STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

May 2018

Log No. _____

1. State Building Code to be Amended:

- ☒ International Building Code
- ☐ ICC ANSI A117.1 Accessibility Code
- ☐ International Existing Building Code
- ☐ International Residential Code
- ☒ International Fire Code
- ☐ Uniform Plumbing Code
- ☐ International Mechanical Code
- ☐ International Fuel Gas Code
- ☐ NFPA 54 National Fuel Gas Code
- ☐ NFPA 58 Liquefied Petroleum Gas Code
- ☐ Wildland Urban Interface Code

For the Washington State Energy Code, please see specialized energy code forms

Section(s): IBC 420.13 (new); IBC 202; IBC 505.1; IBC 1011.14; IBC 1015.2; IBC 1015.3; IFC/IBC 907.2.11.1; IFC/IBC 907.2.11.2
(e.g.: Section: R403.2)

Title: Lofts
(e.g: Footings for wood foundations)

2. Proponent Name (Specific local government, organization or individual):

Proponent: Washington Associations of Building Officials Technical Code Development Committee (WABO TCD)

Title:

Date: rev. July 14, 2021

3. Designated Contact Person:

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4. **Proposed Code Amendment**. Reproduce the section to be amended by underlining all added language, striking through all deleted language. Insert new sections in the appropriate place in the code in order to continue the established numbering system of the code. If more than one section is proposed for amendment or more than one page is needed for reproducing the affected section of the code additional pages may be attached. (Examples on the SBCC website)

Code(s) _IBC & IFC_____ **Section(s)** _ IBC 420.13 (new); 202; 505.1; 1011.14; 1011.15; 1011.16; 1015.2; 1015.3; IFC/IBC 907.2.11.1; IFC/IBC 907.2.11.2

Enforceable code language must be used; see an example by clicking here.
Amend section to read as follows:

IBC Section 202: Add a new definition as follows:

LOFT. An space on an intermediate level or levels between the floor and ceiling of a Group R occupancy *dwelling* or *sleeping unit*, open on one or more sides to the room in which the loft is located, and in accordance with Section 420.13.

Add new IBC Section 420.13 as follows:

420.13 Lofts. Where provided in Group R occupancies, *lofts* shall comply with this code as modified by Sections 420.13.1 through 420.13.5. *Lofts* constructed in compliance with this section shall be considered a portion of the story below. Such *lofts* shall not contribute to either the building area or number of stories as regulated by Section 503.1. The loft floor area shall be included in determining the *fire area*.

Exception: *Lofts* need not comply with Section 420.13 where they meet any of the following conditions:

1. The *loft* has a maximum depth of less than 3 feet (914 mm).
2. The *loft* has a floor area of less than 35 square feet (3.3 m^2).
3. The *loft* is not provided with a permanent means of egress.

420.13.1 Loft limitations. *Lofts* shall comply with the following conditions:

1. The *loft* floor area shall be less than 70 square feet (6.5 m^2).
2. The *loft* ceiling height shall not exceed 7 feet (2134 mm) for more than one half of the *loft* floor area.

The provisions of Sections 420.13.2 through 420.13.5 shall not apply to *lofts* that do not comply with Items 1 and 2.

420.13.2 Loft ceiling height. The ceiling height below a *loft* shall not be less than 7 feet (2134 mm). The ceiling height above the finished floor of the *loft* shall not be less than 3 feet (914 mm). Portions of the *loft* with a sloped ceiling measuring less than 3 feet (914 mm) from the finished floor to the finished ceiling shall not contribute to the *loft* floor area.

420.13.3 Loft area. The aggregate area of all *lofts* and *mezzanines* within a room shall comply with Section 505.2.1.

Exception: The area of a single *loft* shall not be greater than two-thirds of the area of the room in which it is located, provided that no other *lofts* or *mezzanines* are open to the room in which the *loft* is located.

420.13.4 Permanent egress for lofts. Where a permanent means of egress is provided for *lofts*, the means of egress shall comply with Chapter 10 as modified by Section 420.13.4.1.

420.13.4.1 Ceiling height at loft means of egress. A minimum ceiling height of 3 feet shall be provided for the entire width of the means of egress from the *loft*.

420.13.5 Smoke Alarms. Single- or multiple-station smoke alarms shall be installed in all *lofts* in accordance with Section 907.2.11.1 or 907.2.11.2.

Modify IBC Sections 505.1, 1011.14, 1015.2, 1015.3, 907.2.11.1 and 907.2.11.2 as follows:

505.1 General. *Mezzanines* shall comply with Section 505.2. *Equipment platforms* shall comply with Section 505.3.

Exception: *Lofts* in Group R occupancy dwelling units and sleeping units shall be permitted to comply with Section 420.13, subject to the limitations in Section 420.13.1.

1011.1 General. *Stairways* serving occupied portions of a building shall comply with the requirements of Sections 1011.2 through 1011.13. *Alternating tread devices* shall comply with Section 1011.14. Ship's ladders shall comply with Section 1011.15. Ladders shall comply with Section 1011.16.

