IBC - General

2025 GROUP B PROPOSED CHANGES TO THE I-CODES

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2025 GROUP B – PROPOSED CHANGES TO THE INTERNATIONAL BUILDING CODE - GENERAL

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TENTATIVE ORDER OF DISCUSSION
2025 PROPOSED CHANGES TO THE INTERNATIONAL BUILDING CODE – GENERAL

The following is the tentative order in which the proposed changes to the code will be discussed at the public hearings. Proposed changes which impact the same subject have been grouped to permit consideration in consecutive changes.

Proposed change numbers that are indented are those which are being heard out of numerical order. Indentation does not necessarily indicate that one change is related to another. Proposed changes may be grouped for purposes of discussion at the hearing at the discretion of the chair. Note that some G code change proposals may not be included on this list, as they are being heard by another committee.

Number Not Used:
G61-25
G166-25

G1-25 Part I
G2-25
    G198-25
G3-25
G4-25
G8-25
G10-25
G11-25
G12-25
G13-25
G15-25
G16-25
G17-25 Part I
G18-25
G19-25 Part I
G21-25
G22-25
G23-25 Part I
G25-25
G26-25
G28-25 Part I
G29-25
G30-25
G33-25 Part I
G34-25
G36-25
G37-25
    G210-25
G38-25
    G97-25
    G104-25
    G109-25
    G113-25
    G209-25
    FS16-25
G40-25 Part I
    G39-25 Part I
G41-25
G42-25 Part I
G43-25
G44-25
G45-25
G46-25 Part I
G47-25
G48-25
G49-25
G50-25
G51-25
G53-25
G54-25
G55-25
G56-25
G64-25
    G58-25
    G57-25
    G59-25
    G62-25
    G60-25
G65-25
    G63-25
G66-25
G67-25
G68-25
G70-25
G71-25
    G69-25
G72-25
G74-25
    G73-25
    G27-25
G75-25
G76-25
G77-25
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G78-25
G79-25
    G81-25
    G80-25
G83-25
G84-25
G87-25
G88-25
G89-25
G90-25
G92-25
G93-25
G94-25 Part I

G95-25
G96-25
G98-25
G99-25
G100-25
G101-25
G102-25
G103-25
G106-25
G107-25
    G105-25
G108-25
G110-25
G111-25
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G114-25
G117-25
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G118-25
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G140-25
G141-25
G142-25
G143-25
G144-25
G145-25
G146-25
G147-25
G149-25
FS15-25
FS14-25
S35-25
S3-25 Part II
S32-25
S33-25
S34-25
S36-25
G150-25
G151-25
G152-25
G153-25
G154-25 Part I
G155-25
G156-25
G52-25
G157-25
G158-25
G159-25
G160-25
G162-25
G163-25
G164-25
G165-25
G161-25
G167-25
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G176-25
G177-25
G178-25
G173-25
G179-25
G180-25
G181-25
G174-25
G175-25
G182-25
G183-25 Part I
G184-25
G185-25
G186-25
G187-25
G188-25
G189-25
G190-25
G191-25
G86-25
G193-25
G194-25
G85-25
G195-25 Part I
G148-25
G192-25
G196-25
EB6-25 Part II
G197-25
G199-25
G200-25
G201-25
G202-25
G203-25
G204-25
G205-25
G206-25
G207-25

G1-25 Part I

IBC: SECTION 301, 301.1, SECTION 401, 401.1, 501.1, 601.1, 1201.1, 2701.1, 3001.1, 3101.1, 3201.1, 3301.1; IEBC: [BG] 1501.1

Proponents: Steven Orlowski, Sundowne Building Code Consultants, LLC, representing Self (sorlowski@sbcc.codes); Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

THIS IS A 3 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE IBC STRUCTURAL CODE COMMITTEE. PART III WILL BE HEARD BY THE IPMC/IZC COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

CHAPTER 3
OCCUPANCY CLASSIFICATION AND USE

Revise as follows:

SECTION 301
~~SCOPE~~GENERAL

301.1 ~~General~~Scope. Classification of all buildings and structures as to occupancy and use shall comply with this chapter.~~The provisions of this chapter shall control the classification of all *buildings* and *structures* as to occupancy and use. Different classifications of occupancy and use represent varying levels of hazard and risk to *building* occupants and adjacent properties.~~

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 401
~~SCOPE~~GENERAL

401.1 Scope~~Detailed occupancy and use requirements~~. Occupancies and use described herein in addition to the occupancy and construction requirements in this code shall comply with this chapter.~~In addition to the occupancy and construction requirements in this code, the provisions of this chapter apply to the occupancies and use described herein.~~

CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 501
GENERAL

501.1 Scope. ~~The provisions of this chapter control the height~~Height and area of buildings and *structures* hereafter erected and *additions* to *existing structures* *shall comply with this chapter*.

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

601.1 Scope. ~~The provisions of this chapter shall control the classification~~ Classification of *buildings* as to type of construction shall comply with this chapter.

CHAPTER 12
INTERIOR ENVIRONMENT

SECTION 1201
GENERAL

1201.1 Scope. Building features associated with the interior environment shall comply with this chapter.~~The provisions of this chapter shall govern ventilation, temperature control, lighting, *yards* and *courts*, sound transmission, enhanced classroom acoustics, interior space dimensions, access to unoccupied spaces, toilet and bathroom requirements and ultraviolet (UV) germicidal irradiation systems associated with the interior spaces of *buildings.*~~

CHAPTER 27
ELECTRICAL

SECTION 2701
GENERAL

2701.1 Scope. ~~The provisions of~~ Electrical systems and equipment shall comply with this chapter and NFPA 70. ~~shall govern the design, construction, erection and installation of the electrical components, appliances, equipment and systems used in *buildings* and structures covered by this code. The *International Fire Code*, the *International Property Maintenance Code* and NFPA 70 shall govern the use and maintenance of electrical components, appliances, equipment and systems. The *International Existing Building Code* and NFPA 70 shall govern the *alteration*, *repair*, relocation, replacement and addition of electrical components, appliances, or equipment and systems.~~

CHAPTER 30
ELEVATORS AND CONVEYING SYSTEMS

SECTION 3001
GENERAL

3001.1 Scope. ~~This chapter governs the design~~Design, ~~construction,~~ installation, and construction~~*alteration* and *repair*~~ of elevators and conveying systems and their components shall comply with this chapter.

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3101
GENERAL

3101.1 Scope. ~~The provisions of this chapter shall govern special~~Special *building* construction elements and components included in

the building and structures covered by this code shall also comply with this chapter. ~~including membrane *structures*, *temporary structures*, *pedestrian walkways* and tunnels, *awnings* and *canopies*, *marquees*, signs, telecommunications and broadcast towers, *swimming pools* , spas and hot tubs, automatic vehicular gates, solar energy systems, *greenhouses*, relocatable buildings and *intermodal shipping containers*.~~

CHAPTER 32
ENCROACHMENTS INTO THE PUBLIC RIGHT-OF-WAY

SECTION 3201
GENERAL

3201.1 Scope. ~~The provisions of this chapter shall govern the encroachment~~Encroachment of *structures* into the public right-of-way shall comply with this chapter.

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

SECTION 3301
GENERAL

3301.1 Scope. ~~The provisions of this chapter shall govern safety~~Safety during construction and the protection of adjacent public and private properties shall comply with this chapter. ~~Fire safety during construction shall also comply with the applicable provisions of Chapter 33 of the *International Fire Code*.~~

2024 International Existing Building Code

CHAPTER 15
CONSTRUCTION SAFEGUARDS

SECTION 1501
GENERAL

Revise as follows:

[BG] 1501.1 Scope. ~~The provisions of this chapter shall govern safety~~ Safety during construction and the protection of adjacent public and private properties shall comply with this chapter. ~~Fire safety during construction shall also comply with the applicable provisions of Chapter 33 of the *International Fire Code*.~~

G1-25 Part II

IBC: 1501.1, 1601.1, 1701.1, 1801.1, 1901.1, 2001.1, 2101.1, 2201.1, 2301.1, 2401.1, 2501.1, 2601.1

Proponents: Steven Orlowski, Sundowne Building Code Consultants, LLC, representing Self (sorlowski@sbcc.codes); Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

2024 International Building Code

CHAPTER 15
ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

SECTION 1501
GENERAL

1501.1 Scope. ~~The provisions of this chapter shall govern the design, materials, construction and quality of *roof* *Roof* *assemblies*~~, and *rooftop structures* shall comply with this chapter.

CHAPTER 16
STRUCTURAL DESIGN

SECTION 1601
GENERAL

1601.1 Scope. ~~The provisions of this chapter shall govern the structural~~Structural design of *buildings*, *structures* and portions thereof shall comply with this chapter.

CHAPTER 17
SPECIAL INSPECTIONS AND TESTS

SECTION 1701
GENERAL

1701.1 Scope. Special inspections and tests shall comply with this chapter.~~The provisions of this chapter shall govern the quality, workmanship and requirements for materials covered. Materials of construction and tests shall conform to the applicable standards listed in this code.~~

CHAPTER 18
SOILS AND FOUNDATIONS

SECTION 1801
GENERAL

1801.1 Scope. Soils and foundations shall comply with this chapter.~~The provisions of this chapter shall apply to *building* and foundation systems.~~

CHAPTER 19
CONCRETE

SECTION 1901
GENERAL

1901.1 Scope. Use of concrete in structures shall comply with this chapter.~~The provisions of this chapter shall govern the materials, quality control, design and construction of concrete used in *structures*.~~

CHAPTER 20
ALUMINUM

SECTION 2001
GENERAL

2001.1 Scope. ~~This chapter shall govern the quality, design, fabrication and erection~~Use of aluminum in structures shall comply with this chapter.

CHAPTER 21
MASONRY

SECTION 2101
GENERAL

2101.1 Scope. ~~This chapter shall govern the materials, design, construction and quality~~Use of *masonry* in structures shall comply with this chapter.

CHAPTER 22
STEEL

SECTION 2201
GENERAL

2201.1 Scope. ~~The provisions of this chapter govern the quality, design, fabrication and erection of steel construction~~Use of steel in structures shall comply with this chapter.

CHAPTER 23
WOOD

SECTION 2301
GENERAL

2301.1 Scope. ~~The provisions of this chapter shall govern the materials, design, construction and quality of wood members and their fasteners~~Use of wood in structures shall comply with this chapter.

CHAPTER 24
GLASS AND GLAZING

SECTION 2401
GENERAL

2401.1 Scope. ~~The provisions of this chapter shall govern the materials, design, construction and quality of glass, light transmitting ceramic and light transmitting plastic panels for exterior and interior use in both vertical and sloped applications in *buildings* and *structures*.~~Use of glass and glazing in structures shall comply with this chapter. Light-transmitting *plastic glazing* shall also ~~meet the~~ comply with the applicable requirements of Chapter 26.

CHAPTER 25
GYPSUM PANEL PRODUCTS AND PLASTER

SECTION 2501
GENERAL

2501.1 Scope. ~~Provisions of this chapter shall govern the materials, design, construction and quality of *gypsum panel products* , lath, *gypsum plaster*, *cement plaster* and reinforced gypsum concrete.~~ Use of gypsum panel products and plaster in structures shall comply with this chapter.

CHAPTER 26
PLASTIC

SECTION 2601
GENERAL

2601.1 Scope. ~~These provisions shall govern the materials, design, application, construction and installation of foam plastic, *foam plastic insulation*, plastic *veneer*, interior plastic finish and *trim*, light-transmitting plastics and plastic composites, including *plastic lumber*.~~Use of plastics in structures shall comply with this chapter.

Reason: Currently, there is inconsistency among all the I-Codes in how the scoping sections are written at the beginning of each chapter. The Code Correlation Committee requested a task group be formed to review the scoping section in all the I-Codes and determine if there would be a way to harmonize both the language and style across the model codes. The Scoping Task Group was formed and consisted of several members from the various Code Action Committees and interested parties (some with no client interest). The task group reviewed each chapter of the I-codes and after careful consideration, developed a format that could be incorporated and repeated for all the I-Codes.

As you will see in the proposed changes above, most of the chapters began with a style and format that was already consistent and was only slightly changed to give the scoping a more authoritative infliction. Where the chapter contained no scoping provisions, the task group added scoping language based on the content of the chapter. Where the existing scoping sections provided a laundry list of what is contained in the chapter, these list were reformatted into a list form to make it easier for users to see what information was contained.

The Scoping Task group proposes that the recommended changes will improve the code by:
1. Create consistency in language used in the scope for all the I-Codes.
2. Creates a scoping section for chapters that did not have one before to clarify what is covered by the chapter.
3. Clarify the items covered and not covered in the chapter, using consistent format to send the user to different chapter(s) or code(s).
4. Remove redundant administrative language from existing scoping sections.
5. Where there were extensive number of items outlined in the scoping section, the items are now broken out into a list format to make

it easier for the reader to indicate what is contained in the chapter.

To the best of the task groups knowledge the proposed changes are editorial in nature and no requirements not already addressed in the existing scoping or in the chapter being referenced were added. As these proposed changes are editorial, there is no cost impact on the cost of construction.

This proposal is submitted with 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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

As stated in our reason statement, these proposed changes are editorial and there is no cost impact on the cost of construction.

G1-25 Part II

G1-25 Part III

IZC: SECTION 301, 301.1 (New), 301.1, SECTION 401 (New), 401.1 (New), SECTION 401, 401.1, SECTION 501 (New), 501.1 (New), SECTION 501, 501.1, SECTION 601 (New), 601.1 (New), SECTION 601, 601.1, SECTION 701 (New), 701.1 (New), SECTION 701, 701.1, SECTION 801 (New), 801.1 (New), SECTION 801, 801.1, SECTION 901 (New), 901.1 (New), SECTION 901, 901.1, SECTION 1001, 1001.1, 1101.1 (New), 1101.1, 1201.1 (New), 1201.1, 1301.1 (New), 1301.1, 1301.2

Proponents: Steven Orlowski, Sundowne Building Code Consultants, LLC, representing Self (sorlowski@sbcc.codes); Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

2024 International Zoning Code

CHAPTER 3
USE DISTRICTS

Revise as follows:

SECTION 301
~~DISTRICT CLASSIFICATIONS~~ GENERAL

Add new text as follows:

301.1 Scope. Use Districts shall comply with this chapter.

Revise as follows:

~~301.1~~301.2 **District classification ~~Classification.~~** In order to classify, regulate and restrict the locations of *uses* and locations of *buildings* designated for specific areas; and to regulate and determine the areas of *yards*, *courts* and other *open spaces* within or surrounding such *buildings*, property ~~is hereby~~ shall be classified into districts ~~as prescribed in this chapter~~.

