Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: 202

Posted: April 9, 2018

Correction:

[BG BE] EMPLOYEE WORK AREA. All or any portion of a space used only by employees and only for work. *Corridors*, toilet rooms, kitchenettes and break rooms are not employee work areas.

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: 202

Posted: April 9, 2018

Correction:

[BS] HURRICANE-PRONE REGIONS. Areas vulnerable to hurricanes defined as:

- 1. The U. S. Atlantic Ocean and Gulf of Mexico coasts where the <u>ultimate basic</u> design wind speed, <u>V_{ult7} V</u> for Risk Category buildings is greater than 115 mph (51.4 m/s);
- 2. Hawaii, Puerto Rico, Guam, Virgin Islands and American Samoa.

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: 202

Posted: April 9, 2018

Correction:

[BS] LIGHT-FRAME CONSTRUCTION. A type of construction Construction whose vertical and horizontal structural elements are primarily formed by a system of repetitive wood or cold-formed steel framing members.

Correlation Notes: This would also need a margin bar next to it.

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: 202

Posted: April 9, 2018

Correction:

[F BE] OPEN-AIR ASSEMBLY SEATING. Seating served by *means of egress* that is not subject to smoke accumulation within or under a structure and is open to the atmosphere.

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: 202

Posted: April 9, 2018

Correction:

[BS] ROOF REPAIR. Reconstruction or renewal of any part of an existing roof for the purposes of its maintenance correcting damage or restoring the pre-damage condition.

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: 202

Posted: April 9, 20184-9-2018

Correction:

[BS] SITE CLASS. A classification assigned to a site based on the types of soils present and their engineering properties as defined in Section $\frac{1613.3.2}{1613.2.2}$.

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: 202

Posted: April 9, 2018

Correction:

[BS] SITE COEFFICIENTS. The values of F_a and F_v indicated in Tables $\frac{1613.3.3(1)}{1613.2.3(2)}$ and $\frac{1613.2.3(2)}{1613.2.3(2)}$, respectively.

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: 202

Posted: April 9, 2018

Correction:

START OF CONSTRUCTION. The date of permit issuance for new construction and substantial improvements to existing structures, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement is within 180 days after the date of issuance. The actual start of construction means the first placement of permanent construction of a building (including a manufactured home) on a site, such as the pouring of a slab or footings, installation of pilings or construction of columns.

Permanent construction does not include land preparation (such as clearing, excavation, grading or filling), the installation of streets or walkways, excavation for a basement, footings, piers or foundations, the erection of temporary forms or the installation of accessory buildings such as garages or sheds not occupied as dwelling units or not part of the main building. For a substantial improvement, the actual "start of construction" means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Correlation Notes: Term is not used in 2018 IBC, see 2018 IEBC

406.4.2

Errata: 2018 IBC Chapter 4 SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** 406.4.2

Posted: April 9, 2018

Correction:

406.4.2 Vehicle barriers. Vehicle barriers not less than 2 feet 9 inches (835 mm) in height shall be placed where the vertical distance from the floor of a drive lane or parking space to the ground or surface directly below is greater than 1 foot (305 mm). Vehicle barriers shall comply with the loading requirements of Section 1607.8.3 1607.9.

420.2

Errata: 2018 IBC Chapter 4 SPECIAL DETAILED REQUIREMENTS

BASED ON OCCUPANCY AND USE

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: 420.2

Posted: April 9, 2018

Correction:

420.2 Separation walls. Walls separating *dwelling units* in the same building, walls separating *sleeping units* in the same building and walls separating *dwelling* or *sleeping units* from other occupancies contiguous to them in the same building shall be constructed as *fire partitions* in accordance with Section 708.

Exceptions:

- 1. Where sleeping units include private bathrooms, walls between bedrooms and the associated private bathrooms are not required to be constructed as fire partitions.
- 2. Where sleeping units are constructed as suites, walls between bedrooms within the sleeping unit and the walls between the bedrooms and associated living spaces are not required to be constructed as fire partitions.
- 3. In Group R-3 and R-4 facilities, walls within the dwelling units or sleeping units are not required to be constructed as fire partitions

420.3

Errata: 2018 IBC Chapter 4 SPECIAL DETAILED REQUIREMENTS

BASED ON OCCUPANCY AND USE

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: 420.2

Posted: June 8, 2018

Correction:

420.3 Horizontal separation. Floor assemblies separating *dwelling units* in the same buildings, floor assemblies separating *sleeping units* in the same building and floor assemblies separating *dwelling* or *sleeping units* from other occupancies contiguous to them in the same building shall be constructed as *horizontal assemblies* in accordance with Section 711.

Exception: In Group R-3 and R-4 facilities, floor assemblies within the dwelling units or sleeping units are not required to be constructed as horizontal assemblies.

Correlation/Historical Notes: These exceptions in Sections 420.2 and 420.3 were never adopted. Code change proposals G118-15 and G119-15 were withdrawn late in the process. The withdrawals were missed when Chapter 4 was assembled for publication.

423.4.1

Errata: 2018 IBC Chapter 4 SPECIAL DETAILED REQUIREMENTS

BASED ON OCCUPANCY AND USE

Code/Standard: 2018 International Building Code **Applies to following Printings:** 1st and 2nd Printings

Section/Table/Figure Number: Section 423.4.1

Posted: 7/1/19

Correction:

423.4.1 Required occupant capacity. The required occupant capacity of the storm shelter shall include all of the buildings on the site and shall be the greater of the following:

- 1. The total occupant load of the classrooms, vocational rooms and offices in the Group E occupancy.
- 2. The occupant load of any indoor assembly space that is associated with the Group E occupancy.

