



# Beehive Chapter ICC

This newsletter is a monthly publication of the Beehive Chapter of the International Code Council (ICC).

Articles or advertisements appearing herein may be submitted by anyone interested in expressing a viewpoint to the Beehive Chapter membership.

Articles may be submitted to:  
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(801) 547-8133



**This month we will have our Fall Training on the topic of "Simplified Structural Plan Review". See Page 6 for more info.**

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## AUGUST PROGRAM

### ***Simplified Structural Plan Review***

*All-Day Training Event  
(See Page 6 for more info)*

October 21, 2015  
Time: 8:00A.M. – 5:00P.M.  
Orem City Council Chambers  
56 North State Street  
Orem, UT 84057

*November's Meeting:*  
Topic to be determined  
*Coordinator: Santaquin City*  
November 18, 2015  
Time: 12:00P.M.

## MESSAGE FROM THE BOARD



Chris Kimball  
1<sup>st</sup> Vice President

Typically the Board message is focused on getting members excited about upcoming activities, but this month I would like to spend a little bit of time discussing the code requirements for wood-framed decks. This has been a topic of concern amongst building officials since the recent balcony collapse that killed 6 people in Berkeley, CA.



The City, after analyzing that particular failure and the original construction documents and associated structural calculations it was determined that the structural adequacy of the deck as designed and constructed was adequate, yet as shown in the image above there were several detailing issues that led to the structural members decaying and subsequently failing.

When this failure occurred there were 13 people on this small 4' x 10' balcony. This initially caused many to think it was a structural failure yet that was not the case. The devil is in the details. ...

***(CONTINUED ON NEXT PAGE)***

**BOARD ARTICLE** (Continued)

So what are the details that we should be paying attention to when it comes to wood-framed deck construction?

**Treated or Naturally Durable Lumber**

Both IRC R317.1 (Item #6) and IBC 2304.11.4.2 require wood structural members with “moisture permeable floors or roofs” to be of naturally durable or preservative-treated lumber. This is not a new requirement as the verbiage is identical to what was written in the 2000 IBC. Despite not being a new requirement we still see standard Douglas-Fir members being used throughout Utah.

Why is that? I have taught multiple classes to the Utah, Bonneville and Beehive Chapters of the ICC noting that deck framing members are supposed to be naturally durable or preservative treated. In addition to the International Codes all of the deck standards that are out there (e.g. The American Wood Council’s “Prescriptive Residential Deck Construction Guide”, Professional Deck Builder Magazine, etc.) discuss this requirement, yet throughout Utah we do not enforce it. Why?

Just this past week I had a meeting with Bill Lancaster of Boise Cascade and he mentioned to me that he has tried to stock naturally durable species at lumber yards in Utah but they just sit there as home owners would obviously rather pay less money for the untreated Douglas-Fir members.

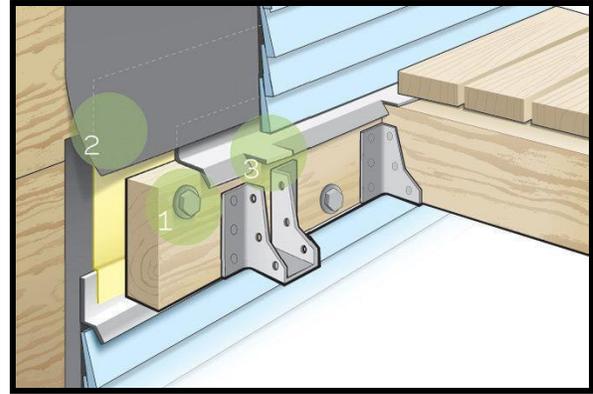
I have noticed several decks, including my own, that become weathered and lose structural strength in a matter of years due to our harsh climate. I truly hope that as a group we can pull together and do a better job of enforcing this code requirement.

**Flashing at Ledger Connection**

Perhaps the most important detail when it comes to wood-framed deck construction is to provide adequate flashing at the ledger connection. Both IRC R703.6 and IBC 1405.4 note the need for flashing at this connection. This flashing helps to ensure the long-term structural integrity of the ledger attachment to the structure and of the deck joists attached to the ledger. FEMA has a very good guideline (Technical Fact Sheet No. 23, “Roof-to-Wall and Deck-to-Wall Flashing”) for how this flashing should be accomplished, and while it states it is for coastal regions, these are good practice items for Utah as well.