CHAPTER 4
AGRICULTURAL ZONES

Add new text as follows:

SECTION 401
GENERAL

401.1 Scope. Agricultural zones shall comply with this chapter.

Revise as follows:

SECTION ~~401~~ 402
AGRICULTURAL ZONE DIVISION ~~ZONES DEFINED~~

~~401.1~~ 402.1 **Agricultural zone.** Allowable agricultural (A) zone *uses* shall be:

Division 1. Any designated *open space* as set forth in this code.

Division 2. Any agricultural *use*, including, but not limited to, dwellings, maintenance/storage *buildings* and other such *uses* necessary for the *principal use*.

Division 3. Any public *park* land or other similar recreational *use*, including, but not limited to, amusement rides, office *buildings*, retail *buildings* and dwellings necessary for the maintenance of the *principal use*.

CHAPTER 5
RESIDENTIAL ZONES

Add new text as follows:

SECTION 501
GENERAL

501.1 Scope. Residential zones shall comply with this chapter.

Revise as follows:

SECTION ~~501~~502
RESIDENTIAL ZONE DIVISION ~~ZONES DEFINED~~

~~**501.1**~~ **502.1 Residential zone.** Allowable residential (R) zone *uses* shall be:

Division 1. The following *uses* are permitted in an R, Division 1 zone:

Single-family dwellings, publicly owned and operated *parks*, *recreation* centers, swimming pools and playgrounds, police and fire department stations, public and governmental services, public libraries, schools and colleges (excluding colleges or trade schools operated for profit), public *parking lots*, *private garages*, *buildings* accessory to the above permitted *uses* (including *private garages* , *accessory dwelling units* and *accessory living quarters*), and temporary *buildings*.

Division 2. The following *uses* are permitted in an R, Division 2 zone:

Any *use* permitted in R, Division 1 zones and two-family dwellings.

Division 3. The following *uses* are permitted in an R, Division 3 zone:

All *uses* permitted in R, Division 2 zones, multiple-unit dwellings, such as *apartment houses*, *boarding houses*, *condominiums* and *congregate residences*.

CHAPTER 6
COMMERCIAL AND COMMERCIAL/RESIDENTIAL ZONES

Add new text as follows:

SECTION 601
GENERAL

601.1 Scope. Commercial and commercial/residential zones shall comply with this chapter.

Revise as follows:

SECTION ~~601~~ 602
COMMERCIAL AND COMMERCIAL/RESIDENTIAL ZONES DEFINED

~~601.1~~ 602.1 Commercial and commercial/residential zones. Allowable commercial (C) zone and commercial/residential (CR) zone *uses* shall be:

C Zone

Division 1. The following *uses* are permitted in a C, Division 1 zone:

Minor automotive repair, automotive motor fuel dispensing facilities, *automotive self-service motor fuel dispensing facilities*, *business or financial services*, convenience and *neighborhood commercial centers* (excluding wholesale sales), family and *group day care* facilities, libraries, *mortuary* and funeral homes, public and governmental services, police and fire department stations, places of religious worship, *public utility stations*, and *restaurants*.

Division 2. The following *uses* are permitted in a C, Division 2 zone:

Any *uses* permitted in C, Division 1 zones, and *light commercial* (excluding wholesale sales), *group care facilities*, physical fitness centers, *religious*, cultural and fraternal activities, *rehabilitation centers*, and schools and colleges operated for profit (including commercial, vocational and trade schools).

Division 3. The following *uses* are permitted in a C, Division 3 zone:

Any *uses* permitted in C, Division 2 zones, and *amusement centers* (including bowling alleys, golf driving ranges, miniature golf courses, ice rinks, pool and billiard halls, and similar recreational uses), automotive sales, building material supply sales (wholesale and retail), cultural institutions (such as museums and art galleries), *community commercial centers* (including wholesale and retail sales), health and medical institutions (such as *hospitals*), *hotels* and *motels* (excluding other residential occupancies), commercial printing and publishing, taverns and cocktail lounges, indoor *theaters*, and self-*storage warehouses*.

Division 4. The following *uses* are permitted in a C, Division 4 zone:

Any *uses* permitted in C, Division 3 zones, and *major automotive repair*, commercial bakeries, *regional commercial centers* (including wholesale and retail sales), plastic products design, molding and assembly, small metal products design, casting, fabricating, and processing, manufacture and finishing, storage yards, and wood products manufacture and finishing.

CR Zone Permitted (commercial/residential) (CR) zone *uses* shall be:

Division 1. The following *uses* are permitted in a CR, Division 1 zone:

Any *use* permitted in a C, Division 1 zone, and residential *use* permitted, except in the *story* or *basement* abutting *street grade*.

Division 2. The following *uses* are permitted in a CR, Division 2 zone:

Any *use* permitted in a C, Division 2 zone, and residential *use* permitted, except in the *story* or *basement* abutting *street grade*.

CHAPTER 7
FACTORY/INDUSTRIAL ZONES

Add new text as follows:

SECTION 701
GENERAL

701.1 Scope. Factory/industrial zones shall comply with this chapter.

Revise as follows:

SECTION ~~701~~ 702
FACTORY/INDUSTRIAL ZONES DEFINED

~~**701.1**~~ **702.1 FI zones.** Allowable factory/*industrial* (FI) zone *uses* shall be:

Division 1. Any *light-manufacturing* or industrial *use*, such as *warehouses*, research or testing laboratories, product distribution centers, woodworking shops, auto body shops, furniture assembly, dry cleaning plants, places of religious worship, public and governmental services, machine shops, and boat building storage yards.

Division 2. Any *use* permitted in the FI, Division 1 zone and stadiums and arenas, indoor swap meets, breweries, liquid fertilizer manufacturing, carpet manufacturing, monument works, and a regional recycling center.

Division 3. Any *use* permitted in the FI, Division 2 zone and auto-dismantling yards, alcohol manufacturing, cotton gins, paper manufacturing, quarries, salt works, petroleum refining, and other similar *uses*.

CHAPTER 8
GENERAL PROVISIONS

Add new text as follows:

SECTION 801
GENERAL

801.1 Scope. General zoning provisions shall comply with this chapter.

Revise as follows:

SECTION ~~801~~ 802
OFF-STREET PARKING

~~**801.1**~~ **802.1 General.** Off-*street* parking shall be provided in compliance with this chapter where any *building* is erected, altered, enlarged, converted or increased in size or capacity.

CHAPTER 9
SPECIAL REGULATIONS

Add new text as follows:

SECTION 901
GENERAL

901.1 Scope. Special zoning regulations shall comply with this chapter.

Revise as follows:

SECTION ~~901~~ 902

HOME OCCUPATIONS

~~901.1~~ 902.1 **General.** *Home occupations* shall be permitted in all zones, provided that the *home occupation* is clearly and obviously subordinate to the main *use* or *dwelling unit* for residential purposes. *Home occupations* shall be conducted wholly within the primary *structure* on the premises.

CHAPTER 10
SIGN REGULATIONS

SECTION 1001
GENERAL ~~PURPOSE~~

1001.1 ~~**Purpose**~~ **Scope.** ~~The purpose of this chapter is to protect the safety and orderly development of the community through the regulation of *signs*~~*Signs* and *sign* structures shall comply with this chapter.

CHAPTER 11
NONCONFORMING STRUCTURES AND USES

SECTION 1101
GENERAL

Add new text as follows:

1101.1 **Scope.** Nonconforming Structures and uses shall comply with this chapter.

Revise as follows:

~~1101.1~~ 1101.2 **Continuance.** Except as otherwise required by law, a *structure* or *use* legally established prior to the adoption date of this code be maintained unchanged. In other than criminal proceedings, the owner, occupant or user shall have the burden to show that the *structure*, *lot* or *use* was lawfully established.

CHAPTER 12
CONDITIONAL USES

SECTION 1201
GENERAL

Add new text as follows:

1201.1 **Scope.** Conditional-use permit requests shall comply with this chapter.

Revise as follows:

~~1201.1~~ 1201.2 **Conditional-use permit.** A *conditional-use* permit shall be obtained for certain *uses*, which would become harmonious or compatible with neighboring *uses* through the application and maintenance of qualifying conditions and located in specific locations within a zone, but shall not be allowed under the general conditions of the zone as stated in this code.

CHAPTER 13
PLANNED UNIT DEVELOPMENT

SECTION 1301
GENERAL

Add new text as follows:

1301.1 Scope. Planned unit developments (PUDs) shall comply with this chapter.

Revise as follows:

~~**1301.1**~~ **1301.2 Approval.** *Planned unit developments* (PUDs) shall be allowed by planning commission approval in any zoning district. Such *planned unit development* permit shall not be granted unless such development will meet the *use* limitations of the zoning district in which it is located and meet the *density* and other limitations of such districts, except as such requirements may be lawfully modified as provided by this code. Compliance with the regulations of this code in no way excuses the developer from the applicable requirements of a *subdivision* ordinance, except as modifications thereof are specifically authorized in the approval of the application for the *planned unit development*.

Delete without substitution:

~~**1301.2 Intent.** These regulations are to encourage and provide means for effecting desirable and quality development by permitting greater flexibility and design freedom than that permitted under the basic district regulations, and to accomplish a well-balanced, aesthetically satisfying city and economically desirable development of building sites within a PUD. These regulations are established to permit latitude in the development of the building site if such development is found to be in accordance with the purpose, spirit and intent of this ordinance and is found not to be hazardous, harmful, offensive or otherwise adverse to the environment, property values or the character of the neighborhood or the health, safety and welfare of the community. It is intended to permit and encourage diversification, variation and imagination in the relationship of uses, *structures*, *open spaces* and heights of *structures* for developments conceived and implemented as comprehensive and cohesive unified projects. It is further intended to encourage more rational and economic development with relationship to *public services*, and to encourage and facilitate the preservation of open lands.~~

Reason: Currently, there is inconsistency among all the I-Codes in how the scoping sections are written at the beginning of each chapter. The Code Correlation Committee requested a task group be formed to review the scoping section in all the I-Codes and determine if there would be a way to harmonize both the language and style across the model codes. The Scoping Task Group was formed and consisted of several members from the various Code Action Committees and interested parties (some with no client interest). The task group reviewed each chapter of the I-codes and after careful consideration, developed a format that could be incorporated and repeated for all the I-Codes.

As you will see in the proposed changes above, most of the chapters began with a style and format that was already consistent and was only slightly changed to give the scoping a more authoritative infliction. Where the chapter contained no scoping provisions, the task group added scoping language based on the content of the chapter. Where the existing scoping sections provided a laundry list of what is contained in the chapter, these list were reformatted into a list form to make it easier for users to see what information was contained.

The Scoping Task group proposes that the recommended changes will improve the code by:
1. Create consistency in language used in the scope for all the I-Codes.
2. Creates a scoping section for chapters that did not have one before to clarify what is covered by the chapter.
3. Clarify the items covered and not covered in the chapter, using consistent format to send the user to different chapter(s) or code(s).
4. Remove redundant administrative language from existing scoping sections.
5. Where there were extensive number of items outlined in the scoping section, the items are now broken out into a list format to make it easier for the reader to indicate what is contained in the chapter.

To the best of the task groups knowledge the proposed changes are editorial in nature and no requirements not already addressed in the existing scoping or in the chapter being referenced were added. As these proposed changes are editorial, there is no cost impact on the cost of construction.

This proposal is submitted with 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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

As stated in our reason statement, these proposed changes are editorial, there is no cost impact on the cost of construction.

G1-25 Part III

G2-25

IBC: SECTION 202 (New), SECTION 202, 306.3, 312.1, C101.1; IFC: [BG] 203.5.2, [BG] 203.11

Proponents: Joe Scibetta, representing Self

2024 International Building Code

Revise as follows:

[BG] AGRICULTURAL BUILDING. A *structure* designed and constructed to house farm implements, hay, grain, ~~poultry, livestock~~ or other horticultural products. This *structure* shall not be a place of human habitation or a place of employment where agricultural products are processed, treated or packaged, nor shall it be a place used by the public.

Add new definition as follows:

ANIMAL HOUSING FACILITIES. Area of a building or structure, including interior and exterior adjacent spaces, where animals are fed, rested, worked, exercised, treated, exhibited or used for production.

SECTION 306
FACTORY GROUP F

Revise as follows:

306.3 Low-hazard factory industrial, Group F-2. Factory industrial uses that involve the care of animals or the fabrication or manufacturing of noncombustible materials that during finishing, packing or processing do not involve a significant fire hazard shall be classified as Group F-2 occupancies and shall include, but not be limited to, the following:

Animal housing facilities

Beverages: up to and including 20-percent alcohol content

Brick and *masonry*

Ceramic products

Foundries

Glass products

Gypsum

Ice

Metal products (fabrication and assembly)

SECTION 312
UTILITY AND MISCELLANEOUS GROUP U

312.1 General. *Buildings* and *structures* of an accessory character and miscellaneous *structures* not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

Agricultural buildings

Aircraft hangars, accessory to a one- or two-family residence (see Section 412.4)

Barns

Carports

Communication equipment *structures* with a *gross floor area* of less than 1,500 square feet (139 m^2)

Fences more than 7 feet (2134 mm) in height

Grain silos, accessory to a residential occupancy

~~Livestock shelters~~

Private garages

Retaining walls

Sheds

~~Stables~~

Tanks

Towers

APPENDIX C
GROUP U—AGRICULTURAL BUILDINGS

SECTION C101
GENERAL

C101.1 Scope. The provisions of this appendix shall apply exclusively to *agricultural buildings*. Such *buildings* shall be classified as Group U and shall include the following uses:

~~1. Livestock shelters or *buildings*, including shade *structures* and milking barns.~~

~~2. Poultry *buildings* or shelters.~~

~~3~~ 1. Barns for storage other than animals.

~~4~~ 2. Storage of equipment and machinery used exclusively in agriculture.

~~5~~ 3. Horticultural *structures*, including detached production *greenhouses* and crop protection shelters.

~~6~~ 4. Sheds.

~~7~~ 5. Grain silos.

~~8. Stables~~.

2024 International Fire Code

Revise as follows:

[BG] AGRICULTURAL BUILDING. A structure designed and constructed to house farm implements, hay, grain~~, poultry, livestock~~ or other horticultural products. This structure shall not be a place of human habitation or a place of employment where agricultural products are processed, treated or packaged, nor shall it be a place used by the public.

