

IEBC



## 2019 GROUP B PUBLIC COMMENT AGENDA

OCTOBER 23 - 30, 2019  
RIO HOTEL AND CONVENTION CENTER  
LAS VEGAS, NV

## 2019 Public Comment Agenda

First Printing

Publication Date: September 2019

Copyright © 2019

by

International Code Council, Inc.

ALL RIGHTS RESERVED. This 2019 Public Comment Agenda is a copyrighted work owned by the International Code Council, Inc. ("ICC"). Without advance written permission from the ICC, no part of this book may be reproduced, distributed, or transmitted in any form or by any means, including, without limitations, electronic, optical or mechanical means (by way of example and not limitation, photocopying, or recording by or in an information storage retrieval system). For information on use rights and permissions, please contact: ICC Publications, 4051 Flossmoor Road, Country Club Hills IL, 60478. Phone 1-888-ICC-SAFE (422-7233).

Trademarks: "International Code Council," the "International Code Council" logo, "ICC," the "ICC" logo and other names and trademarks appearing in this book are registered trademarks of the International Code Council, Inc., and/or its licensors (as applicable), and may not be used without permission.

PRINTED IN THE USA

## EB2-19

IEBC@: [BS] 202

### **Proposed Change as Submitted**

**Proponents:** Michael Fillion, representing National Council of Structural Engineers Association (mrf.structure@verizon.net)

THIS CODE CHANGE WILL BE HEARD BY THE IBC STRUCTURAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

## **2018 International Existing Building Code**

**Revise as follows:**

**[BS] SUBSTANTIAL STRUCTURAL ALTERATION.** An alteration in which the gravity load-carrying structural elements altered within a 5-year period support more than 30 percent of the total floor and roof area of the building or structure. The areas to be counted toward the 30 percent shall include mezzanines, penthouses, and in-filled courts and shafts tributary to the altered structural elements. For the purpose of this definition, a structural element shall be considered altered if its demand is increased by more than 5% or its capacity is reduced by any amount.

**Reason:** The National Council of Structural Engineers Existing Buildings Sub-committee has received inquiries from practicing structural engineers regarding the interpretation of this definition. In Massachusetts, a structural engineering firm requested an interpretation from the Chief of Building Inspectors and the Structural Advisory Committee to the Massachusetts State Building Code. From our feedback, practicing structural engineers have various opinions regarding the interpretation of the definition. A common question is "What is considered an alteration." The intent of the proposed added language is to make it clear what an alteration is in the context of the definition.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction  
The intent of this code change proposal is for clarification

EB2-19

### **Public Hearing Results**

**Committee Action:**

**Disapproved**

**Committee Reason:** Item is not required in the code - commentary material (Vote: 12-2)

**Assembly Action:**

**None**

EB2-19

### **Individual Consideration Agenda**

#### **Public Comment 1:**

IEBC@: [BS]

**Proponents:**

Michael Fillion, representing National Council of Structural Engineers Association (mrf.structure@verizon.net)

requests As Modified by Public Comment

**Modify as follows:**

## **2018 International Existing Building Code**

**[BS] SUBSTANTIAL STRUCTURAL ALTERATION.** An alteration in which the gravity load-carrying structural elements required to be replaced or altered within a 5-year period support more than 30 percent of the total floor and roof area of the building or structure. The areas to be counted toward the 30 percent shall include mezzanines, penthouses, and in-filled courts and shafts tributary to the altered structural elements. ~~For~~

~~the purpose of this definition, a structural element shall be considered altered if its demand is increased by more than 5% or its capacity is reduced by any amount~~

**Commenter's Reason:** NCSEA's basis for this code change proposal is based on feedback from practicing structural engineers and code officials who have expressed confusion with the definition. Our feedback has indicated that the definition is being interpreted in more than one way. Depending on which way the definition is interpreted can result in weather or not the lateral load resisting system of an altered building is required to meet the wind and seismic requirements of the IBC.

The word 'altered' is not defined in Definitions in Chapter-2 of the IEBC or IBC. The Webster dictionary defines altered as: 'made different in some way'.

Sections 503.3, 706.2 & 806.2 of the IEBC refer to existing structural elements carrying gravity loads. In those sections, the word altered is used. It states that when an alteration causes an increase in gravity loads of more than 5% or any decrease in capacity to a gravity load-carrying structural element, the element shall be replaced or altered as needed to comply with IBC gravity loads for new structures. In the context of these sections, the replaced or altered elements for IBC compliance count toward the 30% of the total floor and roof area threshold.

Our proposal makes it clear which gravity load-carrying structural elements contribute to the 30% threshold which determines weather or not the lateral load resisting system of a building is required to be IBC compliant for wind and seismic loads.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. If the 2018 definition of Substantial Structural Alteration is misinterpreted, it may result in an increase of construction cost.

---

Public Comment# 1844

# EB3-19

IEBC@: 202

## Proposed Change as Submitted

**Proponents:** Allison Cook, Arlington County, VA, representing VBCOA; Kenney Payne, Moseley Architects, representing AIA Virginia (kpayne@moseleyarchitects.com); Ronald Clements Jr, representing Chesterfield County (clementsro@chesterfield.gov); Shaina Abney (shaina.abney@fairfaxcounty.gov); Bob Orr, representing VBCOA (borr@culpepercounty.gov); Charles Vernon, representing VBCOA (cvernon@arlingtonva.us); Michael Williams, representing Virginia Building and Code Officials Association (VBCOA) (mike.williams@harrisonburgva.gov); Debra McMahon (debra.mcmahon@fairfaxcounty.gov); David Collins, The American Institute of Architects, representing The American Institute of Architects (dcollins@preview-group.com); Christina Jackson, City of Norfolk, representing City of Norfolk / WICED of VA (christina.reynolds@norfolk.gov)

## 2018 International Existing Building Code

Revise as follows:

**WORK AREA.** ~~That portion or portions of a building consisting of all reconfigured spaces as indicated on the construction documents. Work area excludes other portions of the building where incidental work entailed by the intended work must be performed and portions of the building where work not initially intended by the owner is specifically required by this code. intended room, space, or portion of a building or structure where a wall or walls are added, relocated, or removed. Work area excludes the following:~~

1. The addition or elimination of any door or window.
2. The reconfiguration or extension of any system
3. The installation of any additional equipment
4. the removal of finished flooring or ceiling materials
5. adjacent rooms or other rooms, spaces, or portions of the building or structure where incidental work entailed by the intended work must be performed
6. portions of the building or structure where work not initially intended is specifically required by this code.

**Reason:** The current definition of work area is too vague and creates the potential for significantly different interpretations of what constitutes a work area. In Virginia, we have experienced inconsistency between jurisdictions and adopted this definition to address that issue. The proposed change provides more details on what is and is not part of a work area. This should help both building officials and design professionals.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. This proposal is only to add clarification, it should not impact cost.

EB3-19

## Public Hearing Results

**Committee Action:**

**As Submitted**

**Committee Reason:** The revised definition better reflects work area and is presented in a better format. There was some concern that the revised wording of the main portion of the definition reduces the scope of the term too much. (Vote: 8-5)

**Assembly Action:**

**None**

EB3-19

## Individual Consideration Agenda

### **Public Comment 1:**

IEBC@: 202

**Proponents:**

Jeff Inks, representing Window and Door Manufacturers Association (jinks@wdma.com)

requests As Modified by Public Comment

Modify as follows:

## 2018 International Existing Building Code

**WORK AREA.** That intended room, space, or portion of a building or structure where a wall or walls are added, relocated, or removed. Work area excludes the following:

1. The addition or elimination of any door, ~~or window~~ or skylight.
2. The reconfiguration or extension of any system
3. The installation of any additional equipment
4. the removal of finished flooring or ceiling materials
5. adjacent rooms or other rooms, spaces, or portions of the building or structure where incidental work entailed by the intended work must be performed
6. portions of the building or structure where work not initially intended is specifically required by this code.

**Commenter's Reason:** The modification proposed by this PC to include skylights in exclusion 1., adds further clarification to what is considered a "work area" and is consistent with the intent of the proposal on the whole. Skylights should be included with doors and windows in exclusion item 1., for the same reasons windows and doors are.

**Cost Impact:** The net effect of the public comment and code change proposal will decrease the cost of construction. This PC will reduce the cost of construction by ensuring skylight replacement or elimination is not considered part of a work area and exempt from requirements that are not intended for such activity.

---

Public Comment# 1827

## EB5-19

IEBC@: SECTION 508, 508.1, 508.2, 508.3, 508.4, 508.4.1, 508.4.2, 508.5, 508.6, 508.7, 508.8, 508.8.1, 508.8.2, 508.8.3, 508.8.4, 508.8.5, TABLE 508.8.5, 508.8.6, 508.8.7, 508.8.8, 508.8.9, 508.8.10, 508.8.11, 508.8.12, 508.8.13, 508.8.14, 508.8.15, 508.9, 508.9.1, 508.9.2, 508.9.3, 508.9.4, SECTION 405 (New), 405.1 (New), SECTION 705 (New), 705.1 (New), 705.2 (New), 705.3 (New), 705.3.1 (New), 705.3.2 (New), 705.3.3 (New), 705.3.4 (New), TABLE 705.3.4 (New), 705.3.5 (New), 705.3.6 (New), 705.3.7 (New), 705.3.8 (New), 705.3.9 (New), 705.3.10 (New), 705.3.11 (New), 705.3.12 (New), 705.3.13 (New), 705.3.14 (New), 705.3.15 (New), 705.4 (New), SECTION 806 (New), 806.1 (New), 806.2 (New), SECTION 906 (New), 906.1 (New), 906.2 (New), SECTION 1006 (New), 1006.1 (New), SECTION 1105 (New), 1105.1 (New), 1105.2 (New), 1105.3 (New), 1105.4 (New), SECTION 1204 (New), 1204.1 (New), 1204.1.1, 1204.1.2, 1204.1.3, 1204.1.4, 1301.2.6 (New)

### Proposed Change as Submitted

Proponents: Eirene Knott, representing Metropolitan Kansas City Chapter of the ICC (Eirene.Knott@brrarch.com)

## 2018 International Existing Building Code

Revise as follows:

### **SECTION 305.508 ACCESSIBILITY FOR EXISTING BUILDINGS**

~~305.1~~ **508.1 Scope.** The provisions of Sections ~~305.1-508.1~~ through ~~305.9-508.9~~ apply to maintenance, *change of occupancy*, *additions* and *alterations* to *existing buildings*, including those identified as *historic buildings*.

~~305.2~~ **508.2 Maintenance of facilities.** A *facility* that is constructed or altered to be *accessible* shall be maintained *accessible* during occupancy.

~~305.3~~ **508.3 Extent of application.** An *alteration* of an existing *facility* shall not impose a requirement for greater accessibility than that which would be required for new construction. *Alterations* shall not reduce or have the effect of reducing accessibility of a *facility* or portion of a *facility*.

~~305.4~~ **508.4 Change of occupancy.** *Existing buildings* that undergo a change of group or occupancy shall comply with this section.

**Exception:** Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in *existing buildings* and facilities undergoing a *change of occupancy* in conjunction with *alterations* where the *work area* is 50 percent or less of the aggregate area of the building.

~~305.4.1~~ **508.4.1 Partial change of occupancy.** Where a portion of the building is changed to a new occupancy classification, any *alterations* shall comply with Sections ~~305.6-508.6~~, ~~305.7-508.7~~ and ~~305.8-508.8~~.

~~305.4.2~~ **508.4.2 Complete change of occupancy.** Where an entire building undergoes a *change of occupancy*, it shall comply with Section ~~305.4-508.4.1~~ and shall have all of the following accessible features:

1. Not fewer than one accessible building entrance.
2. Not fewer than one accessible route from an accessible building entrance to *primary function* areas.
3. Signage complying with Section 1111 of the International Building Code.
4. Accessible parking, where parking is being provided.
5. Not fewer than one accessible passenger loading zone, where loading zones are provided.
6. Not fewer than one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is *technically infeasible* to comply with the new construction standards for any of these requirements for a change of group or occupancy, Items 1 through 6 shall conform to the requirements to the maximum extent technically feasible.

**Exception:** The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.

~~305.5~~ **508.5 Additions.** Provisions for new construction shall apply to *additions*. An *addition* that affects the accessibility to, or contains an area of, a *primary function* shall comply with the requirements in Section ~~305.7-508.7~~.

~~305.6~~ **508.6 Alterations.** A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of the International Building Code, unless *technically infeasible*. Where compliance with this section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible.

**Exceptions:**

1. The altered element or space is not required to be on an accessible route, unless required by Section ~~305.7-508.7~~.
2. Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing facilities.

3. The *alteration* to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.
4. Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in *existing buildings* and facilities undergoing *alterations* where the *work area* is 50 percent or less of the aggregate area of the building.

**305-7 508.7 Alterations affecting an area containing a primary function.** Where an *alteration* affects the accessibility to, or contains an area of *primary function*, the route to the *primary function* area shall be *accessible*. The accessible route to the *primary function* area shall include toilet facilities and drinking fountains serving the area of *primary function*.

**Exceptions:**

1. The costs of providing the *accessible* route are not required to exceed 20 percent of the costs of the *alterations* affecting the area of *primary function*.
2. This provision does not apply to *alterations* limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. This provision does not apply to *alterations* limited solely to mechanical systems, electrical systems, installation or *alteration* of fire protection systems and abatement of hazardous materials.
4. This provision does not apply to *alterations* undertaken for the primary purpose of increasing the accessibility of a *facility*.
5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

**305-8 508.8 Scoping for alterations.** The provisions of Sections ~~305-8-1~~ 508.8.1 through ~~305-8-15~~ 508.8.15 shall apply to *alterations* to *existing buildings* and *facilities*.

**305-8-1 508.8.1 Entrances.** Where an *alteration* includes alterations to an entrance that is not accessible, and the *facility* has an *accessible* entrance, the altered entrance is not required to be *accessible* unless required by ~~Section 305-7.~~ Section 508.7. Signs complying with Section 1111 of the International Building Code shall be provided.

**305-8-2 508.8.2 Elevators.** Altered elements of existing elevators shall comply with ASME A17.1 and ICC A117.1. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.

**305-8-3 508.8.3 Platform lifts.** Platform (wheelchair) lifts complying with ICC A117.1 and installed in accordance with ASME A18.1 shall be permitted as a component of an accessible route.

**305-8-4 508.8.4 Stairways and escalators in existing buildings.** Where an escalator or stairway is added where none existed previously and major structural modifications are necessary for installation, an accessible route shall be provided between the levels served by the escalator or stairways in accordance with Section 1104.4 of the International Building Code.

**305-8-5 508.8.5 Ramps.** Where slopes steeper than allowed by Section 1012.2 of the International Building Code are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table ~~305-8-5-~~ 805.8.5.

**TABLE 305-8.5 508.8.5  
RAMPS**

SLOPE	MAXIMUM RISE
Steeper than 1:10 but not steeper than 1:8	3 inches
Steeper than 1:12 but not steeper than 1:10	6 inches

For SI: 1 inch = 25.4 mm.

**305-8.6 508.8.6 Accessible dwelling or sleeping units.** Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered or added, the requirements of Section 1107 of the International Building Code for Accessible units apply only to the quantity of spaces being altered or added.

**305-8.7 508.8.7 Type A dwelling or sleeping units.** Where more than 20 Group R-2 dwelling or sleeping units are being altered or added, the requirements of Section 1107 of the International Building Code for Type A units apply only to the quantity of the spaces being altered or added.

**305-8.8 508.8.8 Type B dwelling or sleeping units.** Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being added. Where Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered and where the *work area* is greater than 50 percent of the aggregate area of the building, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being altered.

**305-8.9 508.8.9 Jury boxes and witness stands.** In *alterations*, accessible wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to be located outside these spaces where the ramp or lift access restricts or projects into the required means of egress.

**305-8.10 508.8.10 Toilet rooms.** Where it is *technically infeasible* to alter existing toilet and bathing rooms to be *accessible*, an *accessible* family or assisted-use toilet or bathing room constructed in accordance with Section 1109.2.1 of the International Building Code is permitted. The family or assisted-use toilet or bathing room shall be located on the same floor and in the same area as the existing toilet or bathing rooms. At the inaccessible toilet and bathing rooms, directional signs indicating the location of the nearest family or assisted-use toilet room or bathing room shall be provided. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

**305-8.11 508.8.11 Additional toilet and bathing facilities.** In assembly and mercantile occupancies, where additional toilet fixtures are added, not fewer than one accessible family or assisted-use toilet room shall be provided where required by Section 1109.2.1 of the International Building Code. In recreational facilities, where additional bathing rooms are being added, not fewer than one family or assisted-use bathing room shall be provided where required by Section 1109.2.1 of the International Building Code.

**305-8.12 508.8.12 Dressing, fitting and locker rooms.** Where it is *technically infeasible* to provide accessible dressing, fitting or locker rooms at the same location as similar types of rooms, one accessible room on the same level shall be provided. Where separate-sex facilities are provided, accessible rooms for each sex shall be provided. Separate-sex facilities are not required where only unisex rooms are provided.

**305-8.13 508.8.13 Fuel dispensers.** Operable parts of replacement fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum, measuring from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

**305-8.14 508.8.14 Thresholds.** The maximum height of thresholds at doorways shall be  $\frac{3}{4}$  inch (19.1 mm). Such thresholds shall have beveled edges on each side.

**305-8.15 508.8.15 Amusement rides.** Where the structural or operational characteristics of an amusement ride are altered to the extent that the amusement ride's performance differs from that specified by the manufacturer or the original design, the amusement ride shall comply with requirements for new construction in Section 1110.4.8 of the International Building Code.

**305-9 508.9 Historic buildings.** These provisions shall apply to *facilities* designated as historic structures that undergo *alterations* or a *change of occupancy*, unless *technically infeasible*. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the *facility*, as determined by the authority having jurisdiction, the alternative requirements of Sections ~~305-9.1~~ 508.9.1 through ~~305-9.4~~ 508.9.4 for that element shall be permitted.

**Exception:** Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in historic buildings.

**~~305-9.1~~ 508.9.1 Site arrival points.** Not fewer than one accessible route from a site arrival point to an accessible entrance shall be provided.

**~~305-9.2~~ 508.9.2 Multiple-level buildings and facilities.** An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided.

**~~305-9.3~~ 508.9.3 Entrances.** Not fewer than one main entrance shall be accessible.

**Exception:** If a public entrance cannot be made accessible, an accessible entrance that is unlocked while the building is occupied shall be provided; or, a locked accessible entrance with a notification system or remote monitoring shall be provided.

Signs complying with Section 1111 of the International Building Code shall be provided at the public entrance and the accessible entrance.

**305.9.4 508.9.4 Toilet and bathing facilities.** Where toilet rooms are provided, not fewer than one accessible family or assisted-use toilet room complying with Section 1109.2.1 of the International Building Code shall be provided.

**Add new text as follows:**

## **SECTION 405** **Accessibility**

**405.1 General.** Repairs shall be done in a manner that maintains the level of accessibility provided.

## **SECTION 705** **Accessibility**

**705.1 General.** Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent that is technically feasible. A facility that is constructed or altered to be accessible shall be maintained accessible during construction.

### **Exceptions:**

1. The altered element or space is not required to be on an accessible route unless required by Section 705.2.
2. Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing facilities.
3. Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing facilities undergoing less than a Level 3 alteration.
4. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provisions for Type B dwelling units.

**705.2 Extent of application.** An alteration of an existing element, space or area of a facility shall not impose a requirement for greater accessibility than that which would be required for new construction. Alterations shall not reduce or have the effect of reducing accessibility of a facility or portion of a facility.

**705.3 Scoping.** A facility that is altered shall comply with the applicable provisions of Sections 705.3.1 through 705.3.15, and Chapter 11 of the International Building Code unless it is technically infeasible.

**705.3.1 Entrances.** Where an alteration includes alterations to an entrance that is not accessible, and the facility has an accessible entrance, the altered entrance is not required to be accessible unless required by Section 705.4. Signs complying with Section 1111 of the International Building Code shall be provided.

**705.3.2 Elevators.** Altered elements of existing elevators shall comply with ASME A17.1 and ICC A117.1. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.

**705.3.3 Platform lifts.** Platform (wheelchair) lifts complying with ICC A117.1 and installed in accordance with ASME A18.1 shall be permitted as a component of an accessible route.

**705.3.4 Ramps.** Where slopes steeper than allowed by Section 1012.2 of the International Building Code are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table.705.3.4.

**TABLE 705.3.4  
RAMPS**

<b>SLOPE</b>	<b>MAXIMUM RISE</b>
Steeper than 1:10 but not steeper than 1:8	3 inches
Steeper than 1:12 but not steeper than 1:10	6 inches

For SI: inch = 25.4 mm

**705.3.5 Dining areas** An accessible route shall be provided throughout the dining area.

**Exception:** An accessible route to raised or sunken areas or to outdoor seating areas is not required provided the same services and decor are provided in an accessible space.

**705.3.6 Accessible dwelling and sleeping units.** Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered or added, the requirements of Section 1107 of the International Building Code for Accessible units apply only to the quantity of spaces being altered or added.

**705.3.7 Type A dwelling or sleeping units.** Where more than 20 Group R-2 dwelling or sleeping units are being altered or added, the requirements of Section 1107 of the International Building Code for Type A units apply only to the quantity of the spaces being altered or added.

**705.3.8 Type B dwelling or sleeping units.** Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being added. Where Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered and where the work area is greater than 50 percent of the aggregate area of the building, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being altered.

**705.3.9 Jury boxes and witness stands.** In alterations, accessible wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to be located outside these spaces where the ramp or lift access restricts or projects into the required means of egress.

**705.3.10 Toilet rooms.** Where it is technically infeasible to alter existing toilet and bathing rooms to be accessible, an accessible family or assisted-use toilet or bathing room constructed in accordance with Section 1109.2.1 of the International Building Code is permitted. The family or assisted-use toilet or bathing room shall be located on the same floor and in the same area as the existing toilet or bathing rooms. At the inaccessible toilet and bathing rooms, directional signs indicating the location of the nearest family or assisted-use toilet room or bathing room shall be provided. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

**705.3.11 Additional toilet and bathing facilities.** In assembly and mercantile occupancies, where additional toilet fixtures are added, not fewer than one accessible family or assisted-use toilet room shall be provided where required by Section 1109.2.1 of the International Building Code. In recreational facilities, where additional bathing rooms are being added, not fewer than one family or assisted-use bathing room shall be provided where required by Section 1109.2.1 of the International Building Code.

**705.3.12 Dressing, fitting and locker rooms.** Where it is technically infeasible to provide accessible dressing, fitting or locker rooms at the same location as similar types of rooms, one accessible room on the same level shall be provided. Where separate-sex facilities are provided, accessible rooms for each sex shall be provided. Separate-sex facilities are not required where only unisex rooms are provided.

**705.3.13 Fuel dispensers.** Operable parts of replacement fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum, measuring from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

**705.3.14 Thresholds** The maximum height of thresholds at doorways shall be 3/4 inch (19.1 mm). Such thresholds shall have beveled edges on each side.

**705.3.15 Amusement rides.** Where the structural or operational characteristics of an amusement ride are altered to the extent that the amusement ride's performance differs from that specified by the manufacturer or the original design, the amusement ride shall comply with requirements for new construction in Section 1110.4.8 of the International Building Code.

**705.4 Alterations affecting an area containing a primary function.** Where an alteration affects the accessibility to, or contains an area of primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities and drinking fountains serving the area of primary function.

**Exceptions:**

1. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of primary function.
2. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. This provision does not apply to alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials.

4. This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of a facility.
5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

## **SECTION 806** **Accessibility**

**806.1 General.** A building, facility, or element that is altered shall comply with this section and Section 705.

**806.2 Stairways and escalators in existing buildings.** In alterations where an escalator or stairway is added where none existed previously, an accessible route shall be provided in accordance with Sections 1104.4 and 1104.5 of the International Building Code.

## **SECTION 906** **Accessibility**

**906.1 General.** A building, facility, or element that is altered shall comply with this section and Sections 705 and 806.

**906.2 Type B dwelling or sleeping units.** Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered, the requirements of Section 1107 of the International Building Code for Type B units and Chapter 9 of the International Building Code for visible alarms apply only to the quantity of the spaces being altered.

**Exception:** Group I-1, I-2, R-2, R-3 and R-4 dwelling or sleeping units where the first certificate of occupancy was issued before March 15, 1991 are not required to provide Type B dwelling or sleeping units.

## **SECTION 1006** **Accessibility**

**1006.1 General.** Accessibility in portions of buildings undergoing a change of occupancy classification shall comply with Section 1011.

## **SECTION 1105** **Accessibility**

**1105.1 Minimum requirements.** Accessibility provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of primary function, shall comply with the requirements of Sections 705, 806 and 906 as applicable.

**1105.2 Accessible dwelling units and sleeping units.** Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for accessible units apply only to the quantity of spaces being added.

**1105.3 Type A dwelling or sleeping units.** Where more than 20 Group R-2 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for Type A units and Chapter 9 of the International Building Code for visible alarms apply only to the quantity of the spaces being added.

**1105.4 Type B dwelling or sleeping units.** Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for Type B units and Chapter 9 of the International Building Code for visible alarms apply only to the quantity of spaces being added.

## **SECTION 1204** **Accessibility**

**1204.1 Accessibility requirements** The provisions of Sections 705, 806 and 906, as applicable, shall apply to facilities designated as historic structures that undergo alterations or a change of occupancy, unless technically infeasible. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the facility, as determined by the authority having jurisdiction, the alternative requirements of Sections 1204.1.1 through 1204.4.4 for that element shall be permitted.

**Exception:** Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in historical buildings.

Revise as follows:

**305.9.1 1204.1.1 Site arrival points.** Not fewer than one accessible route from a site arrival point to an accessible entrance shall be provided.

**305.9.2 1204.1.2 Multiple-level buildings and facilities.** An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided.

**305.9.3 1204.1.3 Entrances.** Not fewer than one main entrance shall be accessible.

**Exception:** If a public entrance cannot be made accessible, an accessible entrance that is unlocked while the building is occupied shall be provided; or, a locked accessible entrance with a notification system or remote monitoring shall be provided.

Signs complying with Section 1111 of the International Building Code shall be provided at the public entrance and the accessible entrance.

~~305.9.4~~ **1204.1.4 Toilet and bathing facilities.** Where toilet rooms are provided, not fewer than one accessible family or assisted-use toilet room complying with Section 1109.2.1 of the International Building Code shall be provided.

**Add new text as follows:**

**1301.2.6 Accessibility requirements.** Accessibility shall be provided in accordance with Section 410 or 605.

**Reason:** The IEBC was set up many code cycles ago to offer three distinct options for compliance of existing buildings. By lumping all of the accessibility requirements into one chapter, there is no distinction for accessibility under any of the compliance methods. Previous editions of the IEBC offered code requirements for accessibility under each distinct compliance method. Those requirements should remain with each distinct compliance method as each method is designed to stand on its own merits.

This proposal is relocating the contents of Section 305 to the various chapters, depending on the compliance method. For the prescriptive method, the language in 305 has been moved to a new Section 508. For the work area compliance method, the language in 305 has been moved to Section 705. In addition to the language in Section 705, language has been added to cover the other work area options including repairs, Level 2 alterations, Level 3 alterations, change of occupancy, additions and historic buildings. For the performance compliance method, a section has been added to direct the user to comply with either the prescriptive method or the language for repairs.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. This is just reformatting current language so there is no impact to the construction cost.

EB5-19

## **Public Hearing Results**

**Committee Action:**

**Disapproved**

**Committee Reason:** The movement of the accessibility provisions back to where they were in the 2015 was seen as unnecessary. It was noted that a review of Chapters 1, 2 and 3 would occur in every project and it simplifies compliance having the requirements in Chapter 3. It was noted that dining areas were intentionally deleted in the 2018 IEBC. (Vote: 13-0)

**Assembly Action:**

**None**

EB5-19

## **Individual Consideration Agenda**

### **Public Comment 1:**

**Proponents:**

Eirene Knott, representing Metropolitan Kansas City Chapter of the ICC (eirene.knott@brrarch.com)

requests As Submitted

**Commenter's Reason:** The IEBC was set up many code cycles ago to offer three distinct options for compliance of existing buildings. By lumping all of the accessibility requirements into one chapter, there is no distinction for accessibility under any of the compliance methods. Previous editions of the IEBC offered code requirements for accessibility under each distinct compliance method. Those requirements should remain with each distinct compliance method as each method is designed to stand on its own merits.

The committee said this code change was unnecessary as that every project would be reviewed using Chapter 1, 2 and 3. Rather than make assumptions that every project would be reviewed using those chapter, it would be easier to provide for all of the individual provisions to have the accessibility provisions contained within the parameters for that provision. This code change allows for that to happen.

As far as the dining provision, EB 35 of this cycle is an attempt to add it back into the 2021 IEBC.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction

This is just reformatting current language so there is no impact to the construction cost.

Public Comment# 1593

---

# EB6-19

IEBC@: 306, SECTION 401, 306.1, 306.2, [BS] 306.3, SECTION 402, 306.4, SECTION 403, 306.5, SECTION 404, 306.6, SECTION 405, [BS] 306.7, [BS] 306.7.1, [BS] 306.7.1.1, [BS] 306.7.1.1.1, [BS] 306.7.1.2, [BS] 306.7.1.3, [BS] 306.7.1.3.1, [BS] 306.7.1.3.2, [BS] 306.7.1.3.3, [BS] 306.7.1.4, [BS] 306.7.1.4.1, [BS] 306.7.1.5, SECTION 406, 306.8, 306.8.1, 306.8.2, 306.8.3, 306.8.4, 306.8.5, SECTION 407, 306.9, 306.9.1, SECTION 408, 306.10, 306.10.1

## **Proposed Change as Submitted**

**Proponents:** Eirene Knott, representing Metropolitan Kansas City Chapter of the ICC (Eirene.Knott@brrarch.com)

### **2018 International Existing Building Code**

Revise as follows:

#### **4 306 REPAIRS**

Delete without substitution:

#### **SECTION 401 GENERAL**

Revise as follows:

~~401-1 306.1~~ **Scope.** *Repairs* shall comply with the requirements of this chapter. ~~Section 306.~~ *Repairs to historic buildings* need only comply with Chapter 12.