Exceptions:

- 1. Where a new building is being added on an existing Group E site, and where the new building is not of sufficient size to accommodate the required occupant capacity of the storm shelter for all of the buildings on the site, the storm shelter shall at a minimum accommodate the required occupant capacity for the new building.
- 2. Where approved by the code official, the required occupant capacity of the shelter shall be permitted to be reduced by the occupant capacity of any existing storm shelters on the site.

Correlation Notes: The erratum is to shift the exceptions to the left. The exceptions apply to the entire preceding paragraph including items 1 and 2.

Errata: 2018 IBC Chapter 4 SPECIAL DETAILED REQUIREMENTS

BASED ON OCCUPANCY AND USE

Code/Standard: 2018 International Building Code Applies to following Printings: 1st Printing Section/Table/Figure Number: Sections 424.4

Posted: October 11, 2018

Correction:

424.4 Separation. Children's play structures shall have a horizontal separation from building walls, partitions and from elements of the *means of egress* of not less than 5 feet (1524 mm). Children's playground play structures shall have a horizontal separation from other children's play structures of not less than 20 feet (6090 mm).

Correlation/Historical Notes: The term 'playground structure' was simplified to 'play structure' in each location that it occurred as a result of code change FS139-09/10. In the editorial process for the 2012 code, this one instance was missed.

503.1.4

Errata 2018 IBC Chapter 5 GENERAL BUILDING HEIGHT AND AREAS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number: 503.1.4**

Posted: December 17, 2018

Correction:

503.1.4 Occupied roofs. A roof level or portion thereof shall be permitted to be used as an occupied roof provided the occupancy of the roof is an occupancy that is permitted by Table 504.4 for the story immediately below the roof. The area of the occupied roofs shall not be included in the building area as regulated by Section 506.

Exceptions:

- 1. The occupancy located on an occupied roof shall not be limited to the occupancies allowed on the *story* immediately below the roof where the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 and occupant notification in accordance with Section 907.5 is provided in the area of the occupied roof.
- Assembly occupancies shall be permitted on roofs of open parking spaces garages
 of Type I or Type II construction, in accordance with the exception to Section
 903.2.1.6.

(Note: Electronic version has misspelled 'permitted' in the main paragraph and 'sprinkler' in Exception 1)

TABLE 506.2

Errata 2018 IBC Chapter 5 GENERAL BUILDING HEIGHT AND AREAS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st, 2nd, 3rd and 4th Printings

Section/Table/Figure Number: 507.8.1

Posted: September 28, 2020

Correction:

TABLE 506.2

ALLOWABLE AREA FACTOR (At = NS, S1, S13R, S13D or SM, as applicable) IN SQUARE FEET ^{a, b}

(Portions of the table and footnotes not shown remain unchanged)

a. See Chapters 4 and 5 for specific exceptions to the allowable height area in this chapter.

Correlation Notes: G101-12

507.8.1

Errata 2018 IBC Chapter 5 GENERAL BUILDING HEIGHT AND AREAS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number: 507.8.1**

Posted: April 9, 2018

Correction:

507.8.1 Allowable area. The aggregate floor area of Group H occupancies located in an unlimited area building shall not exceed 10 percent of the area of the building er nor the area limitations for the Group H occupancies as specified in Section 506 based on the perimeter of each Group H floor area that fronts on a *public way* or open space.

TABLE 716.1(2)

Errata 2018 IBC Chapter 7 FIRE AND SMOKE PROTECTION FEATURES

Code/Standard: 2018 International Building Code **Applies to following Printings:** 5th printing

Section/Table/Figure Number: TABLE 716.1(2)

Posted: October 21, 2021

TABLE 716.1(2) OPENING FIRE PROTECTION ASSEMBLIES, RATINGS AND MARKINGS

TYPE OF ASSEMBLY	REQUIRED WALL ASSEMBLY RATING (hours)	MINIMUM FIRE DOOR AND FIRE SHUTTER ASSEMBLY RATING (hours)	DOOR VISION PANEL SIZE ^b	FIRE-RATED GLAZING MARKING DOOR VISION PANEL ^d	MINIMUM SIDELIGHT/TRANSOM ASSEMBLY RATING (hours)	FIRE-RATED GLAZING MARKING SIDELIGHT/TRANSOM PANEL
Other fire barriers			D-H <u>-45</u>	3/ ₄ h	D-H <u>-45</u> ^h	

(Portions of table not shown remain unchanged)

TABLE 721.1(2)

Errata 2018 IBC Chapter 7 FIRE AND SMOKE PROTECTION FEATURES

Code/Standard: 2018 International Building Code **Applies to following Printings:** 1st and 2nd Printings

Section/Table/Figure Number: TABLE 721.1(2) RATED FIRE-RESISTANCE PERIODS FOR

VARIOUS WALLS AND PARTITIONS

Posted: 7/1/19

Correction:

TABLE 721.1(2) RATED FIRE-RESISTANCE PERIODS FOR VARIOUS WALLS AND PARTITIONS $^{\rm a,\,o,\,p}$

MATERIAL	ITEM NUMBER			MINIMUM FINISHED THICKNESS FACE-TO- FACE ^b (inches)			
				3 hours	2 hours	1 hour	
16. Exterior walls rated for fire resistance from the inside only in accordance with Section 705.5.	16-1.1 ^q	$2" \times 4"$ wood studs at 16" centers with double top plates, single bottom plate; interior side covered with $^{5}/_{8}"$ Type X gypsum wallboard, $4"$ $4'$ wide, applied horizontally unblocked, and fastened with $2^{1}/_{4}"$ Type S drywall screws, spaced 12" on center, wallboard joints covered with paper tape and joint compound, fastener heads covered with joint compound. Exterior covered with $^{3}/_{8}"$ wood structural panels, applied vertically, horizontal joints blocked and fastened with 6d common nails (bright) — 12" on center in the field, and 6" on center panel edges. Cavity to be filled with $^{3}/_{2}"$ mineral wool insulation. Rating established for exposure from interior side only.	_	_		4 ¹ / ₂	
	16-1.2 ^q	$2" \times 6"$ wood studs at $16"$ centers with double top plates, single bottom plate; interior side covered with $^{5}/_{8}"$ Type X gypsum wallboard, $4"$ $4"$ wide, applied horizontally or vertically with vertical joints over studs and fastened with $2^{1}/_{4}"$ Type S drywall screws, spaced $12"$ on center, wallboard joints covered with paper tape and joint compound, fastener heads covered with joint compound, exterior side covered with $^{7}/_{16}"$ wood structural panels fastened with 6 common nails (bright) spaced $12"$ on center in the field and $6"$ on center along the panel edges. Cavity to be filled with $5^{1}/_{2}"$ mineral wool insulation. Rating established from the gypsum-covered side only.	_	_	1	69/1	
	16-1.3 ^q	$2" \times 6"$ wood studs at 16" centers with double top plates, single bottom plates; interior side covered with $^{5}/_{8}"$ Type X gypsum wallboard, $4"$ $\underline{4"}$ wide, applied vertically with all joints over framing or blocking and fastened with $2^{1}/_{4}"$ Type S drywall screws spaced 7" on center. Joints to be covered with tape and joint compound. Exterior covered with $^{3}/_{8}"$ wood structural panels, applied vertically with edges over framing or blocking and fastened with 6d common nails (bright) at 12" on center in the field and 6" on center on panel edges. R-19 mineral fiber insulation installed in stud cavity. Rating established from the gypsum-covered side only.	_	_		6 ¹ / ₂	

Preface to Chapter 8

Errata 2018 IBC Chapter 8 INTERIOR FINISHES

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: Preface before the chapter

Posted: April 9, 2018

Correction:

Chapter 8 contains the performance requirements for controlling fire growth and smoke propagation within buildings by restricting interior finish and decorative materials. The provisions of this chapter require materials used as interior finishes and decorations to meet certain flame spread index or flame propagation criteria and smoke development criteria based on the relative fire hazard associated with the occupancy. The performance of the material is evaluated based on test standards.

Code development reminder: Code change proposals to sections preceded by the designation [F] will be considered by the International Fire Code Development Committee during the 2019 (Group B) Code Development Cycle. See explanation on page iv.

TABLE 903.2.11.6

Errata 2018 **IBC Chapter 9 FIRE PROTECTION SAFETY AND LIFE SYSTEMS**

Code/Standard: 2018 International Building Code Applies to following Printings: 1st printing Section/Table/Figure Number: TABLE 903.2.11.6

Posted: April 9, 2018

Correction:

[F] TABLE 903.2.11.6 ADDITIONAL REQUIRED SUPPRESSION SYSTEMS

SECTION	SUBJECT
402.5, 402.6.2	Covered and open mall buildings
403.3	High-rise buildings
404.3	Atriums
405.3	Underground structures
407.6 -407.7	Group I-2
410.7 410.6	Stages
411.4 411.3	Special amusement buildings
412.3.6 412.2.4	Airport traffic control towers
412.4.6, 412.4.6.1, 412.6.5 412.3.6, 412.3.6.1, 412.5.6	Aircraft hangars
415.11.11	Group H-5 HPM exhaust ducts
416.5	Flammable finishes
417.4	Drying rooms
419.5	Live/work units
424.3	Children's play structures
427 428	Buildings containing laboratory suites
507	Unlimited area buildings
509.4	Incidental uses
1029.6.2.3	Smoke-protected assembly seating
IFC	Sprinkler system requirements as set forth in Section 903.2.11.6 of the <i>International Fire Code</i>

907.2.6.1.1

Errata 2018 IBC Chapter 9 FIRE PROTECTION SAFETY AND LIFE SYSTEMS

Code/Standard: 2018 International Building Code **Applies to following Printings:** 1st printing **Section/Table/Figure Number:** Section 907.2.6.1.1

Posted: October 11, 2018

Correction:

907.2.6.1.1 Smoke alarms. Single- and multiple-station smoke alarms shall be installed in accordance with Section $\frac{907.2.11}{907.2.10}$.

907.2.23

Errata 2018 IBC Chapter 9 FIRE PROTECTION SAFETY AND LIFE SYSTEMS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** 907.2.23

Posted: December 18, 2018

Correction:

[F] 907.2.23 Capacitor energy storage systems. An automatic smoke detection system shall be installed in areas containing capacitor energy storage systems as required by Section 1206.3 of the *International Fire Code*.

907.3.2

Errata 2018 IBC Chapter 9 FIRE PROTECTION SAFETY AND LIFE SYSTEMS

Code/Standard: 2018 International Building Code Applies to following Printings: 1st printing Section/Table/Figure Number: Section 907.3.2

Posted: December 18, 2018

Correction:

[F] 907.3.2 Special locking systems. Where special locking systems are installed on means of egress doors in accordance with Sections 1010.1.9.6 or 1010.1.9.7 or 1010.1.9.8, an automatic detection system shall be installed as required by that section.