Add new definition as follows:

ANIMAL HOUSING FACILITIES. Area of a building or structure, including interior and exterior adjacent spaces, where animals are fed, rested, worked, exercised, treated, exhibited or used for production.

SECTION 203

OCCUPANCY CLASSIFICATION AND USE

Revise as follows:

[BG] 203.5.2 Low-hazard factory industrial, Group F-2. Factory industrial uses that involve the the care of animals or fabrication or manufacturing of noncombustible materials that during finishing, packing or processing does not involve a significant fire hazard shall be classified as Group F-2 occupancies and shall include, but not be limited to, the following:

Animal housing facilities

Beverages: up to and including 20-percent alcohol content

Brick and masonry

Ceramic products

Foundries

Glass products

Gypsum

Ice

Metal products (fabrication and assembly)

[BG] 203.11 Miscellaneous Group U. Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

Agricultural buildings

Aircraft hangar, accessory to a one- or two-family residence (see Section 412.4 of the *International Building Code*)

Barns

Carports

Communication equipment structures with a gross floor area of less than 1,500 square feet (139 m^3)

Fences more than 7 feet (2134 mm) in height

Grain silos, accessory to a residential occupancy

~~Livestock shelters~~

Private garages

Retaining walls

Sheds

~~Stables~~

Tanks

Towers

Reason: This proposal would incorporate new animal housing facilities into the IBC as separate and distinct from agricultural buildings, where farm supplies and implements are stored. A definition has been added accordingly and Appendix C has been edited as the new definition of animal housing facilities would incorporate, in addition to to other types of animals, poultry and livestock. Poultry and livestock facilities would no longer be considered Group U/Agricultural Buildings. Obviously, this proposal would **not** apply to existing animal housing facilities.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

G3-25

IBC: SECTION 202; IEBC: SECTION 202; IFC: SECTION 202; IMC®: SECTION 202; IPC: SECTION 202

Proponents: Sandie Hastings, representing Self (sandiehastings@gmail.com)

2024 International Building Code

Revise as follows:

[BG] AMBULATORY CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less-than-24-hour basis to persons who are rendered *incapable of self-preservation by* the services provided or staff has accepted responsibility for care of recipients who are already incapable.

2024 International Existing Building Code

Revise as follows:

[BG] AMBULATORY CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less-than-24-hour basis to persons who are rendered *incapable of self-preservation by* the services provided or staff has accepted responsibility for care of recipients who are already incapable.

2024 International Fire Code

Revise as follows:

[BG] AMBULATORY CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less-than-24-hour basis to persons who are rendered *incapable of self-preservation by* the services provided or staff has accepted responsibility for care of recipients who are already incapable.

2024 International Mechanical Code

Revise as follows:

[BG] AMBULATORY CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less-than-24-hour basis to persons who are rendered *incapable of self-preservation by* the services provided or staff has accepted responsibility for care of recipients who are already incapable.

2024 International Plumbing Code

Revise as follows:

[BG] AMBULATORY CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less-than-24-hour basis to persons who are rendered *incapable of self-preservation by* the services provided or staff has accepted responsibility for care of recipients who are already incapable.

Reason: Change is editorial. Words are added for clarity.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The change proposal is editorial in nature and has no impact on the cost of construction.

G4-25

IBC: SECTION 202; IEBC: SECTION 202; IFC: SECTION 202; IMC®: SECTION 202; IPC: SECTION 202

Proponents: Jeff O'Neill, Chair, representing Committee on Healthcare (ahc@iccsafe.org)

2024 International Building Code

Revise as follows:

[BG] AMBULATORY CARE FACILITY. *Buildings* or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than *24-hour basis* to *persons* who are ~~rendered *incapable of self preservation* by the services provided or staff has accepted responsibility for care recipients already~~ incapable of self-preservation or are rendered incapable of self-preservation by the services provided.

2024 International Existing Building Code

Revise as follows:

[BG] AMBULATORY CARE FACILITY. *Buildings* or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than *24-hour basis* to *persons* who are ~~rendered *incapable of self preservation* by the services provided or staff has accepted responsibility for care recipients already~~ incapable of self-preservation or are rendered incapable of self-preservation by the services provided.

2024 International Fire Code

Revise as follows:

[BG] AMBULATORY CARE FACILITY. *Buildings* or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than *24-hour basis* to *persons* who are ~~rendered *incapable of self preservation* by the services provided or staff has accepted responsibility for care recipients already~~ incapable of self-preservation or are rendered incapable of self-preservation by the services provided.

2024 International Mechanical Code

Revise as follows:

[BG] AMBULATORY CARE FACILITY. *Buildings* or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than *24-hour basis* to *persons* who are ~~rendered *incapable of self preservation* by the services provided or staff has accepted responsibility for care recipients already~~ incapable of self-preservation or are rendered incapable of self-preservation by the services provided.

2024 International Plumbing Code

Revise as follows:

[BG] AMBULATORY CARE FACILITY. *Buildings* or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than *24-hour basis* to *persons* who are ~~rendered *incapable of self preservation* by the services provided or staff has accepted responsibility for care recipients already~~ incapable of self-preservation or are rendered incapable of self-preservation by the services provided.

Reason: This term is included in the IBC, IFC, IMC, IPC and IEBC.

This is a clarification of the existing definition. It was brought to our attention that the end of this definition is somewhat confusing and runs on. These are facilities such as outpatient surgery centers. These facilities could render someone incapable of leaving on their own during a procedure. Or someone could come in injured and be coming for care.

This proposal is submitted by the ICC Committee for Healthcare (CHC).

The Committee on Healthcare (CHC) was established by the ICC Board of Directors in 2011 to pursue opportunities to study and develop effective and efficient provisions for Hospital, Nursing Homes, Assisted Living and Ambulatory Care Facilities. This committee was formed in cooperation with the American Society for Healthcare Engineering (ASHE). In July of 2017, the ICC Board made CHC a standing committee. In 2023 and 2024 the CHC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the CHC website at CHC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is an editorial clarification for the definition and has no impact on construction.

G4-25

G5-25 Part I

IBC: SECTION 202

Proponents: Jay Crandell, P.E., ABTG / ARES Consulting, representing Self (jcrandell@aresconsulting.biz)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-B CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Revise as follows:

[A] APPROVED SOURCE. An independent *person*, firm or corporation, *approved* by the *building official*, who is competent and experienced in the relevant subject matter and, where applicable, the application of engineering principles to materials, methods or systems analyses.

Reason: There are now uses of this defined term in the code where the application of engineering principles (or the implication of a licensed design professional) is not required for the subject matter in question. Competent and experienced is always required, but knowledge of engineering principles is not always required. This proposal makes the definition more consistent with the range of uses of this term in the ICC codes and the IECC.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal clarifies the definition with no change in requirements.

G5-25 Part II

IRC: SECTION 202

Proponents: Jay Crandell, P.E., ABTG / ARES Consulting, representing Self (jcrandell@aresconsulting.biz)

2024 International Residential Code

Revise as follows:

[RB] APPROVED SOURCE. An independent *person*, firm or corporation, *approved* by the *building official*, who is competent and experienced in the relevant subject matter and, where applicable, the application of engineering principles to materials, methods or systems analyses. For the definition applicable in Chapter 11, see Section N1101.6.

Reason: There are now uses of this defined term in the code where the application of engineering principles (or the implication of a licensed design professional) is not required for the subject matter in question. Competent and experienced is always required, but knowledge of engineering principles is not always required. This proposal makes the definition more consistent with the range of uses of this term in the ICC codes and the IECC. A separate proposal to the IECC-R committee has been submitted with respect to the same definition in Section N1101.6 of the IRC Chapter 11.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal clarifies the definition and does not change requirements.

G6-25

IBC: SECTION 202, 1805.2.2.1, 2109.2.4.8.9.4, 2510.7, 2512.8.1

Proponents: Shamim Rashid-Sumar, representing National Ready Mixed Concrete Association (ssumar@nrmca.org); James Farny, Portland Cement Association, representing US cement manufacturers (jfarny@cement.org); Dr. Julian Mills-Beale, representing National Ready Mixed Concrete Association (jmills-beale@nrmca.org); Nicholas Lang, representing Concrete Masonry & Hardscapes Association (nlang@masonryandhardscapes.org)

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

2024 International Building Code

Revise as follows:

[BS] BRICK.

Calcium silicate (sand lime brick). A pressed and subsequently autoclaved unit that consists of sand and lime, with or without the inclusion of other materials.

Clay or shale. A solid or hollow *masonry unit* of *clay or shale*, usually formed into a rectangular *prism*, then burned or fired in a kiln; brick is a ceramic product.

Concrete. A concrete *masonry unit* made from ~~Portland~~ hydraulic cement, water, and suitable aggregates, with or without the inclusion of other materials.

[BS] CAST STONE. A building stone manufactured from ~~Portland~~hydraulic cement concrete precast and used as a *trim*, *veneer* or facing on or in *buildings* or *structures*.

[BS] CEMENT PLASTER. A mixture of hydraulic cement (~~Portland~~ portland,~~or~~ blended, or performance hydraulic cement),~~Portland cement or blended~~ hydraulic cement and hydrated lime, *masonry* cement or plastic cement and aggregate and other *approved* materials as specified in this code.

[BS] CONCRETE.

Carbonate aggregate. Concrete made with aggregates consisting mainly of calcium or magnesium carbonate, such as limestone or dolomite, and containing 40 percent or less quartz, chert or flint.

Cellular. A lightweight insulating concrete made by mixing a preformed foam with ~~Portland~~ hydraulic cement slurry and having a dry unit weight of approximately 30 pcf (480 kg/m^3).

Lightweight aggregate. Concrete made with aggregates of expanded clay, shale, slag or slate or sintered fly ash or any natural lightweight aggregate meeting ASTM C330 and possessing equivalent fire-resistance properties and weighing 85 to 115 pcf (1360 to 1840 kg/m^3).

Perlite. A lightweight insulating concrete having a dry unit weight of approximately 30 pcf (480 kg/m^3) made with *perlite* concrete aggregate. Perlite aggregate is produced from a volcanic rock which, when heated, expands to form a glass-like material of cellular structure.

Sand-lightweight. Concrete made with a combination of expanded clay, shale, slag, slate, sintered fly ash, or any natural lightweight aggregate meeting ASTM C330 and possessing equivalent fire-resistance properties and natural sand. Its unit weight is generally between 105 and 120 pcf (1680 and 1920 kg/m^3).

Siliceous aggregate. Concrete made with normal-weight aggregates consisting mainly of silica or compounds other than calcium or magnesium carbonate, which contains more than 40-percent quartz, chert or flint.

Vermiculite. A light weight insulating concrete made with *vermiculite* concrete aggregate which is laminated micaceous material produced by expanding the ore at high temperatures. When added to a ~~Portland~~ hydraulic cement slurry the resulting concrete has a dry unit weight of approximately 30 pcf (480 kg/m^3).

CHAPTER 18
SOILS AND FOUNDATIONS

1805.2.2.1 Surface preparation of walls. Prior to application of dampproofing materials on concrete walls, holes and recesses resulting from the removal of form ties shall be sealed with a bituminous material or other *approved* methods or materials. Unit *masonry* walls shall be parged on the exterior surface below ground level with not less than $^3/_8$ inch (9.5 mm) of ~~Portland~~ hydraulic (portland, blended, or

performance hydraulic) cement *mortar*. The parging shall be coved at the footing.

Exception: Parging of unit *masonry* walls is not required where a material is *approved* for direct application to the *masonry*.

CHAPTER 21
MASONRY

2109.2.4.8.9.4 Prohibited finish coat. Plaster containing ~~Portland~~ hydraulic cement shall not be permitted as a finish over clay plaster.

CHAPTER 25
GYPSUM PANEL PRODUCTS AND PLASTER

2510.7 Preparation of masonry and concrete. Surfaces shall be clean, free from efflorescence, sufficiently damp and rough for proper bond. If the surface is insufficiently rough, *approved* bonding agents or a ~~Portland~~ cement dash bond coat mixed in proportions of not more than two parts volume of sand to one part volume of ~~Portland~~ cement or plastic cement shall be applied. The dash bond coat shall be left undisturbed and shall be moist cured not less than 24 hours.

2512.8.1 Admixtures. Where using this method of application, calcium aluminate cement up to 15 percent of the weight of the ~~Portland~~ cement is permitted to be added to the mix.

Reason: This proposal is part of a series of proposals to the IBC and IRC to update cement terminology in the building codes.

The brick definition change aligns the definition for concrete brick in the IBC with the that currently within ASTM standards. The definition for concrete brick refers to the definition for 'concrete masonry unit', which in turn uses the following language "manufactured masonry unit made of concrete in which the binder is a combination of water and cementitious materials." The change better aligns IBC and ASTM definitions.

The proposed cement related revisions reflect current cement technology and market conditions, which can vary across regions. Nationally, the market is no longer dominated by portland cement. More than sixty percent of the current cement market consists of blended cements, including portland-limestone cement (PLC) and other blended cements that meet the requirements of ASTM C595/C595M, Specification for Blended Hydraulic Cements (Portland Cement Association, 2025). ASTM C595/C595M is referenced in the International Building Code/ International Residential Code.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposed revision to the definition is editorial and will not impact the cost of construction. See reason statement.

G7-25 Part I

IBC: SECTION 202 (New), SECTION 202, [A] 107.3.4, [A] 107.3.4.1, 1703.1.1, 1704.2.1, 1704.2.4, 1704.3, TABLE 1705.7, 1705.9; IEBC: SECTION 202 (New), SECTION 202, [A] 106.3.4, [A] 106.6

Proponents: Jack Butler, Butler & Butler, LLC, representing American Institute of Building Design (abutler@mpzero.com); Steven Mickley, representing American Institute of Building Design (steve.mickley@aibd.org)

THIS IS A 2 PART CODE CHANGE.

PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE.

PART II WILL BE HEARD BY THE RESIDENTIAL BUILDING CODE COMMITTEE.

SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Add new definition as follows:

BUILDING DESIGNER. A person engaged by the *owner* or the *owner*'s authorized agent to prepare construction documents. Where required by law, the *building designer* shall be a *registered design professional*.

Delete without substitution:

~~**DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE, REGISTERED.** See "Registered design professional in responsible charge."~~

Revise as follows:

[A] REGISTERED DESIGN PROFESSIONAL. ~~An individual~~ A *building designer* who is registered or licensed to practice their respective design profession as defined by the statutory requirements of the professional registration laws of the state or *jurisdiction* in which the project is to be constructed.