~~401-2 306.2~~ **Compliance.** The work shall not make the building less complying than it was before the *repair* was undertaken.

[BS] ~~401-3 306.3~~ **Flood hazard areas.** In flood hazard areas, *repairs* that constitute *substantial improvement* shall require that the building comply with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable.

Delete without substitution:

#### **SECTION 402 BUILDING ELEMENTS AND MATERIALS**

Revise as follows:

~~402-1 306.4~~ **Glazing in hazardous locations.** Replacement glazing in hazardous locations shall comply with the safety glazing requirements of the International Building Code or International Residential Code as applicable.

**Exception:** Glass block walls, louvered windows and jalousies repaired with like materials.

Delete without substitution:

#### **SECTION 403 FIRE PROTECTION**

Revise as follows:

~~403-1 306.5~~ **General: Fire Protection.** *Repairs* shall be done in a manner that maintains the level of fire protection provided.

Delete without substitution:

#### **SECTION 404 MEANS OF EGRESS**

Revise as follows:

~~404-1 306.6~~ **General: Means of Egress.** *Repairs* shall be done in a manner that maintains the level of protection provided for the means of egress.

Delete without substitution:

#### **SECTION 405 STRUCTURAL**

Revise as follows:

[BS] ~~405.1 306.7~~ **General Structural.** Structural *repairs* shall be in compliance with this section and Section ~~401.2-306.2~~

[BS] ~~405.2 306.7.1~~ **Repairs to damaged buildings.** *Repairs* to damaged buildings shall comply with this section.

[BS] ~~405.2.1 306.7.1.1~~ **Repairs for less than substantial structural damage.** Unless otherwise required by this section, for damage less than *substantial structural damage*, the damaged elements shall be permitted to be restored to their predamage condition.

[BS] ~~405.2.1.1 306.7.1.1.1~~ **Snow damage.** Structural components whose damage was caused by or related to snow load effects shall be repaired, replaced or altered to satisfy the requirements of Section 1608 of the International Building Code.

[BS] ~~405.2.2 306.7.1.2~~ **Disproportionate earthquake damage.** A building assigned to Seismic Design Category D, E or F that has sustained *disproportionate earthquake damage* shall be subject to the requirements for buildings with substantial structural damage to vertical elements of the lateral force-resisting system.

[BS] ~~405.2.3 306.7.1.3~~ **Substantial structural damage to vertical elements of the lateral force-resisting system.** A building that has sustained *substantial structural damage* to the vertical elements of its lateral force-resisting system shall be evaluated in accordance with Section ~~405.2.3.1 306.7.1.3.1~~, and either repaired in accordance with Section ~~405.2.3.2 306.7.1.3.2~~ or repaired and retrofitted in accordance with Section ~~405.2.3.3 306.7.1.3.3~~, depending on the results of the evaluation.

**Exceptions:**

1. Buildings assigned to Seismic Design Category A, B or C whose *substantial structural damage* was not caused by earthquake need not be evaluated or retrofitted for load combinations that include earthquake effects.
2. One- and two-family dwellings need not be evaluated or retrofitted for load combinations that include earthquake effects.

[BS] ~~405.2.3.1 306.7.1.3.1~~ **Evaluation.** The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the *code official*. The evaluation shall establish whether the damaged building, if repaired to its predamage state, would comply with the provisions of the International Building Code for load combinations that include wind or earthquake effects, except that the seismic forces shall be the reduced seismic forces.

[BS] ~~405.2.3.2 306.7.1.3.2~~ **Extent of repair for compliant buildings.** If the evaluation establishes that the building in its predamage condition complies with the provisions of Section ~~405.2.3.1 306.7.1.3.1~~, then the damaged elements shall be permitted to be restored to their predamage condition.

[BS] ~~405.2.3.3 306.7.1.3.3~~ **Extent of repair for noncompliant buildings.** If the evaluation does not establish that the building in its predamage condition complies with the provisions of Section ~~405.2.3.1 306.7.1.3.1~~, then the building shall be retrofitted to comply with the provisions of this section. The wind loads for the *repair* and *retrofit* shall be those required by the building code in effect at the time of original construction, unless the damage was caused by wind, in which case the wind loads shall be in accordance with the International Building Code. The seismic loads for this *retrofit* design shall be those required by the building code in effect at the time of original construction, but not less than the reduced seismic forces.

[BS] ~~405.2.4 306.7.1.4~~ **Substantial structural damage to gravity load-carrying components.** Gravity load-carrying components that have sustained *substantial structural damage* shall be rehabilitated to comply with the applicable provisions for dead and live loads in the International Building Code. Snow loads shall be considered if the *substantial structural damage* was caused by or related to snow load effects. Undamaged gravity load-carrying components that receive dead, live or snow loads from rehabilitated components shall also be rehabilitated if required to comply with the design loads of the *rehabilitation* design.

[BS] ~~405.2.4.1 306.7.1.4.1~~ **Lateral force-resisting elements.** Regardless of the level of damage to vertical elements of the lateral force-resisting system, if *substantial structural damage* to gravity load-carrying components was caused primarily by wind or seismic effects, then the building shall be evaluated in accordance with Section ~~405.2.3.1 306.7.1.3.1~~ and, if noncompliant, retrofitted in accordance with Section ~~405.2.3.3 306.7.1.3.3~~.

**Exceptions:**

1. Buildings assigned to Seismic Design Category A, B, or C whose substantial structural damage was not caused by earthquake need not be evaluated or retrofitted for load combinations that include earthquake effects.
2. One- and two-family dwellings need not be evaluated or retrofitted for load combinations that include earthquake effects.

[BS] ~~405.2.5 306.7.1.5~~ **Flood hazard areas.** In *flood hazard* areas, buildings that have sustained *substantial damage* shall be brought into compliance with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable.

Delete without substitution:

**SECTION 406  
ELECTRICAL**

**Revise as follows:**

~~406-1-306.8~~ **Material- Electrical.** Existing electrical wiring and equipment undergoing *repair* shall be allowed to be repaired or replaced with like material.

~~406-1-1-306.8.1~~ **Receptacles.** Replacement of electrical receptacles shall comply with the applicable requirements of Section 406.4(D) of NFPA 70.

~~406-1-2-306.8.2~~ **Plug fuses.** Plug fuses of the Edison-base type shall be used for replacements only where there is no evidence of over fusing or tampering per applicable requirements of Section 240.51(B) of NFPA 70.

~~406-1-3-306.8.3~~ **Nongrounding-type receptacles.** For replacement of nongrounding-type receptacles with grounding-type receptacles and for branch circuits that do not have an equipment grounding conductor in the branch circuitry, the grounding conductor of a grounding-type receptacle outlet shall be permitted to be grounded to any accessible point on the grounding electrode system or to any accessible point on the grounding electrode conductor in accordance with Section 250.130(C) of NFPA 70.

~~406-1-4-306.8.4~~ **Group I-2 receptacles.** Receptacles in patient bed locations of Group I-2 that are not “hospital grade” shall be replaced with “hospital grade” receptacles, as required by NFPA 99 and Article 517 of NFPA 70.

~~406-1-5-306.8.5~~ **Grounding of appliances.** Frames of electric ranges, wall-mounted ovens, counter-mounted cooking units, clothes dryers and outlet or junction boxes that are part of the existing branch circuit for these appliances shall be permitted to be grounded to the grounded circuit conductor in accordance with Section 250.140 of NFPA 70.

**Delete without substitution:**

**~~SECTION 407  
MECHANICAL~~**

**Revise as follows:**

~~407-1-306.9~~ **General- Mechanical.** Existing mechanical systems undergoing *repair* shall not make the building less complying than it was before the damaged occurred.

~~407-2-306.9.1~~ **Mechanical draft systems for manually fired appliances and fireplaces.** A mechanical draft system shall be permitted to be used with manually fired appliances and fireplaces where such a system complies with all of the following requirements:

1. The mechanical draft device shall be listed and installed in accordance with the manufacturer’s installation instructions.
2. A device shall be installed that produces visible and audible warning upon failure of the mechanical draft device or loss of electrical power at any time that the mechanical draft device is turned on. This device shall be equipped with a battery backup if it receives power from the building wiring.
3. A smoke detector shall be installed in the room with the appliance or fireplace. This device shall be equipped with a battery backup if it receives power from the building wiring.

**Delete without substitution:**

**~~SECTION 408  
PLUMBING~~**

**Revise as follows:**

~~408-1-306.10~~ **Materials- Plumbing.** Plumbing materials and supplies shall not be used for *repairs* that are prohibited in the International Plumbing Code .

~~408-2-306.10.1~~ **Water closet replacement.** The maximum water consumption flow rates and quantities for all replaced water closets shall be 1.6 gallons (6 L) per flushing cycle.

**Exception:** Blowout-design water closets [3.5 gallons (13 L) per flushing cycle].

**Reason:** The purpose of this code change is to pull the provisions for repairs from Chapter 4 and put them in Chapter 3 which covers general provisions as repairs can occur using any of the compliance methods with the requirements being the same for each method.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction  
There is no cost impact as this is just moving current language to another location within the body of the code.

## **Public Hearing Results**

**Committee Action:**

**Disapproved**

**Committee Reason:** The committee felt that the repairs section should remain in an independent chapter as revised for the 2018 code. Placement in Chapter 3 seemed unnecessary as the provisions can stand on their own in Chapter 4. (Vote: 13-0)

**Assembly Action:**

**None**

EB6-19

---

## **Individual Consideration Agenda**

### ***Public Comment 1:***

**Proponents:**

Eirene Knott, representing Metropolitan Kansas City Chapter of the ICC (eirene.knott@brrarch.com)

requests As Submitted

**Commenter's Reason:** The purpose of this code change is to pull the provisions for repairs from Chapter 4 and put them in Chapter 3 which covers general provisions as repairs can occur using any of the compliance methods with the requirements being the same for each method.

The committee felt that the repairs should stand on their own merit. However, Chapter 3 also includes accessibility provisions which could also be deemed a separate stand alone item. Generally the I Codes are set up so that common elements are located in one chapter. If repairs can apply to any of the three methods why would not all of the provisions that apply to all three methods be provided for in one chapter, thus providing the designer all of the requirements they need to meet in one location?

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. This is just moving current language to another location within the body of the code so there is no cost associated with this change.

**Staff Analysis:** Note that Code Change Proposals and associated public comments to EB6-19, EB7-19 and EB50-19 take differing approaches as to how repairs should be addressed in the IEBC. The voting membership should consider the differences and make their intentions clear.

Public Comment# 1594

---

# EB7-19

IEBC®: CHAPTER 4, SECTION 401, 401.1, 401.1.1, SECTION 402, SECTION 403, SECTION 404 (New), 404.1 (New), 404.2 (New), 404.2.1 (New), 404.2.1.1 (New), 404.2.2 (New), 404.2.3 (New), 404.2.3.1 (New), 404.2.3.2 (New), 404.2.3.3 (New), 404.2.4 (New), 404.2.4.1 (New), 404.2.5 (New), SECTION 405, SECTION 406, SECTION 407, SECTION 408, CHAPTER 5, SECTION 501, SECTION 502 (New), 502.1 (New), 502.2 (New), 502.3 (New), SECTION 503, SECTION 504, SECTION 505, SECTION 506, SECTION 507, SECTION 508, SECTION 509, CHAPTER 6, SECTION 601, 601.1, 601.2, [BS] 601.3, SECTION 602, 602.1, SECTION 603, 603.1, SECTION 604, 604.1, SECTION 605, [BS] 605.1, [BS] 605.2, [BS] 605.2.1, [BS] 605.2.1.1, [BS] 605.2.2, [BS] 605.2.3, [BS] 605.2.3.1, [BS] 605.2.3.2, [BS] 605.2.3.3, [BS] 605.2.4, [BS] 605.2.4.1, [BS] 605.2.5, SECTION 606, 606.1, 606.1.1, 606.1.2, 606.1.3, 606.1.4, 606.1.5, SECTION 607, 607.1, 607.2, SECTION 608, 608.1, 608.2, 1301.2.4

## Proposed Change as Submitted

**Proponents:** Eirene Knott, representing Metropolitan Kansas City Chapter of the ICC (Eirene.Knott@brrarch.com)

### 2018 International Existing Building Code

#### CHAPTER 5 4 PRESCRIPTIVE COMPLIANCE METHOD

#### SECTION 501 401 GENERAL

Revise as follows:

~~501.1~~ **401.1 Scope.** The provisions of this chapter shall control the *alteration, repair, addition and change of occupancy of existing buildings and structures, including historic buildings and structures as referenced in Section 301.3.2.*

**Exception:** Existing bleachers, grandstands and folding and telescopic seating shall comply with ICC 300.

~~501.1.1~~ **401.1.1 Compliance with other methods.** *Alterations, repairs, additions and changes of occupancy to existing buildings and structures shall comply with the provisions of this chapter or with one of the methods provided in Section 301.3.*

#### SECTION 502 402 ADDITIONS

#### SECTION 503 403 ALTERATIONS

Add new text as follows:

#### SECTION 404 REPAIRS

**404.1 General.** Buildings and structures, and parts thereof, shall be repaired in compliance with Section 404.

**404.2 Repairs to damaged buildings.** Repairs to damaged buildings shall comply with this section.

**404.2.1 Repairs for less than substantial structural damage.** Unless otherwise required by this section, for damage less than substantial structural damage, the damaged elements shall be permitted to be restored to their predamaged condition.

**404.2.1.1 Snow damage.** Structural components whose damage was caused by or related to snow load effects shall be repaired, replaced or altered to satisfy the requirements of Section 1608 of the International Building Code.

**404.2.2 Disproportionate earthquake damage.** A building assigned to Seismic Design Category D, E or F that has sustained disproportionate earthquake damage shall be subject to the requirements for buildings with substantial structural damage to vertical elements of the lateral force-resisting system.

**404.2.3 Substantial structural damage to vertical elements of the lateral force-resisting system.** A building that has sustained substantial structural damage to the vertical elements of its lateral force resisting system shall be evaluated in accordance with Section 404.2.3.1, and either repaired in accordance with Section 404.2.3.2 or repaired and retrofitted in accordance with Section 404.2.3.3, depending on the results of the evaluation.

**Exceptions:**

1. Buildings assigned to Seismic Design Category A, B or C whose substantial structural damage was not caused by earthquake need not be evaluated or retrofitted for load combinations that include earthquake effects.

2. One- and two-family dwellings need not be evaluated or retrofitted for load combinations that include earthquake effects.

**404.2.3.1 Evaluation.** The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the code official. The evaluation shall establish whether the damaged building, if repaired to its predamage state, would comply with the provisions of the International Building Code for load combinations that include wind or earthquake effects, except that the seismic forces shall be the reduced seismic forces.

**404.2.3.2 Extent of repair for compliant buildings.** If the evaluation establishes that the building in its predamage condition complies with the provisions of Section 404.2.3.1, then the damaged elements shall be permitted to be restored to their predamage condition.

**404.2.3.3 Extent of repair for noncompliant buildings.** If the evaluation does not establish that the building in its predamage condition complies with the provisions of Section 404.2.3.1, then the building shall be retrofitted to comply with the provisions of this section. The wind loads for the repair and retrofit shall be those required by the building code in effect at the time of original construction, unless the damage was caused by wind, in which case the wind loads shall be in accordance with the International Building Code. The seismic loads for this retrofit design shall be those required by the building code in effect at the time of original construction, but not less than the reduced seismic forces.

**404.2.4 Substantial structural damage to gravity load-carrying components.** Gravity load-carrying components that have sustained substantial structural damage shall be rehabilitated to comply with the applicable provisions for dead and live loads in the International Building Code. Snow loads shall be considered if the substantial structural damages was caused by or related to snow load effects. Undamaged gravity load-carrying components that receive dead, live or snow loads from rehabilitated components shall also be rehabilitated if required to comply with the design loads of the rehabilitation design.

**404.2.4.1 Lateral force-resisting elements.** Regardless of the level of damage to vertical elements of the lateral force-resisting system, if substantial structural damage to gravity load-carrying components was caused primarily by wind or seismic effects, then the building shall be evaluated in accordance with Section 404.2.3.1 and, if noncompliant, retrofitted in accordance with Section 404.2.3.3.

**Exceptions:**

1. Buildings assigned to Seismic Design Category A, B or C whose substantial structural damage was not caused by earthquake need not be evaluated or retrofitted for load combinations that include earthquake effects.
2. One- and two-family dwellings need not be evaluated or retrofitted for load combinations that include earthquake effects.

**404.2.5 Flood hazard areas.** In flood hazard areas, buildings that have sustained substantial damage shall be brought into compliance with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable.

**SECTION 504 405  
FIRE ESCAPES**

**SECTION 505 406  
WINDOWS AND EMERGENCY ESCAPE OPENINGS**

**SECTION 506 407  
CHANGE OF OCCUPANCY**

**SECTION 507 408  
HISTORIC BUILDINGS**

**CHAPTER 6 5  
CLASSIFICATION OF WORK**

**SECTION 601 501  
GENERAL**

**Add new text as follows:**

**SECTION 502  
REPAIRS**

**502.1 Scope.** Repairs, as defined in Chapter 2, include the patching or restoration or replacement of damaged materials, elements, equipment or fixtures for the purpose of maintaining such components in good or sound condition with respect to existing loads or performance requirements.

**502.2 Application.** Repairs shall comply with the provisions of Chapter 6.

**502.3 Related Work.** Work on nondamaged components that is necessary for the required repair of damaged components shall be considered part of the repair and shall not be subject to the provisions of Chapter 7, 8, 9, 10 or 11.

**SECTION ~~602~~ 503**  
**ALTERATION—LEVEL 1**

**SECTION ~~603~~ 504**  
**ALTERATION—LEVEL 2**

**SECTION ~~604~~ 505**  
**ALTERATION—LEVEL 3**

**SECTION ~~605~~ 506**  
**CHANGE OF OCCUPANCY**

**SECTION ~~606~~ 507**  
**ADDITIONS**

**SECTION ~~607~~ 508**  
**HISTORIC BUILDINGS**

**SECTION ~~608~~ 509**  
**RELOCATED BUILDINGS**

**CHAPTER 4 6**  
**REPAIRS**

**SECTION ~~401~~ 601**  
**GENERAL**

Revise as follows:

~~401-1~~ 601.1 **Scope.** *Repairs as described in Section 502* shall comply with the requirements of this chapter. *Repairs to historic buildings* need only comply with Chapter 12.

~~401-2~~ 601.2 **Compliance.** The work shall not make the building less complying than it was before the *repair* was undertaken.

[BS] ~~401-3~~ 601.3 **Flood hazard areas.** In flood hazard areas, *repairs* that constitute *substantial improvement* shall require that the building comply with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable.

**SECTION ~~402~~ 602**  
**BUILDING ELEMENTS AND MATERIALS**

~~402-1~~ 602.1 **Glazing in hazardous locations.** Replacement glazing in hazardous locations shall comply with the safety glazing requirements of the International Building Code or International Residential Code as applicable.

**Exception:** Glass block walls, louvered windows and jalousies repaired with like materials.

**SECTION ~~403~~ 603**  
**FIRE PROTECTION**

~~403-1~~ 603.1 **General.** *Repairs* shall be done in a manner that maintains the level of fire protection provided.

**SECTION ~~404~~ 604**  
**MEANS OF EGRESS**

~~404-1~~ 604.1 **General.** *Repairs* shall be done in a manner that maintains the level of protection provided for the means of egress.

**SECTION ~~405~~ 605**  
**STRUCTURAL**

[BS] ~~405-1~~ 605.1 **General.** Structural *repairs* shall be in compliance with this section and Section ~~401-2-~~ 601.2.

[BS] ~~405-2~~ 605.2 **Repairs to damaged buildings.** *Repairs* to damaged buildings shall comply with this section.

[BS] ~~405-2-1~~ 605.2.1 **Repairs for less than substantial structural damage.** Unless otherwise required by this section, for damage less than *substantial structural damage*, the damaged elements shall be permitted to be restored to their predamage condition.

**[BS] ~~405.2.1.1~~ 605.2.1.1 Snow damage.** Structural components whose damage was caused by or related to snow load effects shall be repaired, replaced or altered to satisfy the requirements of Section 1608 of the International Building Code.

**[BS] ~~405.2.2~~ 605.2.2 Disproportionate earthquake damage.** A building assigned to Seismic Design Category D, E or F that has sustained *disproportionate earthquake damage* shall be subject to the requirements for buildings with substantial structural damage to vertical elements of the lateral force-resisting system.

**[BS] ~~405.2.3~~ 605.2.3 Substantial structural damage to vertical elements of the lateral force-resisting system.** A building that has sustained *substantial structural damage* to the vertical elements of its lateral force-resisting system shall be evaluated in accordance with Section ~~405.2.3.1~~ 605.2.3.1, and either repaired in accordance with Section ~~405.2.3.2~~ 605.2.3.2 or repaired and retrofitted in accordance with Section ~~405.2.3.3~~ 605.2.3.3, depending on the results of the evaluation.

**Exceptions:**

1. Buildings assigned to Seismic Design Category A, B or C whose *substantial structural damage* was not caused by earthquake need not be evaluated or retrofitted for load combinations that include earthquake effects.
2. One- and two-family dwellings need not be evaluated or retrofitted for load combinations that include earthquake effects.

**[BS] ~~405.2.3.1~~ 605.2.3.1 Evaluation.** The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the *code official*. The evaluation shall establish whether the damaged building, if repaired to its predamage state, would comply with the provisions of the International Building Code for load combinations that include wind or earthquake effects, except that the seismic forces shall be the reduced seismic forces.

**[BS] ~~405.2.3.2~~ 605.2.3.2 Extent of repair for compliant buildings.** If the evaluation establishes that the building in its predamage condition complies with the provisions of Section ~~405.2.3.1~~ 605.2.3.1, then the damaged elements shall be permitted to be restored to their predamage condition.

**[BS] ~~405.2.3.3~~ 605.2.3.3 Extent of repair for noncompliant buildings.** If the evaluation does not establish that the building in its predamage condition complies with the provisions of Section ~~405.2.3.1~~ 605.2.3.1, then the building shall be retrofitted to comply with the provisions of this section. The wind loads for the *repair* and *retrofit* shall be those required by the building code in effect at the time of original construction, unless the damage was caused by wind, in which case the wind loads shall be in accordance with the International Building Code. The seismic loads for this *retrofit* design shall be those required by the building code in effect at the time of original construction, but not less than the reduced seismic forces.

**[BS] ~~405.2.4~~ 605.2.4 Substantial structural damage to gravity load-carrying components.** Gravity load-carrying components that have sustained *substantial structural damage* shall be rehabilitated to comply with the applicable provisions for dead and live loads in the International Building Code. Snow loads shall be considered if the *substantial structural damage* was caused by or related to snow load effects. Undamaged gravity load-carrying components that receive dead, live or snow loads from rehabilitated components shall also be rehabilitated if required to comply with the design loads of the *rehabilitation* design.

**[BS] ~~405.2.4.1~~ 605.2.4.1 Lateral force-resisting elements.** Regardless of the level of damage to vertical elements of the lateral force-resisting system, if *substantial structural damage* to gravity load-carrying components was caused primarily by wind or seismic effects, then the building shall be evaluated in accordance with Section ~~405.2.3.1~~ 605.2.3.1 and, if noncompliant, retrofitted in accordance with Section ~~405.2.3.3~~ 605.2.3.3.

**Exceptions:**

1. Buildings assigned to Seismic Design Category A, B, or C whose substantial structural damage was not caused by earthquake need not be evaluated or retrofitted for load combinations that include earthquake effects.
2. One- and two-family dwellings need not be evaluated or retrofitted for load combinations that include earthquake effects.

**[BS] ~~405.2.5~~ 605.2.5 Flood hazard areas.** In *flood hazard areas*, buildings that have sustained *substantial damage* shall be brought into compliance with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable.

## **SECTION 406 606 ELECTRICAL**

**~~406.1~~ 606.1 Material.** Existing electrical wiring and equipment undergoing *repair* shall be allowed to be repaired or replaced with like material.

**~~406.1.1~~ 606.1.1 Receptacles.** Replacement of electrical receptacles shall comply with the applicable requirements of Section 406.4(D) of NFPA 70.

**~~406.1.2~~ 606.1.2 Plug fuses.** Plug fuses of the Edison-base type shall be used for replacements only where there is no evidence of over fusing or tampering per applicable requirements of Section 240.51(B) of NFPA 70.

**~~406.1.3~~ 606.1.3 Nongrounding-type receptacles.** For replacement of nongrounding-type receptacles with grounding-type receptacles and for branch circuits that do not have an equipment grounding conductor in the branch circuitry, the grounding conductor of a grounding-type receptacle outlet shall be permitted to be grounded to any accessible point on the grounding electrode system or to any accessible point on the grounding

electrode conductor in accordance with Section 250.130(C) of NFPA 70.

~~406.1.4~~ **606.1.4 Group I-2 receptacles.** Receptacles in patient bed locations of Group I-2 that are not “hospital grade” shall be replaced with “hospital grade” receptacles, as required by NFPA 99 and Article 517 of NFPA 70.

~~406.1.5~~ **606.1.5 Grounding of appliances.** Frames of electric ranges, wall-mounted ovens, counter-mounted cooking units, clothes dryers and outlet or junction boxes that are part of the existing branch circuit for these appliances shall be permitted to be grounded to the grounded circuit conductor in accordance with Section 250.140 of NFPA 70.

## **SECTION 407 607 MECHANICAL**

~~407.1~~ **607.1 General.** Existing mechanical systems undergoing *repair* shall not make the building less complying than it was before the damaged occurred.

~~407.2~~ **607.2 Mechanical draft systems for manually fired appliances and fireplaces.** A mechanical draft system shall be permitted to be used with manually fired appliances and fireplaces where such a system complies with all of the following requirements:

1. The mechanical draft device shall be listed and installed in accordance with the manufacturer’s installation instructions.
2. A device shall be installed that produces visible and audible warning upon failure of the mechanical draft device or loss of electrical power at any time that the mechanical draft device is turned on. This device shall be equipped with a battery backup if it receives power from the building wiring.
3. A smoke detector shall be installed in the room with the appliance or fireplace. This device shall be equipped with a battery backup if it receives power from the building wiring.

## **SECTION 408 608 PLUMBING**

~~408.1~~ **608.1 Materials.** Plumbing materials and supplies shall not be used for *repairs* that are prohibited in the International Plumbing Code .

~~408.2~~ **608.2 Water closet replacement.** The maximum water consumption flow rates and quantities for all replaced water closets shall be 1.6 gallons (6 L) per flushing cycle.

**Exception:** Blowout-design water closets [3.5 gallons (13 L) per flushing cycle].

~~1301.2.4 Alterations.~~ **Alterations and repairs.** An *existing building* or portion thereof shall not be altered or repaired in such a manner that results in the building being less safe or sanitary than such building is currently. Exception: Where the current level of safety or sanitation is proposed to be reduced, the portion altered or repaired shall conform to the requirements of the International Building Code.

**Reason:** The IEBC was set up many code cycles ago to offer three distinct options for compliance of existing buildings. By lumping all of the repair requirements into one chapter, there is no distinction for repairs under any of the compliance methods. Previous editions of the IEBC offered code requirements for repairs under each distinct compliance method. Those requirements should remain with each distinct compliance method as each method is designed to stand on its own merits.

This proposed code change is moving the language from Chapter 4, Repairs, to become its own Chapter under the Work Area Compliance Method as well as providing language in the Prescriptive Method and the Compliance Method. The intention is that this relocation puts the repair language in the appropriate compliance method, depending on which method is utilized by the designer.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction  
There is no cost impact with this code change as it is only relocating language.

EB7-19

## **Public Hearing Results**

**Committee Action:**

**Disapproved**

**Committee Reason:** This proposal was seen as inconsistent with previous actions as to where the repair provisions should be located. The current code structure for repairs was preferred. (Vote: 13-0)

**Assembly Action:**

**None**

---

## **Individual Consideration Agenda**

### **Public Comment 1:**

#### **Proponents:**

Eirene Knott, representing Metropolitan Kansas City Chapter of the ICC (eirene.knott@brrarch.com)

requests As Submitted

**Commenter's Reason:** The IEBC was set up many code cycles ago to offer three distinct options for compliance of existing buildings. By lumping all of the repair requirements into one chapter, there is no distinction for repairs under any of the compliance methods. Previous editions of the IEBC offered code requirements for repairs under each distinct compliance method. Those requirements should remain with each distinct compliance method as each method is designed to stand on its own merits.

This proposed code change is moving the language from Chapter 4, Repairs, to become its own Chapter under the Work Area Compliance Method as well as providing language in the Prescriptive Method and the Compliance Method. The intention is that this relocation puts the repair language in the appropriate compliance method, depending on which method is utilized by the designer.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. There is no cost impact with this code change as it is only relocating language.

**Staff Analysis:** Note that Code Change Proposals and associated public comments to EB6-19, EB7-19 and EB50-19 take differing approaches as to how repairs should be addressed in the IEBC. The voting membership should consider the differences and make their intentions clear.

