



June 20, 2017

FIRST REVIEW
WC³ Project #: 217-525-086

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

Attention: Craig Browne, Building Official

Subject: Powdercat Townhomes – Residential Plan Review Only – Plan Review Comments

Mr. Browne:

West Coast Code Consultants, Inc. (WC³) has completed the first review (Residential Plan Review Only) of the proposed Powdercat Townhomes project located in Eden, UT. This review was based upon the following:

1. Architectural drawings dated 6/1/2017 by Studio MA, sealed and signed by Daniel Hoffman, Licensed Architect.
2. Civil drawings dated 5/30/2017 by Talisman Civil Consultants, sealed and signed by Ryan W. Cathey, Professional Engineer.
3. Structural drawings and calculations dated 6/1/2017 by Rudow & Berry, Inc, sealed and signed by Mark A. Rudow, Professional Engineer.
4. Mechanical and plumbing drawings dated 5/31/2017 by Peterson Associates Consulting, sealed and signed by Mark J. Peterson, Professional Engineer.
5. Electrical drawings dated 5/31/2017 by Peterson Associates Consulting, sealed and signed by Elmer G. Paine, Professional Engineer.
6. Geotechnical investigation report (#01628-022) dated 1/16/2017 by IGES, sealed and signed by David A. Glass, Professional Engineer.

The 2015 International Codes and 2014 NEC, as adopted 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, P.E.

Attachment: Comments



Plan Review Comments

Project Name: Powdercat Townhomes

Code Review by: Cody Richards

Location(s): 8443-8477 E Cooper Crest, Eden, UT

Structural by: Mike Molyneux

Checked By: DeAnn Wilde

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:

Site Plan

- A1. Please show the dimensions of the building to the property lines.
 - A. It appears that some of the building will be located closer than 5 feet to the property line (3 feet if sprinklered) and will require additional fire protection. If applicable please provide details showing how the fire rating is achieved for outside walls and the underside of eaves.
- A2. Sheet A0.01: Please address the following:
 - A. The construction type is identified as "Type V". Please detail on the plans whether the construction type is Type V-A or V-B.
 - B. A note on the plans states "refer to building code analysis". Has the structure been designed based upon the IBC or IRC? If the design is based upon the IBC, please provide a complete code analysis.
 - I. Be aware, the review was performed based upon the 2015 IRC.
 - C. Detail on the plans the overall square footage of each building and the entire structure.
- A3. The three buildings are being connected by a roof over the two walkways. Based upon the assumption the design is based upon the 2015 IRC, please address the following:
 - A. Due to the roof over the walkway, one of the exterior walls on either side of each walkway must be constructed as a fire-resistance rated wall (party/common wall). The common wall shall be constructed without penetrations through the rated wall. Based upon the fire sprinkler system, the wall shall be a 1-hour fire-resistance-rated wall assembly, per IRC R302.2 #1. Per R302.2.2 Exception, a parapet is not required where one of the conditions of code are met. Please detail on the plans:
 - I. Which of the exterior walls will be constructed as a fire-rated wall.
 - II. How the requirements for the roof will be met, in lieu of the parapet.
- A4. Identify on the floor plans the location of each required one-hour fire-rated common wall, per IRC R302.2.
 - A. Detail the fire-rated roof design in lieu of a parapet, per IRC R302.2.2.



B. While notes are provided on Sheet A0.10 regarding the party wall separation, provide a construction detail or the UL profile on the plans for UL U336.

A5. Sheet A1.21: Please address the following:

A. A typical unit area summary is identified on this sheet. Sheet A1.23 provides an area summary for Lot 24, and Sheet A1.25 provides an area summary for Lot 133. Please provide an area summary for each unit.

Sheet A1.22 (Comments below apply to all upper floor plans)

A6. The exterior door to the balcony is required to have a landing on both sides of the door. The inside of the door currently does not meet this requirement. The landing must meet the requirements of IRC 311.3

A7. Provide information about what type of fireplace is being install. Please provide the manufactures installation instructions.

A8. Because there are stairs leading up to the balcony, window F would be considered to be at the bottom of a stair landing and would be required to be tempered according to IRC308.4.7. The window schedule does not show this window being tempered. Please address. (would apply to unit 133 and 124)

Sheet A1.23

A9. It appears that the mechanical equipment and electrical subpanel will be located under the stairs. Please address the following,

A. Please show or note how the requirements for under stair protection will be met according to section IRC302.7 that the underside of the stairs will be

B. Please verify the ceiling height at the equipment. Some equipment like the electrical panel require a minimum working height.

Sheet A1.51

A10. The bunks are contained by the pocket door and this area is considered a sleeping room. It is required to have a smoke/carbon monoxide detector just outside of sleeping rooms as well as inside every sleeping room. Please add a detector just outside of the bunk room.

A11. Sheet A5.09: Please address the following:

A. The roof plans are required to detail the requirements of IRC R806.5 for unvented attic and unvented enclosed rafter assemblies. Please make all necessary corrections.

MECHANICAL REVIEW COMMENTS:

M1. Per M502.4.4, the maximum length of the clothes dryer exhaust duct shall be 35 feet from the connection to the transition duct from the dryer to the outlet terminal. Please detail the length of the dryer duct on the plans.

M2. Detail on the plans that the water heater will be strapped within the upper and lower one-third of the appliance's vertical dimension, per IRC M1307.2

PLUMBING REVIEW COMMENTS:

There are no plumbing review comments.

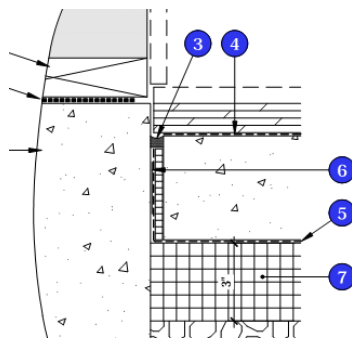
ELECTRICAL REVIEW COMMENTS:

There are no electrical review comments.