[A] ~~REGISTERED DESIGN PROFESSIONAL~~ BUILDING DESIGNER IN RESPONSIBLE CHARGE. A ~~*registered design professional*~~ *building designer* engaged by the *owner* or the *owner*'s authorized agent to review and coordinate certain aspects of the project, as determined by the *building official*, for compatibility with the design of the building or *structure*, including submittal documents prepared by others, *deferred submittal* documents and phased submittal documents.

SECTION 107
CONSTRUCTION DOCUMENTS

[A] 107.3.4 ~~Design professional~~ Building designer in responsible charge. ~~Where it is required that documents be prepared by a *registered design professional*, the~~ The *building official* shall be authorized to require the *owner* or the *owner*'s authorized agent to engage and designate on the *building permit* application a *building designer* ~~*registered design professional*~~ who shall act as the ~~*registered design professional*~~ *building designer in responsible charge*. If the circumstances require, the *owner* or the *owner*'s authorized agent shall designate a substitute ~~*registered design professional*~~ *building designer in responsible charge* who shall perform the duties required of the original ~~*registered design professional*~~ *building designer in responsible charge*. The *building official* shall be notified in writing by the *owner* or the *owner*'s authorized agent if the ~~*registered design professional*~~ *building designer in responsible charge* is changed or is unable to continue to perform the duties.The ~~*registered design professional*~~ *building designer in responsible charge* shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and *deferred submittal* items, for compatibility with the design of the building. Where the laws of the jurisdiction require all construction documents to be prepared by a *registered design professional*, the *building designer in responsible charge* shall be a *registered design professional*.

[A] 107.3.4.1 Deferred submittals. Deferral of any submittal items shall have the prior approval of the *building official*. The ~~*registered design professional*~~ *building designer in responsible charge* shall list the *deferred submittals* on the *construction documents* for review by the *building official*.

Documents for *deferred submittal* items shall be submitted to the

~~*registered design professional*~~ *building designer in responsible charge* who shall review them and forward them to the *building official* with a notation indicating that the *deferred submittal* documents have been reviewed and found to be in general conformance to the design of the building. The *deferred submittal* items shall not be installed until the *deferred submittal* documents have been *approved* by the *building official*.

CHAPTER 17
SPECIAL INSPECTIONS AND TESTS

SECTION 1703
APPROVALS

1703.1.1 Independence. An *approved agency* shall be objective, competent and independent from the contractor responsible for the work being inspected. The agency shall disclose to the *building official* and the ~~*registered design professional*~~ *building designer in responsible charge* possible conflicts of interest so that objectivity can be confirmed.

SECTION 1704
SPECIAL INSPECTIONS AND TESTS, CONTRACTOR RESPONSIBILITY AND STRUCTURAL OBSERVATION

1704.2.1 Special inspector qualifications. Prior to the start of the construction, the *approved agencies* shall provide written documentation to the *building official* demonstrating the competence and relevant experience or training of the *special inspectors* who will perform the *special inspections* and tests during construction. Experience or training shall be considered to be relevant where the documented experience or training is related in complexity to the same type of *special inspection* or testing activities for projects of similar complexity and material qualities. These qualifications are in addition to qualifications specified in other sections of this code.

The ~~*registered design professional*~~ *building designer in responsible charge* and engineers of record involved in the design of the project are permitted to act as an *approved agency* and their personnel are permitted to act as *special inspectors* for the work designed by them, provided they qualify as *special inspectors*.

1704.2.4 Report requirement. *Approved agencies* shall keep records of *special inspections* and tests. The *approved agency* shall submit reports of *special inspections* and tests to the *building official* and to the ~~*registered design professional*~~ *building designer in responsible charge* at frequencies required by the approved *construction documents* or *building official .* All reports shall describe the nature and extent of inspections and tests, the location where the inspections and tests were performed, and indicate that work inspected or tested was or was not completed in conformance to *approved construction documents*. Discrepancies shall be brought to the immediate attention of the contractor for correction. If they are not corrected, the discrepancies shall be brought to the attention of the *building official* and to the ~~*registered design professional*~~ *building designer in responsible charge* prior to the completion of that phase of the work. A final report documenting required *special inspections* and tests, and correction of any discrepancies noted in the inspections or tests, shall be submitted at a point in time agreed upon prior to the start of work by the *owner* or the *owner 's* authorized agent to the *building official*.

1704.3 Statement of special inspections. Where *special inspections* or tests are required by Section 1705, ~~the~~ a *registered design professional* ~~*in responsible charge*~~ shall prepare a statement of *special inspections* in accordance with Section 1704.3.1 for submittal by the applicant in accordance with Section 1704.2.3.

Exception: The statement of *special inspections* is permitted to be prepared by a qualified *person approved* by the *building official* for construction not designed by a *registered design professional*.

SECTION 1705
REQUIRED SPECIAL INSPECTIONS AND TESTS

1705.7 Driven deep foundations. *Special inspections* and tests shall be performed during installation of driven *deep foundation* elements as specified in Table 1705.7. The *approved* geotechnical report and the *construction documents* prepared by the *registered design professionals* shall be used to determine compliance.

TABLE 1705.7 REQUIRED SPECIAL INSPECTIONS AND TESTS OF DRIVEN DEEP FOUNDATION ELEMENTS

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. Verify element materials, sizes and lengths comply with the requirements.	X	—
2. Determine capacities of test elements and conduct additional load tests, as required.	X	—
3. Inspect driving operations and maintain complete and accurate records for each element.	X	—
4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element.	X	—
5. For steel elements, perform additional special inspections in accordance with Section 1705.2.	In accordance with Section 1705.2	
6. For concrete elements and concrete-filled elements, perform tests and additional special inspections in accordance with Section 1705.3.	In accordance with Section 1705.3	
7.For specialty elements, perform additional inspections as determined by the ~~registered design professional in responsible charge~~ engineer of record.	In accordance with Statement of Special Inspections	

1705.9 Helical pile foundations. *Continuous special inspections* shall be performed during installation of *helical pile* foundations. The information recorded shall include installation equipment used, pile dimensions, tip elevations, final depth, final installation torque and other pertinent installation data as required by the ~~*registered design professional in responsible charge*~~ engineer of record for the foundation design. The *approved* geotechnical report and the *construction documents* prepared by the *registered design professional* shall be used to determine compliance.

2024 International Existing Building Code

Add new definition as follows:

BUILDING DESIGNER. A person engaged by the *owner* or the *owner*'s authorized agent to prepare construction documents. Where required by law, the *building designer* shall be a *registered design professional*.

Revise as follows:

[A] ~~REGISTERED DESIGN PROFESSIONAL~~ BUILDING DESIGNER IN RESPONSIBLE CHARGE. A ~~registered design professional~~ *building designer* engaged by the owner or the owner's authorized agent to review and coordinate certain aspects of the project, as determined by the *code official*, for compatibility with the design of the building or structure, including submittal documents prepared by others, *deferred submittal* documents and phased submittal documents.

SECTION 106
CONSTRUCTION DOCUMENTS

[A] 106.3.4 Deferred submittals. Deferral of any submittal items shall have the prior approval of the *code official*. The ~~*registered design professional*~~ *building designer in responsible charge* shall list the *deferred submittals* on the construction documents for review by the *code official*.

Submittal documents for *deferred submittal* items shall be submitted to the ~~*registered design professional*~~ *building designer in responsible charge* who shall review them and forward them to the *code official* with a notation indicating that the *deferred submittal* documents have been reviewed and that they have been found to be in general conformance to the design of the building. The *deferred submittal* items shall not be installed until their *deferred submittal* documents have been *approved* by the *code official*.

[A] 106.6 ~~Design professional~~ Building designer in responsible charge. ~~Where it is required that documents be prepared by a registered design professional, the~~ The *code official* shall be authorized to require the owner or the owner's authorized agent to engage and designate on the building permit application a ~~registered design professional~~ building designer who shall act as the ~~*registered design professional*~~ *building designer in responsible charge*. Where the laws of the jurisdiction require all construction documents to be prepared by a *registered design professional*, the *building designer in responsible charge* shall be a *registered design professional*. If the circumstances require, the owner or the owner's authorized agent shall designate a substitute ~~*registered design professional*~~ *building designer in responsible charge* who shall perform the duties required of the original ~~*registered design professional*~~ *building*

designer in responsible charge. The *code official* shall be notified in writing by the owner or the owner's authorized agent if the ~~*registered design professional*~~ *building designer in responsible charge* is changed or is unable to continue to perform the duties. The ~~*registered design professional*~~ *building designer in responsible charge* shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and *deferred submittal* items, for compatibility with the design of the building. Where structural observation is required, the inspection program shall name the individual or firms who are to perform structural observation and describe the stages of construction at which structural observation is to occur.

Reason: The new definitions proposed for Building Designer and Building Designer in Responsible Charge are intended to address multiple problems. First, the code and its many referenced standards presently do not have a uniform term to reference the person who prepares construction documents. The proposed term of 'Building Designer' is used in ANSI/TPI 1, so it already has some recognition in the industry. Second, most states allow unregistered persons to prepare construction documents for residential and small commercial construction. Many of these states extend the ability to property owners. Using the term 'Design Professional' as the generic version of Registered Design Professional adds an implied level of qualification that may not be appropriate in all cases; Building Designer is a more neutral term that is applicable in all cases. Extending the term to modify the existing defined term of Registered Design Professional in Responsible Charge allows the code to accommodate variations between jurisdictions and preserves consistency between the code and referenced standards.The revised definition of Registered Design Professional is offered to maintain consistency with the proposed new definitions while allowing the term to remain unaffected throughout its many uses within the code. By providing a broader defined term of Building Designer in Responsible Charge, the definition for Registered Design Professional in Responsible Charge is redundant. A related modification to edit IBC section 107.3.4 to utilize the proposed replacement term has been separately submitted by the proponent. Collectively, the proposed modifications will allow the code to be consistent with referenced standards and better recognize the varying jurisdictional requirements imposed on persons who prepare construction documents.

107.3 - The original title of the subsection appropriately omits the qualifier "registered"; so, too, should the text. State professional practice laws control who is authorized to produce construction documents and coordinate their delivery to the building official for review as part of the application and construction process. Persons other than registered design professionals are permitted to provide construction documents and oversee construction of residential and small commercial projects in almost all states. Requiring only registered design professionals to fulfill the responsible charge role is contrary to public policy is those states, particularly where the IBC chapter 1 is applied to residential construction. For example, it is common for a non-registered building designer or the property owner to prepare the basic construction documents for residential construction. State laws may require that components of these documents, such as foundations or roof trusses, be prepared by a licensed engineer hired by the building designer. In such cases, the non-registered design professional is the appropriate choice to be in responsible charge of the overall design effort, as the registered design professional would be generally unfamiliar with the overall project. In addition, the scope of their practice might not allow them to oversee other elements of the proposed construction. Requiring the owner to hire a third-party person to act as the owner's agent just to meet the code requirement adds a potential source of confusion rather than offering a means of reducing it. The revised language preserves the requirement for a registered design professional to serve in the role of responsible charge when justified by the laws of the jurisdiction.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The change clarifies the original intent of the terms for which new and revised definitions are offered. Two new definitions provide more generic terms that provide consistency with state regulation of design professions (and their exemptions), as well as being more in line with referenced standards, such as ANSI/TPI 1. Two related definitions are no longer needed and are proposed for removal. Two other new definitions proposed in the modification reinforce the existing intent of the code relative to special conditions. The revised definitions seek to establish consistency with relevant state professional regulation laws and the proposed substitution of building designer for design professional as a reflection of the other proposed code modifications. The value of the added and revised definitions is not dependent on the adoption of the related proposed modifications from the same proponent.

G7-25 Part I

G7-25 Part II

IRC: SECTION 202 (New), SECTION 202

Proponents: Jack Butler, Butler & Butler, LLC, representing American Institute of Building Design (abutler@mpzero.com); Steven Mickley, representing American Institute of Building Design (steve.mickley@aibd.org)

2024 International Residential Code

Add new definition as follows:

BUILDING DESIGNER. A person engaged by the *owner* or the *owner*'s authorized agent to prepare *construction documents*. Where required by law, the building designer shall be a *registered design professional*.

Delete without substitution:

~~**[RB] DESIGN PROFESSIONAL.** See "*Registered design professional*."~~

Revise as follows:

[RB] REGISTERED DESIGN PROFESSIONAL. ~~An individual~~ A *building designer* who is registered or licensed to practice their respective design profession, as defined by the statutory requirements of the professional registration laws of the state or *jurisdiction* in which the project is to be constructed.

Reason: The new definition proposed for Building Designer is intended to address multiple problems. First, the code and its many referenced standards presently do not have a uniform term to reference the person who prepares construction documents. The proposed term of 'Building Designer' is used in ANSI/TPI 1 and IRC section R502.12.4, so it already has some recognition in the industry. Second, most states allow unregistered persons to prepare construction documents for residential construction. Many of these states extend the ability to property owners. Using the term 'Design Professional' as the generic version of Registered Design Professional adds an implied level of qualification that may not be appropriate in all cases; Building Designer is a more neutral term and does not imply any specific qualifications. The revised definition of Registered Design Professional is offered to maintain consistency with the proposed new definition for Building Designer while allowing the term to remain unaffected throughout its many uses within the code. Collectively, the proposed modifications will allow the code to be consistent with referenced standards and better recognize the varying jurisdictional requirements imposed on persons who prepare construction documents.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposed changes clarify the original intent of the code. The revised definitions seek to establish consistency with relevant state professional regulation laws. The value of the added and revised definitions is not dependent on the adoption of the related proposals.

G8-25

IBC: SECTION 202, 1103.2.13, 1105.1.5, [P] TABLE 2902.1, E106.4.8; IPC: TABLE 403.1

Proponents: Bryan Toepfer, representing NY DOS (bryan.toepfer@dos.ny.gov); Chad Sievers, NYS, representing NYS Dept of State (chad.sievers@dos.ny.gov); Jeanne Rice, representing NYSDOS (jeanne.rice@dos.ny.gov); China Clarke, representing New York State Dept of State (china.clarke@dos.ny.gov); Larissa DeLango, representing NYSDOS (larissa.delango@dos.ny.gov); Daniel Carroll, New York State Department of State, representing Division of Building Standards and Codes (daniel.carroll@dos.ny.gov); Bryant Arms, representing NYS DOS (bryant.arms@dos.ny.gov)

2024 International Building Code

Revise as follows:

[BG] CELL (Group I-3 occupancy). A room within a *housing unit* in a detention or correctional *facility* used to confine incarcerated individuals. ~~inmates or prisoners.~~

CHAPTER 11
ACCESSIBILITY

1103.2.13 Detention and correctional facilities. In detention and correctional *facilities*, *common use* areas that are used only by ~~inmates~~ incarcerated individuals or detainees and security personnel, and that do not serve holding *cells* or housing *cells* required to be *Accessible units*, are not required to comply with this chapter.

