

On 8/23/2022 12:36 PM, Ben Smith wrote:

Hey Mike,

Here's the statement from the engineer who worked on, and visited our home a month or so ago. He also provided this info to Liscott.

Ben,

As discussed, below is a short bullet point list of some of the items I noted and documented during the requested site visit. The home was still under construction, thus some of these items were in process. The list below was from a cursory review, and not a detailed analysis. I was mainly reviewing the foundation and steel support beam per our provided plans, however I did note some questions with the grading, and garage/entry framing.

1. Field welds need to be corrected by a certified welder as detailed in the plans.
2. The steel beam has been shimmed on the ends which is common, however the way this beam was shimmed was incorrect. Stacked shims should be placed such that the beam end maintains a full 4" to 4.5" x the width of the flange of bearing into the pocket or as needed for minimum required bearing capacity. Additionally stacked shims should be welded together or should be solid stock material. Correction is required. The beam should be fastened as detailed in the plans per 3.S.2 or an alternate detail provided.
3. The southern end of the steel beam was only bearing in the concrete pocket by 2.5", which is inadequate. An angle support with gusset repair is recommended to properly transfer the load into the foundation.
4. The north prow foundation wall was out of plumb by nearly 4", which likely contributed to the lack of steel beam bearing. This should be monitored. An angle support with gusset repair may be desirable. On the exterior of the home, if a patio is to be placed above the concrete as noted in our plans, a custom detail will need to be provided due to the irregular stepping of the framing that does not allow for a simple water proofing per detail 6/S.2.
5. The steel beam web stiffeners as installed were incorrect and need to be installed per detail 4/S.2.

6. The top of the steel post plates were multi plates shimmed. As per the plans the steel post should be cut to length and installed with a single 3/8" plate top and 1/4" plate bottom, or thicker plate used with the current posts. Welding thinner shims together does not obtain the same stiffness/load transfer.
7. The steel post base plate anchor bolts were not sized per the plans. The 1/2" bolts installed should perform satisfactorily.
8. A field splice was performed on the steel beam over the southern steel post. The field splice requires correction and a field splice detail can be provided.
9. The wood framing plates/framing above was not attached to the top of the steel beam as noted in the plans. Nails were driven into the plate and bent over the beam in a few places. While this will not likely result in any long term issue, an alternate steel beam to framing connection above detail can be provided.
10. Negative grading toward the foundation was noted. Correction of the grades to drain away from the home is advised as soon as possible. Drainage mitigation and gutters/downspouts is a very high priority.
11. The deck piers have been placed in a fill zone in places where settlement is evident. Removal of the piers and fill to native, and installing piers bearing on a native cut, with proper compaction of material up and around the new piers is advised.
12. The patio foundation appears to have been placed on a fill area that has settled resulting in visible cracking in the foundation near the main house foundation. We did not verify levelness, or the amount of fill under the foundation. While the patio could be cast over the wall and sloped to drain, we cannot confirm if any future settlement will occur. Alternatively, we recommend that the foundation be removed and all fill removed to native, and the new foundation footing be founded on a native cut, as the house foundation was.
13. The garage roof trusses were damaged. Repairs were noted. A formal truss repair was provided by Liscott for review, and we understand these repairs were accepted by the County.
14. We are unsure how the exterior entry timber beam to post connections were made. Confirmation is requested.
15. The location of the stairs and the main sanitary drain leaving the foundation may not allow for proper stairway clearance. Further review is required when the basement framing is completed.
16. The sump pump pit/Radon pipe connection are not a gas tight cover. If the lid is not air-tight, the passive Radon vent pipe will not function as intended. Correction is advised.

This summary was based upon information gathered at the site during a cursory site inspection, and information provided by yourself and the builder. No destructive testing was. The opinions in this report are limited to observations and conclusions for the building at 101 Muledeer Ct, Dillon, CO. We reserve the right to review any additional information concerning this property and to amend our opinions accordingly. Please understand that no warranty is either expressed or implied in this inspection. The remarks in this summary do not provide an insurance policy, nor a warranty service.

If you have any questions, or would like to discuss my concerns, please let me know.

Thank you,  
Drew Schneider, P.E.  
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