Public Comment# 1595

---

# EB16-19

IEBC@: 303.4 (New); IBC@: ACI Chapter 35 (New)

## Proposed Change as Submitted

**Proponents:** Stephen Szoke, American Concrete Institute, representing American Concrete Institute (steve.szoke@concrete.org); Kenneth Lozen, International Concrete Repair Institute, representing International Concrete Repair Institute (kenl@icri.org); Charles Hanskat, American Shotcrete Association, representing American Shotcrete Association (charles.hanskat@shotcrete.org); Randy Shackelford, P.E., Simpson Strong-Tie Co., representing Simpson Strong-Tie Co. (rshackelford@strongtie.com); Keith Kesner, CVM Engineers, representing CVM Professional; David Whitmore, Vector Corrosion Technologies Ltd., representing Vector Corrosion Technologies Ltd. (davidw@vector-corrosion.com); Kyle Stanish, Klein & Hoffman, representing Klein & Hoffman (kstanish@kleinandhoffman.com); Garth Fallis, Vector Construction Ltd., representing Vector Construction Ltd. (garthf@vector-construction.com); Matt Miltenberger, Vector Corrosion Services Inc., representing Vector Corrosion Services Inc. (mattm@vcservices.com); Bill Horne, NDT Corporation, representing NDT Corporation (bhorne@ndtcorporation.com); Anton Gueorguiev, Freyssinet USA, representing Freyssinet USA (tony.gueorguiev@freyssinetusa.com); ANDREW GARVER, representing ICRI (agarver@pullman-services.com); Pericles Stivaros, GEI Consultants, Inc., representing GEI Consultants, Inc. (pstivaros@geiconsultants.com); Kwok Nam Shiu, Walker Consultants, representing Walker Consultants (nshiu@walkerconsultants.com); Tarek Alkhrdaji, Structural Technologies, representing Structural Technologies (talkhrdaji@structuraltec.com); Keith Eberhardt, representing Structural Preservation Systems, LLC (keberhardt@structural.net); Norbert Schuster, Manitoba Centennial Centre Corporation, representing Manitoba Centennial Centre Corporation; George Seegebrecht, Concrete Consulting Engineers, LLC, representing Concrete Consulting Engineers, LLC (gseegebrecht@concretece.com); Dennis Stuart, Pennoni Associates Inc, representing Pennoni Associates Inc (mstuart@pennoni.com); Dan Cwiklik (danc@vector-construction.com); Rafael Timerman (rafael@engeti.eng.br); Dino Philopoulos, KGS Group, representing KGS Group (dphilopoulos@ksgsgroup.com); Glenn Kim, DESMAN, representing self; Dennis Hodgkinson, representing Dennis Hodgkinson (dennis@dghengineering.com); Xiangning Li, representing Self (sli@ksgsgroup.com); Merujyoti Roy, RK&K, LLP, representing Self (mroy@rkk.com); Antonios Kadrass, representing ACI (akadrass@islengineering.com); kenneth knox, representing Architectural Expressions, LLP (keknox@aexllp.com); Cris Gillmore, CPJ Enterprises, representing CPJ Enterprises (cris@cpjenterprises.com); David DiQuollo, PE, Seal Engineering, Inc., representing Seal Engineering, Inc. (davidd@seal-eng.com); Jay Paul, Klein and Hoffman, Inc., representing Klein and Hoffman, Inc. (jayhpaul@comcast.net); Stephen Descoteaux, Mistry Associates, Inc., representing Mistry Associates, Inc.; bruce collins, Restruction Corporation, representing Restruction Corporation (bruce@restruction.com); Roderic Ellman, Mueser rutledge Consulting Engineers, representing Mueser Rutledge Consulting Engineers (rellman@mrce.com); John Kennedy, representing Kennedy Consulting Group LLC Principal (jkennedy@kennedycg.com); Gene Stevens, J. R. Harris and Co., representing J. R. Harris and Co. (gene.stevens@jrharrisandco.com); John Lund, Martin/Martin, Inc, representing Martin/Martin, Inc (jlund@martinmartin.com); Angelo Koichopolos, representing Fiberline Composites Canada Inc (anko@fiberline.com); Francisco De Caso, University of Miami (fdecaso@miami.edu); Aaron Larosche, Pivot Engineers, representing Pivot Engineers (larosche@pivotengineers.com); Bev Garnant, representing American Society of Concrete Contractors (lfuchs@asconline.org); Jin Ping Lu, Admaterials Technologies Pte Ltd, representing Admaterials Technologies Pte Ltd (jinpings@admaterials.com.sg); Michael David MacLeod, CCD Western Limited, representing CCD Western Limited (dmacleod@ccdwestern.com); Curt White, Coastal Gunitite Construction Company, representing Coastal Gunitite Construction Company (curt@coastalgunitite.com); Marcela Sollero, Self, representing Self (marcela.barros@concremat.com.br); Mostafa Abdolahi kutiyai, Corrosion engineer, representing Self (mitsomak@gmail.com); Sheldon Warman, FORSMITH Building Science Consultants, representing FORSMITH Building Science Consultants (swarman@forsmithbsc.com); Dhruv Narielwala, Illinois Department of Transportation, representing Self (dhruv.narielwala@illinois.gov); Kyle Klepitch, DESMAN, representing DESMAN (kklepitch@desman.com); Edythe Abrams, ChemQuest Technology Institute, representing self (efabrams@chemquest.com); Werner Hellmer, Clark County Department of Building and Fire Prevention, representing Clark County Department of Building and Fire Prevention (wkh@clarkcountynv.gov); David Rodler, representing Structural Engineer (Repair Consultant) (davidr@skaengineers.com); David Landis, Walter P. Moore and Associates, representing Walter P. Moore and Associates, Inc. (dlandis@walterpmoore.com); Samuel Park, WMATA, representing self; Pete Barlow, Contech Services, Inc., representing Contech Services, Inc. (pete@contechserviceswa.com); Jeff Barnes, representing ICRI (jeff@barnes-consulting.com); Evan Hammel, Simpson Strong-Tie (ehammel@strongtie.com); Young-Jin Cha (young.cha@umanitoba.ca); Jonathan Clavet, Sika Canada, representing Sika Canada inc. (clavet.jonathan@ca.sika.com); Jack Zhao, The City of Ottawa, representing Self (jackq.zhao@ottawa.ca); Eric Bellerose, BauVal Group, representing ICRI Quebec Chapter (ebellerose@bauval.com); David Renn, City and County of Denver, representing self (david.renn@denvergov.org); Karl Rickert, Rickert Engineering, Inc., representing Rickert Engineering, Inc. (kjricket@rickertengineering.com); Dennis Wipf, representing self (dlw@gervasioeng.com)

THIS CODE CHANGE WILL BE HEARD BY THE IBC STRUCTURAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

## 2018 International Existing Building Code

Add new text as follows:

**303.4 Concrete evaluation and design procedures.** Evaluation and design of repairs of structural concrete in compliance with ACI 562 and this code shall be permitted. ACI 562 shall not be used to comply with provisions of this code that involve the classification of earthquake damage or the evaluation or retrofit of structures using load combinations that include earthquake load effects. The following Sections of ACI 562 are not applicable:

1. Section 1.3.8 for seismic resistance
2. Section 4.1.4 for determining the rehabilitation category of work

3. [Section 4.7 for additions](#)
4. [Section 4.8 for alterations](#)
5. [Section 4.9 for change in occupancy](#)

## 2018 International Building Code

Add new standard(s) as follows:

# ACI

American Concrete Institute  
38800 Country Club Drive  
Farmington Hills MI 48331

### 562-19: Code Requirements for Assessment, Repair, and Rehabilitation of Existing Concrete Structures

**Reason: Concept** – This code change proposal adds ACI 562: *Code Requirements for Assessment, Repair, and Rehabilitation of Existing Concrete Structures*, to establish minimum requirements for the design, construction, repair, and rehabilitation of concrete structural elements in buildings for various levels of desired performance as deemed appropriate for the project. In addition to improved life safety, the requirements clearly define objectives and anticipated performance for the code official, owners, designers, contractors and installers. The proposed language is permissive, allowing other methods to be used to comply with the intent of the building code. Further Section 104.11 of the IEBC allows for alternative design methods:

"104.11 Alternative materials, design and methods of construction, and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design, or method of construction shall be approved where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method, or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons why the alternative was not approved."

The public discussion version of this standards is available at: [www.concrete.org/publications/standards/upcomingstandards.aspx](http://www.concrete.org/publications/standards/upcomingstandards.aspx)

**Background** – In 2006, the repair industry approached ACI asking for a concrete repair and rehabilitation code that would improve the overall quality of concrete repairs by establishing common requirements and establishing clear responsibilities between owners, designers, and contractors. This code would also provide building code officials with a reference by which to evaluate rehabilitated concrete structures. ACI, following its rigorous American National Standards Institute accredited standards development process assembled a code committee with balanced representation and produced the first official code in 2012. The committee members reviewed and considered numerous reports and publications related to concrete repair and rehabilitation to identify and develop requirements consistent with current industry practice. The committee has received feedback from users of the code and are now completing their third version of this code, ACI 562-19.

**Scope** – ACI 562-19 complements the IEBC by providing specific direction on how to design concrete repairs and how to handle the unique construction problems associated with repair. This standard helps the designer assess the existing structure in accordance with the IEBC. The standard then provides the requirements that bridge the inconsistencies and gaps in acceptable criteria that occur from the two following situations that a designer must solve: one, repairing a structure according to the original building code used at the time it was built using today's construction methods and materials; or, repairing a structure built according to an older building code but repaired according to the latest building code. Note that ACI 562 does not directly address the evaluation of lateral-force resisting systems in high seismic areas. ASCE 41 is the appropriate standard for this situation as stated in the IEBC and ACI 562.

**Benefits** – There are many benefits that ACI 562 provides for the designer, owner, contractor, materials providers, building code official and the public. A few of these benefits are:

- Provides a level of expectation of life safety to the public in buildings where repairs or rehabilitation is performed on concrete structural elements.
- Provides clearly defined, uniform requirements aimed at extending the service life of existing structures.
- Provides minimum requirements for safety and quality of concrete repair.
- Establishes clear responsibilities between owners, designers, and contractors.
- Provides building code officials with a means to evaluate rehabilitation designs.
- Provides specific repair requirements that often result in less costly repairs compared to repairs required to meet only new construction requirements.

**Flexibility** – ACI 562 permits flexibility in evaluation, design, construction and repair materials to provide economies while establishing expected performance for the service-life of the rehabilitation or repairs.

**Resources** – Also, there many resources that complement ACI 562. Among these are:

- *Concrete Repair Manual: Fourth Edition 2013*
- ACI 563-18, *Specifications for Repair of Structural Concrete in Buildings*
- MNL-3(16) *Guide to the Code for Assessment, Repair, and Rehabilitation of Existing Concrete Structures*

These resources are readily available to provide greater understanding of assessment, repair and rehabilitation of concrete structural elements. ACI MNL-3 provides case studies demonstrating the ease of use of ACI 562. Numerous technical notes, reports, guides, and specifications that provide background information and technical support are available through other organizations, such as American Society of Civil Engineers, British Research Establishment, Concrete Society, International Concrete Repair Institute, National Association of Corrosion Engineers, Post-Tensioning Institute, Society for Protective Coatings, and US Army Corps of Engineers. Many of these organizations publications related to concrete repair can be found in the Concrete Repair Manual.

**Sustainability** - Reference of ACI 562 in the IEBC will help improve the confidence of owners, builders, and developers regarding effective repairs, upgrades, and reuse of existing buildings in lieu of demolition and replacement. Typically, extending the life of existing buildings is substantially more sustainable than demolition and new construction. Adoption of ACI 562 by reference is needed to help facilitate efforts that conserve energy and resources while maintaining a minimum level of requirements to ensure reasonable levels of life safety, and welfare are afforded to the public.

**State and Local Adoptions** – Jurisdictions see the need for these requirements. As the model for state and local adoptions, the IEBC should include this reference with appropriate charging language. ACI 562 is already being used in several jurisdictions:

**Hawaii:** Hawaii was the first state to adopt ACI 562 by reference. The following provisions are included in the State Building Code Council HAWAII STATE BUILDING CODE, which became effective on November 13, 2018:

“3401.6 Alternative compliance.

- 1) Work performed in accordance with the International Existing Building Code shall be deemed to comply with the provisions of this chapter.
- 2) Work performed in accordance with the 2016 version of the American Concrete Institute Committee 562, “Code Requirements for Assessment, Repair, and Rehabilitation of Existing Concrete Structures” shall be deemed to comply with this chapter when used as a supplement to the requirements of this chapter or the International Existing Building Code. Wherever the term International Existing Building Code (IEBC) is used in ACI 562-16, it shall mean International Existing Building Code or Chapter 34 of the International Building Code.”

**Ohio:** The Ohio Board of Building Standards Ohio adopted rule changes identified as Amendments Group 95. Included in this group is:

3401.6 Concrete evaluation and design procedures. Evaluation and design of structural concrete repairs and rehabilitation shall be in compliance with Chapter 34 and ACI 562.

ACI, a professional technical society, has developed this standard in response to industry needs and to help assure minimum levels of life safety results where repairs and rehabilitation are associated with concrete structural elements. For this reason and the other benefits identified in this reason statement, ACI recommends this code change proposal for committee approval as submitted.

**New York City:** The New York City Buildings Department issued *BUILDINGS BULLETIN 2015-017* in December 2017 Conditions of Acceptance for Fiber Reinforced Cementitious Matrix strengthening systems.

FRCM shall comply with the NYC Construction Codes and the following applicable provisions:

#### A. Design

1. FRCM system shall be designed in accordance with the ACI 549.4R-132 Guide for the Design and Construction of Externally Bonded Fabric-Reinforced Cementitious Matrix (FRCM) Systems for Repair and Strengthening Concrete and Masonry Structures with properties used for design obtained from tests performed in accordance with AC 434. Fire-resistance-rating and interior finish requirements shall be in accordance with the NYC Construction Codes, manufacturer’s recommendations and the conditions of the required listing.
2. For repairs and upgrade achieved with unprotected external FRCM, the increase in flexural or shear strength provided by the external reinforcing system shall not exceed 50% of the existing structural capacity of the member prior to strengthening. This increase should be checked before applying the strength reduction factor.
3. Careful consideration should be given to determine reasonable strengthening limits. These limits are imposed to guard against collapse of the structure should bond or other failure of the FRCM system occur due to damage, vandalism, or other causes. The required strength of a structure without repair should be as specified in in accordance with ACI 562 *Code Requirements for Assessment, Repair, and Rehabilitation of Existing Concrete Structures* Section 5.5.

**Recommendation** – ACI, a professional technical society, has developed this ACI 562 in response to industry needs and to help assure minimum

levels of life safety, health, and welfare for the public. For this reason and the other benefits identified in this reason statement, ACI recommends this code change proposal for committee approval as submitted.

**Bibliography:** Concrete Repair Manual - 4th Edition: 2-Volume Set, ACI and ICRI, 2013, 2093 pp.  
[https://www.concrete.org/store/productdetail.aspx?ItemID=RPMN13PACK&Format=HARD\\_COPY](https://www.concrete.org/store/productdetail.aspx?ItemID=RPMN13PACK&Format=HARD_COPY)

Guide to the Code for Assessment, Repair, and Rehabilitation of Existing Concrete Buildings, ACI and ICRI, 2016, 176 pp.

<https://www.concrete.org/store/productdetail.aspx?ItemID=MNL316&Language=English>

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. The use of this referenced standard should in many cases reduce the cost of repair. Too often in the process of repair, there is insufficient information to determine acceptance criteria that is amicable to both the owner and the building code official. The result is the determination that the repair must meet the latest building code requirements for new construction. This standard increases the options available for repair and provides the acceptance criteria necessary to permit these options. A case study that illustrates this point: "ACI 562 has been referenced in expert reports for litigation cases, resulting in significantly reduced financial settlements. Denver-based J. R. Harris & Company recently used the code as a standard in several litigation reports assessing damages in existing concrete structures. As an approved consensus standard, according to American National Standards Institute (ANSI) procedures, ACI 562-13 has been accepted as the source standard to use for damage assessment and repair on individual projects by Greenwood Village and Pikes Peak Regional Building Departments in Colorado. Based on this acceptance, the consulting engineer was able to cite the code in their recommendation for structural remediation and determination of damages. In one case involving rehabilitation work on four buildings with faulty construction, J.R. Harris was able to reduce the repair costs from \$12 million to \$3 million, with a repair plan based on the lesser of the demand-capacity ratio based on either the original or current building code per ACI 562."

**Staff Analysis:** A review of the standard proposed for inclusion in the code, ACI 562-19, with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 2, 2018.

EB16-19

---

## **Public Hearing Results**

**Committee Action:**

**Disapproved**

**Committee Reason:** Proposed reference standards, ACI Standard 562, is currently provided in draft format with additional changes anticipated, which are not currently available for review. Proposed language could create inconsistencies. Proposed change would be hard to enforce and uses language such as 'shall be permitted'. (Vote: 9-4)

**Assembly Action:**

**None**

EB16-19

---

## **Individual Consideration Agenda**

### **Public Comment 1:**

**IEBC@: 303.4 (New); IBC@: ACI Chapter 35 (New)**

**Proponents:**

Kerry Sutton, American Concrete Institute, representing American Concrete Institute (kerry.sutton@concrete.org)

requests As Modified by Public Comment

**Modify as follows:**

### **2018 International Existing Building Code**

**303.4 Concrete evaluation and design procedures.** Evaluation and design of repairs of structural concrete shall be in compliance with ACI 562 and this code ~~shall be permitted~~. ACI 562 shall not be used to comply with provisions of this code that involve the classification of earthquake damage or the evaluation or retrofit of structures using load combinations that include earthquake load effects. ~~The following Sections of ACI 562 are not applicable:~~

1. Section 1.3.8 for seismic resistance
2. Section 4.1.4 for determining the rehabilitation category of work
3. Section 4.7 for additions
4. Section 4.8 for alterations
5. Section 4.9 for change in occupancy

## 2018 International Building Code

# ACI

American Concrete Institute  
38800 Country Club Drive  
Farmington Hills MI 48331

### 562-19: Code Requirements for Assessment, Repair, and Rehabilitation of Existing Concrete Structures

#### Commenter's Reason:

The Committee recommendation at the committee hearing was for disapproval because:

- 1) *Proposed reference standards, ACI Standard 562, is currently provided in draft format with additional changes anticipated, which are not currently available for review.* ACI 562-19 has been published and is an appropriate reference for the IEBC and compliant with Council Policy 28.
- 2) *Proposed language could create inconsistencies.* The language in the proposal identifying sections 1.3.8, 4.1.4, 4.7, 4.8 and 4.9 of ACI 562-19 are removed with this modification. ACI Committee 562 intentionally included the references back to the IEBC to ensure that determination of category of work be compliant with the IEBC.
- 3) *Proposed change would be hard to enforce and uses language such as 'shall be permitted'.* The revised language in this modification eliminates "shall be permitted". Section [A] 104.11 of the IEBC allows for alternative means and methods. Thus this proposal does not limit compliance to ACI 562.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. The use of this referenced standard should in many cases reduce the cost of repair. Too often in the process of repair, there is insufficient information to determine acceptable criteria. In some conditions, the resulting determination is that the requirements for new construction are used in lieu of acceptable requirements for existing buildings. In other instances, repairs may be deficient with regards to structural performance or longevity.

Public Comment# 2009

### Public Comment 2:

#### Proponents:

Stephen Szoke, representing American Concrete Institute (steve.szoke@concrete.org)

requests As Submitted

**Commenter's Reason:** At the Committee Action Hearings, there were three reasons given for recommending disapproval. The first is: "*Proposed reference standards, ACI Standard 562, is currently provided in draft format with additional changes anticipated, which are not currently available for review.*" ACI 562 *Code Requirements for Assessment, Repair, and Rehabilitation of Existing Concrete Structures* was provided to committee member in a public discussion draft as required by ICC Council Policy 28. This was verified by staff during the hearings. Earlier editions have been published, are available, and have been used for the repair of structural concrete. The final published edition of ACI 562-19 is now available. The second reason was that "*Proposed language could create inconsistencies.*" The code change proposal was specifically written with guidance from the Applied Technology Council to provide exceptions that could be construed as circular references.

The third reason was: "*Proposed change would be hard to enforce and uses language such as 'shall be permitted.'*" The phrase is common language in the model codes and is thus not an appropriate reason to reject the adoption of ACI 562 as a permissible reference standard. The phrase is used 71 times in the 2018 edition of the IEBC and 532 times in the 2018 edition of the IBC in various Chapters as follows:

IEBC		IBC			
Chapter	Occurrences	Chapter	Occurrences	Chapter	Occurrences
1	2	1	2	18	153

2	0	2	0	19	2
3	7	3	1	20	0
4	5	4	56	21	4
5	16	5	16	22	6
6	0	6	12	23	31
7	5	7	113	24	6
8	14	8	14	25	2
9	5	9	25	26	19
10	11	10	71	27	0
11	0	11	16	28	0
12	4	12	7	29	2
13	1	13	0	30	8
14	0	14	14	31	6
15	1	15	29	32	0
16	0	16	16	33	2
17	0	17	1		

Testimony against focused on the standard development process. The process used is compliant with ICC Council Policy 28 as it is an American National Standards Institute accredited standards development process. Mention was made as to the number of comments submitted during the public review period. All comments submitted during this period were reviewed and acted upon in a manner consistent with the ANSI accredited process. ACI 562 is in its third edition, and like the model building codes being developed through this process, revisions are made in subsequent editions. New information must be properly vetted to assure a quality document. Further, there was mention of the volume of comments submitted in the public review period. Please consider that all consensus standards development processes a public comment period and from time to time individuals in opposition to the concept of standardization flood the committee during public comment periods with the intent of derailing or delaying development.

This document was developed by a committee of the American Concrete Institute which is a professional society dedicated to the development and adoption of documents that advance concrete technology and serve the public good. ACI, not being a trade or product association, does not campaign to promote the use of concrete in lieu of other building materials. ACI committees develop a variety of documents in the form of guides, reports, specifications, and code requirements. Over the past five decades, ACI Committee 562 and other related committees have generated numerous documents for use as guides and resources for the repair of structural concrete. Recognizing that even with the availability of these guides and resources nearly 50% of all repairs fail in less than 20 years, the committee determined that guidance and resources are not sufficient for the purposes of providing for the public good. The result has been committee work that produced building code requirements specifically addressing the evaluation, repair and rehabilitation of structural concrete.

Rationale for referencing ACI 562 in the IEBC was provided in testimony from design professionals, materials suppliers, building owners and managers, code officials, and contractors. The compelling testimony which may be viewed on the ICC website emphasized that: ACI 562 serves the public by providing the designer, owner, contractor, materials providers, and building code officials:

- A level of expectation of life safety to the public in buildings where repairs or rehabilitation is Performed on concrete structural elements;
- Clearly defined, uniform requirements aimed at extending the service life of existing structures;
- Minimum requirements for efficiency, safety, and quality of concrete repair;
- Clear communication of responsibilities between owners, designers, and contractors;
- Means for building code officials to evaluate rehabilitation designs;
- Specific repair requirements that often result in less costly repairs compared to requiring compliance with provisions for new construction requirements; and
- Increased confidence in performance of repairs that support the more sustainable approach compared to demolish and rebuild.

ACI recommends approval as submitted.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction

For reasons stated in the cost impact provided with the original proposal, the proposal will not increase, but may often decrease the cost of construction.

Public Comment# 1342

---

# EB17-19

IEBC@: CHAPTER 3, SECTION 301, 301.1, SECTION 302, 302.1, SECTION 503, 503.1

## Proposed Change as Submitted

**Proponents:** Gina Hilberry, Scoping Task Group of ICC/A117.1 Standard Development Committee, representing United Cerebral Palsy (gina@cohenhilberry.com); Rick Lupton, representing Self (sparkylupton@msn.com); Marsha Mazz, representing United Spinal Association (m.mazz@verizon.net); Gene Boecker, representing Code Consultants, Inc.(geneb@codeconsultants.com)

### 2018 International Existing Building Code

#### CHAPTER 3 PROVISIONS FOR ALL COMPLIANCE METHODS

Revise as follows:

##### SECTION 301 ADMINISTRATION SCOPE

**301.1 General. Applicability** ~~The repair, alteration, change of occupancy, addition or relocation of all existing buildings shall comply with Section 301.2, 301.3, or 301.4. The provisions of Sections 302 through 305 shall apply to all alterations, repairs, additions, relocation of structures and changes of occupancy regardless of compliance method.~~

##### SECTION 302 GENERAL PROVISIONS

Delete without substitution:

~~**302.1 Applicability.** The provisions of Section 302 apply to all alterations, repairs, additions, relocations of structures and changes of occupancy regardless of compliance method.~~

##### SECTION 503 ALTERATIONS

Revise as follows:

**503.1 General.** ~~Except as provided by Section 302.4, 302.5 or this section, alterations~~ Alterations to any building or structure shall comply with the requirements of the International Building Code for new construction. *Alterations* shall be such that the *existing building* or structure is not less complying with the provisions of the International Building Code than the *existing building* or structure was prior to the *alteration*.

**Exceptions:**

1. An existing stairway shall not be required to comply with the requirements of Section 1011 of the International Building Code where the existing space and construction does not allow a reduction in pitch or slope.
2. Handrails otherwise required to comply with Section 1011.11 of the International Building Code shall not be required to comply with the requirements of Section 1014.6 of the International Building Code regarding full extension of the handrails where such extensions would be hazardous because of plan configuration.
3. Where provided in below-grade transportation stations, existing and new escalators shall have a clear width of less than 32 inches (815 mm).

**Reason:** An intent of the IEBC changes creating the 2018 edition was to make the provisions of Chapter 3 applicable to all existing building work regardless of the compliance method chosen. Our group's concern was that the route a code user must follow to get to requirements of Section 305 was unclear. Section 305 contains provisions which are 'exceptions' from compliance with the IBC and the ICC A117.1 standard; thus the text of 503.1 is incomplete because it doesn't like you to exceptions in Section 305. Section 305 is similar to 302.4 and 302.5 in that something less than full compliance with IBC is allowed. We noticed that the other compliance methods had no link within them to Chapter 3.

The real problem, and the solution, is in the beginning of Chapter 3 where it fails to clearly state its purpose except in the title to the chapter. Titles are not code. It is essential that Section 301.1 state that Chapter 3 applies to all compliance methods as the title states.

We further noticed that 302.1 had such language covering Section 302 – but the rest of the chapter has no such statement. This proposal fixes it. Once stated in Section 301.1, it isn't needed in 302. Once stated in 301, exceptions aren't needed in 503 or in any of the other compliance methods. We also recommend the title of 301 be changed to either Scope or Applicability. Administration is something for Chapter 1 and not appropriate here.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction

The change provides an editorial correction to make sure the user understands that Section 305 also allows construction of alterations to a different and lesser technical requirement. And to make sure that the text of the Chapter is corrected to reflect the title – provisions for All Compliance Methods.

EB17-19

---

## **Public Hearing Results**

**Committee Action:**

**As Submitted**

**Committee Reason:** The current language will get the code user to the correct sections but these revisions makes the links to the appropriate sections much cleaner. The provisions in Chapter 3 are intended to address all compliance methods. (Vote: 10-3)

**Assembly Action:**

**None**

EB17-19

---

## **Individual Consideration Agenda**

### **Public Comment 1:**

**IEBC@: 301.1**

**Proponents:**

Kelly Cobeen, Wiss Janney Elstner Associates, representing Federal Emergency Management Agency and Applied Technology Council Seismic Code Support Committee (FEMA/ATC SCSC) (kcobeen@wje.com); Michael Mahoney, Federal Emergency Management Agency, representing Federal Emergency Management Agency (mike.mahoney@fema.dhs.gov)

requests As Modified by Public Comment

**Further modify as follows:**

### **2018 International Existing Building Code**

**301.1 Applicability** The *repair, alteration, change of occupancy, addition* or relocation of all *existing buildings* shall comply with Section 301.2, 301.3, or 301.4. The provisions of Sections 302, ~~304 and through~~ 305 shall apply to all alterations, repairs, additions, relocation of structures and changes of occupancy regardless of compliance method. The provisions of Section 303 shall apply where specifically required by other provisions of this code.

**Commenter's Reason:** The submitted code change proposal implies that the provisions of Section 303 are applicable to any alteration, addition or repair. That is not correct. Section 303 is only applicable when specifically triggered by other sections of the IEBC. The proposed language clarifies the intended use.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction

Both the original code change proposal and the public comment are clarifying already existing code language, and as a result do not have an impact on cost of construction.

Public Comment# 1463

---

# EB20-19

IEBC@: SECTION 305, 305.6, 305.6.1, 305.6.2 (New), 305.6.3 (New), 305.6.4 (New), 305.6.5 (New), 305.8, 305.6.6, 305.6.7, 305.6.8, 305.6.9, 305.6.10, TABLE 305.6.10, 305.6.11 (New), 305.6.11.1, 305.6.11.2, 305.6.11.3, 305.6.12, 305.6.13, 305.6.14, 305.6.15, 305.6.16, 305.6.17, 305.6.18, 305.6.19, 305.6.19.1, 305.6.19.2, 305.6.19.3, 305.6.19.4

## Proposed Change as Submitted

**Proponents:** Gina Hilberry, Scoping Task Group of ICC/A117.1 Standard Development Committee, representing United Cerebral Palsy (gina@cohenhilberry.com); Rick Lupton, representing Self (sparkylupton@msn.com); Marsha Mazz, representing United Spinal Association (m.mazz@verizon.net); Gene Boecker, representing Code Consultants, Inc.(geneb@codeconsultants.com)

## 2018 International Existing Building Code

### SECTION 305 ACCESSIBILITY FOR EXISTING BUILDINGS

#### Revise as follows:

**305.6 Alterations.** A facility that is altered shall comply with the applicable provisions in Chapter 11 of the International Building Code, ICC A117.1 and the provisions of Sections 305.6.1 through 305.6.19, unless *technically infeasible*. Where compliance with this section is *technically infeasible*, the alteration shall provide access to the maximum extent technically feasible.