907.5.2.3.3

Errata 2018 IBC Chapter 9 FIRE PROTECTION SAFETY AND LIFE SYSTEMS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** 907.5.2.3.3

Posted: April 9, 2018

Correction:

[F] 907.5.2.3.3 Group R-2. In Group R-2 occupancies required by Section 907 to have a fire alarm system, each *story* that contains *dwelling units* and *sleeping units* shall be provided with the capability to support visible alarm notification appliances in accordance with Chapter 10 44 of ICC A117.1. Such capability shall accommodate wired or wireless equipment. The future capability shall include one of the following:

- 1. The interconnection of the building fire alarm system with the unit smoke alarms.
- 2. The replacement of audible appliances with combination audible/visible appliances.
- 3. The future extension of the existing wiring from the unit smoke alarm locations to required locations for visible appliances.

911.1.3

Errata 2018 IBC Chapter 9 FIRE PROTECTION SAFETY AND LIFE SYSTEMS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** 911.1.3

Posted: April 9, 2018

Correction:

[F] 911.1.3 Size. The *fire command center* shall be not less than 0.015 percent of the total building area of the facility served or 200 square feet (19 m₂) in area, whichever is greater, with a minimum dimension of 0.7 times the square root of the room area or 10 feet (3048 mm), whichever is greater. The room shall be not less than 200 square feet (19 m₂) with a minimum dimension of 10 feet (3048 mm).

[F] 916.2.1

Errata 2018 IBC Chapter 9 FIRE PROTECTION SAFETY AND LIFE SYSTEMS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** [F] 916.2.1

Posted: April 9, 2018

Correction:

[F] 916.2.1 Construction documents. Documentation of the gas detection system design and equipment to be used that demonstrates compliance with the requirements of this code <u>and the International Fire Code</u> shall be provided with the application for permit.

Errata 2018 IBC Chapter 9 FIRE PROTECTION AND FIRE SAFETY SYSTEMS

Code/Standard: 2018 International Building Code

Applies to following Printings: 2nd printing

Section/Table/Figure Number: 916.7

Posted: April 1, 2019

Correction:

[F] 916.7 Gas sampling. Gas sampling shall be performed continuously. Sample analysis shall be processed immediately after sampling, except as follows:

- 1. For HPM gases, sample analysis shall be performed at intervals not exceeding 30 minutes.
- 2. For toxic gases that are not HPM, sample analysis shall be performed at intervals not exceeding 5 minutes in accordance with Section 6004.2.2.7 of the *International Fire Code*.
- 3. Where a less frequent or delayed sampling interval is approved.

1006.2.1

Errata 2018 IBC Chapter 10 MEANS OF EGRESS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** 1006.2.1

Posted: April 9, 2018

Correction:

1006.2.1 Egress based on occupant load and common path of egress travel distance. Two *exits* or *exit access doorways* from any space shall be provided where the design *occupant load* or the *common path of egress travel* distance exceeds the values listed in Table 1006.2.1. The cumulative *occupant load* from adjacent rooms, areas or spaces shall be determined in accordance with Section 1004.2.

Exceptions:

- 1. The number of *exits* from foyers, lobbies, vestibules or similar spaces need not be based on cumulative *occupant loads* for areas discharging through such spaces, but the capacity of the *exits* from such spaces shall be based on applicable cumulative *occupant loads*.
- 2. Care suites in Group I-2 occupancies complying with Section 407.4.

Table 1020.1

Errata IBC Chapter 10 – MEANS OF EGRESS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st, 2nd and 3rd Printings

Section/Table/Figure Number: Table 1020.1

Posted: February 5, 2020

Correction:

TABLE 1020.1 CORRIDOR FIRE-RESISTANCE RATING

OCCUPANCY	OCCUPANT LOAD	REQUIRED FIRE- RESISTANCE RATING (hours)		
OCCUPANCY	SERVED BY CORRIDOR	Without sprinkler system	With sprinkler system ^c	
H-1, H-2, H-3	All	Not Permitted	1 <u>°</u>	
H-4, H-5	Greater than 30	Not Permitted	1 <u>°</u>	
A, B, E, F, M, S, U	Greater than 30	1	0	
R	Greater than 10	Not Permitted	0.5° / 1d	
I-2ª	All	Not Permitted	0	
I-1, I-3	All	Not Permitted	1 ^{b, <u>c</u>}	
1-4	All	1	0	

a. For requirements for occupancies in Group I-2, see Sections 407.2 and 407.3.

Correlation Notes: The erratum is to relocate footnote c from "with sprinkler system" to three locations in that column for Groups H-1 to H-5, I-1 and I-3.

b. For a reduction in the *fire-resistance rating* for occupancies in Group I-3, see Section 408.8.

c. Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.

d. Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3.

Table 1404.2

Errata: 2018 IBC Chapter 14 EXTERIOR WALLS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing Section/Table/Figure number: 1404.2

Posted: October 11, 2018

Correction:

TABLE 1404.2 MINIMUM THICKNESS OF WEATHER COVERINGS

COVERING TYPE	MINIMUM THICKNESS (inches)
Anchored masonry veneer Stone (natural) Architectural cast stone Other	2.0 1.25 2.625 <u>2.0</u>

(portions of table not shown remain unchanged)

Correlation Notes: FS157-15

1404.10

Errata: 2018 IBC Chapter 14 EXTERIOR WALLS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure number:** 1404.10

Posted: October 11, 2018

Correction:

[BS] 1404.10 Adhered masonry veneer. Adhered masonry veneer shall comply with the applicable requirements in this section and Sections 12.1 and 12.2 12.3 of TMS 402.