Commented [jcs1]: This section was not included in the original proposal approved by the Bldg Code TAG, since no modifications were being proposed to it.

Exceptions:

1. Within rooms or spaces used for assembly purposes, stepped aisles shall comply with Section 1029.
2. Stairways, alternating tread devices, ship's ladders, or ladders within an individual *dwelling unit* or *sleeping unit* used for egress from areas of 200 square feet (18.6 m^2) or less, and not containing the primary bathroom or kitchen, are exempt from the requirements of Section 1011. Such areas shall not be located more than 10 feet (mm) above the finished floor of the space below.

~~**1011.17 Stairways in individual dwelling units.** Stairs or ladders within an individual *dwelling unit* used for access to areas of 200 square feet (18.6 m^2) or less, and not containing the primary bathroom or kitchen, are exempt from the requirements of Section 1011.~~

Commented [jcs2]: This section was not included in the original proposal approved by the Bldg Code TAG, since no modifications were being proposed to it.

The section is being moved to 1011.1, Exception 2.

1015.2 Where required. *Guards* shall be located along open-sided walking surfaces, including mezzanines, equipment platforms, *lofts* in accordance with Section 420.13, *aisles*, *stairs*, *ramps* and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. *Guards* shall be adequate in strength and attachment in accordance with Section 1607.9.

Exceptions: *Guards* are not required for the following locations:

[No change to Exceptions]

1015.3 Height. Required *guards* shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.

2. On *stairways* and stepped *aisles*, from the line connecting the leading edges of the tread nosings.

3. On *ramps* and ramped *aisles*, from the *ramp* surface at the guard.

Exceptions:

1. For occupancies in Group R-3 not more than three stories above grade in height and within individual *dwelling units* in occupancies in Group R-2 not more than three stories above grade in height with separate *means of egress*, required *guards* shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces.

2. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, *guards* on the open sides of *stairs* shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.

3. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, where the top of the *guard* serves as a *handrail* on the open sides of *stairs*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

4. In areas with ceiling heights of 7 feet (2134 mm) or less in *lofts* constructed in accordance with Section 420.13, *guards* shall not be less than 36 inches (914 mm) in height or one-half of the clear height from the *loft* floor to the *loft* ceiling, whichever is less.

~~4.~~5. The *guard* height in assembly seating areas shall comply with Section 1030.17 as applicable.

~~5.~~6. Along *alternating tread devices* and ships ladders, *guards* where the top rail serves as a *handrail* shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread nosing.

~~6.~~7. In Group F occupancies where *exit access stairways* serve fewer than three stories and such *stairways* are not open to the public, and where the top of the *guard* also serves as a *handrail*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

907.2.11.1 Group R-1. Single- or multiple-station smoke alarms shall be installed in all of the following locations in Group R-1:

1. In sleeping areas.

2. In each *loft* constructed in accordance with Section 420.13.

~~2~~3. In every room in the path of the means of egress from the sleeping area to the door leading from the sleeping unit.

~~3~~4. In each story within the sleeping unit, including basements. For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

907.2.11.2 Groups R-2, R-3, R-4 and I-1. Single- or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3, R-4 and I-1 regardless of occupant load at all of the following locations:

1. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.

2. In each room used for sleeping purposes.

3. In each *loft* constructed in accordance with Section 420.13.

~~3~~4. In each story within a *dwelling unit*, including *basements* but not including crawl spaces and uninhabitable attics. In *dwellings* or *dwelling units* with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

Modify IFC Sections 907.2.11.1 and 907.2.11.2 as follows:

907.2.11.1 Group R-1. Single- or multiple-station smoke alarms shall be installed in all of the following locations in Group R-1:

1. In sleeping areas.

2. In each loft constructed in accordance with Section 420.13 of the International Building Code.

~~2~~3. In every room in the path of the means of egress from the sleeping area to the door leading from the sleeping unit.

~~3~~4. In each story within the sleeping unit, including basements. For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

907.2.11.2 Groups R-2, R-3, R-4 and I-1. Single- or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3, R-4 and I-1 regardless of occupant load at all of the following locations:

1. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.

2. In each room used for sleeping purposes.

3. In each loft constructed in accordance with Section 420.13 of the International Building Code.

~~3~~4. In each story within a *dwelling unit*, including *basements* but not including crawl spaces and uninhabitable attics. In *dwellings* or *dwelling units* with split levels and without an intervening door

between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

5. **Briefly explain your proposed amendment, including the purpose, benefits and problems addressed.** Specifically note any impacts or benefits to business, and specify construction types, industries and services that would be affected. Finally, please note any potential impact on enforcement such as special reporting requirements or additional inspections required.