#### Exceptions:

- ~~1.The altered element or space is not required to be on an accessible route, unless required by Section 305.7.~~
- ~~2.Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing facilities.~~
- ~~3.The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.~~
- ~~4.Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing buildings and facilities undergoing alterations where the work area is 50 percent or less of the aggregate area of the building.~~

~~**305.7 305.6.1 Alterations affecting an area containing a primary function.** Where an alteration affects the accessibility to, or contains an area of primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities and drinking fountains serving the area of primary function.~~

#### Exceptions:

- ~~1. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of primary function.~~
- ~~2. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.~~
- ~~3. This provision does not apply to alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials.~~
- ~~4. This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of a facility.~~
- ~~5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.~~

#### Add new text as follows:

~~**305.6.2 Accessible route.** The altered element or space is not required to be on an accessible route, unless required by Section 305.6.1.~~

~~**305.6.3 Accessible means of egress** Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing facilities.~~

~~**305.6.4 Alteration of Type A units** The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.~~

~~**305.6.5 Type B units** Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing buildings and facilities undergoing alterations where the work area is 50 percent or less of the aggregate area of the building.~~

#### Delete without substitution:

~~**305.8 Scoping for alterations.** The provisions of Sections 305.8.1 through 305.8.15 shall apply to alterations to existing buildings and facilities.~~

#### Revise as follows:

~~**305.8.1 305.6.6 Entrances.** Where an alteration includes alterations to an entrance that is not accessible, and the facility has an accessible~~

entrance, the altered entrance is not required to be *accessible* unless required by Section ~~305.7-~~305.6.1. Signs complying with Section 1111 of the International Building Code shall be provided.

~~305.8.2~~ 305.6.7 **Elevators.** Altered elements of existing elevators shall comply with ASME A17.1 and ICC A117.1. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.

~~305.8.3~~ 305.6.8 **Platform lifts.** Platform (wheelchair) lifts complying with ICC A117.1 and installed in accordance with ASME A18.1 shall be permitted as a component of an accessible route.

~~305.8.4~~ 305.6.9 **Stairways and escalators in existing buildings.** Where an escalator or stairway is added where none existed previously and major structural modifications are necessary for installation, an accessible route shall be provided between the levels served by the escalator or stairways in accordance with Section 1104.4 of the International Building Code.

~~305.8.5~~ 305.6.10 **Ramps.** Where slopes steeper than allowed by Section 1012.2 of the International Building Code are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table ~~305.8.5-~~305.6.10.

**TABLE ~~305.8-5~~ 305.6.10  
RAMPS**

SLOPE	MAXIMUM RISE
Steeper than 1:10 but not steeper than 1:8	3 inches
Steeper than 1:12 but not steeper than 1:10	6 inches

For SI: 1 inch = 25.4 mm.

**Add new text as follows:**

**305.6.11 Determination of number of units** Where Chapter 11 of the International Building Code requires Accessible, Type A or Type B units, where units are being altered or added, the number of Accessible, Type A and Type B units shall be determined in accordance with Sections 305.6.11.1 through 305.6.11.3.

**Revise as follows:**

**~~305.8-6~~ 305.6.11.1 Accessible dwelling or sleeping units.** Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered or added, the requirements of Section 1107 of the International Building Code for Accessible units apply only to the quantity of spaces being altered or added.

**~~305.8-7~~ 305.6.11.2 Type A dwelling or sleeping units.** Where more than 20 Group R-2 dwelling or sleeping units are being altered or added, the requirements of Section 1107 of the International Building Code for Type A units apply only to the quantity of the spaces being altered or added.

**~~305.8-8~~ 305.6.11.3 Type B dwelling or sleeping units.** Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being added. Where Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered and where the *work area* is greater than 50 percent of the aggregate area of the building, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being altered.

**~~305.8-9~~ 305.6.12 Jury boxes and witness stands.** In *alterations*, accessible wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to be located outside these spaces where the ramp or lift access restricts or projects into the required means of egress.

**~~305.8-10~~ 305.6.13 Toilet rooms.** Where it is *technically infeasible* to alter existing toilet and bathing rooms to be *accessible*, an *accessible* family or assisted-use toilet or bathing room constructed in accordance with Section 1109.2.1 of the International Building Code is permitted. The family or assisted-use toilet or bathing room shall be located on the same floor and in the same area as the existing toilet or bathing rooms. At the inaccessible toilet and bathing rooms, directional signs indicating the location of the nearest family or assisted-use toilet room or bathing room shall be provided. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

**~~305.8-11~~ 305.6.14 Additional toilet and bathing facilities.** In assembly and mercantile occupancies, where additional toilet fixtures are added, not fewer than one accessible family or assisted-use toilet room shall be provided where required by Section 1109.2.1 of the International Building Code. In recreational facilities, where additional bathing rooms are being added, not fewer than one family or assisted-use bathing room shall be provided where required by Section 1109.2.1 of the International Building Code.

**~~305.8-12~~ 305.6.15 Dressing, fitting and locker rooms.** Where it is *technically infeasible* to provide accessible dressing, fitting or locker rooms at the same location as similar types of rooms, one accessible room on the same level shall be provided. Where separate-sex facilities are provided, accessible rooms for each sex shall be provided. Separate-sex facilities are not required where only unisex rooms are provided.

**~~305.8-13~~ 305.6.16 Fuel dispensers.** Operable parts of replacement fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum, measuring from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

**~~305.8-14~~ 305.6.17 Thresholds.** The maximum height of thresholds at doorways shall be <sup>3</sup>/<sub>4</sub> inch (19.1 mm). Such thresholds shall have beveled edges on each side.

**~~305.8-15~~ 305.6.18 Amusement rides.** Where the structural or operational characteristics of an amusement ride are altered to the extent that the amusement ride's performance differs from that specified by the manufacturer or the original design, the amusement ride shall comply with requirements for new construction in Section 1110.4.8 of the International Building Code.

**~~305.9~~ 305.6.19 Historic buildings.** These provisions shall apply to *facilities* designated as historic structures that undergo *alterations* or a *change of occupancy*, unless *technically infeasible*. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the *facility*, as determined by the authority having jurisdiction, the alternative requirements of Sections ~~305.9-1~~ 305.6.19.1 through ~~305.9-4~~ 305.6.19.4 for that element shall be permitted.

**Exception:** Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in

historic buildings.

~~305.9.1~~ **305.6.19.1 Site arrival points.** Not fewer than one accessible route from a site arrival point to an accessible entrance shall be provided.

~~305.9.2~~ **305.6.19.2 Multiple-level buildings and facilities.** An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided.

~~305.9.3~~ **305.6.19.3 Entrances.** Not fewer than one main entrance shall be accessible.

**Exception:** If a public entrance cannot be made accessible, an accessible entrance that is unlocked while the building is occupied shall be provided; or, a locked accessible entrance with a notification system or remote monitoring shall be provided.

Signs complying with Section 1111 of the International Building Code shall be provided at the public entrance and the accessible entrance.

~~305.9.4~~ **305.6.19.4 Toilet and bathing facilities.** Where toilet rooms are provided, not fewer than one accessible family or assisted-use toilet room complying with Section 1109.2.1 of the International Building Code shall be provided.

**Reason:** Sections 305.6 through 305.9 all address alterations but there is no connection between the sections. This is a problem when trying to determine the purpose of 305.8. Section 305.8 is titled 'Scoping for alterations', however many of the 15 provisions which follow are technical exceptions. Some of them are additional technical requirements. Eleven of the 15 are only found in the IEBC and four of them duplicate exceptions contained in the ICC A117.1 standard. Three of the 15 are telling the user how to calculate a requirement where not all units need to be accessible. The intent of this proposal is editorial. It is simply to provide connections between all of the Sections of 305 specifically addressing alterations. Substantive changes to these sections are found in companion proposals. This proposal does the following.

- It renumbers Section 305.7 to 305.6.1 to indicate that it is a subset set of the alterations section. There is a companion proposal to revise the language of 305.6.1 to be more consistent with the corresponding ADA requirement.
- It changes the 4 exceptions now found in Section 305.6 into the next four subsections – 305.6.2 through 305.6.5. Having titled subsections allow for quicker access for code users than sorting through numbered exceptions.
- It deletes the confusing lead in provisions of 305.8 and relocates its various provisions as the next subsections – 305.6.6 through 305.6.18. We have submitted a companion proposal which would delete four of these 9 because they are redundant with exceptions in the ICC A117.1 standard.
- It renumbers Section 305.9 and its subsections to be 305.6.19 because it contains a set of provisions and exceptions unique to historic buildings.
- Finally, it groups 3 provisions into a new subsection 305.6.11 All 3 of these sections provide a calculation methodology for determining the number of required dwelling and/or sleeping units

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction  
The intent of this proposal is to be 100% editorial by reorganizing existing provisions into a more logical format.

EB20-19

---

## **Public Hearing Results**

**Committee Action:**

**As Submitted**

**Committee Reason:** This proposal provides a better structure and format of the provisions by pulling requirements out of an exception and providing better lead in language to the allowances or requirements as applicable. (Vote: 13-0)

**Assembly Action:**

**None**

EB20-19

---

## **Individual Consideration Agenda**

### **Public Comment 1:**

**IEBC®: 305.6**

**Proponents:**

Eirene Knott, representing Metropolitan Kansas City Chapter of the ICC (eirene.knott@brrarch.com)

requests As Modified by Public Comment

**Further modify as follows:**

## **2018 International Existing Building Code**

**305.6 Alterations.** A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of the International Building Code, ICC A117.1 and where specifically permitted by the provisions of Sections 305.6.1 through 305.6.19, unless *technically infeasible*. Where compliance with this section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible.

**Commenter's Reason:** I was the proponent for EB 19, which was a similar attempt to clean up the accessibility provisions. I like how the proponents of this code change cleaned up these provisions but there's still a small tweak needed. By adding this additional code language, I think this change overall clearly identifies how accessibility provisions are to be applied within the IEBC.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. There is no cost associated with this code change as it's cleaning up current code language for clarification.

---

Public Comment# 1599

# EB25-19

IEBC@: 305.4 (New), 305.4.1 (New), 305.4.2 (New)

## Proposed Change as Submitted

**Proponents:** Ed Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org)

### 2018 International Existing Building Code

Revise as follows:

**305.4 Change of occupancy.** Existing buildings that undergo a change of group or occupancy shall comply with this ~~section~~, Sections 305.6, 305.7 and 305.8.

**Exception:** Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing buildings and facilities undergoing a *change of occupancy* in conjunction with *alterations* where the *work area* is 50 percent or less of the aggregate area of the building.

Delete without substitution:

~~**305.4.1 Partial change of occupancy.** Where a portion of the building is changed to a new occupancy classification, any *alterations* shall comply with Sections 305.6, 305.7 and 305.8.~~

~~**305.4.2 Complete change of occupancy.** Where an entire building undergoes a *change of occupancy*, it shall comply with Section 305.4.1 and shall have all of the following accessible features:~~

- ~~1. Not fewer than one accessible building entrance.~~
- ~~2. Not fewer than one accessible route from an accessible building entrance to *primary function areas*.~~
- ~~3. Signage complying with Section 1111 of the International Building Code.~~
- ~~4. Accessible parking, where parking is being provided.~~
- ~~5. Not fewer than one accessible passenger loading zone, where loading zones are provided.~~
- ~~6. Not fewer than one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.~~

~~Where it is *technically infeasible* to comply with the new construction standards for any of these requirements for a change of group or occupancy, items 1 through 6 shall conform to the requirements to the maximum extent technically feasible.~~

~~**Exception:** The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.~~

**Reason:** There are several arguments to simplify this section.

What this does administratively is take a change of occupancy and make it consistent with requirements for an alteration. This allows flexibility for small properties.

- The federal requirements in the 2010 ADA Standard do not address a change of occupancy – they treat all alterations the same. There is no justification for ICC to require a business in stand alone building to provide additional requirements past what is expected for a business in a multi-tenant building.
- The list in Section 305.4.2 basically lists all the elements in accessible routes, which is addressed in Section 305.7, but does not include bathrooms and drinking fountains. Therefore, it is unclear as to if renovations to those items are required in a complete change of occupancy, where they would be on the list for an alteration and a partial change of occupancy. This list does not add any clarification of improvements to the code.
- This could also be read that a complete change of occupancy would never have to fix the toilet rooms or drinking fountains since it is not in the list. If the alterations are small, allowing someone to spend money to fix the toilet rooms is addressed the needs of many individuals with mobility issue.
- If the part of the route missing is an elevator or extensive front ramp, the cost could make the existing building remain vacant since this section could be viewed as not tied to the 20% maximum cost allowance.
- The arguments against revising this section in past code cycles have all been around the issue of a change of occupancy with no alterations. Many building departments are not involved in changes of occupancy that do not include alterations. Even in jurisdictions that look at this, they do not require alterations for occupancies with lesser hazards. How much should you ask someone to spend if there are no construction costs? If it is a higher hazard, there will mostly likely be alterations – so just use those requirements.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. Since 2017 the BCAC has held 6 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: <https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-actioncommittee-bcac>.

**Cost Impact:** The code change proposal will decrease the cost of construction

Requiring the six route requirements in Section 305.4.2 for small buildings that undergo a change of occupancy can be a large cost. It is more appropriate to limit the cost of the route to 20% of the alteration - which this change will allow. In large buildings, this change will have minimal impact since they are more likely to already have the accessible route - or the cost will be a much smaller portion of their budget.

EB25-19

---

## **Public Hearing Results**

**Committee Action:**

**As Submitted**

**Committee Reason:** This proposal was approved as change of occupancy is not addressed by the federal regulations. It was felt that the 20% requirement will address accessibility needs. The references to Section 305.6, 305.7 and 305.8 will address the needs for accessibility in existing buildings. (Vote: 13-0)

**Assembly Action:**

**None**

EB25-19

---

## **Individual Consideration Agenda**

### **Public Comment 1:**

**Proponents:**

Gregory Nicholls, representing American Institute of Architects (gnicholls@preview-group.com)

requests Disapprove

**Commenter's Reason:** The reason statement from the proponent is correct in stating that a change of occupancy is not addressed in the ADA Standard. That is because the DOJ regulations don't contain anything parallel to the building code's concept of change of occupancy, and don't have any occupancy classifications to start with. The only basis for working with existing buildings in the ADA Standard is when physical changes are proposed, as that is their only defined threshold.

One issue is consistency. The building codes of the ICC have always taken change of occupancy into account for egress, energy, fire safety and existing buildings. It would be unfair for a new small office building to have to provide an accessible entrance while changing from a building with no requirements for accessibility, a single family dwelling, to an office without alterations would require absolutely nothing. The proponent says the current code may be onerous, but has not attempted a compromise. Instead, accessibility for the mobility impaired to at least enter the building has been proposed to be eliminated. This is unfair to the disabled.

Another issue with this code change is that the ICC codes have been leaders and not followers on scoping for accessibility. The IBC and IEBC include private clubs, churches and multi-family dwellings that ADA and FHAG have not. Why retreat to a position of no inclusion?

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction No change to code.

Public Comment# 2042

---

# EB29-19

IEBC@: 305.7

## Proposed Change as Submitted

**Proponents:** Gina Hilberry, Scoping Task Group of ICC/A117.1 Standard Development Committee, representing United Cerebral Palsy (gina@cohenhilberry.com); Rick Lupton, representing Self (sparkylupton@msn.com); Marsha Mazz, representing United Spinal Association (m.mazz@verizon.net); Gene Boecker, representing Code Consultants, Inc.(geneb@codeconsultants.com)

### 2018 International Existing Building Code

Revise as follows:

**305.7 Alterations affecting an area containing a primary function.** Where an *alteration* affects the accessibility to, or contains an area of *primary function*, ~~the route~~ an accessible path of travel to the *primary function* area shall be ~~accessible~~ provided. The accessible ~~route~~ path of travel to the *primary function* area shall include the accessible route, toilet facilities and drinking fountains serving the area of *primary function*.

**Exceptions:**

1. The costs of providing the ~~accessible route~~ path of travel are not required to exceed 20 percent of the costs of the *alterations* affecting the area of *primary function*.
2. ~~This provision~~ The requirement to provide an accessible path of travel does not apply ~~to alterations~~ where alterations within the primary function area are limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. ~~This provision does not apply to alterations limited solely to~~ signs, mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials.
4. This provision does not apply to *alterations* undertaken for the primary purpose of increasing the accessibility of a *facility*.
5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

**Reason:** The IEBC code is unclear with respect to this requirement which derives from the ADA. The term used in the ADA is 'path of travel'. In the ADA it includes the accessible route to the primary function area as well as the telephones, toilet facilities and drinking fountains which serve the area of primary function. Saying 'accessible route' as it does in exception 1 is misleading. Path of travel could be defined in Chapter 2, but the last sentence of 305.7 is essentially the definition. As the term is not used elsewhere in the code, a chapter 2 definition seems unnecessary. Telephones are not included in the IEBC text because they are not typically part of the building regulated by the local building official. Telephone requirements for new construction are in Appendix E of the IBC.

Exception 3 is merged into exception 2 as they are both simply lists of elements exempt from the path of travel requirements.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. This is primarily an editorial clarification of an existing requirement.

EB29-19

## Public Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** There was support for the concept provided in this proposal to correlate language however the revisions as presented need more clarification as the terms may cause confusion with other terms used for means of egress in the I-Codes. (Vote: 10-3)

**Assembly Action:**

**None**

EB29-19

## Individual Consideration Agenda

### **Public Comment 1:**

**Proponents:**

Gene Boecker, representing Code Consultants, Inc.; Gina Hilberry, representing Scoping Task Group of ICC/A117.1 Standard Development Committee, representing United Cerebral Palsy (gina@cohenhilberry.com); Rick Lupton, representing Self (sparkylupton@msn.com); Marsha

Mazz, representing United Spinal Association (m.mazz@verizon.net)

requests As Submitted

**Commenter's Reason:** Although there were a few on the committee who agreed with the proposal, the committee did not understand and voted wrong.

There are several reasons why the committee's vote should be overturned in favor of As Submitted.

1. The code has always tended to use the terminology that is used by the industry which it is addressing in the code text. The accessibility industry (the users, consultants, and enforcers; including the U.S. Department of Justice) uses the term "Path of Travel" when describing the mandated renovation work that includes the area outside the initial area of alteration. To be consistent with the industry usage, the code language should be changed.

2. The committee expressed concern that the change would lead to confusion in the use of the three words. A search of the expression yielded the following ten results. All are within the IBC. The term does not exist within the IEBC except in the proposed code change. The chances of getting the text confused based on the number of occurrences is extremely low.

- DIRECT ACCESS. A path of travel from a space to an immediately adjacent space through an opening in the common wall between the two spaces.
- 410.5.3.3 Two means of egress. Where two means of egress are required, the common path of travel shall be not greater than 100 feet (30 480 mm).
- 1008.2.3 Exit discharge. Illumination shall be provided along the path of travel for the exit discharge from each exit to the public way.
- 1028.1, exceptions 1.1. Discharge of interior exit stairways and ramps shall be provided with a free and unobstructed path of travel to an exterior exit door and such exit is readily visible and identifiable from the point of termination of the enclosure.
- 1028.5, exception 4. The area shall be provided with a safe and unobstructed path of travel from the building.
- 1029.4 Foyers and lobbies. In Group A-1 occupancies, where persons are admitted to the building at times when seats are not available, such persons shall be allowed to wait in a lobby or similar space, provided that such lobby or similar space shall not encroach on the minimum width or required capacity of the means of egress. Such foyer, if not directly connected to a public street by all the main entrances or exits, shall have a straight and unobstructed corridor or path of travel to every such main entrance or exit.
- 2902.3.23 Location of toilet facilities in occupancies other than malls. In occupancies other than covered and open mall buildings, the required public and employee toilet facilities shall be located not more than one story above or below the space required to be provided with toilet facilities, and the path of travel to such facilities shall not exceed a distance of 500 feet (152 m).
- 2902.3.34 Location of toilet facilities in malls. In covered and open mall buildings, the required public and employee toilet facilities shall be located not more than one story above or below the space required to be provided with toilet facilities, and the path of travel to such facilities shall not exceed a distance of 300 feet....
- 3007.6.1 Access to interior exit stairway or ramp. The enclosed fire service access elevator lobby shall have direct access from the enclosed elevator lobby to an enclosure for an interior exit stairway or ramp.
  - Exception: Access to an interior exit stairway or ramp shall be permitted to be through a protected path of travel that has a level of fire protection not less than the elevator lobby enclosure. The protected path shall be separated from the enclosed elevator lobby through an opening protected by a smoke and draft control assembly in accordance Section 716.5.32.2.1.
- 3008.6.1 Access to interior exit stairway or ramp. The occupant evacuation elevator lobby shall have direct access from the enclosed elevator lobby to an interior exit stairway or ramp.
  - Exceptions: 1. Access to an interior exit stairway or ramp shall be permitted to be through a protected path of travel that has a level of fire protection not less than the elevator lobby enclosure.

3. Additionally, the term as intended within the IEBC is prefaced with the word "accessible" in all occurrences, further identifying this as a unique situation.

4. The accessible path of travel includes other elements. It is the overarching "thing" that addresses what is included in the renovation work. The current text uses the term "accessible route" which is only a part of the accessible path of travel. It then has to add in the other items. The proposed text makes it much simpler and is consistent with its use in the federal ADA standards.

This proposal is brought to you by experts in the accessibility industry - people who use the IBC, the IEBC and the ADA Standards. Please overturn the committee and make the IEBC consistent with the terminology used throughout the country for this concept.

**Bibliography:** U.S. 2010 ADA Standards for Accessible Design; Section 202.4 and the Advisory to Section 202.4.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. As stated in the original proposal, there is no change in the cost of construction.

Public Comment# 1862

# EB35-19

IEBC@: 305.8.6 (New)

## Proposed Change as Submitted

**Proponents:** Ronald Clements Jr, representing VBCOA (clementsro@chesterfield.gov)

### 2018 International Existing Building Code

**Add new text as follows:**

**305.8.6 Dining areas.** An accessible route is not required to raised or sunken dining areas or outdoor dining areas where accessible dining areas with the same services are provided on the same floor level.

**Reason:** This provision for dining areas was in the work area method going back to the first edition. It was not in the prescriptive method when that method was introduced in the 2006 edition. When the accessibility provisions were consolidated in chapter 3 the dining area provision was lost; it was section 705.1.5 in the 2015 edition. It appears the loss was not intentional.

**Cost Impact:** The code change proposal will decrease the cost of construction. This provides another option that could decrease construction cost.

EB35-19

## Public Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** This exception for dining areas was not seen as reasonable and can be addressed as a technical feasibility issue. It was noted that this section was purposely removed for the 2018 IEBC. (Vote: 13-0)

**Assembly Action:**

**None**

EB35-19

## Individual Consideration Agenda

### **Public Comment 1:**

IEBC@: 305.8.6 (New)

**Proponents:**

Eirene Knott, representing Metropolitan Kansas City Chapter of the ICC (eirene.knott@brrarch.com)

requests As Modified by Public Comment

**Modify as follows:**

### 2018 International Existing Building Code

**305.8.6 Dining areas.** An accessible route shall be provided throughout the dining area.

**Exception:** An accessible route is not required to raised or sunken dining areas or outdoor dining areas where accessible dining areas with the same services are provided on the same floor level.

**Commenter's Reason:** As written, the original code change is writing an exception as code language. That's not how any of the I Codes are intended to be formatted. This public comment corrects the code language so that the exception is now in the correct location.

The committee noted that the removal of this language from the 2018 IEBC was intentional and that this can be addressed as a technical feasibility

issue. Some jurisdictions that adopt the IEBC may not see this issue as such and would require this, thus the language should be provided for in the IEBC to clearly define the intention.

**Cost Impact:** The net effect of the public comment and code change proposal will decrease the cost of construction

Per the original proponent, this provides another option that could decrease construction cost. The overall change may not affect construction costs at all.

---

Public Comment# 1596

# EB38-19

IEBC@: SECTION 306 (New), 306.1 (New)

## Proposed Change as Submitted

**Proponents:** Stephen Thomas, representing Himself (stthomas@coloradocode.net)

### 2018 International Existing Building Code

Add new text as follows:

#### SECTION 306 MEANS OF EGRESS FOR EXISTING BUILDINGS

306.1 Occupant Load based on Capacity Where approved by the code official, the occupant load of any room, areas, space or story shall be permitted to be established as the number of occupant for which the existing means of egress capacity is adequate. Measures shall be established to prevent occupancy greater than the number and capacity of the means of egress components. Such measures can include, but are not limited to the posting of the occupant load for the room, area, space or story.

**Reason:** Many shell and core buildings are constructed with the minimum means of egress capacity for the anticipated use. However, when the space is finished, the new use may have spaces with occupant loads higher than originally anticipated. Therefore, the existing egress capacity is not adequate enough for the new space. This proposal provides an option to base the occupant load on the existing capacity of the space. It requires the building official's approval to use this option to reduce possible abuse of the requirement. For example, if a space has two 36-inch wide doors that provide 34-inches of egress capacity, the maximum occupant load permitted in that space would be 340. In some cases, it is either very expensive or impossible to add an additional means of egress or capacity. If the calculated occupant load was greater than the 340, the building official could approve the reduction of the occupant load to a maximum of 340. They would then determine how that occupant load would be maintained which could include the posting of the occupant load in the space. This happens in office tenant improvements quite often. The original building was designed with an occupant load calculation for business use, but the new tenant space has some assembly functions that increase the occupant load.

This proposal was submitted to the Means of Egress Committee in the Group A Cycle. They felt that the requirement would be better located in the IEBC. Their other concerns were addressed by some revisions to the original language submitted to them.

**Cost Impact:** The code change proposal will decrease the cost of construction. By allowing the occupant load to be based on the egress capacity, the cost of additional exits or capacity will be eliminated.

EB38-19

## Public Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved. Although the challenge to address these situations exists the language needs further revision. It was generally felt that the language is unnecessary as the building official already has the authority to address these situations based upon the intent and purpose of the code. There was some opinion that this is a necessary tool and would provide necessary guidance. (Vote: 8-5)

**Assembly Action:**

**None**

EB38-19

## Individual Consideration Agenda

### **Public Comment 1:**

**Proponents:**

Stephen Thomas, Colorado Code Consulting, LLC, representing Colorado Chapter (stthomas@coloradocode.net)

requests As Submitted

**Commenter's Reason:** There are many times where shell buildings are designed using the minimum occupant load for a building. Then, the tenant comes in and has different occupant loads than were originally used. If the means of egress was designed to the original occupant load, the new tenant has a problem with complying with Chapter 10 of the IBC. This proposal gives the building official the authority to use the actual capacity and number of exits to determine the total occupant load for a space or story. This is similar to the exception to IBC Section 1004.5, but is more specific to address the actual capacity of the means of egress to determine the occupant load. We feel that this provides the building official with additional tools to address alterations to a building in dealing with the means of egress. The building official does not have to approve the design if they are not comfortable with it. It is an option, not a requirement.

**Cost Impact:** The net effect of the public comment and code change proposal will decrease the cost of construction. By reducing the occupant load based on the capacity, additional exits or plumbing fixtures will not be required.

Public Comment# 1561

---

# EB39-19

IEBC@: SECTION 306 (New), 306.1 (New), 306.1.1 (New), 306.1.2 (New)

## Proposed Change as Submitted

**Proponents:** John Williams, representing Healthcare Committee (AHC@iccsafe.org)

### 2018 International Existing Building Code

Add new text as follows:

#### SECTION 306 HEALTHCARE

306.1 General. Healthcare facilities including Group I-2, ambulatory care facilities and outpatient clinics undergoing repair, alterations, additions and change of occupancy shall be in accordance with Sections 306.1.1 and 306.1.2, as applicable.

306.1.1 Existing construction requirements. Existing Group I-2 facilities shall meet the minimum construction requirements in Chapter 11 of the International Fire Code.

306.1.2 Projections in Nursing Home Corridors. In Group I-2, Condition 1 occupancies, where the corridor is at least 96 inches wide, projections into the corridor width are permitted in accordance with Section 407.4.3 of the International Building Code.

**Reason:** This proposal creates a section in chapter 3 for special requirements for healthcare facilities. Due to federal reimbursement requirements, there are specific existing building issues that must be mitigated before receiving federal funds. These are reflected in Chapter 13 of the IFC, however, not all jurisdictions adopt this chapter. By referencing those requirements in the IEBC, we provide facilities with a greater chance at maintaining federal certification and at the same time ensure basic safety provisions for facilities that house fragile populations. A companion proposal directly references chapter 11 of the IFC in all of the compliance methods. If it is more effective to have the actual technical requirements in this document, this change creates a place for those requirements to live..

The intent of Section 306.2 is to correlate with the federal regulations and the allowances in the IBC for fixed furniture in corridors where special considerations are met.

This proposal is submitted by the ICC Committee on Healthcare (CHC). The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2017 and 2018 the CHC held 4 open meetings and numerous conference calls, *which included members of the committees as well as any interested parties, to discuss and debate the proposed changes.* Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at: <https://www.iccsafe.org/codes-tech-support/cs/icc-committee-on-healthcare/>.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. This is a pointer to the IEBC that indicates the allowances permitted for fixed furniture.