Correlation Notes: 2015 errata not moved forward

1504.7

Errata: 2018 IBC Chapter 15 ROOF ASSEMBLIES AND ROOFTOP

STRUCTURES

Code/Standard: 2018 International Building Code Applies to following Printings: 1st printing Section/Table/Figure Number: Section 1504.7

Posted: October 11, 2018

Correction:

1504.7 Impact resistance. Roof coverings installed on low slope roofs (roof slope < 2:12) in accordance with Section 1507 shall resist impact damage based on the results of tests conducted in accordance with ASTM D3746, ASTM D4272 or the "Resistance to Foot Traffic Test" in Section 5.5 4.6 of FM 4470.

1507.2.2

Errata: 2018 IBC Chapter 15 ROOF ASSEMBLIES AND ROOFTOP

STRUCTURES

Code/Standard: 2018 International Building Code Applies to following Printings: 5th printing Section/Table/Figure Number: Section 1507.2.2

Posted: October 21, 2021

1507.2.2 Slope. Asphalt shingles shall only be used on roof slopes of two units vertical in 12 units horizontal (17- percent slope) or greater. For roof slopes from two units vertical in 12 units horizontal (17-percent slope) up to four units vertical in 12 units horizontal (33-percent slope), double underlayment application is required in accordance with Section <u>1507.2.8</u> <u>1507.1.1</u>.

1507.3.2

Errata: 2018 IBC Chapter 15 ROOF ASSEMBLIES AND ROOFTOP

STRUCTURES

Code/Standard: 2018 International Building Code Applies to following Printings: 5th printing Section/Table/Figure Number: Section 1507.2.2

Posted: October 21, 2021

1507.3.2 Deck slope. Clay and concrete roof tile shall be installed on roof slopes of 21/2 units vertical in 12 units horizontal (21-percent slope) or greater. For roof slopes from 21/2 units vertical in 12 units horizontal (21-percent slope) to four units vertical in 12 units horizontal (33-percent slope), double underlayment application is required in accordance with Section 1507.3.3 1507.1.1.

1507.18.2

Errata 2018 IBC Chapter 15 ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** 1507.18.2

Posted: April 9, 2018

Correction:

1507.18.2 Deck slope. BIPV roof panels shall be used only on roof slopes of two units vertical in 12 units horizontal (2:12) or greater.

1507.18.4.1

Errata 2018 IBC Chapter 15 ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** 1507.18.4.1

Posted: April 9, 2018

Correction:

1507.18.4.1 High-wind attachment. Underlayment applied in areas subject to high winds [Vasa greater] than 110 mph (49 m/s) as determined in accordance with Section 1609.3.1] shall be applied in accordance with the manufacturer's instructions. Fasteners shall be applied along the overlap at not more than 36 inches (914 mm) on center. Underlayment installed where V_{asd} is not less than 120 mph (54 m/s) shall comply with ASTM D226, Type III, ASTM D4869, Type IV or ASTM D6757. The underlayment shall be attached in a grid pattern of 12 inches (305 mm) between side laps with a 6-inch (152 mm) spacing at the side laps. The underlayment shall be applied in accordance with Section 4507.2.8 1507.1.1 except all laps shall be not less than 4 inches (102 mm). Underlayment shall be attached using cap nails or cap staples. Caps shall be metal or plastic with a nominal head diameter of not less than 1 inch (25.4 mm). Metal caps shall have a thickness of not less than 0.010 inch (0.25 mm). Power-driven metal caps shall have a thickness of not less than 0.010 inch (0.25 mm). Thickness of the outside edge of plastic caps shall be not less than 0.035 inch (0.89 mm). The cap nail shank shall be not less than 0.083 inch (2.11 mm) for ring shank cap nails and 0.091 inch (2.31 mm) for smooth shank cap nails. Staple gage shall be not less than 21 gage [0.0.2 inch (0.81 mm)]. Cap nail shank and cap staple legs shall have a length sufficient to penetrate through-the-roof sheathing or not less than 34 inch (19.1 mm) into the roof sheathing.

Exception: As an alternative, adhered underlayment complying with ASTM D1970 shall be permitted.

1511.1

Errata 2018 IBC Chapter 15 ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** 1511.1

Posted: April 9, 2018

Correction:

1511.1 General. Materials and methods of application used for recovering or replacing an existing roof covering shall comply with the requirements of Chapter 15.

Exceptions:

- Roof replacement or roof recover of existing low slope roof coverings shall not be required to meet the minimum design slope requirement of one-quarter unit vertical in 12 units horizontal (2percent slope) in Section 1507 for roofs that provide positive roof drainage.
- Recovering or replacing an existing roof covering shall not be required to meet the requirement
 for secondary (emergency overflow) drains or scuppers in Section <u>1503.4</u> <u>1502.2</u> for roofs that
 provide for positive roof drainage. For the purposes of this exception, existing secondary drainage
 or scupper systems required in accordance with this code shall not be removed unless they are
 replaced by secondary drains or scuppers designed and installed in accordance with Section
 <u>1503.4</u> <u>1502.2</u>.

Table 1604.3

Errata IBC Chapter 16 STRUCTURAL DESIGN

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st, 2nd and 3rd Printings

Section/Table/Figure Number: TABLE 1604.3

Posted: 2/5/2020

Correction:

TABLE 1604.3 DEFLECTION LIMITS a, b, c, h, i

(Portions of table and notes not shown remain unchanged)

g. For steel structural members, the detection due to creep component of long-term dead load shall be permitted to be taken as zero.

Correlation Notes: This is a repeat of an errata to the 1st printing.

1604.3.3

Errata 2018 IBC Chapter 16 STRUCTURAL DESIGN

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** 1604.3.3

Posted: April 9, 2018

Correction:

1604.3.3 Steel. The deflection of steel structural members shall not exceed that permitted by AISC 360, AISI S100, ASCE 8, SJI CJ SJI 200 or SJI 100, as applicable.