1105.1.5 Entrances for ~~inmates~~ incarcerated individuals or detainees. Where entrances used only by ~~inmates~~ incarcerated individuals or detainees and security personnel are provided at judicial *facilities*, detention *facilities* or correctional *facilities*, at least one such entrance shall be accessible.

CHAPTER 29
PLUMBING SYSTEMS

[P] TABLE 2902.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a] (See Sections 2902.1.1 and 2902.2)
Portions of table not shown remain unchanged.

a. The fixtures shown are based on one fixture being the minimum required for the number of *persons* indicated or any fraction of the number of *persons* indicated. The number of occupants shall be determined by this code.

b. Toilet *facilities* for employees shall be separate from *facilities* for ~~inmates~~ incarcerated individuals or care recipients.

c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient *sleeping units* shall be permitted, provided that each patient sleeping unit has direct access to the toilet room and provisions for privacy for the toilet room user are provided.

d. The *occupant load* for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of *facilities* required.

e. For business and mercantile classifications with an *occupant load* of 15 or fewer, a service sink shall not be required.

f. The required number and type of plumbing fixtures for indoor and outdoor swimming pools shall be in accordance with Section 609 of the *International Swimming Pool and Spa Code*.

[BE] APPENDIX E
SUPPLEMENTARY ACCESSIBILITY REQUIREMENTS

E106.4.8 Detention and correctional facilities. In detention and correctional *facilities*, where a public pay telephone is provided in a secured area used only by detainees or ~~inmates~~ incarcerated individuals and security personnel, then not fewer than one TTY shall be provided in not fewer than one secured area.

2024 International Plumbing Code

CHAPTER 4
FIXTURES, FAUCETS AND FIXTURE FITTINGS

Revise as follows:

TABLE 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a] (See Sections 403.1.1 and 403.2)
Portions of table not shown remain unchanged.

a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by the *International Building Code*.

b. Toilet facilities for employees shall be separate from facilities for ~~inmates~~ incarcerated individuals or care recipients.

c. A single-user toilet facility with one water closet and one lavatory serving not more than two adjacent care recipient sleeping units shall be permitted provided that each patient sleeping unit has direct access to the toilet room and provision for privacy for the toilet room user is provided.

d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.

e. For business and mercantile classifications with an occupant load of 15 or fewer, service sinks shall not be required.

f. The required number and type of plumbing fixtures for indoor and outdoor public swimming pools shall be in accordance with Section 609 of the *International Swimming Pool and Spa Code*.

Reason: Criminal justice advocates have long called for utilizing "humanizing language" in regards to incarcerated or detained individuals. The change from "inmates" to "incarcerated individuals" provides such individuals with a measure of humanity that can otherwise be ignored. Terms like "inmate" or "detainee" reduce the person to the crime for which they have been charged, without consideration for the person as a whole human being. This also helps remove the stigmatization and ostracization of individuals who have not committed crimes, but have been detailed wrongfully and/or awaiting trial.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal has no cost impact, as it is only updating terms in the IBC to utilize humanizing language, and not changing any requirements.

G9-25

IBC: SECTION 202

Proponents: Jeanne Rice, representing NYSDOS (jeanne.rice@dos.ny.gov); Chad Sievers, NYS, representing NYS Dept of State (chad.sievers@dos.ny.gov); Kevin Duerr-Clark, representing NYSDOS (kevin.duerr-clark@dos.ny.gov); Bryant Arms, representing NYS DOS (bryant.arms@dos.ny.gov); Stephen Van Hoose, representing NYS DOS (stephen.vanhoose@dos.ny.gov); Bryan Toepfer, representing NY DOS (bryan.toepfer@dos.ny.gov); Larissa DeLango, representing NYSDOS (larissa.delango@dos.ny.gov); China Clarke, representing New York State Dept of State (china.clarke@dos.ny.gov); Daniel Carroll, New York State Department of State, representing Division of Building Standards and Codes (daniel.carroll@dos.ny.gov)

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

2024 International Building Code

Revise as follows:

[BS] DESIGN FLOOD. The *flood* associated with the greater flood elevation of the following two areas:

1. Area with a flood plain subject to a 1-percent or greater chance of *flooding* in any year.
2. Area designated as a *flood hazard area* on a community's flood hazard map, or otherwise legally designated.

Reason: As the definition is currently written, the word "greater" appears to apply to the size of the areas specified in items 1 and 2. This proposal clarifies that "greater" is associated with the flood elevation specified by said areas, rather than the size of the areas themselves.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal clarifies the intent of the definition and is purely editorial.

Staff Analysis: CC # G9-25 and CC # S97-25 Part I addresses requirements in a different or contradicting manner. The committee is urged to make their intensions clear with their actions on these proposals.

G10-25

IBC: SECTION 202 (New)

Proponents: Donald Monahan, Parking-Xpert.com, LLC, representing National Parking Association (don.monahan@comcast.net); mary smith, Walker consultants, representing National Parking Association (msmith@walkerconsultants.com)

2024 International Building Code

Add new definition as follows:

ELECTRIC VEHICLE (EV) CHARGER. A device with one or more charging ports and connectors for charging electric vehicles. The device may include a subscription user ID, payment provisions, and network/data communications.

Reason: This definition is the one currently proposed on 9/3/2024 by the ATBCB with the second sentence proposed by the National Parking Association/Parking Consultant's Council for clarification.

Bibliography: Document Number ATBCB 2024-0001, Federal Register 9/3/2024, Section 106.5 Definitions

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Adding EV charging terminology does not impact cost.

G11-25

IBC: SECTION 202 (New)

Proponents: Donald Monahan, Parking-Xpert.com, LLC, representing National Parking Association (don.monahan@comcast.net); mary smith, Walker consultants, representing National Parking Association (msmith@walkerconsultants.com)

2024 International Building Code

Add new definition as follows:

ELECTRIC VEHICLE (EV) CHARGING SPACE. A space to park an electric vehicle while charging. Such space is a marked or an unmarked area next to an EV charger.

Reason: The National Parking Association recommends harmonizing the definitions in IBC, IgCC, and A117.1 to the same terms as the U.S. Access Board definition.

Bibliography: ADA and ABA Accessibility Guidelines, EV Charging Stations, ATBCB 36 CFR Part 1191 Docket Number ATBCB 2024-0001, Federal Register 9 3 2024 Section 106.5 Definitions.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Adding terminology does not have a cost impact.

G12-25

IBC: SECTION 202

Proponents: Donald Monahan, Parking-Xpert.com, LLC, representing National Parking Association (don.monahan@comcast.net); mary smith, Walker consultants, representing National Parking Association (msmith@walkerconsultants.com)

2024 International Building Code

Revise as follows:

[BG] ELECTRIC VEHICLE (EV) CHARGING STATION. ~~One or more vehicle spaces served by an electric vehicle charging system.~~The designated area surrounding EV chargers, including the chargers, supporting equipment, adjacent EV charging spaces, and access lanes for vehicle entry and exit.

Reason: The term 'Station' is used inconsistently across IBC, IgCC, and A117.1 and differs from the definition provided by the Access Board. It is advisable to adopt the Access Board's terminology and definition of 'EV Station,' which aligns with that of a gas station, and to use 'EV Charger' to refer to the device.

Bibliography: ADA and ABA Accessibility Guidelines EV Charging Stations, ATBCB 36 CFR Part 1191 Docket number ATBCB 2024-0001, Federal Register 93 2024 Section 106.5 Definitions

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Clarifying the difference between the EV charging device itself and all the collateral equipment required to deliver electricity to the EV charger and the vehicle.

G12-25

G13-25

IBC: SECTION 202 (New)

Proponents: Donald Monahan, Parking-Xpert.com, LLC, representing National Parking Association (don.monahan@comcast.net); mary smith, Walker consultants, representing National Parking Association (msmith@walkerconsultants.com)

2024 International Building Code

Add new definition as follows:

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). Equipment for the plug-in power transfer, including the ungrounded, grounded, and equipment grounding conductors, electric vehicle connectors, attachment plugs, personal protection system, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

Reason: The National Parking Association recommends harmonizing the definitions in IBC, IgCC, and A117.1 to the same terms as the U.S. Access Board definition.

Bibliography: ADA and ABA Accessibility Guidelines, EV Charging Stations, ATBCB 36 CFR Part 1191 Docket Number ATBCB 2024-0001, Federal Register 9 3 2024 Section 106.5 Definitions

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Clarifying the difference between the EV charging device itself and the collateral equipment required to deliver electricity to the EV charger and the vehicle has no cost impact.

G13-25

G14-25 Part I

IBC: SECTION 202; IEBC: SECTION 202

Proponents: Daniel Carroll, New York State Department of State, representing Division of Building Standards and Codes (daniel.carroll@dos.ny.gov); Jeanne Rice, representing NYSDOS (jeanne.rice@dos.ny.gov); Bryant Arms, representing NYS DOS (bryant.arms@dos.ny.gov); Chad Sievers, NYS, representing NYS Dept of State (chad.sievers@dos.ny.gov); Kevin Duerr-Clark, representing NYSDOS (kevin.duerr-clark@dos.ny.gov); China Clarke, representing New York State Dept of State (china.clarke@dos.ny.gov); Larissa DeLango, representing NYSDOS (larissa.delango@dos.ny.gov); Stephen Van Hoose, representing NYS DOS (stephen.vanhoose@dos.ny.gov); Bryan Toepfer, representing NY DOS (bryan.toepfer@dos.ny.gov); Christopher Jensen, representing NYS DOS - Division of Building Standards and Codes (christopher.jensen@dos.ny.gov); Brian Tollisen, representing NYS Department of State, Division of Building Standards and Codes (brian.tollisen@dos.ny.gov)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Revise as follows:

[A] EXISTING BUILDING. A *building* ~~erected prior to the date of adoption of the appropriate code, or one for which a legal building *permit* has been~~ that is legally occupied or for which a certificate of occupancy authorizing its uses has been issued, without regard to the date on which such legal occupancy began or the date on which such certificate of occupancy was issued.

[A] EXISTING STRUCTURE. A *structure* ~~erected prior to the date of adoption of the appropriate code, or one for which a legal building *permit* has been~~ that is legally occupied or for which a certificate of occupancy authorizing its uses has been issued, without regard to the date on which such legal occupancy began or the date on which such certificate of occupancy was issued.

2024 International Existing Building Code

Revise as follows:

[A] EXISTING BUILDING. A building ~~erected prior to the date of adoption of the appropriate code, or one for which a legal building permit has been~~that is legally occupied or for which a certificate of occupancy authorizing its uses has been issued, without regard to the date on which such legal occupancy began or the date on which such certificate of occupancy was issued.

[A] EXISTING STRUCTURE. A structure ~~erected prior to the date of adoption of the appropriate code, or one for which a legal building permit has been~~that is legally occupied or for which a certificate of occupancy authorizing its uses has been issued, without regard to the date on which such legal occupancy began or the date on which such certificate of occupancy was issued.

G14-25 Part II

IRC: SECTION 202

Proponents: Daniel Carroll, New York State Department of State, representing Division of Building Standards and Codes (daniel.carroll@dos.ny.gov); Jeanne Rice, representing NYSDOS (jeanne.rice@dos.ny.gov); Bryant Arms, representing NYS DOS (bryant.arms@dos.ny.gov); Chad Sievers, NYS, representing NYS Dept of State (chad.sievers@dos.ny.gov); Kevin Duerr-Clark, representing NYSDOS (kevin.duerr-clark@dos.ny.gov); China Clarke, representing New York State Dept of State (china.clarke@dos.ny.gov); Larissa DeLango, representing NYSDOS (larissa.delango@dos.ny.gov); Stephen Van Hoose, representing NYS DOS (stephen.vanhoose@dos.ny.gov); Bryan Toepfer, representing NY DOS (bryan.toepfer@dos.ny.gov); Christopher Jensen, representing NYS DOS - Division of Building Standards and Codes (christopher.jensen@dos.ny.gov); Brian Tollisen, representing NYS Department of State, Division of Building Standards and Codes (brian.tollisen@dos.ny.gov)

2024 International Residential Code

Revise as follows:

[RB] EXISTING BUILDING. ~~*Existing building* is a~~ A building ~~erected prior to the adoption of this code, or one for which a legal *building permit* has been~~ that is legally occupied or for which a certificate of occupancy authorizing its uses has been issued, without regard to the date on which such legal occupancy began or the date on which such certificate of occupancy was issued.

Reason: This proposal will clarify when a building should be classified as an existing building and subject to the requirements for existing buildings. The current definition of existing building classifies any building that was erected prior to the adoption of the current code or has a legal building permit as an existing building. So, under the current definition a building that was illegally built (no permits) prior to the adoption of the current code would be considered an existing building and only subject to the requirements for existing buildings. Also, under the current definition any building with a legal building permit is an existing building, so as soon as a permit is issued for a building it can now be classified as existing.

The same modifications to the definition for existing building are being proposed for the residential provisions of the IECC and there is a proposal to add this definition back into the commercial provisions, as the exisiting building definition was removed in the 2024 IECC update.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This change is editorial (see reason statement).

G14-25 Part II

G15-25

IBC: SECTION 202 (New), SECTION 1412

Proponents: Matthew Dobson, representing Polymeric Exterior Products Association (mdobson@vinylsiding.org)

2024 International Building Code

Add new definition as follows:

EXTERIOR SOFFIT. A material or assembly of materials applied on the underside of exterior overhangs, attached carports, ceilings of raised buildings that create a full story, and porch ceilings.

Revise as follows:

SECTION 1412
EXTERIOR SOFFITS AND FASCIAS AT ROOF OVERHANGS

Reason: This change helps to create stronger understanding of how exterior soffit is regulated by the code. The definition is similar to the IRC, and the minor edit simply identifies that this applied to exterior soffits.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This change adds no additional requirements.