EB39-19

## Public Hearing Results

**Committee Action:**

**As Submitted**

**Committee Reason:** This new section was approved as it was felt to provide the necessary correlation with federal healthcare occupancy requirements. It was suggested that potentially Chapter 3 may need a section dealing with occupancy based provisions. (Vote: 13-0)

**Assembly Action:**

**None**

EB39-19

## Individual Consideration Agenda

## **Public Comment 1:**

### **Proponents:**

Jeffrey Shapiro, International Code Consultants, representing Self (jeff.shapiro@intlcodeconsultants.com)

requests Disapprove

**Commenter's Reason:** ADM8-19 added the following text to IEBC Chapter 1:

*"101.2.1 Application of fire code. Where work regulated by this code is also regulated by the construction requirements for existing buildings in Chapter 11 of the International Fire Code, such work shall comply with applicable requirements in both codes."*

With this text providing a broad reference to IFC Chapter 11, individual pointed references spread throughout the IEBC are unnecessary, and there is an implication of ..."well, if only these sections are being referenced in a specific section of the code, is compliance with the rest of IFC Chapter 11 not necessary to these applications?" It is better to let the general reference in Chapter 1 prevail and not include partial/incomplete references on specific topics elsewhere in the code.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction

No change to code.

---

Public Comment# 2027

# EB40-19

IEBC@: SECTION 306 (New), 306.1 (New), SECTION 307 (New), 307.1 (New), 502.6, 502.7, 503.14, 503.15, 803.4.3, SECTION 804, 804.1, SECTION 1104, 1104.1, SECTION 1105, 1105.1

## Proposed Change as Submitted

Proponents: Stephen Thomas, representing Himself (sthomas@coloradocode.net)

### 2018 International Existing Building Code

Add new text as follows:

#### **SECTION 306** **SMOKE ALARMS**

**306.1 Smoke Alarms** Where an alteration, addition, change of occupancy or relocation of a building is made to an existing building or structure of a Group R and I-1 occupancies, the existing building shall be provided with smoke alarms in accordance with Section 1103.8 of the International Fire Code or Section R314 of the International Residential Code.

#### **SECTION 307** **CARBON MONOXIDE DETECTION**

**307.1 Carbon monoxide alarms.** Where an addition, alteration, change of occupancy or relocation of a building is made to Group I-1, I-2, I-4 and R occupancies, the existing building shall be provided with carbon monoxide alarms in accordance with Section 1103.9 of the International Fire Code or Section R315 of the the International Residential Code.

**Exceptions:**

1. Work involving the exterior surfaces of buildings, such as the replacement of roofing or siding, the addition or replacement of windows or doors, or the addition of porches or decks.
2. Installation, alteration or repairs of plumbing or mechanical systems, other than fuel-burning appliances.

Delete without substitution:

~~**502.6 Smoke alarms in existing portions of a building.** Where an *addition* is made to a building or structure of a Group R or I-1 occupancy, the *existing building* shall be provided with smoke alarms in accordance with Section 1103.8 of the International Fire Code.~~

~~**502.7 Carbon monoxide alarms in existing portions of a building.** Where an *addition* is made to a building or structure of Group I-1, I-2, I-4 or R occupancy, the existing building shall be provided with carbon monoxide alarms in accordance with Section 1103.9 of the International Fire Code or Section R315 of the International Residential Code, as applicable.~~

~~**Exceptions:**~~

- ~~1. Work involving the exterior surfaces of buildings, such as the replacement of roofing or siding, the addition or replacement of windows or doors, or the addition of porches or decks.~~
- ~~2. Installation, alteration or *repairs* of plumbing or mechanical systems, other than fuel-burning appliances.~~

~~**503.14 Smoke alarms.** Individual sleeping units and individual dwelling units in Group R and I-1 occupancies shall be provided with smoke alarms in accordance with Section 1103.8 of the International Fire Code.~~

~~**503.15 Carbon monoxide alarms.** Carbon monoxide alarms shall be provided to protect sleeping units and dwelling units in Group I-1, I-2, I-4 and R occupancies in accordance with Section 1103.9 of the International Fire Code.~~

~~**Exceptions:**~~

- ~~1. Work involving the exterior surfaces of buildings, such as the replacement of roofing or siding, the addition or replacement of windows or doors, or the addition of porches or decks.~~
- ~~2. Installation, alteration or *repairs* of plumbing or mechanical systems, other than fuel-burning appliances.~~

~~**803.4.3 Smoke alarms.** Individual sleeping units and individual dwelling units in any *work area* in Group R and I-1 occupancies shall be provided with smoke alarms in accordance with the International Fire Code.~~

~~**Exception:** Interconnection of smoke alarms outside of the *work area* shall not be required.~~

#### **SECTION 804** **CARBON MONOXIDE DETECTION**

~~804.1 Carbon monoxide alarms. Any work area in Group I-1, I-2, I-4 and R occupancies shall be equipped with carbon monoxide alarms in accordance with Section 1103.9 of the International Fire Code.~~

**Exceptions:**

- ~~1. Work involving the exterior surfaces of buildings, such as the replacement of roofing or siding, the addition or replacement of windows or doors, or the addition of porches or decks.~~
- ~~2. Installation, alteration or repairs of plumbing or mechanical systems, other than fuel-burning appliances.~~

**SECTION 1104  
SMOKE ALARMS IN OCCUPANCY  
GROUPS R AND I-1**

~~1104.1 Smoke alarms in existing portions of a building. Where an addition is made to a building or structure of a Group R or I-1 occupancy, the existing building shall be provided with smoke alarms as required by Section 1103.8 of the International Fire Code or Section R314 of the International Residential Code as applicable.~~

**SECTION 1105  
CARBON MONOXIDE ALARMS IN  
GROUPS I-1, I-2, I-4 AND R**

~~1105.1 Carbon monoxide alarms in existing portions of a building. Where an addition is made to a building or structure of a Group I-1, I-2, I-4 or R occupancy, the existing building shall be equipped with carbon monoxide alarms in accordance with Section 1103.9 of the International Fire Code or Section R315 of the International Residential Code, as applicable.~~

**Reason:** Smoke alarms and carbon monoxide alarms are required for all the different options in the IEBC. It does not make sense to have the same requirements duplicated in the different options. Chapter 3 was created to address requirements that were applicable to all of the options. Therefore, this proposal places the requirement for smoke alarms and carbon monoxide alarms in Chapter 3 and deletes the specific requirements elsewhere in the code. This change also maintains the pointer to the fire code for these requirements.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. This is just a relocation of the requirements into a single location.

EB40-19

**Public Hearing Results**

**Committee Action:**

**As Modified**

**Committee Modification:**

~~307.1 Carbon monoxide alarms-detection. Where an addition, alteration, change of occupancy or relocation of a building is made to Group I-1, I-2, I-4 and R occupancies and classrooms of Group E occupancies, the existing building shall be provided with carbon monoxide ~~alarms-~~detection in accordance with Section 1103.9 of the International Fire Code or Section R315 of the the International Residential Code.~~

**Exceptions:**

1. Work involving the exterior surfaces of buildings, such as the replacement of roofing or siding, the addition or replacement of windows or doors, or the addition of porches or decks.
2. Installation, alteration or repairs of plumbing or mechanical systems, other than fuel-burning appliances.

**Committee Reason:** The committee agreed with moving the smoke alarms and carbon monoxide detection to Chapter 3 in an effort to simplify the application of requirements. There was a concern raised that we need to have an exception added during public comment for Alteration level 1 as these sections currently only apply to level 2 alterations. The modification aligns the language with what is proposed in EB52-19. These revisions align with actions taken on the IBC and IFC. (Vote:13-0)

**Assembly Action:**

**None**

EB40-19

# **Individual Consideration Agenda**

## **Public Comment 1:**

IEBC@: SECTION 306 (New), 306.1 (New), SECTION 307 (New), 307.1 (New)

### **Proponents:**

Ed Kulik, representing ICC (bcac@iccsafe.org)

requests As Modified by Public Comment

### **Further modify as follows:**

## **2018 International Existing Building Code**

### **SECTION 306 SMOKE ALARMS**

**306.1 Smoke Alarms** Where an alteration, addition, change of occupancy or relocation of a building is made to an existing building or structure of a Group R and I-1 occupancies, the existing building shall be provided with smoke alarms in accordance with Section ~~1103.8.2.10~~ of the International Fire Code or Section R314 of the International Residential Code.

**Exception:** Alterations and changes of occupancy shall be permitted to comply with the following:

1. Section 1103.8.2 of the International Fire Code for interconnection.
2. Section 1103.8.3 of the International Fire Code for power source

### **SECTION 307 CARBON MONOXIDE DETECTION**

**307.1 Carbon monoxide detection.** Where an addition, alteration, change of occupancy or relocation of a building is made to Group I-1, I-2, I-4 and R occupancies and classrooms of Group E occupancies, the existing building shall be provided with carbon monoxide detection in accordance with Section ~~1103.9.915~~ of the International Fire Code or Section R315 of the the International Residential Code.

### **Exceptions:**

1. Work involving the exterior surfaces of buildings, such as the replacement of roofing or siding, the addition or replacement of windows or doors, or the addition of porches or decks.
2. Installation, alteration or repairs of plumbing or mechanical systems, other than fuel-burning appliances.
3. For alterations and changes of occupancy the following shall apply:
  - 3.1. Carbon monoxide alarms are permitted to be solely battery operated where the code that was in effect at the time of construction did not require carbon monoxide detectors to be provided.
  - 3.2. Carbon monoxide alarms are permitted to be solely battery operated in dwelling units that are not served from a commercial power source.

**Committer's Reason:** Code change proposal EB106-19 made a revision for additions related to smoke alarms and carbon monoxide detection that reference the new construction requirements in Chapter 9 of the IBC. EB40-19 moved all the requirements to one section in Chapter 3 for additions, alterations and change of occupancy. This public comment is combining those code change concepts to better understand how the revisions work together. This PC is necessary as additions are treated as new construction. Alterations and change of occupancy are afforded more flexibility therefore the exceptions allowed in Chapter 11 of the IFC are added for alterations and change of occupancy.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. The intent of the codes is that additions are treated as new construction and alterations and change of occupancy are considered existing and typically have more flexibility. This public comments is trying to make this intent clear therefore the application should be the same.

**Public Comment 2:****IEBC@: 306.1 (New), 307.1 (New)****Proponents:**

Steve Thomas, Colorado Code Consulting, LLC, representing Colorado Chapter (stthomas@coloradocode.net)

requests As Modified by Public Comment

**Further modify as follows:****2018 International Existing Building Code**

**306.1 Smoke Alarms** Where an alteration, addition, change of occupancy or relocation of a building is made to an existing building or structure of a Group R and I-1 occupancies, the existing building shall be provided with smoke alarms in accordance with Section 1103.8 of the International Fire Code or Section R314 of the International Residential Code.

Exception: Work classified as Level 1 Alterations in accordance with Chapter 7.

**307.1 Carbon monoxide detection.** Where an addition, alteration, change of occupancy or relocation of a building is made to Group I-1, I-2, I-4 and R occupancies and classrooms of Group E occupancies, the existing building shall be provided with carbon monoxide detection in accordance with Section 1103.9 of the International Fire Code or Section R315 of the the International Residential Code.

**Exceptions:**

1. Work involving the exterior surfaces of buildings, such as the replacement of roofing or siding, the addition or replacement of windows or doors, or the addition of porches or decks.
2. Installation, alteration or repairs of plumbing or mechanical systems, other than fuel-burning appliances.
3. Work classified as Level 1 Alterations in accordance with Chapter 7.

**Commenter's Reason:** The committee pointed out that Level 1 Alterations did not require that smoke alarms or carbon monoxide detectors were required. We agree with the committee and requested that the committee approve the proposal as modified and promised to add the exceptions show in this proposed modification. This is intended to just clarify that the upgrades are not required when doing a Level 1 Alteration.

**Cost Impact:** The net effect of the public comment and code change proposal will decrease the cost of construction  
This public comment is only meant as a clarification as to what the code currently requires so the cost of construction will not change.

# EB41-19

IEBC: 401.1.1 (New), 401.1.2 (New)

## Proposed Change as Submitted

**Proponents:** Ed Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org)

### 2018 International Existing Building Code

Revise as follows:

#### SECTION 401 GENERAL

**401.1 Scope.** *Repairs* shall comply with the requirements of this chapter. *Repairs to historic buildings* need only comply with Chapter 12.

**Add new text as follows:**

**401.1.1 Partial reconstruction.** Where damage from fire, earthquake, storm or a similar event has rendered one or more stories of a building, structure or portion thereof as unsafe, reconstruction of such areas shall meet the requirements for a Level 2 or 3 alteration, as applicable.

**401.1.2 Complete reconstruction.** Where damage from fire, earthquake, storm or similar event has demolished the building structure, or a portion of a building or structure from the foundation to the roof, reconstruction of such areas shall be in accordance with the International Building Code.

**Reason:** There is a question as to when damage from a fire or other disaster destroying all or a good chunk of a building. Do you have to go back to IBC or can you build back the way it was? This concept is to try and separate repair from new construction requirements at a logical point. Note that this also helps people get the true value for reconstruction as the insurance industry may sometimes classify a new building (or a replacement of the large portion or an entire story) as a repair and funding is limited.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. Since 2017 the BCAC has held 6 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: <https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-actioncommittee-bcac>.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction  
This is intended as a clarification of requirements.

EB41-19

## Public Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** The intent of what this is addressing is valid but some felt that the code already provides the necessary provisions to address these issues. Others felt that the concern was valid however the language needs to be cleaned up in particular when addressing partial reconstruction. There was a concern that without this proposal the definition of repair would allow buildings to be constructed as a repair when only the foundation remains. (Vote: 8-5)

**Assembly Action:**

**None**

EB41-19

## Individual Consideration Agenda

### **Public Comment 1:**

IEBC@: SECTION 401 (New), 401.1 (New), 401.1.1 (New), 401.1.2 (New)

**Proponents:**

Ed Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org)

**Modify as follows:**

## 2018 International Existing Building Code

### SECTION 401 GENERAL

**401.1 Scope.** *Repairs* shall comply with the requirements of this chapter. *Repairs to historic buildings* need only comply with Chapter 12.

**401.1.1 Partial reconstruction.** Where ~~a structure sustains substantial structural damage from fire, earthquake, storm or a similar event has rendered one or more stories of a building, structure or portion thereof as unsafe~~, reconstruction of such areas shall meet the requirements for a Level 2 or 3 alteration, as applicable.

**401.1.2 Complete reconstruction.** Where ~~damage from fire, earthquake, storm or similar event disaster has demolished the building~~ a structure is ~~destroyed, or a portion of a building or structure~~ from the foundation to the roof, reconstruction of such areas shall be in accordance with the International Building Code or the International Residential Code.

**Commenter's Reason:** The purpose of this public comment is to address the committee's concerns that more clarification was needed. New Section 401.1.1 requires that partial reconstruction also meet the requirements of a Level 2 alteration when substantial structural damage has occurred and the scope of reconstruction is consistent with the Section 603 description of Alteration – Level 2. Likewise, new Section 401.1.1 requires that partial reconstruction also meet the requirements of a Level 3 alteration when substantial structural damage has occurred and the scope of reconstruction is consistent with the Section 604 description of Alteration - Level 3. New Section 401.1.2 requires that complete reconstruction from the foundation up meet the requirements of the International Building Code or International Residential code when substantial structural damage has occurred

While Chapter 4 of the IEBC does have triggers for upgrading a building's structural system to current code based on the source and degree of damage, it is still possible under Chapter 4 for significant reconstruction to occur without upgrades to egress, fire protection, or MEP systems. By requiring that partial reconstruction also meet the requirements of a Level 2 alteration per Section 603 or Level 3 alteration per Section 604 based on the total scope and area of reconstruction, a more clear line can be drawn between when the reconstruction need only maintain the level of fire protection, egress, etc. that existed in the building at the time the damage occurred, versus when a sufficient portion of the building has been damaged that those portions should be reconstructed as a new building. Note based on the requirements of Level 2 and 3 alterations this may require upgrading building systems outside of the damaged area. The BCAC did revise the language of Section 401.1.1 to refer specifically to "significant structural damage", which is a defined term in the IEBC.

Section 401.1.2 has been revised to clarify the language and better draw the dividing line between a repair that need only maintain the existing level of protection and structural performance and a reconstruction that needs to meet the requirements of a new building. The BCAC determined the word "destroyed" was better than "demolished". A reference to the IRC is added for code users who opt to (or are required to by the jurisdiction) use the IEBC to direct existing work in an otherwise IRC-scope dwelling rather than deferring entirely to the IRC.

The BCAC also removed the laundry list of events that could cause damage to a building. This is consistent with a variety of IEBC definitions related to repair or to types of damage (e.g. substantial damage) that imply damage can be from any type of event that is no fault of the owner (i.e. not poor maintenance).

The defined terms are as follows:

[A] REPAIR. The reconstruction, replacement or renewal of any part of an existing building for the purpose of its maintenance or to correct damage.

[BS] SUBSTANTIAL STRUCTURAL DAMAGE. A condition where any of the following apply:

1. The vertical elements of the lateral force-resisting system have suffered damage such that the lateral load carrying capacity of any story in any horizontal direction has been reduced by more than 33 percent from its predamage condition.
2. The capacity of any vertical component carrying gravity load, or any group of such components, that has a tributary area more than 30 percent of the total area of the structure's floor(s) and roof(s) has been reduced more than 20 percent from its predamage condition, and the remaining capacity of such affected elements, with respect to all dead and live loads, is less than 75 percent of that required by the International Building Code for new buildings of similar structure, purpose and location.
3. The capacity of any structural component carrying snow load, or any group of such components, that supports more than 30 percent of the roof area of similar construction has been reduced more than 20 percent from its predamage condition, and the remaining capacity with respect to dead, live and snow loads is less than 75 percent of that required by the International Building Code for new buildings of similar structure, purpose and location.

This public comment is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. Since 2017 the BCAC has held 6 open

meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: <https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-actioncommittee-bcac>.

**Cost Impact:** The net effect of the public comment and code change proposal will increase the cost of construction

By drawing a brighter line between when one can reconstruct to a pre-damage condition versus reconstructing as a new building, some buildings that may have been allowed to treat extensive reconstruction as a repair will now need to have egress, fire protection, or MEP systems upgraded as well as any triggered structural upgrades. The cost of the reconstruction would increase where the cost of compliance with new code provisions has increased. The benefit is an increase in safety and gain in community resilience as more of the existing building stock is upgraded.

Public Comment# 1176

---

# EB47-19

IEBC@: 406.1.4 (New), 802.3 (New), 805.4.1.2 (New), 1301.6.4 (New), 1301.6.21 (New), 1301.6.21.1 (New), TABLE 1301.6.21.1 (New), 1301.6.21.1.1 (New), 1301.6.21.2 (New), TABLE 1301.6.21.2 (New), 1301.6.21.2.1 (New), 1301.6.21.3 (New), TABLE 1301.6.21.3 (New), 1301.6.21.3.1 (New), 1301.7 (New), TABLE 1301.7

## **Proposed Change as Submitted**

**Proponents:** John Williams, representing Healthcare Committee (AHC@iccsafe.org)

### **2018 International Existing Building Code**

**Revise as follows:**

**406.1.4 Group I-2 receptacles.** Receptacles in ~~patient-care recipient~~ bed locations of Group I-2 that are not “hospital grade” shall be replaced with “hospital grade” receptacles, as required by NFPA 99 and Article 517 of NFPA 70.

**802.3 Smoke compartments.** In Group I-2 occupancies where the *work area* is on a story used for sleeping rooms for more than 30 ~~patients-care recipients~~, the story shall be divided into not less than two compartments by smoke barrier walls in accordance with Section 407.5 of the International Building Code as required for new construction.

**805.4.1.2 Group I-2.** In buildings of Group I-2 occupancy, any ~~patient-care recipient~~ sleeping room or suite of ~~patient-care recipient~~ rooms greater than 1,000 square feet (93 m<sup>2</sup>) within the *work area* shall have not fewer than two egress doorways.

**1301.6.4 Tenant and dwelling unit separations.** Evaluate the fire-resistance rating of floors and walls separating tenants, including dwelling units, and not evaluated under Sections 1301.6.3 and 1301.6.5. Group I-2 occupancies shall evaluate the rating of the separations between ~~patient-care recipient~~ sleeping rooms.

Under the categories and occupancies in Table 1301.6.4, determine the appropriate value and enter that value in Table 1301.7 under Safety Parameter 1301.6.4, Tenant and Dwelling Unit Separation, for fire safety, means of egress, and general safety.

**1301.6.21 ~~Patient-Care recipient~~ ability, concentration, smoke compartment location and ratio to attendant.** In I-2 occupancies, the ability of ~~patients-care recipients~~, their concentration and ratio to attendants shall be evaluated and applied in accordance with this section. Evaluate each smoke compartment using the categories in Sections 1301.6.21.1, 1301.6.21.2 and 1301.6.21.3 and enter the value in Table 1301.7. To determine the safety factor, multiply the three values together; if the sum is 9 or greater, compliance has failed.

**1301.6.21.1 ~~Patient-Care recipient~~ ability for self-preservation.** Evaluate the ability of the ~~patients-care recipients~~ for self-preservation in each smoke compartment in an emergency. Under the categories and occupancies in Table 1301.6.21.1, determine the appropriate value and enter that value in Table 1301.7 under Safety Parameter 1301.6.21.1, ~~Patient-Care recipient~~ Ability for Self-preservation, for means of egress and general safety.

**TABLE 1301.6.21.1  
PATIENT-CARE RECIPIENT ABILITY VALUES**

OCCUPANCY	CATEGORIES		
	a	b	c



**1301.6.21.1.1 Categories.** The categories for patient-care recipient ability for self-preservation are:

1. Category a—(mobile) Patients-Care recipients are capable of self-preservation without assistance.
2. Category b—(not mobile) Patients-Care recipients rely on assistance for evacuation or relocation.
3. Category c—(not movable) Patients-Care recipients cannot be evacuated or relocated.

**1301.6.21.2 Patient-Care recipient concentration.** Evaluate the concentration of patients in each smoke compartment under Section 1301.6.21.2. Under the categories and occupancies in Table 1301.6.21.2 determine the appropriate value and enter that value in Table 1301.7 under Safety Parameter 1301.6.21.2, Patient-Care Recipient Concentration, for means of egress and general safety.

**TABLE 1301.6.21.2  
 PATIENT-CARE RECIPIENT CONCENTRATION VALUES**

OCCUPANCY	CATEGORIES		
	a	b	c
I-2	1	2	3

**1301.6.21.2.1 Categories:** The categories for patient-care recipient concentration are:

1. Category a—smoke compartment has 1 to 10 patients-care recipients.
2. Category b—smoke compartment has more than 10 to 40 patients-care recipients.
3. Category c—smoke compartment has more than 40 patients-care recipients.

**1301.6.21.3 ~~Attendant-to-patient~~ Attendant-to-care recipient ratio.** Evaluate the ~~attendant-to-patient~~ attendant-to-care recipient ratio for each compartment under Section 1301.6.21.3. Under the categories and occupancies in Table 1301.6.21.3 determine the appropriate value and enter that value in Table 1301.7 under Safety Parameter 1301.6.21.3, ~~Attendant-to-patient~~ Attendant-to-care recipient Ratio, for means of egress and general safety.

**TABLE 1301.6.21.3**  
**~~ATTENDANT-TO-PATIENT~~ ATTENDANT-TO-CARE RECIPIENT RATIO VALUES**

OCCUPANCY	CATEGORIES		
	a	b	c
I-2	1	2	3

**1301.6.21.3.1 Categories.** The categories for attendant-to-patient concentrations are:

1. Category ~~a—attendant-to-patient~~ a—attendant-to-care recipient concentration is 1:5.
2. Category ~~b—attendant-to-patient~~ b—attendant-to-care recipient concentration is 1:6 to 1:10.
3. Category ~~c—attendant-to-patient~~ c—attendant-to-care recipient concentration is greater than 1:10 or no patients.

**1301.7 Building score.** After determining the appropriate data from Section 1301.6, enter those data in Table 1301.7 and total the building score.

**TABLE 1301.7  
SUMMARY SHEET—BUILDING CODE**

Existing occupancy: _____		Proposed occupancy: _____	
Year building was constructed: _____		Number of stories: _____ Height in feet: _____	
Type of construction: _____		Area per floor: _____	
Percentage of open perimeter increase: _____ %			
Completely suppressed:	Yes _____ No _____	Corridor wall rating: _____	
		Type: _____	
Compartmentation:	Yes _____ No _____	Required door closers:	Yes _____ No _____
Fire-resistance rating of vertical opening enclosures: _____			
Type of HVAC system: _____, serving number of floors: _____			
Automatic fire detection:	Yes _____ No _____	Type and location: _____	
Fire alarm system:	Yes _____ No _____	Type: _____	
Smoke control:	Yes _____ No _____	Type: _____	
Adequate exit routes:	Yes _____ No _____	Dead ends: _____	Yes _____ No _____
Maximum exit access travel distance: _____		Elevator controls:	Yes _____ No _____
Means of egress emergency lighting:	Yes _____ No _____	Mixed occupancies:	Yes _____ No _____
Standpipes:	Yes _____ No _____	Patient-C are recipient ability for self-preservation: _____	
Incidental use:	Yes _____ No _____	Patient C are recipient concentration: _____	
Smoke compartmentation less than 22,500 sq. feet (2092 m <sup>2</sup> ):	Yes _____ No _____	Attendant-to-patient care recipient ratio: _____	
<b>SAFETY PARAMETERS</b>		<b>FIRE SAFETY (FS)</b>	
1301.6.1 Building height			
1301.6.2 Building area			
1301.6.3 Compartmentation			
1301.6.4 Tenant and dwelling unit separations			
1301.6.5 Corridor walls			
1301.6.6 Vertical openings			
1301.6.7 HVAC systems			
1301.6.8 Automatic fire detection			
1301.6.9 Fire alarm system			
1301.6.10 Smoke control		****	
1301.6.11 Means of egress		****	
1301.6.12 Dead ends		****	
1301.6.13 Maximum exit access travel distance		****	
1301.6.14 Elevator control			
1301.6.15 Means of egress emergency lighting		****	
1301.6.16 Mixed occupancies			****
1301.6.17 Automatic sprinklers			÷ 2 =
1301.6.18 Standpipes			

1301.6.19 Incidental use			
1301.6.20 Smoke compartmentation			
1301.6.21.1 <del>Patient</del> <u>Care recipient</u> ability for self-preservation <sup>a</sup>	****		
1301.6.21.2 <del>Patient</del> <u>Care recipient</u> concentration <sup>a</sup>	****		
1301.6.21.3 Attendant-to- <del>patient</del> <u>care recipient</u> ratio <sup>a</sup>	****		
<b>Building score—total value</b>			

\*\*\*\*No applicable value to be inserted.

a. Only applicable to Group I-2 occupancies.

**Reason:**

The purpose of this proposal is to coordinate the terminology for healthcare in the IBC and IFC with the IEBC. Care recipient is more appropriate when speaking about the persons receiving care in nursing homes and hospitals.

This proposal is submitted by the ICC Committee on Healthcare (CHC). The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2017 and 2018 the CHC held 4 open meetings and numerous conference calls, *which included members of the committees as well as any interested parties, to discuss and debate the proposed changes*. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at: <https://www.iccsafe.org/codes-tech-support/cs/icc-committee-on-healthcare/>.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction  
This is editorial.

EB47-19

## **Public Hearing Results**

**Committee Action:**

**As Modified**

**Committee Modification:**

**1301.6.21.2 Care recipient concentration.** Evaluate the concentration of ~~patients-care recipients~~ in each smoke compartment under Section 1301.6.21.2. Under the categories and occupancies in Table 1301.6.21.2 determine the appropriate value and enter that value in Table 1301.7 under Safety Parameter 1301.6.21.2, Care Recipient Concentration, for means of egress and general safety.

**1301.6.21.3.1 Categories.** The categories for attendant-to-~~patient~~ care recipient concentrations are:

1. Category a—attendant-to-care recipient concentration is 1:5.
2. Category b—attendant-to-care recipient concentration is 1:6 to 1:10.
3. Category c—attendant-to-care recipient concentration is greater than 1:10 or no ~~patients-care recipients~~.

**Committee Reason:** This proposal simply updates to the correct term “care recipients” from “patient.” The modification simply addresses a couple locations in Chapter 13 where this revision was missed. (Vote: 13-0)

**Assembly Action:**

**None**

EB47-19

## **Individual Consideration Agenda**

**Public Comment 1:**

IEBC®: 1301.6.21.3, TABLE 1301.6.21.3, 1301.6.21.3.1 (New)

**Proponents:**

John Williams, representing Healthcare Committee (ahc@iccsafe.org)

requests As Modified by Public Comment

**Further modify as follows:**

**2018 International Existing Building Code**

**1301.6.21.3 Attendant-to-patient ratio.** Evaluate the attendant-to-patient ratio for each compartment under Section 1301.6.21.3. Under the categories and occupancies in Table 1301.6.21.3 determine the appropriate value and enter that value in Table 1301.7 under Safety Parameter 1301.6.21.3, Attendant-to-patient Ratio, for means of egress and general safety.

**TABLE 1301.6.21.3  
ATTENDANT-TO-PATIENT RATIO VALUES**

OCCUPANCY	CATEGORIES		
	a	b	c
I-2	1	2	3

**1301.6.21.3.1 Categories.** The categories for attendant-to-care recipient concentrations are:

1. Category a - attendant-to-care recipient concentration is 1:5 or no care recipients.
2. Category b - attendant-to-care recipient concentration is 1:6 to 1:10.
3. Category c - attendant-to-care recipient concentration is greater than 1:10 ~~or no care recipients~~ .

**Commenter's Reason:** This is not attended as a technical change. This is intended as a clarification for the categories for attendant-to-care recipient concentrations area. There is no circumstance where a patient will be left unattended in an area of care at any facility.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. This is a rating system, not a construction requirement.