ENERGY REVIEW COMMENTS:

N1. REScheck:

- A. The RESchecks provided on Sheets A0.11 and A0.12 identify a metal roof with R50.4 cavity insulation and 12.5 continuous insulation, as well as a membrane roof with R-50.4 cavity insulation and an R-30 continuous insulation.
 - I. Please refer to the comment regarding unvented attic assemblies and detail on the plans how the identified R-values are being achieved and ensure the same information is provided on the RESchecks.
 - II. Detail on the plans what type of continuous insulation is being installed on the roof and how it meets the requirements of IRC R806.5.
- B. A separate REScheck should be provided for each structure. The current reports identify Lots 125-132, Lot 124, and Lot 133. The reports need to entail the thermal envelope for each individual structure, not individual lots. Please make necessary corrections.
- C. R-48 soffit insulation is identified. Normally, a soffit would not accommodate the depth of R-48 insulation. Please detail on the plans how this is to be achieved.
- D. The report identifies R-15 under slab insulation. However, the detail provided on Sheet A5.00 does not meet the requirements of the energy code. Keyed Note 3 identifies a 1/2" expansion joint filler and sealant. Per IECC R402.2.10, the top edge of the insulation installed between the exterior wall and the edge of the interior slab shall be permitted to be cut at a 45-degree angle away from the exterior wall. Please make necessary corrections to the plans to ensure the building thermal envelope meets the requirements of code.



- E. Each door affecting the thermal envelope, including the door separating the garage and living space needs to be identified on the report. Please make necessary corrections.
- F. Above-grade walls are identified with R-47.9 cavity insulation and R-8.4 continuous insulation. Please clarify how 1 1/2" of insulation will achieve an R-47.9. Detail on the plans what type of continuous insulation is being applied to the exterior walls.
- G. The report identifies the demising wall with R-38 continuous insulation.
 - I. The demising wall would be cavity insulation.



- II. The demising wall does not affect the thermal envelope of the structure. At best, the wall is being insulated for sound, not thermal value. Please correct.
- H. Concrete “retaining” walls are identified with continuous R-15 insulation. Is the intention to identify the concrete basement walls? If so, the basement walls would normally be furred with 2X4 wood studs and “cavity” insulation installed. If some type of continuous insulation is being applied to the basement walls, please detail this information on the plans. Otherwise, please make necessary corrections.
- I. Ensure the plans and the REScheck provide the same thermal envelope information.

WILDLAND-URBAN INTERFACE COMMENTS:

An Ignition Resistant Construction Class must be established according to the Wildland-Urban Interface Code (IWUIC) Table 503.1. Appendix C of this code was completed, establishing the project as a Moderate Fire Hazard. According to the site plan it appears that 30 feet around the entire building will not be able to be maintained as a Conforming Defensible Space because of the proximity to property lines or other buildings. With this given information it can be determined that according to Table 503.1 the project will need to be an IR 2 or IR 3 construction depending on if a Conforming Water Supply according to IWUIC 404 is provided. This review was completed assuming the most stringent scenario, as an IR 1 construction. If a conforming water supply will be present please provide this information and respond to the bellow comments based on IR 2 construction.

- G1. Please provide evidence that the roof covering will meet the requirement of a Class A roof assembly as required in IWUIC 504.2.
- G2. It appears that there will be wood siding as an exterior finish that may not be allowed for a Class 1 Ignition-Resistant Construction. Please verify and show that this material meets the requirements of IWUIC 504.5. If it doesn't meet this requirement please show a material that does.
- G3. Please note on the plans that all vent openings through vertical exterior walls or through the roof cannot exceed 144 sq inches. Also note that these openings must be covered with a mesh that meets the requirements of IWUIC 504.10.
- G4. It appears that a fireplace is being installed in the home. Please clarify what type of fireplace. If required, please note that a spark arrester will be provided that meets the requirements of IWUIC Section 605.

STRUCTURAL COMMENTS:

Structural Drawings:

- S1. Please add a note to 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.
- S2. Please clarify how the shear walls are specified between units.
- S3. Sheet s0.12: 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 AF&PA SDPWS. Please address.
- S4. Sheet s1.01: The large footings along gridline C do not meet the minimum reinforcement requirements of Section 13.3.2.1 and 7.6.1 of ACI 318-14. Please address.

Structural Calculations:



- S5. The beams OHB 35, OHB 37, and OHB 38 do not match what is shown in the drawings. Please coordinate.
- S6. Calculations for FB-9 show that a 5-1/8x13-1/2 glu-lam beam is required while the drawings show a 3-1/8x13-1/2 glu-lam beam. Please verify.
- S7. Please provide a vertical distribution of forces per Section 12.8.3 of ASCE 7-10.
- S8. Calculations for Unit 124E/125W Upper Wall show that a 6'-0" wide footing is required. WF7 is shown at the upper wall footings. The WF7 is a 5'-0" wide footing. Please clarify.
 - A. This applies to multiple units on the upper wall level.
- S9. Calculations for Unit 124 South Shear Wall show that (4) MST48 straps are required. The drawings show (4) MST37 straps. Please coordinate. Please coordinate.
- S10. Calculations for the foundation at Unit 124 south wall show that a 7'-0" wide footing are required. The drawings show a WF4 which is a 4'-0" wide footing. Please address.
 - A. Multiple shear wall footing calculations along the south wall show larger footings than what is shown in the plans. Please coordinate.
- S11. Please verify that the deck joists have been designed for the support of a hot tub as shown in the architectural plans.

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]