G16-25

IBC: SECTION 202 (New)

Proponents: Jeffrey Grove, representing Southern Nevada ICC Chapter (jeff.grove@coffman.com); Allen Burris, Clark County Nevada, representing Southern Nevada Chapter (allen.burris@clarkcountynv.gov)

2024 International Building Code

Add new definition as follows:

[F] FIRE CODE OFFICIAL. The fire chief or other designated authority charged with the administration and enforcement of the *International Fire Code*, or a duly authorized representative.

Reason: The term “Fire Code Official” is used in dozens of locations in the 2024 IBC. However, this term is not formally defined in the 2024 IBC.

The proposed definition of “Fire Code Official” was taken verbatim from Section 202 of the 2024 *International Fire Code*, except that the phrase “the code” was replaced with the phrase “the *International Fire Code*”. This clarification is required since the phrase “the code” would otherwise signify the building code.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This code change proposal adds a necessary definition and has no impact to the cost of construction.

G17-25 Part I

IBC: SECTION 202, 308.3; IFC: SECTION 202, [BG] 203.7.2

Proponents: Jeff O'Neill, Chair, representing Committee on Healthcare (ahc@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE IPMC/IZC CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Revise as follows:

[BG] HOSPITAL ~~HOSPITALS AND PSYCHIATRIC HOSPITALS.~~ ~~*Facilities* that provide care or treatment for the~~ Buildings or portions thereof used to provide medical, psychiatric, obstetrical, or surgical or similar care on a *24-hour basis* to persons who are ~~treatment of care recipients who are~~ *incapable of self-preservation* or are rendered *incapable of self-preservation* by the services provided.

Delete without substitution:

~~**PSYCHIATRIC HOSPITALS.** See "Hospitals and psychiatric hospitals."~~

Revise as follows:

308.3 Institutional Group I-2. Institutional Group I-2 occupancy shall include *buildings* and *structures* used for *medical care* on a *24-hour basis* for more than five *persons* who are *incapable of self-preservation*. This group shall include, but not be limited to, the following:

Foster care facilities

Detoxification facilities

Hospitals

Nursing homes

~~*Psychiatric hospitals*~~

2024 International Fire Code

Revise as follows:

[BG] HOSPITAL~~HOSPITALS AND PSYCHIATRIC HOSPITALS.~~ ~~*Facilities*~~that provide care or treatment for the~~~~Buildings or portions thereof used to provide medical, psychiatric, obstetrical, or surgical or similar care on a *24-hour basis* to persons who are ~~treatment of care recipients who are~~*incapable of self-preservation*or are rendered *incapable of self-preservation* by the services provided.

Delete without substitution:

~~**[B] PSYCHIATRIC HOSPITALS.** See "*Hospitals and psychiatric hospitals*."~~

Revise as follows:

[BG] 203.7.2 Institutional Group I-2. Institutional Group I-2 occupancy shall include buildings and structures used for medical care on a 24-hour basis for more than five persons who are incapable of self-preservation. This group shall include, but not be limited to, the following:

Foster care facilities

Detoxification facilities

Hospitals

Nursing homes

~~Psychiatric hospitals~~

G17-25 Part II

IZC: SECTION 202

Proponents: Jeff O'Neill, Chair, representing Committee on Healthcare (ahc@iccsafe.org)

2024 International Zoning Code

Revise as follows:

HOSPITAL. ~~An institution designed for the diagnosis, treatment and care of human illness or infirmity and providing health services, primarily for inpatients, and including as related facilities, laboratories, outpatient departments, training facilities and staff offices.~~ Buildings or portions thereof used to provide medical, psychiatric, obstetrical, or surgicalor similar care on a 24-hour basis to persons who are incapable of self-preservation or are rendered incapable of self-preservation by the services provided.

Reason: The term ‘psychiatric hospital’ is only used in Section 308.3. ‘Psychiatric’ is in the definition for a type of hospital treatment, so the definition and specific term are not needed. It is already addressed in the definition of ‘hospital’. Psychiatric treatment areas are addressed in Section 407.2.3; which can be all or part of a hospital. There is a correllative change from this committee to improve the language in the definition of 'ambulatory care facilities'.

This are also aligning better with the federal definitions for hospitals. This better answers the questions where not all patients are incapable or self-preservation.

Existing related definitions are:

[BG] 24-HOUR BASIS. The actual time that a person is an occupant within a facility for the purpose of receiving care. It shall not include a facility that is open for 24 hours and is capable of providing care to someone visiting the facility during any segment of the 24 hours.

[BG] AMBULATORY CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than 24-hour basis to persons who are rendered incapable of self-preservation by the services provided or staff has accepted responsibility for care recipients already incapable.

[BG] DETOXIFICATION FACILITIES. Facilities that provide treatment for substance abuse, serving care recipients who are incapable of self-preservation or who are harmful to themselves or others.

[BG] FOSTER CARE FACILITIES. Facilities that provide care to more than five children, 21/2 years of age or less.

[BG]MEDICAL CARE. Care involving medical or surgical procedures, nursing or for psychiatric purposes.

[BG] NURSING HOMES. Facilities that provide care, including both intermediate care facilities and skilled nursing facilities where any of the persons are incapable of self-preservation.

International Zoning Code -

ICC staff identified that 'Hospital' is defined in the IZC. For consistency, the defintions should be the same across codes. It is hoped that this can be scoped to General by the CCC. The defintion is only used in the IZC defintions to say a hosptial is not a 'group care facility' or a 'congregate residence'; and as an example of a health and medical institution in CZone Division 3. The defintions should be consistent across codes to avoid possible confusion.

This proposal is submitted by the ICC Committee for Healthcare (CHC).

The Committee on Healthcare (CHC) was established by the ICC Board of Directors in 2011 to pursue opportunities to study and develop effective and efficient provisions for Hospital, Nursing Homes, Assisted Living and Ambulatory Care Facilities. This committee was formed in cooperation with the American Society for Healthcare Engineering (ASHE). In July of 2017, the ICC Board made CHC a standing committee. In 2023 and 2024 the CHC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the CHC website at CHC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarification of the definition with no change to construction requirements.

G17-25 Part II

G18-25

IBC: SECTION 202 (New)

Proponents: Jeff Bowlsby, representing Self (jabowlsby@gmail.com)

2024 International Building Code

Add new definition as follows:

OTHERWISE SPECIFIED. Where stated without context, term shall mean either of the following: 1. As alternatively specified within this subject code or referenced code or referenced standard. 2. As alternatively specified in mandatory language by the *registered design professional in responsible charge* where an alternative material, design, method of construction and equipment in accordance with Section 104.11 is *approved*.

Reason: This proposed code change includes a new definition for this currently undefined term “otherwise specified” where required context is not stated, to specify the required context in mandatory language, eliminating the terms’s vagueness and ambiguity, and to support uniform code interpretation, application, compliance and enforcement. This proposed code change resolves these conflicts and conundrums.

Where used in the primary code documents (e.g. the IBC, referenced codes and referenced standards):

Use of this undefined term “otherwise specified” without required context does not establish minimum code requirements as set forth by IBC **101.3 Purpose.**

No context is given for the undefined term “otherwise specified.” This undefined term is sometimes used without required context to provide mandatory language; therefore, the term does not comply with IBC **201.4 Terms not defined** and yet is codified. This undefined term is vague and ambiguous, and creates significant difficulties for code interpretation, application, compliance and enforcement.

> Example: 2021 IBC “**1408.9 Surface-burning characteristics.** Unless otherwise specified, HPL shall have a *flame spread index* of 75 or less and a *smoke-developed index* of 450 or less when tested in the minimum and maximum thicknesses intended for use in accordance with ASTM E84 or UL 723.” A literal reading of this code section can cause a misinterpretation of this undefined term “otherwise specified” in that an implied ‘specifier’ entity has an implied, unrestricted authority and discretion to “otherwise specify” alternative specifications such as an HPL with a greater flame spread index and smoke-developed index than the limits specified in 1408.9 allow. Surely this is not the intent of the code.

Items “otherwise specified” may imply that a ‘specifier’ entity has unrestricted authority and discretion to create alternative specifications which may vary from the minimum requirements of the code because there is no stated condition of approval where this term is used.

> Example: ASTM F1667“10.1.4Mechanically deposited zinc coatings applied to fasteners after forming shall have a thickness in accordance with Specification B695, Class 40, unless otherwise specified.” No condition of approval for this alternative specification is stated such as the review and approval requirements for alternatives in IBC **104.11 Alternative materials, design and methods of construction and equipment**. Surely this is not the intent of this referenced standard.

This undefined term “otherwise specified” provides no helpful references to establish context.

For undefined terms, the 2021 IBC Commentarydirects the code user to rely on a dictionary definition, referenced standards, and the vague term ‘published textbooks’ to establish the context for defining this term. This undefined term “otherwise specified” is vague and ambiguous, and no definition or context establishing minimum codified requirements for this term can be gleaned from any of these documents.

This undefined term “otherwise specified” does not satisfy the requirement of mandatory language for use of defined terms in ICC

CP#28-05 for referenced standards. As applies to referenced standards, CP#28-05 – Code Development. 4.6.2.1 requires that "A standard or portions of a standard intended to be enforced shall be written in mandatory language" and 4.6.2.3 requires that "All terms shall be defined when they deviate from an ordinarily accepted meaning or a dictionary definition." Where this undefined term "otherwise specified" is used in referenced standards without additional required context written in mandatory language, its use conflicts with and does not satisfy either of these CP#28-05 requirements.

The term "specified" implies a "specifier," whose characteristics are undefined.

No qualifications or restrictions are stated or implied preventing any entity from functioning as a 'specifier'. The 'specifier' entity implied in this undefined term "otherwise specified" is without context for the specifier's qualifications or relationship to the permitted work. Therefore, the vague and ambiguous term 'specifier' can be (mis)interpreted and (mis)applied in the literal sense by code users to grant an unrestricted authority and discretion to any entity the code user determines to be a 'specifier' to 'specify otherwise.' A 'specifier' may be a licensed or unlicensed designer preparing construction documents, a contractor in a bid qualification, a manufacturer within their product data, a product or material supplier using their purchase order, a property developer or a homeowner, or any other entity. A 'specifier' entity may vary with the situation and may include legally or technically unqualified persons or the possibility that some of these 'specifiers' may have limited roles on the project.

The ordinarily accepted meaning of 'specifier' as used in the broader context of primary code documents is the *registered design professional in responsible charge* as defined in IBC Section 202. However, this undefined term "otherwise specified" does not limit the 'otherwise specifying' of an alternative to the *registered design professional in responsible charge* even though that professional is professionally responsible for the permitted work. Further, this 'specifier' may not be in a position to fulfill all the requirements of a *registered design professional in responsible charge* as required in Section 202.

The ubiquitous practice of omitting drawings or specifications from work requiring compliance with the requirements for permit approval, conflicts with the essential purpose and requirements of the primary code documents 'to establish minimum requirements' and is not compliant with IBC 101.3. Items requiring review and compliance and intentionally or unintentionally NOT depicted on drawings and specifications submitted for permit approval are oftentimes as important as the items depicted. Because this undefined term "otherwise specified" without additional context implies a 'specifier' has the unrestricted authority and discretion to 'specify otherwise,' the term can be interpreted in the opposite sense - to 'intentionally or unintentionally NOT specify something because it is not wanted' by the 'specifier,' even where code compliance may require it. Compliance with codified requirements in primary code documents may simply be intentionally or unintentionally omitted from drawings or specifications submitted for permit approval such as when they are aesthetically objectionable or to reduce construction costs.Some code users will (incorrectly) interpret the intentional or unintentional omissions from the 'approved for permit' documents as *approved* omissions. Silence on whether code compliance and building official review and approval of the item 'otherwise specified' is or is not required creates conflicts during construction.

Where this undefined term "otherwise specified" is used these combined factors cause misinterpretation and misapplication of the primary code documents and are a significant obstruction to effective code interpretation, application, compliance, and enforcement.

This undefined term "otherwise specified" has surreptitious functional similarities to the IBC 104.11 process, but the results of 'otherwise specified' are not *approved* unless the requirements of IBC 104.11 are satisfied.

This undefined term "otherwise specified" does not specifically mandate that 'specifying otherwise' shall comply with the full list of requirements of the IBC 104.11 process. Consider that the (mis)interpretation and (mis)application of this term may be a potential and intentional attempt at an unconditional, de facto approach to circumvent the IBC 104.11 process simply by "otherwise specifying" an alternative to minimum requirements of the primary code documents which is never presented to the building official for review or approval or for the testing and *approval* requirementsand authorityof the building official.

This undefined term "otherwise specified" does not establish the minimum requirements for WHERE the item 'otherwise specified' (alternative) shall be specified. Where the undefined term "otherwise specified" is used in a code or referenced standard, is the item

specified within the same code or referenced standard or somewhere else? If the term means an Alternative is specified within an *approved* code or referenced standard then the context is established. However, this undefined term does not explicitly require in mandatory language: "unless otherwise specified within this code or referenced standard".

This undefined term "otherwise specified" indicates no requirement to identify items "otherwise specified" or Alternatives on construction documents listed in IBC Section 107, or specifically in IBC **107.4 Amended construction documents**.

This undefined term "otherwise specified" in its current form where used without context in the code, referenced codes, or referenced standards, is illegal and void and a partial invalidity as specified in IBC **102.5 Partial invalidity**, but does not make void or illegal any of the other parts or provisions.

More broadly, this undefined term "otherwise specified" is used not only within the IBC, but also within the referenced codes and referenced standards. The number and various types of codified referenced documents using the term is significant enough that coordinating changes to each of the codified referenced documents by proponents will take many years if not decades to correct, justifying this proposed code change for a single new definition in the IBC as the most appropriate and expedient solution, for uniformity of interpretation, application, compliance, and enforcement of the primary code documents.

Going forward, the term "otherwise specified" without an ordinarily accepted meaning for context should not be allowed in code development of the primary code documents. CP#28-05 should also be considered for specific revision to not allow this term in reference standards for the same reason.

This proposed code change includes a new definition for this currently undefined term "otherwise specified" where required context is not stated, to specify the required context in mandatory language, eliminating the terms's vagueness and ambiguity, and to support uniform code interpretation, application, compliance and enforcement. This proposed code change resolves these conflicts and conundrums. A few examples:

Building Codes

- **2024 IBC @1406.9 Surface-burning characteristics.** Unless otherwise specified, MCM shall have a *flame spread index* of 75 or less and a *smoke-developed index* of 450 or less when tested in the maximum thickness intended for use in accordance with ASTM E84 or UL 723.