# EB50-19

IEBC®: SECTION 502 (New), 502.1 (New), 502.2 (New), SECTION 602 (New), 602.1 (New), 602.2 (New), 1301.2.5 (New)

## Proposed Change as Submitted

**Proponents:** Eirene Knott, representing Metropolitan Kansas City Chapter of the ICC (Eirene.Knott@brrarch.com)

### 2018 International Existing Building Code

Add new text as follows:

#### SECTION 502 Repairs

502.1 Scope. Repairs, as defined by Chapter 2, include the patching or restoration or replacement of damaged materials, elements, equipment or fixtures for the purpose of maintaining such components in good or sound condition with respect to existing loads or performance requirements.

502.2 Application. Repairs shall comply with the provisions of Chapter 4.

#### SECTION 602 Repairs

602.1 Scope. Repairs, as defined by Chapter 2, include the patching or restoration or replacement of damaged materials, elements, equipment or fixtures for the purpose of maintaining such components in good or sound condition with respect to existing loads or performance requirements.

602.2 Application. Repairs shall comply with the provisions of Chapter 4.

1301.2.5 Repairs. Repairs shall comply with the provisions of Chapter 4.

**Reason:** With the 2018 IEBC providing a stand alone chapter specific to repairs, some of the pointers that previously existed appear to have been lost. This code change is providing pointers for all three compliance methods to Chapter 4 for how repairs are to be provided.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction There is no cost impact with this code change as it is only adding text for clarification purposes.

EB50-19

## Public Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved as the language in chapters 3 and 4 was clear as to how repairs are addressed. Pointers were not felt to be necessary within the prescriptive and work area method. (Vote: 13-0)

**Assembly Action:**

**None**

EB50-19

## Individual Consideration Agenda

### **Public Comment 1:**

**Proponents:**

Eirene Knott, representing Metropolitan Kansas City Chapter of the ICC (eirene.knott@brrarch.com)

requests As Submitted

**Commenter's Reason:** With the 2018 IEBC providing a stand alone chapter specific to repairs, some of the pointers that previously existed appear to have been lost. This code change is providing pointers for all three compliance methods to Chapter 4 for how repairs are to be provided.

The committee felt the pointers were not necessary as the language in Chapters 3 and 4 was clear on how to address repairs. I disagree, I believe the pointers are necessary to remind the user that repairs do stand on their own merit and have provisions associated with them. Each method should have a pointer indicating how repairs are to be addressed.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. There is no cost impact with this code change as it is only adding text for clarification purposes.

**Staff Analysis:** Note that Code Change Proposals and associated public comments to EB6-19, EB7-19 and EB50-19 take differing approaches as to how repairs should be addressed in the IEBC. The voting membership should consider the differences and make their intentions clear..

Public Comment# 1600

---

**Proposed Change as Submitted****Proponents:** Ali Fattah, City of San Diego, representing City of San Diego (afattah@sandiego.gov)

THIS CODE CHANGE WILL BE HEARD BY THE IBC STRUCTURAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

**2018 International Existing Building Code****Revise as follows:****[BS] 503.4 Existing structural elements carrying lateral load.** Except as permitted by Section 503.13, where the *alteration* increases design lateral loads, results in a prohibited structural irregularity as defined in ASCE 7, or decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall meet the requirements of Sections 1609 and 1613 of the International Building Code. Reduced seismic forces shall be permitted.**Exception:**

1. Any existing lateral load-carrying structural element whose demand-capacity ratio with the *alteration* considered is not more than 10 percent greater than its demand-capacity ratio with the *alteration* ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613 of the International Building Code. Reduced seismic forces shall be permitted. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of *additions* and *alterations* since original construction.
2. Buildings in which the increase in the demand capacity ratio is due entirely to the addition of roof top supported mechanical equipment individually having an operating weight less than 400 lb and when the total additional weight of all roof top equipment placed after initial construction of the building is less than 10% of the roof design dead load. For purposes of this exception roof shall mean the roof level above a particular story.
3. Replacement of rooftop mechanical equipment where the new equipment has an operating weight equal to or less that the existing equipment to be replaced.

**Reason:** Building owners and tenants frequently add or replace roof top mechanical equipment as a part of interior tenant improvement work. Most projects only consider the gravity load effects and ignore contributions to roof dead load and as a result increases to the seismic weight that needs to be resisted by the seismic force resisting system. Additionally, engineers performing the structural design for new buildings determine the total accumulated operating weight of roof top equipment and divide the load by the area of the roof and add the weight in psf to the seismic dead weight. As a consequence, new building designs do not account for localized impacts of roof top equipment. This code change merely codifies current practice. ASCE 7 does not require that anchorage and bracing be determined for supported equipment having a weight of 400 lb or less. Most building departments I polled and review staff indicated that the vast majority of engineers focus merely on support and anchorage and typically do so after the first review cycle since only mechanical plans are provided.**Cost Impact:** The code change proposal will decrease the cost of construction

The proposal seeks to limit the need for structural analysis of the lateral force resisting system, and to limit the need for a structural upgrade due to the possible increase in seismic forces and thus the demand capacity ratio, to cases where there is a need to add significantly heavy equipment such as a building maintenance equipment (BMU) to wash and replace windows on a high rise or heavy cooling towers. Currently there is not consistency of enforcement where engineers make a judgement call to not verify compliance and often times the building official only reviews support and anchorage for example on a wood retail building or a concrete tilt-up building.

EB54-19

**Public Hearing Results****Committee Action:****As Modified****Committee Modification:****[BS] 503.4 Existing structural elements carrying lateral load.** Except as permitted by Section 503.13, where the *alteration* increases design lateral loads, results in a prohibited structural irregularity as defined in ASCE 7, or decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall meet the requirements of Sections 1609 and 1613 of the International Building Code. Reduced seismic forces shall be permitted.

**Exceptions:**

1. Any existing lateral load-carrying structural element whose demand-capacity ratio with the *alteration* considered is not more than 10 percent greater than its demand-capacity ratio with the *alteration* ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613 of the International Building Code. Reduced seismic forces shall be permitted. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of *additions* and *alterations* since original construction.

2. Buildings in which the increase in the demand capacity ratio is due entirely to the addition of roof top supported mechanical equipment individually having an operating weight less than 400 lb and when the total additional weight of all roof top equipment placed after initial construction of the building is less than 10% of the roof design dead load. For purposes of this exception roof shall mean the roof level above a particular story.

~~3. Replacement of rooftop mechanical equipment where the new equipment has an operating weight equal to or less than the existing equipment to be replaced.~~

**Committee Reason:** This proposal limits the need to hire a structural engineer for small modifications. The floor modification simplifies the proposal and provides clarity. (Vote 13-1)

**Assembly Action:**

**None**

EB54-19

## **Individual Consideration Agenda**

### **Public Comment 1:**

IEBC@: [BS] 806.3

**Proponents:**

David Bonowitz, representing Self (dbonowitz@att.net)

requests As Modified by Public Comment

**Further modify as follows:**

### **2018 International Existing Building Code**

**[BS] 806.3 Existing structural elements resisting lateral loads.** Except as permitted by Section 806.4, where the *alteration* increases design lateral loads, or where the alteration results in prohibited structural irregularity as defined in ASCE 7, or where the *alteration* decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall meet the requirements of Sections 1609 and 1613 of the International Building Code. Reduced seismic forces shall be permitted.

**Exception-Exceptions:**

1. Any existing lateral load-carrying structural element whose demand-capacity ratio with the *alteration* considered is not more than 10 percent greater than its demand-capacity ratio with the *alteration* ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613 of the International Building Code. Reduced seismic forces shall be permitted. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of *additions* and *alterations* since original construction.
2. Buildings in which the increase in the demand capacity ratio is due entirely to the addition of roof top supported mechanical equipment individually having an operating weight less than 400 lb and when the total additional weight of all roof top equipment placed after initial construction of the building is less than 10% of the roof dead load. For purposes of this exception roof shall mean the roof level above a particular story.

**Commenter's Reason:** This PC merely coordinates the IEBC's Prescriptive and Work Area methods, just as changes over the last two cycles have done. EB54 is already approved as modified, but it only included the Prescriptive method (Sec 503.4). For consistency, the same change should be made in the Work Area method (Sec 806.3).

**Cost Impact:** The net effect of the public comment and code change proposal will decrease the cost of construction For the same reason as stated with proposal EB54-19, already approved as modified.

Public Comment# 1997

---

# EB56-19

IEBC@: (New), [BS] 503.4

## **Proposed Change as Submitted**

**Proponents:** Ali Fattah, City of San Diego, representing City of San Diego (afattah@sandiego.gov)

**THIS CODE CHANGE WILL BE HEARD BY THE IBC STRUCTURAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.**

### **2018 International Existing Building Code**

**Add new definition as follows:**

**[BS] PHOTOVOLTAIC PANEL SYSTEM.** A system that incorporates discrete photovoltaic panels, that converts solar radiation into electricity, including rack support systems.

**Revise as follows:**

**[BS] 503.4 Existing structural elements carrying lateral load.** Except as permitted by Section 503.13, where the *alteration* increases design lateral loads, results in a prohibited structural irregularity as defined in ASCE 7, or decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall meet the requirements of Sections 1609 and 1613 of the International Building Code. Reduced seismic forces shall be permitted.

**Exception:**

1. Any existing lateral load-carrying structural element whose demand-capacity ratio with the *alteration* considered is not more than 10 percent greater than its demand-capacity ratio with the *alteration* ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613 of the International Building Code. Reduced seismic forces shall be permitted. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of *additions* and *alterations* since original construction.
2. The installation of rooftop photovoltaic panel systems where the additional roof dead load due to the system, including ballast where applicable, does not exceed 5 psf and 10% of the dead load of the existing roof. For purposes of this exception roof shall mean the common roof above a common story.

**Reason:** The IEBC includes a needed exception to exempt existing buildings undergoing alterations from compliance with more current seismic requirements in IBC chapter 16. The existing exception uses demand/capacity ratios (DCR) to identify a threshold below which the alteration is not deemed to be significant enough to require an evaluation and possible upgrade of the existing lateral force resisting system. Demand equates to the load applied to the lateral force resisting system and capacity equates the strength of the lateral force resisting system to resist the lateral load. Demand can be impacted by an increase in gravity load, an alternation that redirects load to existing elements in addition to the loads they resist prior to the alteration (such as for example force transfer around and due to a large floor/roof opening). The capacity of existing lateral force resisting elements can be impacted by alterations that cut into the elements such as for example reducing the length of a shearwall. Roof top solar photovoltaic systems, and especially those with ballast, may increase the demand capacity ratio of lateral force resisting systems due to the location of the installation relative to the existing lines of resistance below the roof. For example a building that includes lateral force resisting systems at the interior of the building in addition to those at the exterior may cause an increased DCR at the interior shearwalls due additional tributary loads. As a consequence and without the proposed code change the installation of a rooftop solar system would require that a qualified engineer identify the existing lateral force resisting system (possibly without plans), determine its capacity and determine the demand and thus demonstrate that the DCR increase is not increased by more than 10%.

This requirement imposes a significant burden on buildings constructed with light framed wood construction since unlike other buildings they do not incorporate heavier concrete or steel floors and roofs or heavier concrete or masonry exterior walls. Heavier walls and roofs will allow the roof top installations to easily satisfy the DCR limit.

While unlike Section 503.3 exception 2 where 3 psf is used this code change uses 5 psf as a load threshold to allow for small-ballasted systems to benefit from proposed exception 2. There is no published data demonstrating that alterations involving the installation of rooftop solar photovoltaic caused a life-safety hazard due to a seismic event. It would be difficult to explain to a building owner that the installation of a rooftop solar system necessitates \$2,000 or more in engineering costs and possible upgrades to the lateral force resisting system. ASCE 7 as well as the IBC recognizes that solar voltaic systems are unique and allow seismic force resistance through friction and allow discounting of the roof live load under the rack-mounted assemblies. This proposed code change offers a similar and reasonable accommodation to light weight components that are hand carried on to a roof and which occupy a portion of the roof.

**Cost Impact:** The code change proposal will decrease the cost of construction

The proposed code change may eliminate the need to develop detailed structural plans to demonstrate the capacity of the existing lateral force resisting system as well as lateral force resisting system upgrades.

## **Public Hearing Results**

**Committee Action:**

**Disapproved**

**Committee Reason:** The committee felt no need for this proposal as the proposed second exception did not provide sufficient information above and beyond the current code first exception. The wording was confusing such as 'whole' or 'partial' roof area to be considered. (Vote: 14-0)

**Assembly Action:**

**None**

EB56-19

## **Individual Consideration Agenda**

### **Public Comment 1:**

**Proponents:**

Ali Fattah, representing City of San Diego (alifattah@sbcglobal.net)

requests As Submitted

**Commenter's Reason:** This code change is being resubmitted for consistency with the committee recommendation for approval made in EB54 which addressed roof top mechanical equipment. Some have argued that EB56 is not necessary since solar PV is a form of roof top equipment. EB56 simply intends to not require establishing capacity to compare to demand for a demand capacity check. Demand, or the lateral load due to seismic forces can be relatively easy to determine. However capacity requires structural plans that show the lateral force resisting system. Plans may not be available or the building may be constructed of conventionally framed light frame construction with prescriptively designed wall bracing that has no capacity.

The committee was confused by testimony in EB 55 that addressed gravity load and included a 3 pdf exemption. Prior to the 2018 the IEBC did not limit the weight of roof covering replacement so my jurisdiction used 5 psf since that would be the weight of one additional layer including underlayment.

The proposed code change addresses impacts to the lateral force resisting system of the building and not the gravity loads. The anchorage and support requirements still apply and based on the limits within the proposal a structural engineer will have to verify the adequacy of the roof for gravity loads but will not have the owner incur additional design expense to establish the design/capacity ratio.

Some have argued that since the alteration is simply adding dead load then the demand capacity determination will be simple and that the Building Official should ignore the capacity portion of the requirement simply focus on the load. Actually reading the code does not lead to this conclusion.

Demand capacity ratios are an elegant way to capture the effects of alterations to the lateral force resisting system such as reducing capacity, redirecting more load to existing lateral force resisting systems or adding mass.

We request that the voting members support reconsideration of the committee's determination during the CAH and vote yes in support of the code change.

**Cost Impact:** The net effect of the public comment and code change proposal will decrease the cost of construction This will reduce the need to develop structural plans beyond a roof framing plan.

Public Comment# 1318

# EB61-19

IEBC: 503.17 (New), 701.3 (New), 702.7 (New), 703.2 (New), 703.3 (New), 703.4 (New), 704.2 (New), 704.3 (New), 802.2.2 (New), 802.3

## **Proposed Change as Submitted**

**Proponents:** John Williams, representing Healthcare Committee (AHC@iccsafe.org); Ed Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org)

### **2018 International Existing Building Code**

#### **SECTION 503 ALTERATIONS**

**Add new text as follows:**

503.17 Group I-2. In Group I-2 occupancies, existing elements within the area undergoing alterations shall comply with Chapter 11 of the International Fire Code.

#### **SECTION 701 GENERAL**

**Add new text as follows:**

701.3 Group I-2. In Group I-2 occupancies, existing elements within the work area shall comply with Chapter 11 of the International Fire Code.

#### **SECTION 702 BUILDING ELEMENTS AND MATERIALS**

**Add new text as follows:**

702.7 Group I-2, Condition 2 location. Existing Group I-2, Condition 2 shall not be located on a floor level higher than the floor level limitation in Table 1105.3 of the International Fire Code based on the type of construction.

#### **SECTION 703 FIRE PROTECTION**

**Add new text as follows:**

703.2 Incidental uses in Group I-2. In Group I-2 occupancies, existing incidental use areas within the work area shall comply with Section 1105.4 of the International Fire Code.

703.3 Corridor construction in Group I-2. In Group I-2 occupancies, existing corridors, including openings, within the work area shall comply with Section 1105.5 of the International Fire Code.

703.4 Waste and linen chutes. In Group I-2 occupancies, existing waste and linen chutes shall comply with Sections 1103.4.9 of the International Fire Code.

#### **SECTION 704 MEANS OF EGRESS**

**Add new text as follows:**

704.2 Means of egress in Group I-2. In Group I-2 occupancies, existing means of egress within the work area shall comply with Sections 1105.1 and 1105.6 of the International Fire Code.

704.3 Group I-2 care suites. Care suites in existing Group I-2, Condition 2 occupancies shall comply with Sections 407.4.4 through 407.4.4.6.2 of the International Building Code.

**Revise as follows:**

#### **SECTION 802 BUILDING ELEMENTS AND MATERIALS**

**Add new text as follows:**

802.2.2 Group I-2 and I-3 occupancies. In Group I-2 and I-3 occupancies, interior vertical openings connecting two or more stories shall comply with Section 1103.4.1 of the International Fire Code.

**Revise as follows:**

**802.3 Smoke compartments.** In Group I-2 occupancies where the *work area* is on a story used for sleeping rooms for more than 30 patients, the story shall be divided into not less than two compartments by smoke barrier walls in accordance with Section 407.5 of the International Building Code as required for new construction. Existing smoke barriers shall comply with Section 1105.7.2 through 1105.7.6 of the International Fire Code.

**Reason:** The Healthcare committee worked over the last several cycles to match the federal requirements for Medicare reimbursement (K-tags) with the IFC requirements for existing buildings. While this is required for most existing hospitals, not everything is caught during survey. A cross check of these basic requirements during the review of alteration projects would be a useful mechanism to increase compliance. Where there are alterations, there is the opportunity to make sure existing elements within the work area comply. Therefore, the requirements for hospitals in IFC Chapter 11 should be referenced in the IEBC.

The scope of this committee is limited to healthcare, so this proposal does not bring in requirements for uses other than that that are addressed in the IFC Chapter 11.

This proposal is submitted by the ICC Committee on Healthcare (CHC). The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2017 and 2018 the CHC held 4 open meetings and numerous conference calls, *which included members of the committees as well as any interested parties, to discuss and debate the proposed changes.* Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at: <https://www.iccsafe.org/codes-tech-support/cs/icc-committee-on-healthcare/>.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. These requirements are bare minimum standards for all existing buildings and would be a requirement whether a facility is performing renovations or not.

EB61-19

---

## **Public Hearing Results**

**Committee Action:**

**As Modified**

**Committee Modification:**

~~**703.4 Waste and linen chutes.** In Group I-2 occupancies, existing waste and linen chutes shall comply with Sections 1103.4.9 of the International Fire Code.~~

**Committee Reason:** This proposal was approved as it further aligns with federal requirements for existing healthcare facilities by referencing the specific Group I-2 requirements in Chapter 11 of the IFC. The modification removes the waste and linen chute requirements as such requirements would create confusion with the work area concept. (Vote: 13-0)

**Assembly Action:**

**None**

EB61-19

---

## **Individual Consideration Agenda**

**Public Comment 1:**

**Proponents:**

Jeffrey Shapiro, International Code Consultants, representing Self ([jeff.shapiro@intlcodeconsultants.com](mailto:jeff.shapiro@intlcodeconsultants.com))

requests Disapprove

**Commenter's Reason:** ADM8-19 added the following text to IEBC Chapter 1:

*"101.2.1 Application of fire code. Where work regulated by this code is also regulated by the construction requirements for existing buildings in Chapter 11 of the International Fire Code, such work shall comply with applicable requirements in both codes."*

With this text providing a broad reference to IFC Chapter 11, individual pointed references spread throughout the IEBC are unnecessary, and there is an implication of "...well, if only these sections are being referenced in a specific section of the code, is compliance with the rest of IFC Chapter 11

not necessary to these applications?" It is better to let the general reference in Chapter 1 prevail and not include partial/incomplete references on specific topics elsewhere in the code.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction No change to code.

Public Comment# 2031

---

# EB80-19

IEBC@: 803.4.4 (New)

## *Proposed Change as Submitted*

**Proponents:** Thomas Daly, HSCG, representing HSCG (Thomas.Daly@myhscg.com)

### 2018 International Existing Building Code

**Add new text as follows:**

**803.4.4 Smoke Alarms replacement.** Where existing smoke alarms in sleeping units of Group I and R occupancies, requiring only a single smoke alarm without interconnection, are to be replaced, ten-year listed sealed battery powered smoke alarms shall be permitted, as an option.

**Reason:**

1. The 2018 IFC requires smoke alarms in occupancies other than one and two-family dwellings to be replaced if non-functional or when they have reached 10 years of age. ICC Interpretation 01-18 issued 5.15.18 and re-affirmed 8.15.18 expanded that mandate to impact existing smoke alarms in existing buildings. That Interpretation also indicated that such replacement was deemed 'maintenance' not 'construction'.

As such, the IEBC and, in the next cycle the IPMC, are the requisite codes in which to make this change since the IFC specifies construction requirements for smoke alarms. As the IPMC was included in Group A codes, only the IEBC remains available now to amend.

1. History – 10-yr smoke alarms were first allowed in the 2002 edition of NFPA 72, see Sec. 11.6.1(3) and continue to be allowed, see the 2019 edition of NFPA 72 Sec. 29.9.1(3) and 29.9.2.

This technology gained favor among both fire officials and the public as it precluded the removal of the battery (a known factor in residential fire deaths) and avoided the periodic replacement of such batteries, typically annually, for battery only powered smoke alarms or the back-up battery in 120vac powered smoke alarms (often ignored by property owners).

Since being introduced most major smoke alarm manufacturers have provided this optional 10-yr smoke alarm technology, see for example, Kidde Model i9010, <https://www.kidde.com/home-safety/en/us/products/fire-safety/smoke-alarms/i9010/>

and First Alert Model SA340CN, <https://www.firstalertstore.com/store/products/sa340cn-tamperproof-10-year-smoke-alarm.htm>.

There have been no reported recalls of 10-yr smoke alarms based on a review of the Consumer Product Safety Commission (CPSC) website, see [https://cpsc.gov/search?site=cpsc\\_site&output=xml\\_no\\_dtd&getfields=\\*&tlen=120&client=ek\\_drupal\\_01&proxystylesheet=ek\\_drupal\\_01&filter=p&query=smoke+alarm+re](https://cpsc.gov/search?site=cpsc_site&output=xml_no_dtd&getfields=*&tlen=120&client=ek_drupal_01&proxystylesheet=ek_drupal_01&filter=p&query=smoke+alarm+re)

As such, 10-yr smoke alarms have a proven track record of reliability.

Further, NFPA studies, see for example <https://www.nfpa.org/News-and-Research/Data-research-and-tools/Detection-and-Signaling/Smoke-Alarms-in-US-Home-Fires>,

indicate the reason for smoke alarm failures and subsequent injuries and deaths in fires are most related to the failure to replace a battery for battery only smoke alarms, the failure of the replacement back-up battery for 120vac models when power failures occur and the removal of batteries for other purposes.

The 10yr battery powered smoke alarm removes these failure mode potentials, so is more reliable and is likely to save lives.

NFPA 72 has permitted 10-yr battery only smoke alarms for more than a decade and our Work Group has been directed by the FCAC to align the I-Codes with NFPA 72 to the extent possible.

2. Cost impact - The retail price differential between a traditional smoke alarm (120vac powered with a 9vac battery backup) and 10-yr smoke alarms is about \$13 (\$35 for the former and \$22 for the latter based on retail prices at Home Depot October 2018).

Given the number of commercial occupancies involved (hotels, apartments, condominiums, dormitories, board and care facilities, assistive living facilities and time-shares) the number of smoke alarms to be replaced in the near-term (2019-2022), as the 2018 IFC is adopted state-by-state, is estimated at more than 200 million based on the ten-year age replacement obligation and in such occupancies' sleeping accommodations where only one smoke alarm is required. The cost savings to those owner/operators is thus estimated at \$2.6 billion, if 10-yr smoke alarms technology could replace traditional 120vac/9vac powered smoke alarms.

**Bibliography:** NFPA 72 -2019 and manufacturerers literature noted.

**Cost Impact:** The code change proposal will decrease the cost of construction

The proposed code change would decrease the cost of operations for occupanices utilizing single station smoke alarms.

## **Public Hearing Results**

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved as it was felt to result in the reduction in fire safety as it allows battery only smoke alarm replacement where the current smoke alarms are already hardwired into the building. Additionally, this appears to be a subject better addressed in the IFC versus IEBC. (Vote: 13-0)

**Assembly Action:**

**None**

EB80-19

## **Individual Consideration Agenda**

### **Public Comment 1:**

**IEBC@: 803.4.3, 803.4.4 (New)**

**Proponents:**

Thomas Daly, representing HSCG (thomas.daly@myhscg.com)

requests As Modified by Public Comment

**Modify as follows:**

### **2018 International Existing Building Code**

**803.4.3 Smoke alarms.** Individual sleeping units and individual dwelling units in any *work area* in Group R and I-1 occupancies shall be provided with smoke alarms in accordance with the International Fire Code .

**Exception Exceptions:**

1. Interconnection of smoke alarms outside of the *work area* shall not be required.
2. Where existing smoke alarms in sleeping units of Group I-1 and R occupancies requiring only a single smoke alarm without interconnection are to be replaced, ten-year listed sealed battery powered smoke alarms shall be permitted.

~~**803.4.4 Smoke Alarms replacement.** Where existing smoke alarms in sleeping units of Group I and R occupancies, requiring only a single smoke alarm without interconnection, are to be replaced, ten-year listed sealed battery powered smoke alarms shall be permitted, as an option.~~

**Commenter's Reason:** As stated in the floor modification (DALY 3) to place the option in an exception rather than in a sub-section.

**Cost Impact:** The net effect of the public comment and code change proposal will decrease the cost of construction. The change would decrease the cost of operations as further explained in the original proposal.

Public Comment# 1956

# EB82-19

IEBC@: 803.2.2

## Proposed Change as Submitted

**Proponents:** Kevin Duerr-Clark, New York State Department of State, representing New York State Department of State (kevin.duerr-clark@dos.ny.gov); John Addario, New York State Department of State - Building Standards & Codes, representing New York State Department of State (john.addario@dos.ny.gov)

### 2018 International Existing Building Code

Revise as follows:

**803.2.2 Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2.** In buildings with occupancies in Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2, *work areas* that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection where both of the following conditions occur:

1. The *work area* is required to be provided with automatic sprinkler protection in accordance with the International Building Code as applicable to new construction.
2. The *work area* exceeds 50 percent of the floor area.

**Exception:** If the building does not ~~have sufficient municipal water supply for~~ have an existing municipal water supply present at the floor of the proposed work area, with sufficient pressure and flow for the design of a fire sprinkler system available to the floor without, and without installation of a new fire pump, ~~work-service piping, or vertical piping,~~ the *work areas* shall be protected by an automatic smoke detection system throughout all occupiable spaces other than sleeping units or individual dwelling units that activates the occupant notification system in accordance with Sections 907.4, 907.5 and 907.6 of the International Building Code.

**Reason:** There is some confusion surrounding the language of the exception to this section. Some interpret that "sufficient municipal supply available to the floor" means a water main is in the ROW with adequate pressures and flow, and available to tap into with new piping to the building and work area. As supported by the ICC IEBC Interpretation No. 12-04 (see attached), it was never intended for a new water service pipe or vertical/riser pipes to be installed as a requirement for "sufficient municipal supply" to satisfy this code section. The newly proposed language makes it clear that the existing sufficient municipal supply is to exist and be available to the floor where the work area is located without the installation of new service piping, fire pump, or vertical piping.

Commentary to this code section states *"One exception to these requirements states that if the building does not have a sufficient municipal water supply for a sprinkler system at the floor where the work area is located, then sprinklers are not required; however, that same exception does require an automatic smoke detection system throughout the work area. The smoke detection coverage is required throughout all occupiable spaces other than areas already required to install smoke alarms."* While useful in understanding this code section, in many cases the Commentary is not available or enforceable. This proposal brings the stated intent of in the Commentary into the actual Code language.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. This is simply a clarification of the language as already interpreted by ICC and the commentary, so no change in the construction cost is anticipated.

EB82-19

## Public Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** This proposal was disapproved with concern that the terminology "service piping" and "vertical piping" is not consistent with NFPA 13. Note there were some on the committee of the opinion that the language proposed would provide more guidance for a common scenario to determine if sprinklers are feasible. (Vote: 8-5)

**Assembly Action:**

**None**

EB82-19

## Individual Consideration Agenda

## Public Comment 1:

IEBC@: 803.2.2

### Proponents:

Kevin Duerr-Clark, representing NYS Department of State (kevin.duerr-clark@dos.ny.gov); Felix Zemel, representing ICC Region 6 -- North East Regional Coalition (felix@pracademicsolutions.com); Peter Zvingilas, Town of Groton and Voluntown, CT, representing Region VI (pzvingilas@voluntown.gov); Emma Gonzalez-Laders, representing New York State Department of State (emma.gonzalez-laders@dos.ny.gov); John Addario, representing New York State Department of State (john.addario@dos.ny.gov)

requests As Modified by Public Comment

### Further modify as follows:

## 2018 International Existing Building Code

**803.2.2 Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2.** In buildings with occupancies in Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2, *work areas* that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection where both of the following conditions occur:

1. The *work area* is required to be provided with automatic sprinkler protection in accordance with the International Building Code as applicable to new construction.
2. The *work area* exceeds 50 percent of the floor area.

**Exception:** If the building does not have an existing ~~municipal~~ water supply present at the floor of the proposed work area, with sufficient pressure and flow for the design of a sprinkler system, and without installation of a new fire pump, private fire service main, or fire sprinkler riser, ~~service piping, or vertical piping~~, the *work areas* shall be protected by an automatic smoke detection system throughout all occupiable spaces other than sleeping units or individual dwelling units that activates the occupant notification system in accordance with Sections 907.4, 907.5 and 907.6 of the International Building Code.

