



908 WEST GORDON AVE. SUITE #3
LAYTON, UT 84041
(801) 547-8133

August 2, 2017

FIRST REVIEW
WC³ Project #: 217-525-128

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

Attention: Craig Browne, Building Official

Subject: Signature Homes – Plan Review Comments

Mr. Browne:

West Coast Code Consultants, Inc. (WC³) has completed the first review of the proposed Witkowsky project located in Weber County, UT. This review was based upon the following:

1. Architectural drawings dated 07/14/2017, sealed and signed by Brian McKay-Lyons, Licensed Architect.
2. Structural drawings and calculations by Dynamic Structures, sealed and signed by Jay D. Adams, Professional Engineer.

The 2015 International Code Council, as adopted and amended by the State of 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,

Mike Molyneux
Attachment: Comments



Plan Review Comments

Project Name: Signature Homes

Code Review by: Jason vonWeller

Location(s): Horizon, Summit Powder Mountain, Weber County, UT

Structural by: Joe Bingham

Checked By: DeAnn Wilde

SQUARE FOOTAGE SUMMARY:

Main Level	Upper Level	Finished Basement	Unfinished Basement	Covered Deck(s)	Covered Patio(s)	Garage	Carport
1675-ft ²	1348-ft ²	-	-	341-ft ²	28-ft ²	-	-

GENERAL INFORMATION:

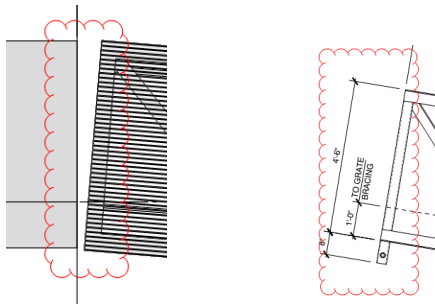
The submitted documents for the above-mentioned project, as outlined in the cover letter, have been reviewed. The following comments address areas of concern, non-compliance with the governing code, potential errors, or omissions in the proposed design. The appropriate design professional must address 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. A geotechnical report is required for the new construction. Please provide.
- A2. General Note: Common walkways, stairs, handrails, guards and associated structures and elements for the site shall be by separate permit and engineering application per Weber County policy and are not part of this review.
 - A. Sheet 2.00: Keynote 1 states rockery wall to be constructed per “rockery construction for wet conditions.” This statement is insufficient for construction. Any retaining walls exceeding 4-feet in height or a 1:2 slope shall be engineered. A complete design prepared by a Utah-licensed geotechnical engineer will be required for the retaining walls throughout the PRUD development, and are required to be submitted to Weber County for review and approval prior to installation. Additionally:
 - I. Sheet 3.00 and A300: The elevations do not detail a retaining wall for the specific building, however the overall site plan does. Please note and address on the architectural plans:
 - a. Retaining walls specific to an adjacent structure require detailed engineering and review as part of the building permit per Weber County policy. Please specify, detail graphically, and provide required retaining wall engineering.
 - i. Retaining walls that support cut or filled slopes as well as those that may support footings from ascending or descending slopes shall be designed for such loads, per IRC R403.1.7.
 - b. Please note, the Weber County Building Official may require an investigation and inspection, at no expense to the jurisdiction, and by approved authorities, to ensure

the intent of Section R403.1.7 is met. R109.1.5. Such report shall include the consideration of material, height of slope, slope gradient, load intensity and erosion characteristics