- **2024 IBC @1408.9 Surface-burning characteristics.** Unless otherwise specified, HPL shall have a *flame spread index* of 75 or less and a *smoke-developed index* of 450 or less when tested in the minimum and maximum thicknesses intended for use in accordance with ASTM E84 or UL 723.

- **2024 IBC @1607.4 Concentrated live loads.** Floors, roofs and other similar surfaces shall be designed to support the uniformly distributed *live loads* prescribed in Section 1607.3 or the concentrated *live loads*, given in Table 1607.1, whichever produces the greater *load effects*. Unless otherwise specified, the indicated concentration shall be assumed to be uniformly distributed over an area of 21/2 feet by 21/2 feet (762 mm by 762 mm) and shall be located so as to produce the maximum *load effects* in the structural members.

Referenced Codes

- **2024 IPC @ 301.2 Overlap.** Unless otherwise specified, clear floor spaces, clearances at fixtures, maneuvering clearances at doors, and turning spaces shall be permitted to overlap

- **2024 IPC @ 304.4 Door swing.** Unless otherwise specified, doors shall be permitted to swing into turning spaces.

- **2024 IPC @ 305.4 Knee and toe clearance.** Unless otherwise specified, clear floor space shall be permitted to include knee and toe clearance complying with Section 306.

- **2024 IPC @ 305.5 Position.** Unless otherwise specified, clear floor spaces shall be positioned for either forward or parallel approach to an element.

Referenced Standards (excerpts from current edition of referenced standards listed in IBC Chapter 35)

- **ASTM A36@ 5.1 Standard Specification for Carbon Structural Steel** Unless otherwise specified, plates used as bearing plates for bridges shall be subjected to mechanical tests and shall conform to the tensile requirements of Section 8.

- **ASTM B88 @ 1.2 Standard Specification for Seamless Copper Water Tube** The tube shall be produced from the following coppers, and the manufacturer has the option to supply any one of them, unless otherwise specified.

- **ASTM C844 @3.2.4 Standard Specification for Application of Gypsum Base to Receive Gypsum Veneer Plaster** *framing member, n*—that portion of the framing, furring, blocking, and so forth, to which the gypsum base is attached. Unless otherwise specified, the surface to which abutting edges or ends are attached shall be not less than 1 1⁄2 in. (38 mm) wide for wood members, not less than 1 1⁄4 in. (32 mm) wide for steel members, and not less than 6 in. (152 mm) wide for gypsum studs. For internal corners or angles, the bearing surface shall be not less than 3⁄4 in. (19 mm).

- **ASTM C844 @ 14.4 Standard Specification for Application of Gypsum Base to Receive Gypsum Veneer Plaster** "…Partitions shall be secured at the floor and ceiling in accordance with the gypsum base manufacturer's details or as otherwise required."

- **ASTM C926 @ 6.1 Standard Specification for Application of Portland Cement-Based Plaster** Metallic lath and lath fasteners used to receive plaster shall be installed in conformance with Specification C1063, except as otherwise specified.

- **ASTM C1063 @ 7.3.1.3Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster** Lath shall be installed with the long dimension at right angles to the framing members, unless otherwise specified.

- **ASTM C1280 @ 7.1Standard Specification for Application of Exterior Gypsum Panel Products for Use as Sheathing** Framing members shall be installed so that the surface will be in an even plane, unless otherwise specified, after the gypsum panel products have been applied.

- **ASTM F1667 @ 10.1.2.1Standard Specification for Driven Fasteners: Nails, Spikes, and Staples** Hot-dip galvanized steel wire for the manufacture of fasteners shall have a coating weight in accordance with Specification A641/A641M, Supplementary Requirements, Class 3S, when a heavier coating for exterior use and/or use in treated wood is specified. The minimum zinc coating shall be in accordance with Supplementary Requirements, Class 1, unless otherwise specified.

- **ASTM F1667 @ 10.1.3Standard Specification for Driven Fasteners: Nails, Spikes, and Staples** Electrogalvanized steel fasteners cut and formed from electrogalvanized steel wire or electrogalvanized after forming shall have a regular coating (no minimum weight of coating specified) in accordance with Specification A641/A641M, 9.2, unless otherwise specified.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

New defined term will assist in code interpretation, application, compliance and enforcement

G18-25

G19-25 Part I

IBC: SECTION 202 (New)

Proponents: Amanda Hickman, The Hickman Group, representing Anchor Products (amanda@thehickmangroup.com)

THIS IS A 2 PART CODE CHANGE.

PART I WILL BE HEARD BY THE IBC-GENERAL CODE COMMITTEE.

PART II WILL BE HEARD BY THE RESIDENTIAL BUILDING CODE COMMITTEE.

SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Add new definition as follows:

POSITIVE CONNECTION. A connection that provides a continuous load path with sufficient strength and stiffness to transfer forces between structural elements without consideration of frictional resistance produced by the effects of gravity (see "*Positively Anchored*").
POSITIVELY ANCHORED. A connection that provides a continuous load path with sufficient strength and stiffness to transfer forces between structural elements without consideration of frictional resistance produced by the effects of gravity (see "*Positive connection*").

G19-25 Part II

IRC: SECTION 202 (New)

Proponents: Amanda Hickman, The Hickman Group, representing Anchor Products (amanda@thehickmangroup.com)

2024 International Residential Code

Add new definition as follows:

POSITIVE CONNECTION. A connection that provides a continuous load path with sufficient strength and stiffness to transfer forces between structural elements without consideration of frictional resistance produced by the effects of gravity (see "*Positively anchored*").
POSITIVELY ANCHORED. A connection that provides a continuous load path with sufficient strength and stiffness to transfer forces between structural elements without consideration of frictional resistance produced by the effects of gravity (see "*Positive connection*").

Reason: The terms "positive connection" and "positively anchored" are used in several places throughout the codes, however the terms are not defined and are very subjective to interpretation. In the IBC, these terms are specifically addressed in the Chapter 16 concerning deck attachment to the primary structure, and in Chapter 23 about the means of egress attachment to the primary structure. In the IRC, these terms can be found in chapter 3 for the attachment to primary structures for landings, decks, balconies, and decks and stairs.

Without a definition, the code official is forced to determine what "positive connection" or "positively anchored" should mean and if the installation they are reviewing and inspecting complies with the code. Since there is no definition and the term itself is so subjective this leaves a lot of room for interpretation. Adding the new definitions clarifies that a "positive connection" or "positive anchorage" is a connection that will provide a continuous load path to transmit forces between structural elements, thereby making enforcement and compliance with the code easier.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Adding this definition is a clarification to the code and will not result in cost changes as a result of including the definition in the code.

G20-25 Part I

IBC: SECTION 202

Proponents: Aaron Phillips, representing Asphalt Roofing Manufacturers Association (aphillips@asphaltroofing.org)

THIS IS A 2 PART CODE CHANGE.

PART I WILL BE HEARD BY THE IBC-STRUCTURAL CODE COMMITTEE.

PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE.

SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Revise as follows:

[BS] POSITIVE ROOF DRAINAGE. A design that accounts for deflections from all *design loads* and has sufficient ~~additional~~ slope to ensure that drainage of the roof occurs within 48 hours of precipitation.

G20-25 Part II

IRC: SECTION 202

Proponents: Aaron Phillips, representing Asphalt Roofing Manufacturers Association (aphillips@asphaltroofing.org)

2024 International Residential Code

Revise as follows:

[RB] POSITIVE ROOF DRAINAGE. The drainage condition in which consideration has been made for the loading deflections of the *roof deck*, and sufficient ~~additional~~ slope has been provided to ensure drainage of the roof within 48 hours of precipitation.

Reason: The basic premise of positive drainage is that the roof drains water within 48 hours after precipitation ends. Additional slope is not always needed, but sufficient slope is always necessary. The current version of the definition implies that adding slope is always required. The proposed change clarifies that changes to add slope are not necessary if the existing slope is sufficient.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal offers a clarification to the existing definitions without making technical changes. As such, no impact on cost of construction is expected.

G21-25

IBC: SECTION 202

Proponents: Henry Kosarzycki, representing Self (hkosarzycki@flad.com)

2024 International Building Code

Revise as follows:

PUBLIC-OCCUPANCY TEMPORARY STRUCTURE. ~~Any *building* or~~ A *temporary structure* designed for ~~erected for a period of 1 year or less that serves~~ an assembly occupancy or other public use with greater than 50 occupants .

Reason: Based on previous events resulting in injury as well as loss of life the definition should provide clear direction. The definition as currently proposed does not conclusively provide regulatory direction with regards to the focus of concern. The assignment of an occupant load of 50 individuals is aligned with the long standing understanding of an assembly concern. A temporary structure may not be used in a traditional assembly function but the proposed revision to the definition recognizes a gathering of 50 or more individuals. The specific term "Public-Occupancy" Temporary Structure should be addressed in the future. Adding the term "Public" potentially creates a unintentional categorization between public, employees and even volunteers. It should be noted that larger temporary shelters may require additional structural criteria and those should be higher than a 50 occupant threshold, but this is at least a starting point.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarfication and limit for size, not a change in requirements.

G21-25

G22-25

IBC: SECTION 202

Proponents: Jonathan Siu, Jon Siu Consulting, LLC, representing Washington Association of Building Officials Technical Code Development Committee; Constadino 'Gus' Sirakis, representing NYC Department of Buildings; Micah Chappell, Seattle Dept. of Construction and Inspections (SDCI), representing Washington Association of Building Officials Technical Code Development Committee (WABO TCD) (micah.chappell@seattle.gov); Julius Carreon, City of Bellevue, representing Washington Association of Building Officials Technical Code Development Committee (jcarreon@bellevuewa.gov)

2024 International Building Code

Revise as follows:

PUBLIC-OCCUPANCY TEMPORARY STRUCTURE. ~~Any *building* or *structure* erected for a period of 1 year or less~~ A *temporary structure* that serves an assembly occupancy or other public use.

TEMPORARY STRUCTURE. Any *building* or *structure* erected for a ~~period of 180 days or less~~ limited period of time to support *temporary events*. *Temporary structures* include a range of *structure* types (*public-occupancy temporary structures*, temporary *special event structures*, *tents*, umbrellas and other membrane *structures*, *relocatable buildings*, temporary *bleachers*, etc.) for a range of purposes (storage, equipment protection, dining, workspace, assembly, etc.).

Reason: This proposal is being submitted to address a conflict and potential confusion in how long a temporary structure is allowed to be in place.

Under the current code, a temporary structure is defined to be one that is erected for 180 days or less. However, a public-occupancy temporary structure (hereinafter referred to as a POTS) is supposed to be a type of temporary structure, yet it is allowed to be erected for up to a year (IBC 3103.1, Exc. 1). This appears to be a direct conflict with the definition, and the proponents have received comments from people who are confused on this point. In addition, this appears to be a requirement contained in a definition.

This proposal simply deletes the requirement from the definition of temporary structure. IBC Section 3103 already contains scoping language that lays out the allowable time periods for temporary structures, so having this limitation in the definition isn't needed. (Note that a separate proposal is being submitted that makes IBC Section 108.1 on permits for temporary structures consistent with Section 3103.) However, to be clear that "temporary" is not intended to be "permanent," the definition refers to a "limited period of time," which, again, is determined in Sections 108.1 and 3103.

The definition of POTS is being simplified to indicate POTSs are a subset of temporary structures, as stated in the definition of temporary structures. The current definition also contains a requirement (the 1-year limit) that is covered in the scoping of Section 3103, so that is being deleted.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal merely removes a requirement from the definition. The requirement is covered elsewhere in the code.

G23-25 Part I

IBC: 603.1, D102.2.4

Proponents: Aaron Phillips, representing Asphalt Roofing Manufacturers Association (aphillips@asphaltroofing.org)

THIS IS A 3 PART CODE CHANGE.

PART I WILL BE HEARD BY THE IBC-GENERAL CODE COMMITTEE.

PART II WILL BE HEARD BY THE EXISTING BUILDING CODE COMMITTEE.

PART III WILL BE HEARD BY THE RESIDENTIAL BUILDING CODE COMMITTEE.

SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

SECTION 603
COMBUSTIBLE MATERIAL IN TYPES I AND II CONSTRUCTION

Revise as follows:

603.1 Allowable materials. Combustible materials shall be permitted in *buildings* of Type I or II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1. *Fire-retardant-treated wood* complying with Section 2303.2 shall be permitted in:
   1.1. Nonbearing partitions where the required *fire-resistance rating* is 2 hours or less except in *shaft enclosures* within Group I-2 occupancies and *ambulatory care facilities.*
   1.2. Nonbearing *exterior walls* where fire-resistance-rated construction is not required.
   1.3. Roof construction, including girders, trusses, framing and decking.

      Exceptions:

      1. In *buildings* of Type IA construction exceeding two stories above grade plane, *fire-retardant-treated wood* is not permitted in roof construction where the vertical distance from the upper floor to the roof is less than 20 feet (6096 mm).

      2. Group I-2, roof construction containing *fire-retardant-treated wood* shall be covered by not less than a Class A *roof assembly* ~~*roof covering* or roof assembly~~, and the roof assembly shall have a *fire-resistance rating* where required by the construction type.

   1.4. Balconies, porches, decks and exterior *stairways* not used as required exits on *buildings* three *stories* or less above *grade plane*.

2. Thermal and acoustical insulation, other than foam plastics, having a *flame spread index* of not more than 25.

   Exceptions:

   1. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a *flame spread index* of not more than 100.
   2. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a *flame spread index* of not more than 200.

