

July 8, 2015

K.E. Project #: 215-525-002

Weber County
Building Inspection Department the
2380 Washington Blvd., Suite 240
Ogden, Utah 84401
Phone: (801) 399-8374

Attention: Craig Browne, Building Official

Subject: Howery Residence – Plan Review Comments

Mr. Browne:

Kimball Engineering has completed the first review of the proposed Howery Residence in Eden, Utah. This proposed project consists of an approximately 5,650 square foot home with a 2 car attached garage. This review was based upon the following:

1. Construction drawings dated 06/08/2015 provided by Marmol Radziner AIA.
2. Structural drawings and calculations dated 06/08/2015 provided by ARW Engineering, stamped by Troy M. Dye, Registered Professional Engineer.
3. Civil drawings dated 06/08/15 provided by NV5, stamped by Ryan W. Cathey, Registered Professional Engineer.
4. Geotechnical report dated 06/03/15 provided by David A. Glass.

The 2012 International Residential and Building Codes, as adopted by the State Utah, were used as the basis of our review. Specific comments in regards to this project are enclosed with this cover letter. If you have any questions in regards to this review please do not hesitate to contact me.

Sincerely,



Cody Richards

Attachment: Comments

Plan Review Comments

Project Name: Howery Residence

K.E. Project #: 215-525-002

Location(s): 8365 E Summit Pass, Eden, Utah

Structural By: Joe Bingham

Code Review By: Cody Richards

Reviewed By: Mike Molyneux

Date of Comments: 07/08/2015

The plans, structural calculations, and geotechnical report for the above-mentioned project have been reviewed. The following comments address areas of concern, non-compliance with the governing code, potential errors, or omissions in the proposed design. The appropriate design professional must address each comment below and submit a written response in addition to revised plans and calculations if necessary. **Please cloud any revisions made to the construction drawings and provide the date of the latest revision on each revised sheet.**

CODE REVIEW COMMENTS:

- A1. Please provide notes or details on the plans showing the required separation between the garage and the dwelling with a minimum of ½ inch gypsum board as required by IRC R302.6, and 5/8 type X at the ceiling where living space is located above the garage.
- A2. Please specify the thickness of door 113.2 separating the garage from the living space so that the verification of the fire rating can be checked according to IRC R302.5.1.
- A3. Please provide information for handrails to be provided at the stairs per IRC R311.7.8.
- A4. IRC R311.7.8 requires that all stairs with four or more risers have a handrail. The four bottom risers of the basement stairs to not show a hand rail. Please address.
- A5. Provide details and dimensions for guardrails to be provided at the interior and exterior stairs, and at the edge of the exterior deck. Guards should meet the minimum requirements of IRC R312.1.
- A6. Please show or note on the plans that all grading around the home will slope at least 5% away from the home for proper drainage as required by IRC R401.3.
- A7. Provide a detail showing how the underside of all the interior stairs with space underneath will be protected with a minimum of ½ inch gypsum board. (IRC R302.7)
- A8. Operable windows that have the lowest portion of the opening higher than 6 feet above the exterior grade or closest surface below must have 24 inches from the interior floor to the window opening or comply with the exceptions of IRC R312.2.1. It appears that some of the operable windows might fit this criteria (112.B and 107.A). Please confirm the height of the bottom of the opening of these windows to the finished interior floor. If the height is less than 24 inches please address how these windows will conform to the requirements of IRC R312.2.

- A9. Please provide electrical, plumbing, and mechanical plans for review. Some additional comments may be added on subsequent reviews after assessing these plans.

GEOTECHNICAL COMMENTS:

- G1. The geotechnical report states that temporary and/or permanent shoring may be required. Please verify this requirement and provide shoring design as required.

STRUCTURAL COMMENTS:

Structural Drawings:

- S1. Sheet S103: Please address the following:
- A. The shear wall SW-1 on grid B does not appear to support the joists as shown in detail 7/S203. Two walls are shown; one appears to be the bearing wall and the other the shear wall. Please verify/clarify bearing and shear transfer details.
 - B. Very few shear walls are designated on this plan. The moment frames are clear, but what else provides lateral resistance in either direction for the main portion of the structure? Please clarify.
- S2. Sheet S104: Shear walls are not designated on this plan. Please address the lateral stability of the high roof areas.
- S3. Sheet S202: Please review the lateral tie requirements shown in detail 17. Vertical bars should be tied in such a fashion as to ensure the maximum distance between laterally tied bars is less than or equal to 6-inches (see ACI 318 Section 7.10.5.3 and ACI 530 Section 1.14.1.4, respectively).
- S4. Sheet S203: Please address the following:
- A. Ledger and hanger information is missing in detail 14. Please address.
 - B. Details 10, 11, 12, 13, and 18 do not appear to have been cut on the plans. Please clarify where these details apply.
- S5. Sheet S205: Details show soil against the parapet wall. Please verify that the parapet is attached sufficiently to resist the soil pressure.
- S6. Sheet S301: In detail 4 the detail reference is missing for the weld of the column cap plate to the column.

Structural Calculations:

- S7. The proposed structure appears to include re-entrant corner irregularities as defined by Table 12.3-1 of ASCE 7-10. Please confirm that the requisite forces were increased as required by Section 12.3.3.4 of ASCE 7 and that collectors have been adequately detailed.
- S8. Sheet C26 of the calculations indicates that blocked floor and roof diaphragms are required. Please clarify where this blocking requirement is noted on the plans.
- S9. The horizontal distribution of lateral forces and the shear wall calculations were a little difficult to follow. There appear to be more shear walls noted in the calculations than are called out on the plans. Please verify that all intended shear walls are clearly designated on the plans.
- S10. Calculations have not been provided for the foundation walls that act as retaining walls. Please provide.