1604.3.5

Errata 2018 IBC Chapter 16 STRUCTURAL DESIGN

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** 1604.3.5

Posted: June 8, 2018

Correction:

1604.3.5 Aluminum. The deflection of aluminum structural members shall not exceed that permitted by AA ADM1 ADM.

Correlation Notes: New name for standard.

1607.8.1.1

Errata 2018 IBC Chapter 16 STRUCTURAL DESIGN

Code/Standard: 2018 International Building Code

Applies to following Printings: 5th printing **Section/Table/Figure Number:** 1607.8.1.1

Posted: October 21, 2021

1607.8.1.1 Concentrated load. Handrails and guards shall be designed to resist a concentrated load of 200 pounds (0.89 kN) in accordance with Section 4.5.1.1 4.5.1 of ASCE 7.

1607.8.1.2

Errata 2018 IBC Chapter 16 STRUCTURAL DESIGN

Code/Standard: 2018 International Building Code

Applies to following Printings: 5th printing **Section/Table/Figure Number:** 1607.8.1.2

Posted: October 21, 2021

1607.8.1.2 Intermediate rails. Intermediate rails (all those except the handrail), balusters and panel fillers shall be designed to resist a concentrated load of 50 pounds (0.22 kN) in accordance with Section **4.5.1.1 4.5.1.2** of ASCE 7.

1705.4.1

Errata 2018 IBC Chapter 17 SPECIAL INSPECTION AND TESTING

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** 1705.4.1

Posted: April 9, 2018

Correction:

1705.4.1 Empirically designed masonry, glass unit masonry and masonry veneer in Risk Category IV. *Special inspections* and tests for empirically designed masonry, glass unit masonry or masonry veneer designed in accordance with Section 2109, 2110 or Chapter 14, respectively, where they are part of a structure classified as *Risk Category* IV shall be performed in accordance with TMS 402, Level B Quality Assurance 602 Level 2.

1705.5.2

Errata 2018 IBC Chapter 17 SPECIAL INSPECTION AND TESTING

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** 1705.5.2

Posted: April 9, 2018

Correction:

1705.5.2 Metal-plate-connected wood trusses spanning 60 feet or greater. Special inspections of wood trusses with overall heights of 60 inches (1524 mm) or greater shall be performed to verify that the installation of Where a truss clear span is 60 feet (18 288 mm) or greater, the special inspector shall verify that the temporary installation restraint/bracing and the permanent individual truss member restraint/bracing has been are installed in accordance with the approved truss submittal package. For wood trusses with a clear span of 60 feet (18 288 mm) or greater, the special inspector shall verify during construction that the temporary installation restraint/bracing is installed in accordance with the approved truss submittal package.

Correlation Notes: Code change S138-15 was Approved as submitted, however, this was withdrawn by the proponent.

1810.3.8.3.2

Errata 2018 IBC Chapter 18 SOILS AND FOUNDATIONS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** 1810.3.8.3.2

Posted: April 9, 2018

Correction:

1810.3.8.3.2 Seismic reinforcement in Seismic Design Category C.

 f_{yh} = Yeild strength of spiral reinforcement \leq £ 85,000 psi (586 MPa).

Correlation Notes: Change £ symbol to <=

1810.3.9.4.2.1

Errata: 2018 IBC Chapter 18 SOILS AND FOUNDATIONS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: Section 1810.3.9.4.2.1

Posted: October 11, 2018

Correction:

1810.3.9.4.2.1 Site Classes A through D. For *Site Class* A, B, C or D sites, transverse confinement reinforcement shall be provided in the element in accordance with Sections 18.7.5.2, 18.7.5.3 and 18.7.5.4 of ACI 318 within three times the least element dimension of the bottom of the pile cap. A transverse spiral reinforcement ratio of not less than one-half of that required in Section 18.7.5.4(a) Table 18.10.6.4(f) of ACI 318 shall be permitted.

Correlation Notes: Incorrect coordination between updated standards section references.

2002.1

Errata 2018 IBC Chapter 20 ALUMINUM

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: 2002.1

Posted: June 8, 2018

Correction:

2002.1 General. Aluminum used for structural purposes in buildings and structures shall comply with AA ASM 35 and AA ADM1 ADM. The *nominal loads* shall be the minimum design loads required by Chapter 16.

Correlation Notes: New name for standard.

2104.1.1

Errata 2018 IBC Chapter 21 MASONRY

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st, 2nd, 3rd and 4th Printings

Section/Table/Figure Number: 2104.1.1

Posted: September 28, 2020

Correction:

2104.1.1 Support on wood. Masonry shall not be supported on wood girders or other forms of wood construction except as permitted in Section 2304.12 2304.13.

2203.1

Errata 2018 IBC Chapter 22 STEEL

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: 2203.1

Posted: April 9, 2018

Correction:

2203.1 General. Painting of *structural steel elements* shall be in accordance with AISC 360. Painting of open-web steel joists and joist girders shall be in accordance with SJI CJ SJI 200 and SJI 100. Individual structural members and assembled panels of cold-formed steel construction shall be protected against corrosion in accordance with the requirements contained in AISI S100. Protection of cold-formed steel light-frame construction shall be in accordance with AISI S240 or AISI S220, as applicable.

2207.1

Errata 2018 IBC Chapter 22 STEEL

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** 2207.1

Posted: April 9, 2018

Correction:

2207.1 General. The design, manufacture and use of open web steel joists and joist girders shall be in accordance with either SJI 200 or SJI 100, as applicable.