**Commenter's Reason:** The proposal should be Approved as Modified by This Public Comment

The original proposal was based on ICC code interpretation 12-04 issued on 04-07-2005. In response to the committee's concerns, this public comment does two things:

1. It replaces the undefined terms "service piping" and "vertical piping" with terms defined in NFPA 13 ("private fire service main" and "fire sprinkler riser").
2. It removes the term "municipal" as the committee felt that the term did not accurately represent the intent of the provision, which is for the water supply to be available at the floor.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction

This is a clarification of an existing provision

Public Comment# 1942

# EB94-19

IEBC: 905.4 (New), 503.17 (New)

## Proposed Change as Submitted

**Proponents:** Dawn Anderson, representing self ([gonedawning@yahoo.com](mailto:gonedawning@yahoo.com)); Gene Boecker, representing Code Consultants, Inc. ([geneb@codeconsultants.com](mailto:geneb@codeconsultants.com)); Dan Buuck, representing National Association of Home Builders ([dbuuck@nahb.org](mailto:dbuuck@nahb.org)); David Collins, representing the American Institute of Architects ([dcollins@preview-group.com](mailto:dcollins@preview-group.com)); Marsha Mazz, representing United Spinal Association ([m.mazz@verizon.net](mailto:m.mazz@verizon.net))

### 2018 International Existing Building Code

#### SECTION 905 MEANS OF EGRESS

**905.1 General.** The means of egress shall comply with the requirements of Section 805 except as specifically required in Sections 905.2 and 905.3.

**905.2 Means-of-egress lighting.** Means of egress from the highest *work area* floor to the floor of exit discharge shall be provided with artificial lighting within the exit enclosure in accordance with the requirements of the International Building Code .

**905.3 Exit signs.** Means of egress from the highest *work area* floor to the floor of exit discharge shall be provided with exit signs in accordance with the requirements of the International Building Code .

**Add new text as follows:**

**905.4 Two-way communications systems.** In buildings with elevator service, a two way communication system shall be provided in accordance with Section 1009.8 of the International Building Code.

#### SECTION 503 ALTERATIONS

**Add new text as follows:**

**503.17 Two-way communications systems.** Where the work area for alterations exceeds 50 percent of the building area and the building has elevator service, a two way communication systems shall be provided in accordance with Section 1009.8 of the International Building Code.

**Reason:** The addition of Sections 503.7 and 905.4 would allow for a person who could not use the stairways for evacuation to at least have a way to contact emergency responders. Since this is only alteration of Level 3 or exceeds 50% of the building area, this would have minimal impact on the construction and would be a big boost for persons who needed assistance in evacuation and the fire department.

**Cost Impact:** The code change proposal will increase the cost of construction  
A two way communication system may need to be added in older multi-story buildings that were undergoing Level 3 alterations.

EB94-19

## Public Hearing Results

**Committee Action:**

**As Submitted**

**Committee Reason:** The addition of 2-way communication in existing buildings are necessary for those that are unable to take the stairways. In addition placing in larger alterations (over 50% area of the building) was a seen as a reasonable trigger for these requirements. (Vote: 13-0)

**Assembly Action:**

**None**

EB94-19

## Individual Consideration Agenda

**Public Comment 1:**

IEBC@: SECTION 905, 905.1, 905.2, 905.3, 905.4 (New), SECTION 503, 503.17 (New)

**Proponents:**

John Williams, representing Healthcare Committee (ahc@iccsafe.org)

requests As Modified by Public Comment

**Modify as follows:**

## 2018 International Existing Building Code

### SECTION 905 MEANS OF EGRESS

**905.1 General.** The means of egress shall comply with the requirements of Section 805 except as specifically required in Sections 905.2 and 905.3.

**905.2 Means-of-egress lighting.** Means of egress from the highest *work area* floor to the floor of exit discharge shall be provided with artificial lighting within the exit enclosure in accordance with the requirements of the International Building Code .

**905.3 Exit signs.** Means of egress from the highest *work area* floor to the floor of exit discharge shall be provided with exit signs in accordance with the requirements of the International Building Code .

**905.4 Two-way communications systems.** In buildings with elevator service, a two way communication systems shall be provided where required by ~~in accordance with~~ Section 1009.8 of the International Building Code.

### SECTION 503 ALTERATIONS

**503.17 Two-way communications systems.** Where the work area for alterations exceeds 50 percent of the building area and the building has elevator service, a two way communication systems shall be provided where required by ~~in accordance with~~ Section 1009.8 of the International Building Code.

**Commenter's Reason:** There is a concern that this requirement could be read to require two way communication systems where it was not required in new construction. Currently Section 1009.8 has six exceptions for two way communication systems. This is intended to be a clarification only and does not change the intent of the original proposal.

This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 6 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> .

**Cost Impact:** The net effect of the public comment and code change proposal will decrease the cost of construction. While the original proposal would be an increase where adding two-way communication systems, the modification would clarify where adding such systems would not be required. This would be a savings both initially and from a long term operational standpoint.

---

Public Comment# 1207

# EB95-19

IEBC: SECTION 908 (New), 908.1 (New), 1010.2 (New)

## Proposed Change as Submitted

**Proponents:** Ed Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org)

### 2018 International Existing Building Code

Add new text as follows:

#### **SECTION 908** **EMERGENCY RESPONDER RADIO COVERAGE**

908.1 Emergency responder radio coverage in existing buildings. Where existing buildings do not have an approved emergency responder radio coverage in the building based on existing coverage levels of the public safety communication systems, an approved emergency responder radio coverage system shall be installed within the building in compliance with Section 510 of the International Fire Code.

#### **SECTION 1010** **OTHER REQUIREMENTS**

**1010.1 Light and ventilation.** Light and ventilation shall comply with the requirements of the International Building Code for the new occupancy.

Add new text as follows:

1010.2 Emergency responder radio coverage in existing buildings. Where an existing building undergoes a complete change of occupancy, and the building does not have an approved emergency responder radio coverage based on existing coverage levels of the public safety communication systems, an approved emergency responder radio coverage system shall be installed within the building in compliance with Section 510 of the International Fire Code. The system shall be installed within the time frame established by the code official.

**Reason:** For jurisdictions that do not adopt the Chapter 11 (retroactive) requirements of the IFC for Emergency Responder Radio Coverage, this proposal would add triggers to the IEBC that would require all existing buildings that undergo a Level 3 alteration or Change of Occupancy to have approved radio coverage. Providing these two triggers for Emergency Responder Radio Coverage provides a reasonable opportunity to install equipment and systems that ensure the safety of emergency responders that depend on reliable communication for their safety. We are not asking for this in a building undergoing a partial change of occupancy with a Level 1 or 2 alteration because that could be only one tenant in a very large multi-tenant building. IFC Section 510 includes all the requirements for the design and installation. Allowing for a time frame for installation in a COO is consistent with IFC Section 1103.2.

This proposal will correlate consistency between the IFC and the IEBC as it relates to the requirements for emergency responder radio coverage in existing buildings.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. Since 2017 the BCAC has held 6 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: <https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-actioncommittee-bcac>.

**Cost Impact:** The code change proposal will increase the cost of construction for the safety of emergency responders, a system may need to be added in some of the larger buildings.

EB95-19

## Public Hearing Results

**Committee Action:**

**As Submitted**

**Committee Reason:** The provisions for emergency responder radio coverage is appropriate for existing buildings undergoing level 3 alterations or a change of occupancy classification. The requirements are also consistent with the IFC that contains retroactive provisions for radio coverage. (Vote: 12-0)

**Assembly Action:**

**None**

## **Individual Consideration Agenda**

### **Public Comment 1:**

**IEBC@:** SECTION 908 (New), 908.1 (New), 1010.2 (New)

**Proponents:**

Ed Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org)

requests As Modified by Public Comment

**Modify as follows:**

### **2018 International Existing Building Code**

#### **SECTION 908 EMERGENCY RESPONDER ~~RADIO~~ COMMUNICATION COVERAGE**

**908.1 Emergency responder ~~radio-communication~~ coverage in existing buildings.** Where existing buildings do not have an approved in building 2-way emergency responder ~~radio-communication~~ coverage in the building based on existing coverage levels of the public safety communication systems, an approved in building 2-way emergency responder ~~radio-communication~~ coverage system shall be installed within the building in compliance with Section 510 of the International Fire Code.

**1010.2 Emergency responder ~~radio-communication~~ coverage in existing buildings.** Where an existing building undergoes a complete change of occupancy, and the building does not have an approved in building 2-way emergency responder ~~radio-communication~~ coverage based on existing coverage levels of the public safety communication systems, an approved in building 2-way emergency responder ~~radio-communication~~ coverage system shall be installed within the building in compliance with Section 510 of the International Fire Code. The system shall be installed within the time frame established by the code official.

**Commenter's Reason:** This revision is a coordination item with F45-18 so that there is consist terminology in the IFC and IEBC for these requirements.

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. Since 2017 the BCAC has held 6 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: <https://www.iccsafe.org/codes-techsupport/codes/codedevelopment-process/building-code-actioncommittee-bcac>.

**Cost Impact:** The net effect of the public comment and code change proposal will increase the cost of construction. The modification will not change the cost of the proposal, however, for the entire proposal, for the safety of emergency responders, a system may need to be added in some of the larger buildings.

Public Comment# 1221

### **Public Comment 2:**

**Proponents:**

Jeffrey Shapiro, International Code Consultants, representing Self (jeff.shapiro@intlcodeconsultants.com)

requests Disapprove

**Commenter's Reason:** ADM8-19 added the following text to IEBC Chapter 1:

*"101.2.1 Application of fire code. Where work regulated by this code is also regulated by the construction requirements for existing buildings in Chapter 11 of the International Fire Code, such work shall comply with applicable requirements in both codes."*

With this text providing a broad reference to IFC Chapter 11, individual pointed references spread throughout the IEBC are unnecessary, and there is an implication of "...well, if only these sections are being referenced in a specific section of the code, is compliance with the rest of IFC Chapter 11 not necessary to these applications?" It is better to let the general reference in Chapter 1 prevail and not include partial/incomplete references on specific topics elsewhere in the code.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction No change to code.

Public Comment# 2034

---

# EB103-19

IEBC@: 1011.2.1.1 (New), 1011.2.1.1.1 (New)

## Proposed Change as Submitted

**Proponents:** Ed Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org)

### 2018 International Existing Building Code

**Add new text as follows:**

**1011.2.1.1 Nonrequired automatic sprinkler systems.** The code official is authorized to permit the removal of existing automatic sprinkler system where all of the following conditions exist:

1. The system is not required for new construction.
2. The system is removed in its entirety throughout the building.
3. The system was not installed as part of any special construction features, including fire-resistance-rated assemblies and smoke-resistive assemblies, conditions of occupancy, means of egress conditions, fire code deficiencies, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building.

**1011.2.1.1.1 Approval.** Plans, investigation and evaluation reports, and other data shall be submitted documenting compliance with Items 1 and 2 of Section 1011.2.1.1 for review and approval in support of a determination authorizing the removal of the automatic sprinkler system by the code official.

**Reason:** A change of occupancy could be to an occupancy that did not require a sprinkler system. If the system was old, outdated or needed extensive reconfiguration, costs could be high. The new Section 1011.2.1.1 allows for non required systems to be removed. To be removed the designer/building owner would have to demonstrate to the code official that the building did not need the sprinklers for occupancy, fire areas or type of construction limitations, and that none of the trade off's for items such as travel distance or corridor rating were in effect in the building. The system would have to be removed totally – including the system in the ceiling, standpipes and the connections for the fire department outside of the building.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. Since 2017 the BCAC has held 6 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: <https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-actioncommittee-bcac>.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. There will be the cost of removal, but this may be less than the cost of repairing or replacing an older system.

EB103-19

## Public Hearing Results

**Committee Action:**

**As Modified**

**Committee Modification:**

**1011.2.1.1 Nonrequired automatic sprinkler systems.** The code official is authorized to permit the removal of existing automatic sprinkler system where all of the following conditions exist:

1. The system is not required for new construction.
2. Portions of the system that are obvious to the public are removed. ~~The system is removed in its entirety throughout the building.~~
3. The system was not installed as part of any special construction features, including fire-resistance-rated assemblies and smoke-resistive assemblies, conditions of occupancy, means of egress conditions, fire code deficiencies, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building.

**Committee Reason:** This proposal provides a reasonable approach for the removal of non-required systems based upon a series of criteria such systems are not required by the IBC. One of the criteria was that it be removed in its entirety which was seen as excessive and the true concern is to not provide a false sense of security of such systems to occupants. Therefore, the modification clarifies that such systems only need to be removed from areas where they are visible to occupants. This addresses the intent and reduces the costs. It should be noted that there was some concern with the concept of the removal of working systems even though they are not required. It was suggested that feedback should be obtained from the fire service on this issue. (Vote: 9-4)

## **Individual Consideration Agenda**

### **Public Comment 1:**

**Proponents:**

Jeffrey Hugo, representing National Fire Sprinkler Association (hugo@nfsa.org)

requests Disapprove

**Commenter's Reason:** The proposed 1011.2.1.1.1 only requires an evaluation report or an investigation to remove the non-required sprinkler system if sprinklers are not required for new construction and if the public portions of the systems are removed. It doesnt include #3 of 1011.2.1.1. The committee did not contemplate many buildings are sprinklered because of fire flow, setback, grade, appeals, wildland urban interface, etc and are done without being specific to the occupancy of the building.

Removing the sprinkler system solely on a change to another occupancy could negate an agreement made long ago between the owner and another enforcing agency of the jurisdiction, i.e. fire department, water department, etc.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction  
No change to code.

Public Comment# 2037

---

# EB104-19

IEBC@: 1011.7.2 (New), 1011.7.4 (New)

## Proposed Change as Submitted

**Proponents:** Ed Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org)

### 2018 International Existing Building Code

**Revise as follows:**

**1011.7.2 Stairways.** Where a change of occupancy classification is made to a higher-hazard category as shown in Table 1011.4, interior stairways shall be enclosed as required by the International Building Code .

**Exceptions:**

1. In other than Group I occupancies, an enclosure shall not be required for openings serving only one adjacent floor and that are not connected with corridors or stairways serving other floors.
2. Unenclosed existing stairways need not be enclosed in a continuous vertical shaft if each story is separated from other stories by 1-hour fire-resistance-rated construction or *approved* wired glass set in steel frames and all exit corridors are sprinklered. The openings between the corridor and the occupant space shall have not fewer than one sprinkler head above the openings on the tenant side. The sprinkler system shall be permitted to be supplied from the domestic water-supply systems, provided that the system is of adequate pressure, capacity, and sizing for the combined domestic and sprinkler requirements.
3. Existing penetrations of stairway enclosures shall be accepted if they are protected in accordance with the International Building Code Stairways enclosed in compliance with the applicable provisions of Section 903.1.

**1011.7.4 Openings.** Openings into existing vertical shaft enclosures shall be protected by fire assemblies having a fire protection rating of not less than 1 hour and shall be maintained self-closing or shall be automatic-closing by actuation of a smoke detector. Other openings shall be fire protected in an *approved* manner. Existing fusible linktype automatic door-closing devices shall be permitted in all shafts except stairways if the fusible link rating does not exceed 135° F (57° C).

**Exception:** Existing penetrations of stairway enclosures shall be accepted if they are protected in accordance with the International Building Code.

**Reason:** This is an editorial correction. Without this exception, the means of egress allowance to use the provisions of Section 903.1 (and 802.2) would not be applicable in change of occupancy classification with alterations projects. This will make the requirements consistent and provide a pointer to 903.1. The exception related to openings (1011.7.2 Exception 3) is moved to Section 1011.7.4 since that deals with openings into exiting vertical shafts.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. Since 2017 the BCAC has held 6 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: <https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-actioncommittee-bcac>.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. The proposal is an editorial correction and may reduce potential costs by providing design options.

EB104-19

## Public Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** This proposal was disapproved with concern that it will remove a necessary exception. The proposal makes inadvertent technical changes. The intent is understood but further work is necessary to provide the clarity intended by the revisions. (Vote: 13-0)

**Assembly Action:**

**None**

EB104-19

# **Individual Consideration Agenda**

## **Public Comment 1:**

**IEBC@: 1011.7.2 (New), 1011.7.4 (New)**

### **Proponents:**

Ed Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org)

requests As Modified by Public Comment

### **Modify as follows:**

## **2018 International Existing Building Code**

**1011.7.2 Stairways.** Where a change of occupancy classification is made to a higher-hazard category as shown in Table 1011.4, interior stairways shall be enclosed as required by ~~the International Building Code~~ Section 903.1.

### **Exceptions:**

1. In other than Group I occupancies, an enclosure shall not be required for openings serving only one adjacent floor and that are not connected with corridors or stairways serving other floors.
2. Unenclosed existing stairways need not be enclosed in a continuous vertical shaft if each story is separated from other stories by 1-hour fire-resistance-rated construction or *approved* wired glass set in steel frames and all exit corridors are sprinklered. The openings between the corridor and the occupant space shall have not fewer than one sprinkler head above the openings on the tenant side. The sprinkler system shall be permitted to be supplied from the domestic water-supply systems, provided that the system is of adequate pressure, capacity, and sizing for the combined domestic and sprinkler requirements.
3. Existing penetrations of stairway enclosures shall be accepted if they are protected in accordance with the International Building Code.  
~~Stairways enclosed in compliance with the applicable provisions of Section 903.1.~~

**1011.7.4 Openings.** Openings into existing vertical shaft enclosures shall be protected by fire assemblies having a fire protection rating of not less than 1 hour and shall be maintained self-closing or shall be automatic-closing by actuation of a smoke detector. Other openings shall be fire protected in an *approved* manner. Existing fusible linktype automatic door-closing devices shall be permitted in all shafts except stairways if the fusible link rating does not exceed 135° F (57° C).

~~**Exception:** Existing penetrations of stairway enclosures shall be accepted if they are protected in accordance with the International Building Code.~~

**Commenter's Reason:** This public comment addressed issues brought up during the testimony and the reason for the committee disapproval. The modification would allow for the stairways to comply with the provisions in the IEBC instead of requiring compliance with the IBC. Leaving Exception 3 as it was before would allow for items such as standpipes in stairways to meet IBC penetration requirements. The ultimate goal was to allow for existing stairways to meet the same requirements for new tenants if that new tenant is the same use or not. This public comment is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. Since 2017 the BCAC has held 6 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: <https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-actioncommittee-bcac>.

**Cost Impact:** The net effect of the public comment and code change proposal will decrease the cost of construction. Stairways in a COO would be allowed to use the exit stairway requirements currently allowed for Level 2 and 3 alterations, which can be less than new IBC requirements.

Public Comment# 1177

# EB111-19

IEBC@: 1203.3 (New)

## Proposed Change as Submitted

**Proponents:** Ed Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org)

### 2018 International Existing Building Code

Revise as follows:

**1203.3 Means of egress.** Existing door openings and corridor and stairway widths less than those specified elsewhere in this code may be ~~approved, provided that, Where,~~ in the opinion of the code official, there is sufficient width and height for a person to pass through the opening or traverse the means of egress. ~~egress, existing door openings and corridor and stairway widths not required to meet the widths required by the International Building Code or this code.~~ Where *approved* by the code official, the front or main exit doors need not swing in the direction of the path of exit travel, provided that other *approved* means of egress having sufficient capacity to serve the total occupant load are provided.

**Reason:** This addresses non mandatory language and also addresses the fact that this is likely intending to refer also to the IBC. This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. Since 2017 the BCAC has held 6 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: <https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-actioncommittee-bcac>.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction  
This is editorial.

EB111-19

## Public Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** This proposal was intended to be editorial but there appeared to be some incomplete language in the proposal that needs to be addressed during public comment. (Vote: 12-1)

**Assembly Action:**

**None**

EB111-19

## Individual Consideration Agenda

### **Public Comment 1:**

IEBC@: 1203.3 (New)

**Proponents:**

Ed Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org)

requests As Modified by Public Comment

**Modify as follows:**

### 2018 International Existing Building Code

**1203.3 Means of egress.** Where, in the opinion of the code official, there is sufficient width and height for a person to pass through the opening or traverse the means of egress, existing door openings and corridor and stairway widths are not required to meet the widths required by the International Building Code or this code. Where *approved* by the code official, the front or main exit doors need not swing in the direction of the path of exit travel, provided that other *approved* means of egress having sufficient capacity to serve the total occupant load are provided.

**Commenter's Reason:** There was a small modification needed to correct the grammar in the proposal. The intent remains the same as stated in the original reason.

This public comment is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. Since 2017 the BCAC has held 6 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: <https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-actioncommittee-bcac>.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. This modification is an editorial correction.

Public Comment# 1178

---

# EB133-19

IEBC@: (New), 1402.8 (New)

## Proposed Change as Submitted

**Proponents:** Ali Fattah, City of San Diego, representing City of San Diego (afattah@sandiego.gov)

### 2018 International Existing Building Code

**Add new definition as follows:**

**WILDLAND-URBAN INTERFACE AREA.** That geographical area where structures and other human development meets or intermingles with wildland or vegetative fuels.

**Add new text as follows:**

**1402.8 Wildland-Urban Interface Areas.** If moved into a *wildland-urban interface area*, buildings shall comply with the *International Wildland-Urban Interface Code* as applicable.

**Exception:** Buildings previously located in a *wildland-urban interface area* or moved within a *wildland-urban interface area*.

**Reason:** The wildland-urban interface code provides additional building standards for buildings subjected to fire hazards within a *wildland-urban interface area* and as a result are subject the increased fire risk when relocated into such an area. The Scope of Section 101.2 of the IWUIC includes moved buildings. This code change merely correlates the two codes. The alterations Sections are not proposed to be amended nor is an exception being added for historical buildings to allow local jurisdictions to determine whether to exempt their historical resources or exterior building alterations from from compliance. It makes no sense that if a building is moved to a vacant lot that a site built adjacent building is required to satisfy WUI regulations but not the relocated building.

**Cost Impact:** The code change proposal will increase the cost of construction  
By moving a building into a wui area the exterior roof, walls and openings may require upgrading. However the cost of the enhanced protection will provide a community benefit since in the WUI it is not unusual for conflagration hazards to occur when non compliant buildings burn and expose compliant buildings to hazards that they were not quite designed for since exterior fire fighting suppression may not be available to control the non-compliant building.

EB133-19

## Public Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** This proposal was disapproved with concern that it may not be the correct location for such provisions. Another concern was how the exception would be applied as the IWUIC not only includes construction requirements but also addresses the need for clear space. (Vote: 13-0)

**Assembly Action:**

**None**

EB133-19

## Individual Consideration Agenda

### **Public Comment 1:**

IEBC@: (New), 1402.8 (New)

**Proponents:**

Ali Fattah, representing City of San Diego (alifattah@sbcglobal.net)

requests As Modified by Public Comment

**Further modify as follows:**

## 2018 International Existing Building Code

**WILDLAND-URBAN INTERFACE AREA.** That geographical area where structures and other human development meets or intermingles with wildland or vegetative fuels.

**1402.8 Wildland-Urban Interface Areas.** If moved into a *wildland-urban interface area*, buildings shall comply with the *International Wildland-Urban Interface Code* as applicable.

~~**Exception:** Buildings previously located in a *wildland-urban interface area* or moved within a *wildland-urban interface area*.~~

**Commenter's Reason:** The proposed code change is intended to correlate the IEBC with the IUWIC. During the CAH there was support for the proposal from some commenters and some members of the committee however they found that the exception to be confusing. It was intended to recognize that the moved building when moved within the WUI Area is not experiencing more fire risk since when it was first constructed. However, the building may have been constructed prior to WUI building standards. As such the exception is proposed to be deleted as a part of this public comment.

Commenter at the CAH confused a moved building with a relocatable building. A moved building is an existing site-built building that is raised in whole and in part and put on a truck and moved. It's original design and construction did not envision moving it. A relocated building is a building that is designed be transported and factory-built homes are a form of a relocated building and not a moved building. The proposal only applies to moved buildings and not relocated buildings such as mobile homes or manufactured homes.

Interestingly both the IEBC and the IRC address within their scope moved buildings so this code change will not require jurisdictions to adopt the International Wildland Urban Interface Code. The committee reason statement states that this requirement is added in an incorrect location, however IEBC Chapter 14 is for moved buildings and i the IRC includes in the scope Section R101.2 movement of a building. Moved buildings are required to comply with new conditions at the site to which they are to be moved to such as flood, wind, soil and wildfire hazards are another environmental hazard that are not addressed. The proposal merely points back to the WUI code that does regulate the hazard when a building is moved if the WUI code is adopted. We request the voting members support for approval as modified with public comment. We require 2/3 of the governmental voting members for this proposal to pass final action.

**Cost Impact:** The net effect of the public comment and code change proposal will increase the cost of construction. The increased cost of construction may be due to the need to replace windows or to change/modify exterior cladding and vent openings.

---

Public Comment# 1314

# EB145-19

IEBC@: [BS] A205.4, A205.5 (New), A205.6 (New)

## Proposed Change as Submitted

**Proponents:** David Bonowitz, representing Self (dbonowitz@att.net)

THIS CODE CHANGE WILL BE HEARD BY THE IBC STRUCTURAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

### 2018 International Existing Building Code

**Revise as follows:**

~~[BS] A205.4 Structural observation, testing and inspection.~~ **observation.** Structural observation, in accordance with Section 1704.6 of the International Building Code, shall be required for all structures in which seismic retrofit is being performed in accordance with this chapter. is required, regardless of seismic design category, height, or other conditions. Structural observation shall include visual observation of work for conformance to the *approved* construction documents and confirmation of existing conditions assumed during design.

~~Structural testing and inspection for new construction materials shall be in accordance with the building code, except as modified by this chapter.~~

**Add new text as follows:**

**A205.5 Contractor responsibility.** Contractor responsibility shall be in accordance with Section 1704.4 of the International Building Code.

**A205.6 Testing and Inspection.** Structural testing and inspection for new construction materials, submittals, reports, and certificates of compliance, shall be in accordance with Sections 1704 and 1705 of the International Building Code. Work done to comply with this chapter shall not be eligible for Exception 1 to International Building Code Section 1704.2, Exception 2 to International Building Code Section 1705.12, or the Exception to International Building Code Section 1705.12.2.

**Reason:** This proposal corrects a code reference and clarifies that typical quality assurance provisions from IBC Chapter 17 apply to Chapter A2 projects.

A205.4: For clarity, the current provision is broken into three subsections. Regarding structural observation, the proposal corrects a mistaken IBC section number and clarifies that the requirement applies despite IBC waivers for buildings of certain heights or assigned to certain seismic design categories.

A205.5: Regarding the contractor statement of responsibility, the proposed new section confirms that IBC section 1704.4 applies.

A205.6: Regarding testing and inspection, proposed Section A205.6 clarifies the existing reference to “the building code” and disallows certain exemptions in IBC Chapter 17 that apply to new construction of a minor nature but should not apply to Chapter A2 retrofits.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. The proposal merely clarifies existing requirements. In rare cases, the cost of testing and inspection might increase slightly.

EB145-19

## Public Hearing Results

**Committee Action:**

**As Submitted**

**Committee Reason:** This proposal corrects section numbering, clarifies testing and inspection requirements and special inspections regardless of project size. (Vote: 12-2)

**Assembly Action:**

**None**

EB145-19

## Individual Consideration Agenda

## **Public Comment 1:**

IEBC@: [BS] A205.4, 205.5 (New), A205.5 (New)

### **Proponents:**

Jonathan Siu, representing City of Seattle Department of Construction and Inspections (jon.siu@seattle.gov)

requests As Modified by Public Comment

### **Further modify as follows:**

## **2018 International Existing Building Code**

**[BS] A205.4 Structural observation.** Structural observation in accordance with Section 1704.6 of the International Building Code is required, regardless of seismic design category, height, or other conditions. Structural observation shall include visual observation of work for conformance to the *approved* construction documents and confirmation of existing conditions assumed during design.

~~**A205.5 Contractor responsibility.** Contractor responsibility shall be in accordance with Section 1704.4 of the International Building Code.~~

**A205.6 A205.5 Testing and Inspection** Structural testing and inspection for new construction materials, submittals, reports, and certificates of compliance, shall be in accordance with Sections 1704 and 1705 of the International Building Code. Work done to comply with this chapter shall not be eligible for Exception 1 to International Building Code Section 1704.2, Exception 2 to International Building Code Section 1705.12, or the Exception to International Building Code Section 1705.12.2.

**Commenter's Reason:** This public comment does not change any technical requirements of the code or the proposal--it merely removes unnecessary language contained in the original proposal. The proponent's reason statement says, "...the proposed section confirms that IBC section 1704.4 applies." Taken to its logical conclusion, the reason statement implies if a required section is not cross-referenced, it does not apply--a concept with which we disagree. The proponent has argued in other code change proposals that the rest of the code still applies, so redundant language or cross references aren't necessary--we heartily agree with this concept.

It is unclear to us why this particular reminder is necessary, versus the many other important requirements in IBC Chapter 17. Why not confirm special inspections are required in addition to the normal inspections in Section 110 (IBC 1704.2)? Or confirm that the special inspectors have to be competent and have relevant training and experience (IBC 1704.2.1)? Or confirm any of the reporting requirements that are the responsibility of the design professional or the special inspector (IBC 1704.2.3, 1704.3 and 1704.5)? The proponent did not indicate in either the reason statement or in testimony that this is something that is commonly missed, which would be a reasonable rationale for having cross references.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. This public comment does not change technical requirements of the code or the proposal. Given the original proposal had a neutral or minimal cost impact, this public comment will not change that.