   This proposal introduces "lofts" into the Building Code. The concept is taken from Section R327 of the WA State Residential Code. Some key concepts embedded in the proposal:

   - Lofts are only allowed in dwelling or sleeping units (see definition and 420.13). Something that looks like a loft but is not within a dwelling or sleeping unit is not a loft.
   - Lofts must have a permanent means of egress. An area that looks like a loft but is not provided with a permanently affixed stair, ladder, alternating tread device, or ships ladder does not need to comply with this section (see 420.13, Exception 3).
   - Lofts are intended to be small, and are allowed to have lower ceiling heights than normal habitable spaces (see 420.13 and 420.13.1). Lofts meeting dimensional requirements of habitable space must meet all the habitable space requirements.
   - In order to provide adequate safety for multiple uses including sleeping, a smoke alarm is required in all lofts (IFC/IBC 907.11.2.1 and 907.11.2.2.). Note that because these lofts are in dwelling or sleeping units (R occupancies) regulated by the IBC, the units will be provided with automatic fire sprinklers, negating the need for emergency escape and rescue openings directly from sleeping areas.

   This version of the proposal to the SBCC is based on a public comment that WABO TCD has submitted to the ICC process, to be heard at the Public Comment Hearings in September. Modifications have been made to this version in response to comments from the ICC committees and in collaboration with some of the testifiers in opposition to the proposal at the Committee Action Hearings in April. However, there are three significant differences between the public comment to ICC and this proposal:

   1. The public comment to ICC limits this to "sleeping lofts," whereas this proposal is extended to lofts that could be used for other purposes.
   2. This proposal allows a lower height of the required guard than our public comment for ICC (see 1015.3, Exc. 4). This is based on a separate public comment being submitted by Tacoma and Seattle to the ICC process.
   3. In this proposal, there are no design provisions for stairways, alternating tread devices, ship's ladders, or ladders serving lofts. This is because 2018 WSBC Section 1011.17 already exempts stairs and ladders from compliance with 1011 for areas less than 200 square feet that don't contain the primary kitchen or bathroom. The provisions in Section 1011.17 have been in the Washington codes since the 1994 WSBC, and the Seattle codes since the 1982 SBC with no known history of problems. However, this proposal moves the provisions in Section 1011.17 to a new Exception 2 to Section 1011.1, with an added a maximum 10-foot height limitation on unregulated egress devices, consistent with our public comment in the ICC process. This move will make it clearer that if you don't comply with the conditions of the exception, a permanent means of egress fully compliant with the provisions of Section 1011 will be required.

   Lofts have been proposed and used in several jurisdictions for many years in order to put "extra" space to use. For example, the space on top of a bathroom located in an area with a high ceiling could be used as the sleeping area. However, there is nothing in the code that regulates them. This proposal is intended to provide a reasonable balance between flexibility and safety for these types of spaces.

6. **Specify what criteria this proposal meets.** You may select more than one.
   - ☒ The amendment is needed to address a critical life/safety need.
   - ☒ The amendment clarifies the intent or application of the code.
   - ☐ The amendment is needed to address a specific state policy or statute.
   - ☐ The amendment is needed for consistency with state or federal regulations.
   - ☐ The amendment is needed to address a unique character of the state.
   - ☐ The amendment corrects errors and omissions.

7. **Is there an economic impact:** ☒ Yes ☐ No

Explain:

There will be additional construction costs including the cost for one extra smoke alarm and guards for each loft. The addition costs will depend on the size and number of lofts in the dwelling unit. Smoke alarms cost less than $20 each. Based on the price of deck guard systems, the materials for a pre-manufactured loft guard system will cost between $15-$40 a linear foot. Installation costs will be in addition to the material costs. Note, however, that because lofts are optional, it can be argued that this is not an increase in cost of construction.

Although there is an increased cost, there is also a benefit of being able to increase the usable living area per dwelling or sleeping unit, and this increase would greatly offset the small increased cost. This is especially important for increasing usable space in very small units, which have been increasingly popular with the importance of sustainability and living more simply. Not only would this allow more living space within a new multifamily building, but would also encourage alteration of existing dwelling and sleeping units rather than demolition and new construction.

Housing affordability has also become increasingly important in recent years due to the impacts of the recession. This proposal allows for densification of multi-family residential housing, allowing for additional occupiable space including sleeping areas within the same building footprint. With sustainability also comes micro-housing and affordability of housing, an important impact to the state's economic priorities.

If there is an economic impact, use the tool below to estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance. If preferred, you may submit an alternate cost benefit analysis.

Provide your best estimate of the construction cost (or cost savings) of your code change proposal? (See OFM Life Cycle Cost **Analysis tool** and **Instructions;** use these **Inputs**. **Webinars on the tool can be found Here and Here**)

$Click here to enter text./square foot (For residential projects, also provide $Click here to enter text./ dwelling unit)

Show calculations here, and list sources for costs/savings, or attach backup data pages

List any code enforcement time for additional plan review or inspections that your proposal will require, in hours per permit application:

Minimal increase in time for plan review and inspections.

Please send your completed proposal to: sbcc@des.wa.gov

All questions must be answered to be considered complete. Incomplete proposals will not be accepted.