- A3. Cover Sheet: The plans state “issued for const. rev.1”. The plans need to indicate “for construction” or the note needs to be removed from the plans.
- A4. Sheets A001, A500 and A510 provide exterior wall assembly details. Where do the floor plans identify which wall type is to be used on each of the exterior walls? Please clarify and make necessary corrections.
- A5. Sheet A100: A note on the site plan states “line of separation between building – see 1/A002 for fire separation distance requirements”. Sheet A002 is not a part of the submitted plan set. Please provide.
- A6. Sheet A101: The code analysis has been based upon the 2015 IBC. Per IBC 101.2 Exception, single family dwellings shall comply with the International Residential Code. Please make all necessary corrections to the plans to ensure the 2015 IRC and Utah State Amendments have been utilized for the design of the single-family dwelling.
- A7. Sheet A200: Please address the following:
- A. The floor plans do not identify the size of the windows, nor does a window schedule appear to be a part of the plans. Provide complete details for all windows and doors. Detail on the plans how the requirements of IRC R310.1 for emergency escape and rescue in each bedroom is being met. Identify the location of any windows which require tempered glazing, per IRC R308.4.
 - B. The elevation drawings provide keyed numbers for the doors and windows; however, a door and window schedule does not appear to be a part of the plans. Please provide.
 - C. Where do the double doors from Bedrooms 1 and 2 on the lower level lead to. The elevation drawings provided on Sheet A300 and do not appear to show doors on the lower level. Please clarify in writing and make necessary corrections to the plans.
 - D. A ramp is shown on Detail 2. Sheets A700 and S6.1 show the ramp. However, there is no information in the plans detailing how the ramp is being attached to the structure. Please provide complete details.



- A8. Sheet A602: The gas-fired range appears to be a commercial use appliance and will require a Type I hood. Based upon an internet search of the Verona Model VCLFSGE365SS, the range is identified as “professional range series”. The specs identify a Bosch 300 Model DUH36152UC range hood; however, the plans identify a telescopic down-draft vent. The down-draft vent does not appear to be a part of the specifications. Provide cut sheets for both appliances detailing their use in a residential environment, or provide complete details for a Type I hood to service the commercial range.

MECHANICAL REVIEW COMMENTS:



There are no mechanical review comments.

PLUMBING REVIEW COMMENTS:

P1. Sheet PP102: Please address the following:

- A. The water heater in the mechanical room appears to be for general residential use. Detail on the plans the location of the dedicated water heater for the radiant heating system. While Detail 5/PP501 shows the radiant heating system, the location of the dedicated water heater is not detailed on the floor plans.

ELECTRICAL REVIEW COMMENTS:

E1. Sheet E303: Please address the following:

- A. Please note that electrical outlets in floors shall not be counted as part of the required number of receptacle outlets except where located within 18" of walls, per IRC E3901.2.3. Please note this information on the plans.
- B. Please note on the plans all 125-volt, single phase, 15- and 20-amp receptacles in laundry areas shall have GFCI protection, per E3902.9.
- C. Detail on the plans the location of all required smoke detectors, per IRC R314.
- D. Detail on the plans the location of all required carbon monoxide detectors, per IRC G2407.12.
- E. Detail on the plans outlets for receptacles rated at 125 volts, 15- and 20-amps are required to be tamper-resistant

ENERGY REVIEW COMMENTS:

N1. RESCheck: Please address the following:

- A. The RESCheck identifies the walls with R-20 cavity insulation and R-7.5 continuous insulation. The wall assembly details provided on Sheet A500 and A510 do not identify the R-7.5 continuous insulation. If the continuous insulation is to be a part of the wall construction, please make necessary corrections throughout the plans to detail the continuous insulation and identify the listed product to be used.
- B. The RESCheck identifies the roof with R-30 cavity insulation and R-10 continuous insulation. The roof assembly provided on Sheets A510 and A511 do not identify the R-10 continuous insulation. If the continuous insulation is to be a part of the roof construction, please make necessary corrections throughout the plans to detail the continuous insulation and identify the listed product to be used.
- C. The structure has been identified as a 2,500-square foot cabin. The square footage for Building 4 is 3,023 square feet, and the RESCheck identifies the floor area as 2,542 square feet. The RESCheck needs to address the actual thermal envelope for Building 4. Please clarify.
- D. Skylights are identified on the plans, and yet they have not been addressed as part of the RESCheck.

