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Consulting. Design. Efficiency.

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Project: 57 Inlet View
Location: Sanford, NC
Company: Freys Building and Remodeling
Care Of: Jeff Greer
Subject: Structural Review

REVISED 2-26-21



As requested, Andy Takla, PE visited the above referenced site on January 27th, 2021 to evaluate the following structural items presented to engineer by project manager; Based on observations, evaluations and calculations, we find and recommend the following:

- 1) Left (newly added) portion of the slab at the rear kitchen bump out was evaluated. We understand the slab was not inspected prior to placement of concrete but the lug footings were inspected and verified. The primary issue observed is the lack of embedment of the left bump out slab turndown (essentially sitting on grade).
 - a) To remedy, we recommend undermining left turndown such that bottom of newly added footings are no less than 12" below grade and at least 16" wide. Ideally, the concrete used to enlarge the turndown would be monolithically poured with / to patch the slab (cut to rework underslab services).
 - b) **2" foam insulation normal placed around slab on grade foundations is not required in this application.**
- 2) New I-joist spanning over the living room/ kitchen area (replaced due to a break over a since removed wall) is suitable to carry the loads. Note, some minor sheet rock cracking in the right wall of the mater bedroom *may* occur as the joists deflect under a new effective span. Such cracks would be considered primarily cosmetic in nature and need not be cause for alarm; However, if intolerable, reinforce the I-joists by packing out at least one side of each I-joist under the wall (per plans).
- 3) The hanger connecting the intersecting beams (2)20" LVL and (2) 9 1/4" LVL in the master bedroom was evaluated. In-place hanger (HUGS412) is adequate to carry the loads despite 1.5" long nails being used (instead of 3" long nails). No change is required.
- 4) Footing placement (configuration and orientation) supporting the right end of the steel beam and the left end of the (2) 16" LVL header in rear wall of first story was evaluated and found suitable as-is to carry and transfer loads. No change required.
- 5) In-place bolting pattern connecting the web packing to the web steel beam (1/2" dia at 24" on center) is adequate to transfer loads to the steel beam. No change required.
- 6) Rear porch of rear covered patio slab was also poured prior to inspection. However, given the evidence of reinforcing dowels and the lack of any inducing loading (essentially only dead load of rear wall), we feel comfortable accepting conditions as-is.

Limitations of Inspection: Services provided are in accordance with the standard of practice for structural engineering, the North Carolina Residential Code (2018 edition) and within the limits imposed by scope, schedule and budget. The determinations contained in this report are based on conditions observed at the time of the evaluation. No guarantees or warranties, expressed or implied, under this Agreement or otherwise, shall be construed in connection with services provided. Sequencing, shoring, means and methods of construction are considered beyond the scope of this report. All information used to form decisions and recommendations provided to engineer are taken as truthful. Takla Engineering assumes no responsibility for untruthful statements provided by any party. Lastly, while every effort has been made to ensure accuracy in the preparation of these documents, the maker cannot guarantee against human error nor evaluations of structural elements which are concealed from visual inspection.