2301.11.2.1

Errata 2018 IBC Chapter 23 WOOD

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** 2304.11.2.1

Posted: June 8, 2018

Correction:

2304.11.2.1 Exterior walls. Exterior walls shall <u>be</u> permitted to be *cross-laminated timber* <u>not less than 4 inches in thickness</u> meeting the requirements of Section 2303.1.4.

Errata 2018 IBC Chapter 23 WOOD

Code/Standard: 2018 International Building Code

Applies to following Printings: 2nd printing

Section/Table/Figure Number: 2306.1

Posted: April 1, 2019

Correction:

2306.1 Allowable stress design. The design and construction of wood elements in structures using *allowable stress design* shall be in accordance with the following applicable standards:

American Wood Council.

No changes to AWC listings

American Society of Agricultural and Biological Engineers.

ASABE EP 484.2 484.3 Diaphragm Design of Metal-clad, Post-Wood-Frame Rectangular Buildings

ASABE EP 486.2 Shallow Post Foundation Design

ASABE <u>EP</u> 559.1 Design Requirements and Bending Properties for Mechanically Laminated Columns-Wood Assemblies

APA—The Engineered Wood Association.

Errata to APA listings in first printing

Truss Plate Institute, Inc.

No change to TPI listings

West Coast Lumber Inspection Bureau

No change to WCLIB listings

2306.1

Errata 2018 IBC Chapter 23 WOOD

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing Section/Table/Figure Number: 2306.1

Posted: June 8, 2018

Correction:

2306.1 Allowable stress design. The design and construction of wood elements in structures using *allowable stress design* shall be in accordance with the following applicable standards:

American Wood Council.

No change to AWC listings

American Society of Agricultural and Biological Engineers.

No change to ASABE listings

APA—The Engineered Wood Association.

ANSI 117 Standard Specifications for Structural Glued Laminated Timber of Softwood Species

ANSI A190.1 Structural Glued Laminated Timber Panel Design Specification

Plywood Design Specification Supplement 1—Design & Fabrication of Plywood Curved Panel

Plywood Design Specification Supplement 2—Design & Fabrication of Glued Plywood-lumber Beams

Plywood Design Specification Supplement 3—Design & Fabrication of Plywood Stressed-skin Panels

Plywood Design Specification Supplement 4—Design & Fabrication of Plywood Sandwich Panels

Plywood Design Specification Supplement 5—Design & Fabrication of All-plywood Beams

EWS APA T300 Glulam Connection Details

EWS APA S560 Field Notching and Drilling of Glued Laminated Timber Beams

EWS APA S475 Glued Laminated Beam Design Tables

EWS APA X450 Glulam in Residential Construction

EWS APA X440 Product and Application Guide: Glulam

EWS APA R540 Builders Tips: Proper Storage and Handling of Glulam Beams

Truss Plate Institute, Inc.

No change to TPI listings

West Coast Lumber Inspection Bureau

No change to the Bureau's AITC listings

Errata 2018 IBC Chapter 25 GYPSUM BOARD, GYPSUM PANEL PRODUCTS AND PLASTER

Code/Standard: 2018 International Building Code
Applies to following Printings: 1st and 2nd Printings
Section/Table/Figure Number: 2509.1 Wet areas.

Posted: 7/1/19

2509.1 Wet areas. Showers and public toilet walls shall conform to Section <u>1210.2</u> <u>1209.2</u>.

Correction: None

Errata 2018 IBC Chapter 26 PLASTIC

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st, 2nd, 3rd and 4th Printings

Section/Table/Figure Number: 2613.5

Posted: September 28, 2020

Correction:

2613.5 Exterior use. *Fiber-reinforced polymer* shall be permitted to be installed on the *exterior walls* of buildings of any type of construction where such polymers meet the requirements of Section 2603.5. Fireblocking shall be installed in accordance with Section 718.

Exceptions:

- 1. Compliance with Section 2603.5 is not required where all of the following conditions are met:
 - 1.1. The *fiber-reinforced polymer* shall not exceed an aggregate total of 20 percent of
 - the area of the specific wall to which it is attached, and single architectural elements
 - shall not exceed 10 percent of the area of the specific wall to which it is attached, and no
 - contiguous sets of architectural elements shall not exceed 10 percent of the area of the
 - specific wall to which they are attached.
 - 1.2. The *fiber-reinforced polymer* shall have a flame spread index of 25 or less. The flame spread index requirement shall not be required for coatings or paints having a thickness of less than 0.036 inch (0.9 mm) that are applied directly to the surface of the *fiber-reinforced polymer*.
 - 1.3. Fireblocking complying with Section 718.2.6 shall be installed.
 - 1.4. The *fiber-reinforced polymer* shall be installed directly to a noncombustible substrate or be separated from the exterior wall by one of the following materials: corrosion resistant steel having a minimum base metal thickness of 0.016 inch (0.41 mm) at any point, aluminum having a minimum thickness of 0.019 inch (0.5 mm) or other approved noncombustible material.
- 2. Compliance with Section 2603.5 is not required where the *fiber-reinforced polymer* is installed on buildings that are 40 feet (12 190 mm) or less above grade and the following conditions are met:
 - 2.1. The fiber-reinforced polymer shall meet the requirements of Section 1405.1.
 - 2.2. Where the fire separation distance is 5 feet (1524 mm) or less, the area of the fiber-reinforced polymer shall not exceed 10 percent of the wall area. Where the fire separation distance is greater than 5 feet (1524 mm), the area of the *exterior wall* coverage using *fiber-reinforced polymer* shall not be limited.
 - 2.3. The *fiber-reinforced polymer* shall have a flame spread index of 200 or less. The flame spread index requirements do not apply to coatings or paints having a thickness

of less than 0.036 inch (0.9 mm) that are applied directly to the surface of the fiberreinforced polymer.