**Vertical Deck Connection**

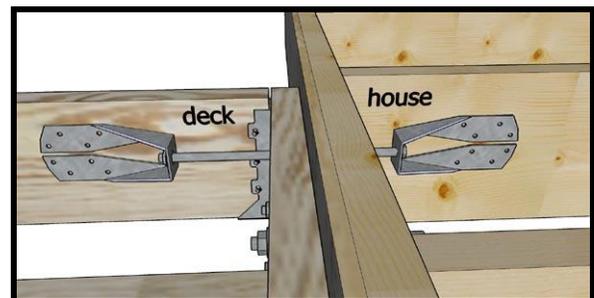
Both IRC R507.1 and IBC 1604.8.3 state that decks shall be positively anchored to the primary structure



considering both “vertical” and “lateral” loads. Even though this code requirement had always been there, the connections that were being provided were often inadequate so in the 2009 version of the IRC specific requirements for the deck ledger attachment were provided to account for this “vertical” and “lateral” connection. The image above shows not only the flashing that was discussed previously, but the two rows of 1/2-inch lags or thru-bolts that are required for the “vertical” attachment of the deck to the structure. The spacing of these bolts is determined from IRC Table R507.2 and depends upon the span of the deck joists.

**Lateral Connection**

IRC R507.3.2 also provides a prescriptive lateral attachment. As shown in the image below these lateral attachments directly tie the deck joists to the framing of the primary structure. In the 2015 IRC new connection options have been provided that are much easier to use in the field.

**Guardrail Post Connection**

Another code-related issue that we have had with respect to decks is the connection of the guardrail posts to the deck structure. We have all been on decks where we did not feel too secure putting our weight on the perimeter railing. Both IRC Table R301.5 and IBC 1607.8.1 require guardrails to support a 50plf live load and a 200-pound concentrated load. Through testing it was found...

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**BOARD ARTICLE** (Continued)

...that what was previously determined to be a “stout” guardrail post connection fell short of meeting the 200-pound requirement. Additional tests were performed and it was found that the only connection that could meet the requirements was a lateral anchor that tied the post directly to one of the deck joists as shown in the image below.



I am sorry for being so long-winded on this topic but it is something I feel very strongly about. We could easily have a full- or half-day training just on deck design and construction. I think it is important that we are all aware that deck failures throughout the U.S. have accounted for more injuries and fatalities than any other type of residential building failure. I hope that we can pay special attention to the decks in our jurisdictions to ensure the life safety of those that will use them.

Sincerely,

*Chris Kimball, SE, MCP, CBD*

1<sup>st</sup> Vice President

**PRODUCT REVIEW ARTICLE**

**Brad Carlile**  
Research Committee Chair

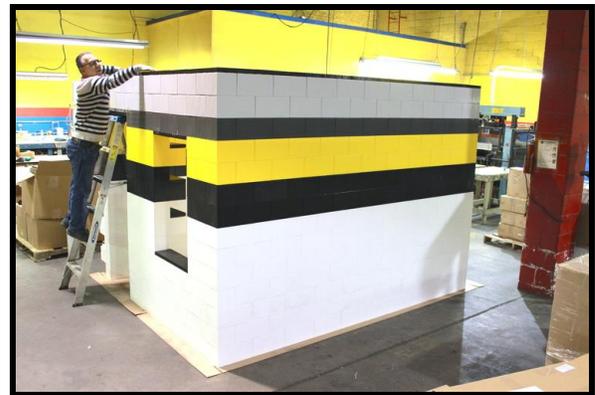
**EverBlock Modular Buildings**

I know it has been awhile since I have been able to contribute to the newsletter as Pleasant Grove has had a great year. We have some of our larger projects winding down so hopefully there will be some more of those great product reviews you love so much. I stumbled across this site the other day and thought I would share with you.

<http://www.everblocksystems.com/temporarybuildings/>

As I browsed the site I did see they are UL listed for flame spread and it is possible to add reinforcement so maybe someday they will be the building block of the future (pun intended). After all, we do have inflatable buildings in the county. There are some

neat ideas on their site so for the kid in all of us, happy browsing.



*By: Brad Carlile*

For questions comments or to suggest a product, contact me at [bcarlile@pgcity.org](mailto:bcarlile@pgcity.org).

