



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

June 26, 2018

FIRST REVIEW
WC³ Project #: 218-525-050
Weber County

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

Attention: Craig Browne Building Official

Subject: Buttgenbach SFD – Plan Review Comments 1st Review

Mr. Browne:

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

1. Architectural drawings by Tom Wiscombe Architecture.
2. Civil drawings dated 5/29/2018 by Talisman Civil Consultants, sealed and signed by Ryan W Cathey, Professional Engineer.

The 2015 IRC, as adopted by the State of Utah, were used as the basis of our review. Specific comments regarding this project are enclosed with this cover letter. If you have any questions regarding this review, please contact me.

Sincerely,

Mike Molyneux , P.E.
Senior Plan Review Engineer

Attachment: Comments



Plan Review Comments

Project Name: Buttgenbach SFD

Code Review by: Josh Goodman

Location(s): 8645 East Copper Crest, Eden, UT

Structural by: Joe Bingham

Checked By: Mike Molyneux

OCCUPANCY & BUILDING SUMMARY:

Office Level	Entry Level	Kitchen and Dining Level	Main Level	Finished Basement	Unfinished Basement	Deck(s)	Covered Patio(s)	Garage
558 ft2	498 ft2	1219 ft2	2218 ft2	857 ft2	1155 ft2	527 ft2	1249 ft2	520 ft2

* - Items noted with an asterisk may change as a result of the plan review comments.

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. Per IRC 101.2, the provisions of the IRC shall apply to buildings of not more than 3 stories above grade plane in height. The IRC describes grade plane as a reference plane representing the average of finished ground level adjoining the building at all exterior walls. Please clearly define grade plane on all sides of the structure. If the determination is made that the house exceeds 3 stories, it must be designed per the 2015 IBC.
- A2. Throughout the plans, details are referenced for pages that have not been provided. For example, sheet A.17 shows the chimney detail 3 on page A.53. Please provide these detail sheets. Several the following comments could be addressed by these details.
- A3. Regarding the wood burning fireplace and chimney, please detail the following:
 - A. It appears a wood burning fireplace is being installed. Is a factory-built chimney to be used? If a factory-built chimney is being used and if the chimney will have an offset, please note on the plans the chimney must be at an angle not more than 30 degrees from the vertical and the assembly will not contain more than 4 elbows, per R1005.7.
 - B. Please detail the firebox walls. Such detailing should meet the minimum requirements of IRC 1001.5.
 - C. Per R1003.9, fuel-fired chimneys (wood burning), shall extend not less than 2 feet higher than any portion of the building within 10 feet, but shall not be less than 3 feet above the highest point where the chimney passes through the roof. Please detail these requirements on the plans.



- A4. Please clarify the slope of the roof where the skylight will be located. Per IRC 308.6.8, skylights installed in a roof flatter than a 25% slope must have a minimum 4" curb above the plane of the roof.
- A5. Please provide a detail for the continuous slab insulation as noted on the plans and the REScheck.
- A6. Please provide a stair detail, to include: handrail and guardrail dimensions. Please also clarify what a "leaning stair tread" is.
- A7. Sheet C200 of the civil drawings (keynote 10) states that details of the stepped concrete amphitheater can be found in the architectural plans; however, that information does not appear to have been provided in the architectural plans.
- A8. Sheet C200 of the civil drawings (keynote 9) states that details of the exterior concrete stairs can be found in the architectural plans; however, that information does not appear to have been provided in the architectural plans. This detail should include handrail, width, and stair detail.
- A9. Please provide a detail for the bridge that leads to the entry of the home. Such detail should include materials, guardrail or handrail requirements, dimensions, and any pertinent structural documents.

MECHANICAL REVIEW COMMENTS:

No mechanical review comments.

PLUMBING REVIEW COMMENTS:

No plumbing review comments.

ELECTRICAL REVIEW COMMENTS:

- E1. Sheet E-2.0 shows the applicable code to be the 2016 California Electrical Code. Please update this (and all CEC references) to the appropriate codes for Weber County, Utah.
- E2. Please address the following items regarding the battery backup system.
 - A. Please show the location of the Tesla Powerwalls on the site plan.
 - B. Per NEC 705.12(D)(2)(3)(b), 125% of battery's output and the rating of the breaker protecting the busbars cannot exceed 120% of the rating of the busbars. Please show Panel A to be rated at least 225A.
 - C. Due to the requirements of 705.12(D), the two breakers in the service panel that have the Powerwalls down stream must be located at the very end of the busbars, in the service panel. Please update the plans accordingly.

ENERGY REVIEW COMMENTS:

No energy review comments.



STRUCTURAL COMMENTS:

Structural Drawings:

- S1. The structural sheets have not been signed by the engineer of record. Please review R156-22-601 of the Utah Administrative Code for seal requirements.
- S2. The plans are labeled not for construction. Please verify the drawings are complete and provide plans that are to be used for construction.
- S3. Sheet S0.00: The special inspection statement and schedules show outdated requirements. Please update to meet the 2015 IBC special inspection requirements which include steel inspections per AISC 360-10 and AISC 341-10. See IBC 1705.2.1 and 1705.12.1.
- S4. Please verify that there is a note on the plans stating that all fasteners (i.e. nails, screws, anchor bolts, etc.) which are to be installed in preservative treated wood (i.e. sill plates) shall meet the requirements of IBC 2304.10.5.
- S5. Sheet S0.33: Please address the following items on the shear wall schedule:
 - A. 2"o.c. edge nailing is specified on some of the shear walls yet 3x framing members do not appear to be specified as required by Section 4.3.7.1(5) of AWC SDPWS-2015.
 - B. The schedule calls for 10d nails at 3"o.c. edge nailing for some shear walls yet 3x framing members do not appear to be specified as required by Section 4.3.7.1(5) of AWC SDPWS-2015.
 - C. It appears that the nominal unit shear capacity for some of the shear walls exceed 700plf (350plf allowable), yet 3x framing members are not specified as required by Section 4.3.7.1(5) of AWC SDPWS-2015. Please address.
 - D. The schedule calls for sheathing on each face of some shear walls yet they do not specify staggered edge nailing or 3x framing members as required by footnote 6 of Table 4.3A of AWC SDPWS-2015. Please address.
- S6. Detail 1/S3.20 and 2/S3.20 is referenced on the plans along grid lines B and I. These details could not be found. Please address.
- S7. Sheet S5.10: Detail 1 shows #4 bars at 12" o.c. at the slab extension. The lengths of the bends in these bars are not specified. Please clarify.
- S8. Sheet S5.11: Nothing has been called out in Details 1 and 3. Please provide the missing information.

Structural Calculations:

- S9. The structural calculations have not been sealed, signed, or dated by the engineer of record. Please review R156-22-601 of the Utah Administrative Code for seal requirements.
- S10. Please confirm that at exterior deck areas snow loads including the potential for snow drift loads have been considered.
- S11. Where combinations of framing systems are used in the same direction please verify that the requirements of Section 12.2.3 of ASCE 7-10 have been met and that the most stringent applicable structural system limitations from Table 12.2-1 have been applied.
- S12. Please provide a summary of building irregularities as defined by Tables 12.3-1 and 12.3-2 of ASCE 7-10 and indicate how the ASCE 7 requirements for each irregularity type have been met.
- S13. Calculation page 68 shows an unsatisfactory gusset check. Please address.



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]