2.4. Fireblocking complying with Section 718.2.6 shall be installed.

Correlation Notes: remove double negative

[F] 2702.2.12

Errata 2018 IBC Chapter 27 ELECTRICAL

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** [F] 2702.2.12

Posted: April 9, 2018

Correction:

[F] 2702.2.12 Laboratory suites. Standby or emergency power shall be provided in accordance with Section 5004.7 of the *International Fire Code* where *laboratory suites* are located above the sixth story above grade plane or located in a story below grand plant grade plane.

Errata 2018 IBC

Chapter 35 REFERENCED STANDARDS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: AA

Posted: June 8, 2018

Correction:

AA

ADM1 ADM—2015: Aluminum Design Manual: Part 1—A Specification for Aluminum Structures

1604.3.5, 2002.1

Correlation Notes: New name for standard.

AAMA

Errata 2018 IBC Chapter 35 REFERENCED STANDARDS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** AAMA

Posted: April 9, 2018

Correction:

AAMA

711—1613: Voluntary Specification for Self Adhering Flashing Used for Installation of Exterior Wall Fenestration Products 1404.4

ALI

Errata 2018 IBC Chapter 35 REFERENCED STANDARDS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: ALI

Posted: April 9, 2018

Correction:

ALI

ALI ALCTV—20162017: Standard for Automotive Lifts—Safety Requirements for Construction, Testing and Validation (ANSI)

Table 3001.3

ASABE

Errata 2018 IBC Chapter 35 REFERENCED STANDARDS

Code/Standard: 2018 International Building Code

Applies to following Printings: 2nd printing **Section/Table/Figure Number:** ASABE

Posted: April 1, 2019

Correction:

ASABE

EP 559.2 MON2016 EP559.1 w/ Corr.1 Aug. 2010(R2014): Design Requirements and Bending Properties for Mechanically Laminated Wood Assemblies 2306.1

Errata 2018 IBC Chapter 35 REFERENCED STANDARDS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** ASCEI/SEI

Posted: April 9, 2018

Correction:

ASCE/SEI

8—17 <u>02</u>: Standard Specification for the Design of Cold-formed Stainless Steel Structural Members

1604.3.3, 2210.1, 2210.2

Errata 2018 IBC Chapter 35 REFERENCED STANDARDS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** ASCEI/SEI

Posted: December 17, 2018

Correction:

ASCE/SEI

29—1705: Standard Calculation Methods for Structural Fire Protection 722.1

Errata: 2018 IBC Chapter 35 REFERENCED STANDARDS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** ASCE/SEI

Posted: October 11, 2018

Correction:

ASCE/SEI

32—17 <u>01</u>: Design and Construction of Frost Protected Shallow Foundations 1809.5

Errata: 2018 IBC Chapter 35 REFERENCED STANDARDS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** ASCE/SEI

Posted: December 17, 2018

Correction:

ASCE/SEI

49—0712: Wind Tunnel Testing for Buildings and Other Structures 1609.1.1

AWS

Errata 2018 IBC

Chapter 35 REFERENCED STANDARDS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: AWS

Posted: June 8, 2018

Correction:

AWS

D1.4/D1.4M—20172011: Structural Welding Code—Reinforcing Steel Including Metal Inserts and Connections In Reinforced Concrete Construction 1704.5, Table 1705.3, 1705.3.1, 2107.3

NAAMM

Errata: 2018 IBC Chapter 35 REFERENCED STANDARDS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** NAAMM

Posted: October 11, 2018

Correction:

NAAMM

FP 1001—17 <u>07</u>: Guide Specifications for Design of Metal Flag Poles

1609.1.1

NFPA

Errata 2018 IBC Chapter 35 REFERENCED STANDARDS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing **Section/Table/Figure Number:** NFPA

Posted: April 9, 2018

Correction:

NFPA

285—17 12: Standard Fire Test Method for the Evaluation of Fire Propagation Characteristics of Exterior Nonload-bearing Wall Assemblies Containing Combustible Components 718.2.6, 1402.5, 1406.10.4, 1408.10.4, 1510.6.2, 2603.5.5

TIA

Errata 2018 IBC Chapter 35 REFERENCED STANDARDS

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st printing

Section/Table/Figure Number: TIA

Posted: February 11, 2020

Correction:

TIA

TIA-222-H-2016 2017 Structural Standard for Antenna Supporting Structures, and Small Wind Turbine Support Structures

1609.1.1, 3108.1, 3108.2

User Note

Errata 2018 IBC Appendix G FLOOD-RESISTANT CONSTRUCTION

Code/Standard: 2018 International Building Code

Applies to following Printings: 1st, 2nd, 3rd and 4th Printings

Section/Table/Figure Number: User Note

Posted: September 28, 2020

Correction:

User notes:

About this appendix: Appendix G is intended to provide the additional flood-plain management and administrative requirements of the National Flood Insurance Program (NFIP) that are not included in the code. Commentaries Communities that adopt the International Building Code® and Appendix G will meet the minimum requirements of NFIP as set forth in Title 44 of the Code of Federal Regulations.

Code development reminder: Code change proposals to this appendix will be considered by the IBC—Structural Code Development Committee during the 2019 (Group B) Code Development Cycle. See explanation on page iv.

G1101

Errata 2018 IBC Appendix G FLOOD-RESISTANT CONSTRUCTION

Code/Standard: 2018 International Building Code

Applies to following Printings: 2nd printing

Section/Table/Figure Number: G1101

Posted: April 1, 2019

Correction:

SECTION G1101 REFERENCED STANDARDS

ASCE 24—1314 Flood Resistant Design and Construction