**PUBLIC RESTROOMS**



By: Jim Yeoman  
Orem City - Commercial Plans Examiner

Over the years, I have received many phone calls from angry husbands and wives concerning being denied access to the restrooms in places of business. Many were calling embarrassed telling the horror story that a child or wife had an accident in the store after the owner's saying the restrooms were not for public use or they were broken.



Sadly many of the restrooms that should be open to the customers have become storage areas for the business or the owners were just too cheap to foot the bill for extra toilet paper etc. Anyone old enough to recall the pay toilets of our youth and how it felt searching for a dime while jumping up and down squirming knows what I mean.

The Codes stand on this is... Toilet facilities must be available for all public establishments that are used by persons engaged in activities involved with the purpose of the establishment.

Public establishments include but are not limited to restaurants, nightclubs, theaters, offices, retail shops, stadiums, libraries and churches. Persons engaged in the activities of the establishment

include, but are not limited to, buyers of merchandise, recipients of services, viewers of displays, receivers of information materials, employees and those persons in attendance with those engaging in the activities.



There is a change coming. The Section 2902.3 of the 2015 IBC regarding "Employee and Public Toilet Facilities".

Customers, patrons and visitors shall be provided with public toilet facilities in structures and tenant spaces intended for public utilization. The number of plumbing fixtures located within the required toilet facilities shall be provided in accordance with IBC Section 2902.1 for all users. Employees shall be provided with toilet facilities in all occupancies. Employee toilet facilities shall be either separate or combined employee and public toilet facilities.

Exception: Public toilet facilities shall not be required in...

1. Open or enclosed parking garages where there are no parking attendants.
2. Structures and tenant spaces intended for quick transactions, including takeout, pickup and drop-off, having a public access area less than or equal to 300 square feet .

*By: Jim Yeoman*

**CALENDAR ITEMS**

OCTOBER 2015						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12 Columbus Day	13 IAEI - West Jordan Health Care Facilities	14 IAEI - Orem City Health Care Facilities	15	16	17
18	19	20	21 <b>Beehive Chapter - Fall Training "Simplified Structural Plan Review"</b>	22	23	24 United Nations Day
25	26	27 Bonneville Chapter - Annual Conference	28 Bonneville Chapter - Annual Conference	29 Bonneville Chapter - Annual Conference	30	31 Halloween

NOVEMBER 2015						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 Daylight Saving	2	3	4	5	6	7
8	9	10 Bonneville Chapter - Monthly Meeting	11 Veterans Day	12	13	14
15	16	17 UAPMO Conference	18 <b>Beehive Chapter - Monthly Meeting UAPMO Conference</b>	19 UAPMO Conference	20 UAPMO Conference	21 UAPMO Conference
22	23	24	25	26 Thanksgiving	27	28
29	30	1	2	3	4	5

## FALL TRAINING



# Simplified Structural Plan Review

## COURSE DESCRIPTION

How comfortable are you in reviewing the structural portion of a project? Are you sure that the project complies with IBC Chapters 16-23? If you want to better understand what should be plan reviewed with respect to the structural portion of a project then this is the class for you!

This seminar will provide a step-by-step approach to performing a structural plan review to ensure that projects comply with the requirements of the 2012 IBC and IRC. The seminar does not teach how to perform structural calculations, but rather explains how to verify the project's design assumptions and overall compliance with the 2012 IBC and IRC.

**Instructor: Chris Kimball, SE, MCP, CBO**



Chris has more than 16 years of experience in the design, construction, and building safety industries. He is a licensed structural engineer as well as an ICC Master Code Professional. He maintains ICC certifications as a

certified building official, combination plans examiner, combination inspector, and fire plans examiner/inspector. He has performed plan reviews for thousands of projects throughout Utah, Wyoming, Nevada, California, Washington, Arizona, and Texas.

**WEDNESDAY**

**October 21, 2015**

**Orem City Council Chambers  
56 North State Street  
Orem, Utah 84057**

**TIME: 8:00am – 5:00pm**

**COST: \$39.00 / Attendee**  
*(Includes Lunch & Breaks)*

**REGISTRATION LINK:**

**<http://form.jotform.us/form/52590058498163>**

*For questions please email Paul Ashton at [paul@beehiveicc.org](mailto:paul@beehiveicc.org)*

**Partial Funding By:**



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