Public Comment# 1433

## **Public Comment 2:**

IEBC@: A205.6 (New)

### **Proponents:**

Jonathan Siu, representing City of Seattle Department of Construction and Inspections (jon.siu@seattle.gov)

requests As Modified by Public Comment

### **Further modify as follows:**

## **2018 International Existing Building Code**

**A205.6 Testing and Inspection** Structural testing and inspection for new construction materials, submittals, reports, and certificates of compliance, shall be in accordance with Sections 1704 and 1705 of the International Building Code. Work done to comply with this chapter shall not be eligible for Exception 1 to International Building Code Section 1704.2, or Exception 2 to International Building Code Section 1705.12, ~~or the Exception to International Building Code Section 1705.12.2.~~

**Commenter's Reason:** This public comment restores an exception to special inspections for lightly-loaded wood diaphragms that was removed in the original proposal.

The proposal requires special inspections be provided as required in IBC Chapter 17, but then says three exceptions contained in Chapter 17 cannot be used--they aren't available as an option for this type of retrofit. We do not take issue with the two of the exceptions to the Chapter 17 exceptions relating to minor work (IBC 1704.2, Exception 1) or shorter concrete or masonry buildings (IBC 1704.12, Exception 2). However, we do not agree with the need for special inspections of wood shear walls and diaphragms with nail spacing greater than 4 inches (IBC 1705.12.2, Exception).

The concept behind the exception in IBC 1704.12.2 is where the element isn't heavily loaded, special inspection is not required--the hazard or risk is less. If required nail spacing for shear walls and diaphragms is greater than 4 inches, the capacities are lower than the capacities if the nail spacing is 4 inches or less. This is true whether the building is of new construction or is existing. It has been generally accepted this is an indication the wall or diaphragm is not heavily loaded. See 2015 AWC Special Design Provisions for Wind and Seismic Tables 4.2A and 4.2C for comparative nominal diaphragm values, and Tables 4.3A and 4.3B for nominal shear wall values. Because these tables have columns for 6-inch and 4-inch spacing, we're generally talking about diaphragms and shear walls nailed at 6 inches at the panel edges.

Given these diaphragms and shear walls are lightly loaded, we do not see the need to impose more stringent special inspections requirements for existing buildings than is required for new buildings of the same type of construction.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. The original proposal's statement essentially says the cost impact is neutral or marginally more. This public comment will marginally decrease the cost of the proposal, but has no effect on the cost of what the code currently requires, since it doesn't change the current requirements.

---

Public Comment# 1436

# EB147-19

IEBC@: A205.4.1 (New), [BS] A206.2

## Proposed Change as Submitted

**Proponents:** David Bonowitz, representing Self (dbonowitz@att.net)

THIS CODE CHANGE WILL BE HEARD BY THE IBC STRUCTURAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

### 2018 International Existing Building Code

**Add new text as follows:**

**A205.4.1 Additional special inspection.** In addition to the requirements of International Building Code Section 1705.12, special inspection shall be required for:

1. Installation of continuity connectors along the length of crossties, to ensure properly sized fastener holes and adequate crosstie stiffness.

**[BS] A206.2 Special requirements for wall anchorage systems.** The steel elements of the wall anchorage system shall be designed in accordance with the International Building Code without the use of the 1.33 short duration allowable stress increase where using allowable stress design.

The wall anchorage system, excluding subdiaphragms and existing roof or floor framing members, shall be stiff enough to limit the relative movement between the wall and the diaphragm to no more than 1/8" before engagement of the anchors, when subject to the wall anchorage design forces.

Wall anchors shall be provided to resist out-of-plane forces, independent of existing shear anchors.

Expansion anchors are only allowed with special inspection and *approved* testing for seismic loading.

Attaching the edge of plywood sheathing to steel ledgers is not considered compliant with the positive anchoring requirements of this chapter. Attaching the edge of steel decks to steel ledgers is not considered as providing the positive anchorage of this chapter unless testing or analysis is performed to establish shear values for the attachment perpendicular to the edge of the deck. Where steel decking is used as a wall anchor system, the existing connections shall be subject to field verification and the new connections shall be subject to special inspection.

**Exception:** Existing cast-in-place shear anchors are allowed to be used as wall anchors if the tie element can be readily attached to the anchors, and if the engineer or architect can establish tension values for the existing anchors through the use of *approved* as-built plans or testing and through analysis showing that the bolts are capable of resisting the total shear load (including dead load) while being acted on by the maximum tension force caused by an earthquake. Criteria for analysis and testing shall be determined by the building official.

**Reason:** This proposal adds a stiffness requirement for the wall anchorage system. The proposed requirement is consistent with ASCE 41-17 Table 17-34. It has the same intent as a stiffness requirement discussed in the SEAOC commentary to IEBC Chapter A2 and implemented by the City of Los Angeles Department of Building and Safety. The SEAOC and Los Angeles approach limits the elongation under load. The ASCE 41 approach, which is the approach adopted here, limits the slack in the system (including continuity connectors along the length of the cross-ties) provided by the detailing and construction.

In addition to the proposed design criteria in Section A206.2, the proposal adds a special inspection requirement to Section A205.4 to ensure that additional slack is not introduced as continuity connectors are added to crossties.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. Typical applications are expected to already satisfy the new stiffness requirement.

EB147-19

## Public Hearing Results

**Committee Action:**

**As Modified**

**Committee Modification:**

**A205.4.1 Additional special inspection.** In addition to the requirements of International Building Code Section 1705.12, special inspection shall be required for:

1. Installation of continuity connectors along the length of crossties, to ensure ~~properly sized fastener holes and adequate crosstie stiffness compliance with Section A206.2. This inspection may be periodic special inspection.~~

**[BS] A206.2 Special requirements for wall anchorage systems.** The steel elements of the wall anchorage system shall be designed in accordance with the International Building Code without the use of the 1.33 short duration allowable stress increase where using allowable stress design.

The wall anchorage system, excluding subdiaphragms and existing roof or floor framing members, shall be ~~stiff enough~~ designed and installed to limit the relative movement between the wall and the diaphragm to no more than 1/8" before engagement of the anchors, ~~when subject to the wall anchorage design forces.~~

Wall anchors shall be provided to resist out-of-plane forces, independent of existing shear anchors.

Expansion anchors are only allowed with special inspection and *approved* testing for seismic loading.

Attaching the edge of plywood sheathing to steel ledgers is not considered compliant with the positive anchoring requirements of this chapter. Attaching the edge of steel decks to steel ledgers is not considered as providing the positive anchorage of this chapter unless testing or analysis is performed to establish shear values for the attachment perpendicular to the edge of the deck. Where steel decking is used as a wall anchor system, the existing connections shall be subject to field verification and the new connections shall be subject to special inspection.

**Exception:** Existing cast-in-place shear anchors are allowed to be used as wall anchors if the tie element can be readily attached to the anchors, and if the engineer or architect can establish tension values for the existing anchors through the use of *approved* as-built plans or testing and through analysis showing that the bolts are capable of resisting the total shear load (including dead load) while being acted on by the maximum tension force caused by an earthquake. Criteria for analysis and testing shall be determined by the building official.

**Committee Reason:** The proposal adds a necessary stiffness criteria to Chapter A2. The modifications remove redundant terms and commentary type language. (Vote: 14-0)

**Assembly Action:**

**None**

EB147-19

---

## ***Individual Consideration Agenda***

### ***Public Comment 1:***

**IEBC@: A205.4.1 (New)**

#### **Proponents:**

Jenifer Gilliland, representing Seattle Department of Construction and Inspections (jenifer.gilliland@seattle.gov); Jonathan Siu, representing City of Seattle Department of Construction and Inspections (jon.siu@seattle.gov)

requests As Modified by Public Comment

#### **Modify as follows:**

### **2018 International Existing Building Code**

**A205.4.1 Additional special inspection.** In addition to the requirements of International Building Code Section 1705.12, special inspection shall be required for:

Installation of continuity connectors along the length of crossties, to ensure compliance with Section A206.2. This inspection ~~may be~~ shall be permitted to be periodic special inspection.

**Commenter's Reason:** This is an editorial modification. "May" is not mandatory code language. Adding "shall be permitted to" will align this section with the rest of the code where this phrase is used to describe circumstances not normally allowed by the code official.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. The elimination of ambiguous code language in lieu of mandatory code language will not impact the cost of construction.



# EB149-19

IEBC@: [BS] A206.2, [BS] A206.3

## *Proposed Change as Submitted*

**Proponents:** David Bonowitz, representing Self (dbonowitz@att.net)

THIS CODE CHANGE WILL BE HEARD BY THE IBC STRUCTURAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

### 2018 International Existing Building Code

**Revise as follows:**

**[BS] A206.2 Special requirements for wall anchorage systems.** The steel elements of the wall anchorage system shall be designed in accordance with the International Building Code without the use of the 1.33 short duration allowable stress increase where using allowable stress design.

Where new members are added as crossties, they shall be spaced no more than 24 feet (7315 mm) apart. Where existing girders are used as crossties, their actual spacing shall be deemed adequate even where the spacing exceeds 24 feet (7315 mm), as long as the girders are provided with adequate continuity connectors.

Wall anchors shall be provided to resist out-of-plane forces, independent of existing shear anchors.

Expansion anchors are only allowed with special inspection and *approved* testing for seismic loading.

Attaching the edge of plywood sheathing to steel ledgers is not considered compliant with the positive anchoring requirements of this chapter. Attaching the edge of steel decks to steel ledgers is not considered as providing the positive anchorage of this chapter unless testing or analysis is performed to establish shear values for the attachment perpendicular to the edge of the deck. Where steel decking is used as a wall anchor system, the existing connections shall be subject to field verification and the new connections shall be subject to special inspection.

**Exception:** Existing cast-in-place shear anchors are allowed to be used as wall anchors if the tie element can be readily attached to the anchors, and if the engineer or architect can establish tension values for the existing anchors through the use of *approved* as-built plans or testing and through analysis showing that the bolts are capable of resisting the total shear load (including dead load) while being acted on by the maximum tension force caused by an earthquake. Criteria for analysis and testing shall be determined by the building official.

**[BS] A206.3 Development of anchor loads into the diaphragm.** Development of anchor loads into roof and floor diaphragms shall comply with Section 1613 of the International Building Code using horizontal forces that are 75 percent of those used for new construction.

In wood diaphragms, anchorage shall not be accomplished by use of toenails or nails subject to withdrawal. Wood ledgers, top plates or framing shall not be used in cross-grain bending or cross-grain tension. The continuous ties required in Section 1613 of the International Building Code shall be in addition to the diaphragm sheathing.

Lengths of development of anchor loads in wood diaphragms shall be based on existing field nailing of the sheathing unless existing edge nailing is positively identified on the original construction plans or at the site.

**Exception:** ~~If continuously tied girders are present, the maximum spacing of the continuity ties is the greater of the girder spacing or 24 feet (7315 mm).~~

**Reason:** This editorial proposal corrects a misplaced provision and clarifies its intent. The current exception to Section A206.3 is out of place for two reasons. First, it is unrelated to the issue of load development into the diaphragm (crossties must be continuous across the full diaphragm width), so it really belongs in Section A206.2. Second, since ASCE 7 sets no limit on the maximum spacing of crossties, the provision is not really an exception at all. Therefore, as the existing text is relocated to Section A206.2, it has been edited to clarify the intended spacing limit and the allowance where existing members act as adequate crossties.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction Editorial therefore will have no impact on cost.

EB149-19

## *Public Hearing Results*

**Committee Action:**

**As Submitted**

**Committee Reason:** This proposal is editorial in nature whereas it relocates, from section A206.3 to A206.2, the special requirements for wall anchorages systems where new members are added as crossties. The committee urged that during the public comment phase 'girders' be changed to 'members'.

(Vote: 14-0)

**Assembly Action:**

**None**

EB149-19

**Individual Consideration Agenda**

**Public Comment 1:**

IEBC@: [BS] A206.2

**Proponents:**

David Bonowitz, representing Self (dbonowitz@att.net)

requests As Modified by Public Comment

**Modify as follows:**

**2018 International Existing Building Code**

**[BS] A206.2 Special requirements for wall anchorage systems.** The steel elements of the wall anchorage system shall be designed in accordance with the International Building Code without the use of the 1.33 short duration allowable stress increase where using allowable stress design.

Where new members are added as crossties, they shall be spaced no more than 24 feet (7315 mm) apart. Where existing girders are used as crossties, their actual spacing shall be deemed adequate even where the spacing exceeds 24 feet (7315 mm), as long as the girders are provided with ~~adequate~~ continuity connectors as required.

Wall anchors shall be provided to resist out-of-plane forces, independent of existing shear anchors.

Expansion anchors are only allowed with special inspection and *approved* testing for seismic loading.

Attaching the edge of plywood sheathing to steel ledgers is not considered compliant with the positive anchoring requirements of this chapter. Attaching the edge of steel decks to steel ledgers is not considered as providing the positive anchorage of this chapter unless testing or analysis is performed to establish shear values for the attachment perpendicular to the edge of the deck. Where steel decking is used as a wall anchor system, the existing connections shall be subject to field verification and the new connections shall be subject to special inspection.

**Exception:** Existing cast-in-place shear anchors are allowed to be used as wall anchors if the tie element can be readily attached to the anchors, and if the engineer or architect can establish tension values for the existing anchors through the use of *approved* as-built plans or testing and through analysis showing that the bolts are capable of resisting the total shear load (including dead load) while being acted on by the maximum tension force caused by an earthquake. Criteria for analysis and testing shall be determined by the building official.

**Commenter's Reason:** The IBC-S committee approved EB149-19 as submitted. During testimony, however, committee members suggested that "adequate continuity connectors" could be changed to "continuity connectors as required," to make the provision more enforceable. This PC responds to that committee suggestion. (Note, the term continuity connector is now defined by proposal EB141, also approved by the committee.)

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. The proposal and the PC are editorial.

Public Comment# 2137

**Proposed Change as Submitted**

**Proponents:** David Bonowitz, representing Self (dbonowitz@att.net)

THIS CODE CHANGE WILL BE HEARD BY THE IBC STRUCTURAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

**2018 International Existing Building Code**

**Delete and substitute as follows:**

~~**[BS] A403.8 Horizontal diaphragms.** The strength of an existing horizontal diaphragm sheathed with wood structural panels or diagonal sheathing need not be investigated unless the diaphragm is required to transfer lateral forces from vertical elements of the seismic force-resisting system above the diaphragm to elements below the diaphragm because of an offset in placement of the elements.~~

~~Rotational effects shall be accounted for where asymmetric wall stiffness increases shear demands.~~

**[BS] A403.8 Floor diaphragms.** Floor diaphragms within the scope of Section A403.2 shall be shown to have adequate strength at the following locations:

1. For straight lumber sheathed diaphragms without integral hardwood flooring: Throughout the diaphragm. The code official is authorized to waive the requirement where the condition occurs only in relatively small portions of each residential unit.
2. For other diaphragms: At locations where forces are transferred between the diaphragm and a new or strengthened vertical element of the seismic force-resisting system. Collector elements may be provided to distribute the transferred force over a greater length of diaphragm.

**Exception:** Where the existing vertical elements of the seismic force-resisting system are shown to comply with this chapter, diaphragms need not be evaluated.

**Reason:** This proposal clarifies the chapter's intent regarding the need for diaphragm strengthening. The current provision focuses on locations where the walls above and below the diaphragm are offset from each other, but this can be read improperly to mean the entire diaphragm since a lack of stacked walls in the lower story is typically what makes a building a candidate for Chapter A4. Instead, the focus should be on proper force transfer between the critical diaphragm and the new or existing wall lines below.

The proposal implements a recommendation by the Structural Engineers Association of Northern California Existing Buildings Committee that has already been adopted by retrofit programs affecting thousands of buildings in San Francisco, Berkeley, and Oakland, California.

The proposal recognizes that diaphragms are rarely the critical elements in these buildings. In many cases, the proposed requirement will require less work than the current provision. This is appropriate for the limited objective of Chapter A4.

The proposal also adds clarity by stating requirements for vulnerable diaphragm types that the current provision only implies.

Straight lumber sheathed diaphragms without integral hardwood flooring are weaker and more flexible than other diaphragm systems. Though there are no known collapses due to this condition, expected poor performance could compromise the building's ability to meet even the limited objective of Chapter A4. Integral hardwood flooring – but not newer “floating” wood flooring – provides significant added strength and stiffness. Even in buildings with original hardwood flooring, some remodeled, carpeted, or tiled areas might have had the original wood flooring removed. Areas of the diaphragm that form a roof for the critical story (such as the portion of a garage that extends beyond the wall line above, or at a lightwell or building setback) are also unlikely to have hardwood flooring to supplement the straight sheathing. Small isolated areas without hardwood flooring are not expected to affect overall building performance, so the provision grants a waiver for these cases.

For less vulnerable diaphragm types, the provision requires a local check for each new or strengthened SFRS element but does not require an overall analysis of the full diaphragm. Diaphragm capacity need not be checked at existing vertical elements that are not strengthened because (except for straight lumber sheathed diaphragms) it is assumed that the unit capacities of the existing vertical elements and the diaphragm are comparable.

The exception waives any retrofit of the diaphragms if the existing walls and frames are already found adequate.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. In some cases, it could decrease the cost of construction as it may require less work than the current provisions.

## **Public Hearing Results**

**Committee Action:**

**As Modified**

**Committee Modification:**

**[BS] A403.8 Floor diaphragms.** Floor diaphragms within the scope of Section A403.2 shall be shown to have adequate strength at the following locations:

1. For straight lumber sheathed diaphragms without integral hardwood flooring: Throughout the diaphragm. The code official is authorized to waive the requirement where the condition occurs only in relatively small portions of each residential unit.
2. For all other diaphragms: At locations where forces are transferred between the diaphragm and ~~a~~ each new or strengthened vertical element of the seismic force-resisting system. Collector elements ~~may~~ shall be provided where needed to distribute the transferred force over a greater length of diaphragm.

**Exception:** Where the existing vertical elements of the seismic force-resisting system are shown to comply with this chapter, diaphragms need not be evaluated.

**Committee Reason:** This proposal clarifies the chapter's intent regarding the need for diaphragm strengthening. The current provision focuses on locations where the walls above and below the diaphragm are offset from each other, but this can be read improperly to mean the entire diaphragm since a lack of stacked walls in the lower story is typically what makes a building a candidate for Chapter A4. Instead, the focus should be on proper force transfer between the critical diaphragm and the new or existing wall lines below. The proposal implements a recommendation by the Structural Engineers Association of Northern California Existing Buildings Committee that has already been adopted by retrofit programs affecting thousands of buildings in San Francisco, Berkeley, and Oakland, California. The modifications makes editorial revisions to clarify the application of the section. The committee requests a public comment to address unenforceable language such as "in relatively small portions." (Vote: 14-0)

**Assembly Action:**

**None**

EB161-19

---

## **Individual Consideration Agenda**

**Public Comment 1:**

IEBC@: [BS] A403.8

**Proponents:**

David Bonowitz, representing Self (dbonowitz@att.net)

requests As Modified by Public Comment

**Further modify as follows:**

### **2018 International Existing Building Code**

**[BS] A403.8 Floor diaphragms.** Floor diaphragms within the scope of Section A403.2 shall be shown to have adequate strength at the following locations:

1. For straight lumber sheathed diaphragms without integral hardwood flooring Throughout the diaphragm. The code official is authorized to waive the requirement where it is shown that the condition occurs in areas small enough not to affect overall building performance ~~only in relatively small portions of each residential unit.~~
2. For all other diaphragms: At locations where forces are transferred between the diaphragm and each new or strengthened vertical element of the seismic force-resisting system. Collector elements shall be provided where needed to distribute the transferred force over a greater length of diaphragm.

**Exception:** Where the existing vertical elements of the seismic force-resisting system are shown to comply with this chapter, diaphragms need not be evaluated.

**Commenter's Reason:** The IBC-S committee approved this proposal as a valuable improvement already adopted in several jurisdictions. As noted

in the committee's reason, however, members suggested revising some of the wording to make the provision more enforceable. This proposal accepts that suggestion and uses wording offered by a committee member consistent with the proposal's reason statement. By saying "where it is shown," the provision now provides a mechanism for justifying the waiver, requiring the engineer of record to provide reasoning.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. As with the original proposal, the proposal modified by public comment is intended only to clarify the current requirements but could, in some cases, actually reduce the cost of design and construction.

---

Public Comment# 2138

# EB163-19

IEBC@: A403.10 (New), A403.10.1 (New), A403.10.2 (New), A403.10.3 (New), A403.10.4 (New), AISC (New)

## Proposed Change as Submitted

**Proponents:** David Bonowitz, representing Self (dbonowitz@att.net)

THIS CODE CHANGE WILL BE HEARD BY THE IBC STRUCTURAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

### 2018 International Existing Building Code

**Add new text as follows:**

**A403.10 Steel retrofit systems.** Steel retrofit systems shall have strength and stiffness sufficient to resist the seismic loads and shall conform to the requirements of this section.

**A403.10.1 Special moment frames.** Steel special moment frames shall comply with all applicable provisions of AISC 341, except that the “strong-column/weak-beam” provision of AISC 341-10, Section E3.4a is waived for columns that carry no gravity load. Proprietary frame systems that qualify as special moment frames shall be permitted.

**A403.10.2 Intermediate or ordinary moment frames.** Steel intermediate or ordinary moment frames shall comply with all applicable provisions of AISC 341.

**A403.10.3 Cantilevered column systems.** Steel special or ordinary cantilevered column systems shall comply with all applicable provisions of AISC 341.

**A403.10.4 Inverted moment frame systems.** Cantilevered column systems shall be permitted to be designed as inverted special, intermediate, or ordinary moment frames, with corresponding moment frame seismic design coefficients, where the system satisfies the following conditions:

1. The columns carry no gravity load.
2. The columns are configured in pairs or larger groups connected by a continuous reinforced concrete foundation or grade beam.
3. The foundation or grade beam shall be designed to resist the expected plastic moment at the base of each column, computed as  $R_v F_y Z$  in accordance with AISC 341.
4. The flexibility of the foundation or grade beam, considering cracked section properties of the reinforced concrete, shall be included in computing the deformation of the steel frame system.
5. The column height shall be taken as twice the actual height when checking lateral torsional buckling.

**Add new standard(s) as follows:**

## AISC

American Institute of Steel Construction  
Construction One East Wacker, Suite 700  
Chicago IL 60601-18021  
US

### **341-16: Seismic Provisions for Structural Steel Buildings**

**Reason:** This proposal adds details for structural systems commonly used in Chapter A4 retrofits. The proposal implements a recommendation by the Structural Engineers Association of Northern California Existing Buildings Committee that has already been adopted by retrofit programs affecting thousands of buildings in San Francisco, Berkeley, and Oakland, California.

The inverted moment frame (proposed Section A403.10.4) is a modification of traditional cantilevered column systems. Cantilevered column systems for new construction are normally assigned seismic design coefficients that severely limit their use. When used for retrofit of wood frame structures, however, the columns are less vulnerable to buckling failure because they carry no gravity load. SEAONC EBC has therefore recommended that these cantilever column systems, configured as upside-down moment frame bents (with concrete cross beams), should be allowed to be designed as moment frame systems.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. The proposal merely codifies typical practices already in use and shown to be feasible.

**Staff Analysis:** Note that AISC 341 is new to the IEBC but is currently referenced in the IBC.

EB163-19

## Public Hearing Results

**Committee Action:**

**As Modified**

**Committee Modification:**

**A403.10.1 Special moment frames.** Steel special moment frames shall comply with all applicable provisions of AISC 341, except that the "strong-column/weak-beam" provision of AISC 341-10, Section E3.4a is waived for columns that carry no gravity load. Proprietary frame systems that qualify as special moment frames shall be permitted.

**Committee Reason:** The committee agreed with the proponents reason statement. The editorial modification removes the year from the AISC 341 reference as the year is included in Chapter 35 listing the reference standards. (Vote: 14-0)

**Assembly Action:**

**None**

EB163-19

## **Individual Consideration Agenda**

### **Public Comment 1:**

**IEBC@: A403.10 (New), A403.10.1 (New), A403.10.2 (New), A403.10.3 (New), AISC (New)**

**Proponents:**

Jenifer Gilliland, representing Seattle Department of Construction and Inspections (SDCI) (jenifer.gilliland@seattle.gov); Jonathan Siu, representing City of Seattle Department of Construction and Inspections (jon.siu@seattle.gov)

requests As Modified by Public Comment

**Modify as follows:**

### **2018 International Existing Building Code**

**A403.10 Steel retrofit systems.** Steel retrofit systems shall have strength and stiffness sufficient to resist the seismic loads and shall conform to the requirements of this section.

**A403.10.1 Special moment frames.** Steel special moment frames shall comply with all applicable provisions of AISC 341, except that the "strong-column/weak-beam" provision of AISC 341, Section E3.4a is waived for columns that carry no gravity load. ~~Proprietary frame systems that qualify as special moment frames shall be permitted.~~

~~**A403.10.2 Intermediate or ordinary moment frames.** Steel intermediate or ordinary moment frames shall comply with all applicable provisions of AISC 341.~~

~~**A403.10.3 Cantilevered column systems.** Steel special or ordinary cantilevered column systems shall comply with all applicable provisions of AISC 341.~~

~~**A403.10.4 A403.10.2 Inverted moment frame systems.** Cantilevered column systems shall be permitted to be designed as inverted special, intermediate, or ordinary moment frames, with corresponding moment frame seismic design coefficients, where the system satisfies the following conditions:~~

1. The columns carry no gravity load.
2. The columns are configured in pairs or larger groups connected by a continuous reinforced concrete foundation or grade beam.
3. The foundation or grade beam shall be designed to resist the expected plastic moment at the base of each column, computed as  $R_y F_y Z$  in accordance with AISC 341.
4. The flexibility of the foundation or grade beam, considering cracked section properties of the reinforced concrete, shall be included in computing the deformation of the steel frame system.
5. The column height shall be taken as twice the actual height when checking lateral torsional buckling.

# **AISC**

American Institute of Steel Construction  
Construction One East Wacker, Suite 700  
Chicago IL 60601-18021  
US

### **341-16: Seismic Provisions for Structural Steel Buildings**

**Commenter's Reason:** We support the technical content in the original proposal. This public comment removes unnecessary code language referenced elsewhere in the code as well as addresses the concern of creating incomplete lists.

ASCE 7 and AISC 341 are adopted reference standards in the IBC with clearly defined and acceptable steel lateral force-resisting systems. There is no need to add code language to point to what are already allowable steel lateral force-resisting systems. We understand the proponent's desire to clarify that proprietary special moment frames, intermediate or ordinary moment frames, and cantilevered column systems can be used with no further requirements or exceptions. However, these systems are already allowed by code. In addition, by listing a limited number of code allowed steel lateral force-resisting systems engineers or building officials may misinterpret as only those systems listed may be used. What about steel concentrically braced frames or steel buckling-restrained braced frames? Incomplete lists can unintentionally be limiting and should be avoided.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. The public comment removes language contained in other code sections and eliminates language that could be mistakenly used as an incomplete list. Neither of these changes result in a cost impact.

---

Public Comment# 1865

# EB164-19

IEBC@: SECTION A406, [BS] A406.1

## Proposed Change as Submitted

**Proponents:** David Bonowitz, representing Self (dbonowitz@att.net)

THIS CODE CHANGE WILL BE HEARD BY THE IBC STRUCTURAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

### 2018 International Existing Building Code

Revise as follows:

#### **SECTION A406** **INFORMATION REQUIRED TO BE ON THE PLANS CONSTRUCTION DOCUMENTS**

**[BS] A406.1 General.** The plans shall show all information necessary for plan review and for construction ~~and~~, shall accurately reflect the results of the ~~engineering investigation and design~~ design, and shall otherwise comply with all requirements established by the code official. The plans shall contain a note that states that this retrofit was designed in compliance with the criteria of this chapter.

**Reason:** This proposal revises the Chapter A4 administrative requirements to better align with IEBC Section 106 and with practices already adopted by the local building department.

The reference to "engineering investigation" is removed to avoid confusion (Chapter A4 does not explicitly require any such investigation) and because the "design" should already account for existing conditions, which are required to be documented per Section A406.2.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction

This proposal is consistent with Section 106 and is also consistent with local building department practices and therefore will not have an effect on cost.

EB164-19

## Public Hearing Results

**Committee Action:**

**As Submitted**

**Committee Reason:** The proposal was approved based upon the proponents reason statement. Additionally, the revisions delete unnecessary requirements for field investigation notes on the drawings.

(Vote: 11-3)

**Assembly Action:**

**None**

EB164-19

## Individual Consideration Agenda

### **Public Comment 1:**

IEBC@: [BS] A406.1

**Proponents:**

David Bonowitz, representing Self (dbonowitz@att.net)

requests As Modified by Public Comment

**Modify as follows:**

### 2018 International Existing Building Code

**[BS] A406.1 General.** The plans shall show all information necessary for plan review and for construction; and shall accurately reflect the results of

the design, ~~and shall otherwise comply with all requirements established by the code official.~~ The plans shall contain a note that states that this retrofit was designed in compliance with the criteria of this chapter.

**Commenter's Reason:** The IBC-S committee approved EB164 as submitted. During testimony, however, some committee members questioned the referent of the proposed word "otherwise," some suggested that the phrase involving that word is unnecessary, and some suggested that the "otherwise" phrase is actually an important part of the proposal.

Everyone, however, agreed (as the committee's reason statement says) that the proposal is valuable for removing an improper and confusing requirement regarding whether to put engineering investigation findings on the plans (especially since IEBC Chapter A4 does not require an engineering investigation). Therefore, this comment is meant to focus on the portion that everyone agreed on, and give the ICC members a choice between the proposal as submitted and the proposal as modified by this comment.

**Cost Impact:** The net effect of the public comment and code change proposal will not increase or decrease the cost of construction Same as the original proposal.

---

Public Comment# 2141