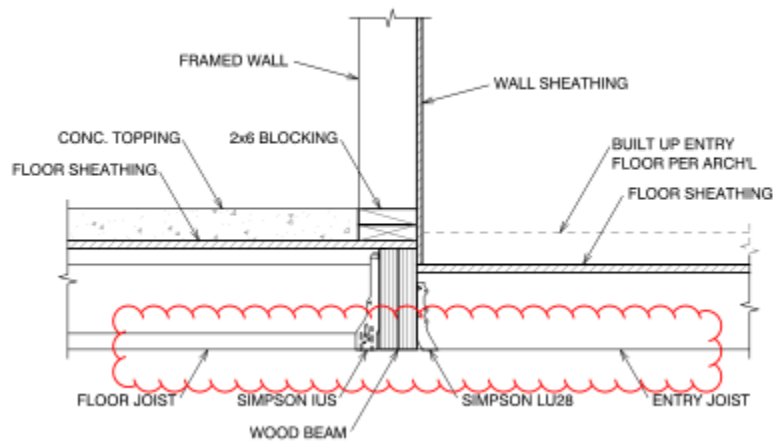
N2. Please indicate the U-factor for the windows on the plans. Include a note which clarifies that all U-factors shall be determined by testing in accordance with NFRC 100 and labeled as such by the manufacturer, per Section 102.1.3.

- N3. Please note that a permanent certificate shall be completed and located in an approved location that lists the predominant R-values of the insulation installed in the ceiling/roof, walls, foundation and ducts outside conditioned spaces, and U-factors for fenestration.
- N4. Please provide notes and details on the plans showing the air barrier and vapor retarder, as required by IRC R702.7. Information on construction documents shall be sufficient in detail to indicate that all work proposed will conform to the provisions of IRC N1101.

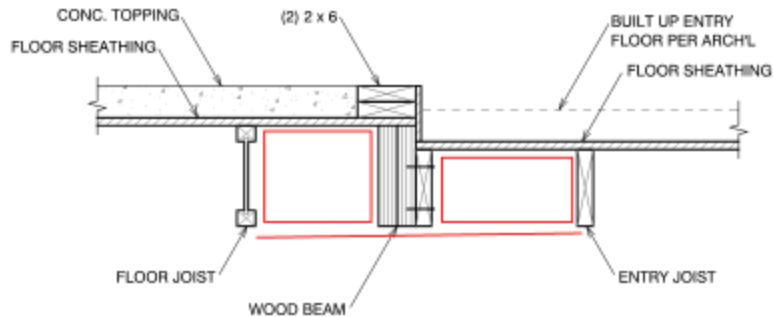
STRUCTURAL COMMENTS:

Structural Drawings:

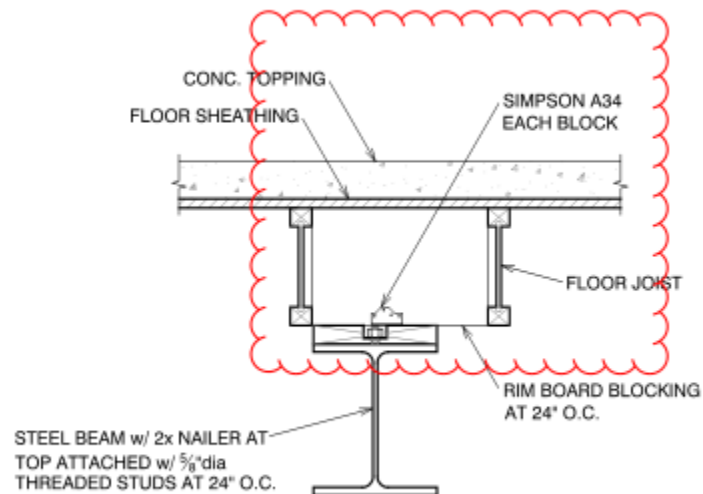
- S1. Sheet S2.2 and S4.2: Callout 7/S4.2 on S2.2 does not appear to be applicable. Please verify if 7/S4.3 was the intended detail. Please revise as required. Please see IBC 107.
- S2. Sheet S4.1:
- A. Detail 7 shows a stepped diaphragm condition. Additional straps may be required to transfer the loads between levels. Please verify and revise as required. Please see ASCE 7 1.4, 12.1.3, 12.10 and 12.11.2.2.



- B. Detail 8 shows a stepped diaphragm condition. Additional straps and blocking may be required to transfer the loads between levels. Please verify and revise as required. Please see ASCE 7 1.4, 12.1.3, 12.10 and 12.11.2.2.

