressure building up in the soil behind the wall. The pressure pushes on the wall, opening it inward. The horizontal crack we see is where the blocks are spreading open, like in the picture to the left.

Differential Settlement occurs when part of a wall settles, and the rest of the wall does not; something has to give and the result is cracking. It is usually in the form of a vertical crack or a stair-step type crack.

The cracking is throughout the back wall of the garage.

I went into the basement of the main house next. The cracking continues in there.



There is a lot of efflorescence on the blocks. Efflorescence is a staining of the block from minerals in the water that passed through the block.



The walls are bowed inward.

Putting a straight edge against the wall, the gap can be seen in the picture to the left.



The grading at the back of the house is sloping toward the house. And, there is a bank behind the house. What appears to have happened is that water has run against the house for years, saturating the ground, and building up hydraulic pressure. This pressure is breaking the wall.



Also, I could not find the outlet for this roof drain. It may be dumping roof water into the ground at this corner. This corner is cracking.

This house has extensive cracking. The bowing isn't super severe yet, but it will continue to get worse over time if the drainage is not improved.

I recommend regrading all around the house. Form a "ramp" or berm that is 6-8" high against the house and slopes down to the yard several feet out from the house. This will deflect the surface water away from the walls. In addition, cut a drainage swale into the back yard all around the house to catch the runoff from the hill and direct it down and around the house. We need to get the water away from the house.

Go over the gutters and down spouts and make sure that the roof water is directed away from the house. Either disconnect the underground spouts and repalce with a splash block, or fix them so that they do not just dump the water into the ground by the house. Extend them out away from the house and daylight them to where the water will run away.

With the drainage corrected so that the house doesn't get any worse, make structural repairs. Here I recommend bringing in a good mason and chipping out and repointing all of the cracks.

The house is borderline in its current state. I don't know that the wall is bad enough yet to require kevlar straps or I-beams to reinforce it. If we fix it right now, you might get by with repointing all of the cracked masonry joints. But if it's not regraded soon, it will get worse and require serious structural repairs from a foundation repair company.

Below are pictures of the carbon fiber straps, and the I-beam repair systems. I have used both in the past. I prefer the I-beam system, but have seen good repairs done with the carbon fiber straps as well.

You could go ahead and install one of these systems now. But, I think you can just repoint the wall if you fix it now and correct the drainage. I recommend you have a good mason take a look at it.

That being said, I do recommend you get a foundation repair company to take a look at it and see what they think. I have had good success with Fortress Foundations. They have an office in Frederick Maryland, and Lynchburg Virginia that service this area.

Below left are the carbon straps, and on the right are the I-beams.



**To summarize:**

This house does have some fairly serious cracking. However, it was caught early enough to fix it. Correct the drainage around the house asap, and then make structural repairs with a mason. It would be good to get it looked at by a foundation repair company. Most do free evaluations.

Please feel free to contact me with any questions or concerns.

Sincerely,



Jim Golden, P.E.

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5/4/2025