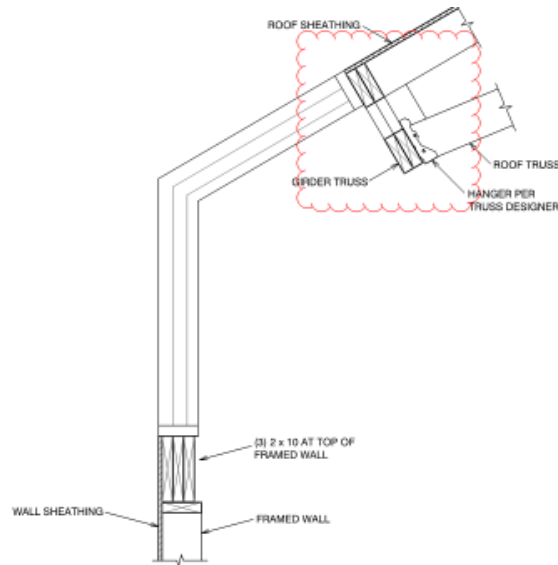


- S3. Sheet S4.2: Detail 8 shows a Simpson A34 clip transferring shear forces to beam below. If the intent is to transfer forces parallel to the joists direction, please note that the A34 is suitable for out of the page direction. Please verify and provide a second A34 on the other side to account for into the page forces. Please see IBC 107, 1604 and Simpson's catalog.

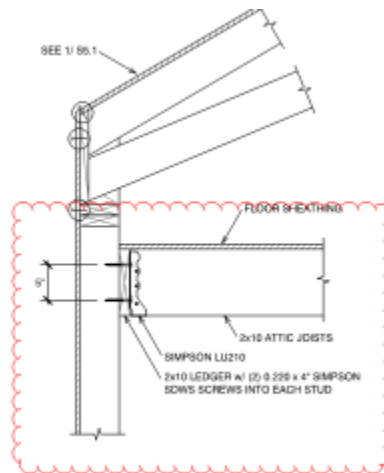


- S4. Sheet S5.1:

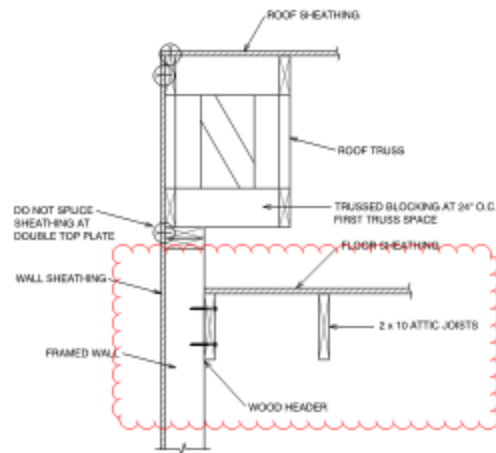
- A. Detail 2 called out on S2.3 seems unclear. On S2.3 roof truss and girder truss are parallel. On S5.1 they are perpendicular. The header truss may have been mislabeled as girder truss and the girder truss may be mislabeled as roof truss. Please verify and revise as required. Please see IBC 107.



- B. Detail 5 shows a ledger condition that potentially may experience cross grain bending. Please verify and consider tension device directly to the framing members. Please see ASCE 7 12.11.2.2.3.



- C. Detail 8 shows a ledger condition that potentially may experience cross grain bending. Please verify and consider tension device and blocking directly to the framing members. Please see ASCE 7 12.11.2.2.3.



Structural Calculations:

- S5. Sheet S2.1, S3.1: The lateral force resisting elements appear to be offset between levels. This creates a building irregularity. ASCE-7 2010 T12.3-2, 12.3.3.1, 12.3.3.3 and 12.3.3.4 may apply. It is not obvious that the calculation has considered these requirements. Please verify the increased loads to the diaphragm and supporting members are satisfied.
- S6. Page 55 shows Gravity Beam Design. References were made to AISC 360-05 LRFD. Please verify that the design complies with AISC 360-10. Please see IBC Chapter 35.
- S7. Wind load analysis may be missing from the calculations provided. Please verify and provide the missing analysis. Please see IBC 107.

If you have any questions regarding the above comments, please contact Mike Molyneux at mikem@wc-3.com or by phone at (801) 547-8133.

[END]