3. Foam plastics in accordance with Chapter 26.
4. *Roof assemblies* ~~*Roof coverings*~~ that have ~~an~~ a Class A, B or C classification.
5. *Interior floor finish* and floor covering materials installed in accordance with Section 804.
6. Millwork such as doors, door frames, window sashes and frames.
7. *Interior wall and ceiling finishes* installed in accordance with Section 803.
8. *Trim* installed in accordance with Section 806.6.
9. Where not installed greater than 15 feet (4572 mm) above grade, show windows, nailing or furring strips and wooden bulkheads below show windows, including their frames, aprons and show cases.
10. Finish flooring installed in accordance with Section 805.
11. Partitions dividing portions of stores, offices or similar places occupied by one tenant only and that do not establish a *corridor* serving an *occupant load* of 30 or more shall be permitted to be constructed of *fire-retardant-treated* wood complying with Section 2303.2, 1-hour fire-resistance-rated construction or of wood panels or similar light construction up to 6 feet (1829 mm) in height.
12. *Stages* and *platforms* constructed in accordance with Sections 410.2 and 410.3, respectively.
13. Combustible *exterior wall coverings*, balconies and similar projections and bay or oriel windows in accordance with Chapter 14 and Section 705.2.3.1.
14. Blocking such as for handrails, millwork, cabinets and window and door frames.
15. Light-transmitting plastics as permitted by Chapter 26.
16. Mastics and caulking materials applied to provide flexible seals between components of *exterior wall* construction.
17. Exterior plastic *veneer* installed in accordance with Section 2605.2.
18. Nailing or furring strips as permitted by Section 803.15.
19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.4.4 and 705.2.3.1.
20. Aggregates, component materials and admixtures as permitted by Section 703.2.1.2.
21. Sprayed fire-resistive materials and intumescent fire-resistive materials, determined on the basis of *fire resistance* tests in accordance with Section 703.2 and installed in accordance with Sections 1705.15 and 1705.16, respectively.
22. Materials used to protect penetrations in fire-resistance-rated assemblies in accordance with Section 714.
23. Materials used to protect *joints* in fire-resistance-rated assemblies in accordance with Section 715.
24. Materials allowed in the concealed spaces of *buildings* of Types I and II construction in accordance with Section 718.5.
25. Materials exposed within plenums complying with Section 602 of the *International Mechanical Code*.
26. Wall construction of freezers and coolers of less than 1,000 square feet (92.9 m^2), in size, lined on both sides with noncombustible materials and the *building* is protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
27. Wood nailers for parapet flashing and roof cants.
28. Vapor retarders as required by Section 1404.3.

APPENDIX D
FIRE DISTRICTS

SECTION D102

D102.2.4 Roof covering. *Roof covering* in the fire district shall conform to the requirements of Class A or B *roof assemblies* ~~*roof coverings*~~ as defined in Section 1505.

G23-25 Part I

G23-25 Part II

IEBC: 1204.5

Proponents: Aaron Phillips, representing Asphalt Roofing Manufacturers Association (aphillips@asphaltroofing.org)

2024 International Existing Building Code

SECTION 1204
CHANGE OF OCCUPANCY

Revise as follows:

1204.5 Roof covering. Regardless of occupancy or use group, *roof assemblies* ~~roof covering materials~~ not less than Class C, where tested in accordance with ASTM E108 or UL 790, shall be permitted where a fire-retardant roof covering is required.

G23-25 Part II

G23-25 Part III

IRC: R302.2.4

Proponents: Aaron Phillips, representing Asphalt Roofing Manufacturers Association (aphillips@asphaltroofing.org)

2024 International Residential Code

SECTION R302
FIRE-RESISTANT CONSTRUCTION

Revise as follows:

R302.2.4 Parapets for townhouses. Parapets constructed in accordance with Section R302.2.5 shall be constructed for *townhouses* as an extension of exterior walls or common walls separating *townhouse units* in accordance with the following:

1. Where roof surfaces adjacent to the wall or walls are at the same elevation, the parapet shall extend not less than 30 inches (762 mm) above the roof decks.
2. Where roof decks adjacent to the wall or walls are at different elevations and the higher *roof deck* is not more than 30 inches (762 mm) above the lower *roof deck* , the parapet shall extend not less than 30 inches (762 mm) above the lower roof deck.

   Exception: A parapet is not required in the preceding two cases where the *roof assembly* ~~*roof covering*~~ complies with a minimum Class C rating as tested in accordance with ASTM E108 or UL 790 and the roof deck or sheathing is of *noncombustible materials* or *fire-retardant-treated wood* for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of $^{5}/_{8}$-inch (15.9 mm) *Type X gypsum board* is installed directly beneath the roof decking deck or sheathing, supported by not less than nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a distance of not less than 4 feet (1219 mm) on each side of the wall or walls and any openings or penetrations in the roof deck are not within 4 feet (1219 mm) of the common walls. *Fire-retardant-treated wood* shall meet the requirements of Sections R302.15 and R803.2.1.2.
3. A parapet is not required where roof surfaces adjacent to the wall or walls are at different elevations and the higher *roof deck* is more than 30 inches (762 mm) above the lower *roof deck* . The common wall construction from the lower *roof deck* to the underside of the higher *roof deck* shall have not less than a 1-hour fire-resistance rating. The wall shall be rated for exposure from both sides. Openings shall not be permitted in the wall.

Reason: This proposal advances work to improve and clarify terminology associated with roofing fire tests that started during the previous code development cycle (S1-21) and has continued during the Group A portion of the 2027 I-code cycle. Proposal FS19-24 (on the PCH consent agenda) addresses the issue described below for the Group A code sections. This proposal addresses the same issue for the relevant Group B sections.

The proposal corrects instances where results of ASTM E108 or UL 790 tests are associated with a *roof covering* or roof-covering materials instead of a *roof assembly.* ASTM E108 and UL 790 tests cannot be performed on a *roof covering,* but involve a *roof covering* (and sometimes other elements, such as insulation or underlayment) installed onto a *roof deck*. These tests are always performed on a *roof assembly,* which by definition includes a *roof covering* and a *roof deck*.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal clarifies existing code provisions without making any technical changes. Therefore, it is expected to have no effect on cost of construction.

G24-25 Part I

IBC: SECTION 202; IEBC: SECTION 202

Proponents: Stephen Van Hoose, representing NYS DOS (stephen.vanhoose@dos.ny.gov); Larissa DeLango, representing NYSDOS (larissa.delango@dos.ny.gov); Bryant Arms, representing NYS DOS (bryant.arms@dos.ny.gov); Jeanne Rice, representing NYSDOS (jeanne.rice@dos.ny.gov); Chad Sievers, NYS, representing NYS Dept of State (chad.sievers@dos.ny.gov); China Clarke, representing New York State Dept of State (china.clarke@dos.ny.gov); Kevin Duerr-Clark, representing NYSDOS (kevin.duerr-clark@dos.ny.gov)

THIS IS A 3 PART CODE CHANGE.

PART I WILL BE HEARD BY THE STRUCTURAL CODE COMMITTEE.
PART II WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE.
PART III WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE.

SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

[BS] ROOF REPAIR. ~~Reconstruction or~~ The renewal, restoration, or reinstallation of any part of an existing roof for ~~the purposes of correcting damage or restoring pre-damage condition~~its maintenance or for its preservation after damage

.

2024 International Existing Building Code

Revise as follows:

[BS] ROOF REPAIR. ~~Reconstruction or~~ The renewal, restoration, or reinstallation of any part of an existing roof for ~~the purpose of correcting damage or restoring the pre-damage condition~~its maintenance or for its preservation after damage

.

G24-25 Part II

IBC: SECTION 202; IEBC: SECTION 202; ISPSC: SECTION 202

Proponents: Stephen Van Hoose, representing NYS DOS (stephen.vanhoose@dos.ny.gov); Larissa DeLango, representing NYSDOS (larissa.delango@dos.ny.gov); Bryant Arms, representing NYS DOS (bryant.arms@dos.ny.gov); Jeanne Rice, representing NYSDOS (jeanne.rice@dos.ny.gov); Chad Sievers, NYS, representing NYS Dept of State (chad.sievers@dos.ny.gov); China Clarke, representing New York State Dept of State (china.clarke@dos.ny.gov); Kevin Duerr-Clark, representing NYSDOS (kevin.duerr-clark@dos.ny.gov)

2024 International Building Code

Revise as follows:

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

2024 International Existing Building Code

Revise as follows:

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

2024 International Swimming Pool and Spa Code

Revise as follows:

[A] REPAIR. The ~~reconstruction, replacement or~~ renewal, restoration, or reinstallation of any part of a pool or spa for ~~the purpose of~~ its maintenance or ~~to correct damage~~for its preservation after damage .

G24-25 Part III

IRC: SECTION 202

Proponents: Stephen Van Hoose, representing NYS DOS (stephen.vanhoose@dos.ny.gov); Larissa DeLango, representing NYSDOS (larissa.delango@dos.ny.gov); Bryant Arms, representing NYS DOS (bryant.arms@dos.ny.gov); Jeanne Rice, representing NYSDOS (jeanne.rice@dos.ny.gov); Chad Sievers, NYS, representing NYS Dept of State (chad.sievers@dos.ny.gov); China Clarke, representing New York State Dept of State (china.clarke@dos.ny.gov); Kevin Duerr-Clark, representing NYSDOS (kevin.duerr-clark@dos.ny.gov)

2024 International Residential Code

Revise as follows:

[RB] REPAIR. The ~~reconstruction, replacement or~~ renewal, restoration, or reinstallation of any part of an *existing building* for ~~the purpose of~~ its maintenance or ~~to correct damage~~for its preservation after damage. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] ROOF REPAIR. ~~Reconstruction or~~ The renewal, restoration, or reinstallation of any part of an existing roof for ~~the purposes of~~ its maintenance or for its preservation after damage . For the definition applicable in Chapter 11, see Section N1101.6.

Reason: The current definitions of "Repair" and "Roof Repair" in the International Building Code (IBC), International Residential Code (IRC), and International Existing Building Code (IEBC) may be ambiguous and lead to inconsistent interpretations and enforcement across these related codes. This proposed change aims to clarify the scope of both terms by:

- **Explicitly including "reinstallation"**: This addition emphasizes that removing and then reinstalling an existing component or replacing that component with an identical or equivalent one still constitutes a repair when it is only a part of an assembly or a component in equipment. This aligns with common industry practices and avoids unnecessary disputes over whether replacement constitutes repair or alteration, That is particularly relevant for a partial yet substantial “roof recover” or a partial yet substantial “roof replacement” where applicants may argue that they are repairs.
- **Clarifying the purpose of repair**: By specifying that repairs are for "maintenance or preservation," the definition provides a clear objective for repair activities. This helps distinguish routine maintenance and necessary repairs from more extensive alterations.
- **Addressing damage**: The addition of "after damage" further clarifies the scope of repair by limiting it to situations where the existing building component is no longer functional or has been compromised due to damage. This helps prevent the term "repair" from encompassing routine maintenance or minor improvements not addressing a specific damage.

These revised definitions will reduce confusion about when a repair is an alteration and visa-versa. It provides greater clarity and consistency in the interpretation and application of the International Building Code (IBC), International Residential Code (IRC), and International Existing Building Code (IEBC),leading to more predictable and equitable outcomes for building owners, contractors, code officials, and the public across all three code sets. Specifically, the clarified definition of "Roof Repair" will help ensure that roof replacement projects are appropriately categorized and evaluated, ensuring that necessary safety and performance requirements are met while avoiding unnecessary regulatory burdens on homeowners and contractors.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal clarifies the intent of the definition and is purely editorial.

G25-25

IBC: SECTION 202

Proponents: Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

2024 International Building Code

Revise as follows:

[BG] RESIDENTIAL AIRCRAFT HANGAR. An accessory *building* ~~less than 2,000 square feet (186 m^2) and 20 feet (6096 mm) in *building height*~~ constructed on a one- or two-family property where aircraft are stored. Such use will be considered as a residential accessory use incidental to the *dwelling*.

SECTION 412
AIRCRAFT-RELATED OCCUPANCIES

412.4 Residential aircraft hangars. *Residential aircraft hangars* shall comply with Sections 412.4.1 through 412.4.5.

412.4.5 Height and area limits. *Residential aircraft hangars* shall be not greater than 2,000 square feet (186 m^2) in area and 20 feet (6096 mm) in *building height*.

Reason: This proposal removes technical requirements from the definition. These requirements are already listed in 412.4.5 (provided in this proposal for context).
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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is removal of redundant language. There is no change to construction.

G25-25

G26-25

IBC: SECTION 202

Proponents: Andrew Klein, A S Klein Engineering, PLLC, representing Self Storage Association (andrew@asklein.com)

2024 International Building Code

Revise as follows:

[BG] SELF-SERVICE STORAGE FACILITY. Real property designed and used for the purpose of renting or leasing individual storage spaces to customers for the purpose of storing and removing personal property, including the long-term storage of a vehicle, on a self-service basis.

Reason: Self-service storage units designed for car and RV storage are sometimes miscategorized as a Group S-2 Occupancy, parking garage. Parking garages, where vehicles frequently come-and-go, require additional mechanical ventilation that is not needed for the long-term storage of vehicles at self-service storage facilities.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Buildings used for car and RV storage at self-service storage facilities are intended to be self-service storage facilities, not parking garages.

G26-25

G27-25

IBC: SECTION 202, SECTION 202 (New), 507.6, 507.7

Proponents: William Conner, representing American Society of Theatre Consultants (bill@bcaworld.com)

2024 International Building Code

Revise as follows:

[BG] STAGE. A space within a *building* utilized for entertainment or presentations, which includes ~~overhead hanging curtains~~, ~~drops, scenery or stage effects other than~~ lighting~~,~~ ~~and~~ sound, projections, and video display and the mounting provisions for them.~~.~~

Type A stage. A stage that is designed and constructed for use with stage scenery.

Type B stage . A stage that is designed and constructed for use without stage scenery.

Add new definition as follows:

STAGE SCENERY. The constructed scenes or hangings used on a stage to form a theater set.

SECTION 507
UNLIMITED AREA BUILDINGS

Revise as follows:

507.6 Group A-3 buildings of Type II construction. The area of a Group A-3 *building* not more than one *story above grade plane*, used as a *place of religious worship*, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor *swimming pool* or tennis court of Type II construction, shall not be limited provided that the following criteria are met:

1. The *building* shall not have a *Type A stage* ~~other than a *platform*~~.
2. The *building* shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. The *building* shall be surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

507.7 Group A-3 buildings of Type III and IV construction. The area of a Group A-3 *building* of Type III or IV construction, with not more than one *story above grade plane* and used as a *place of religious worship*, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor *swimming pool* or tennis court, shall not be limited provided that the following criteria are met:

1. The *building* shall not have a *Type A stage* ~~other than a *platform*~~.
2. The *building* shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. The assembly floor shall be located 21 inches (533 mm) or less from street or grade level and all *exits* are provided with *ramps* complying with Section 1012 to the street or grade level.
4. The *building* shall be surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

Reason: This proposal is submitted on behalf of the American Society of Theatre Consultants. https://theatreconsultants.org/

1. The term stage is often applied to areas which do not include “drops, scenery, and stage effects” such as recital and concert hall stages, raised floor areas in places of worship, raised areas in public places like malls and public transportation terminals and stations. The definition modification is an attempt to clarify that.

2. On the deletion of the platform definition in another proposal and introduction of type A and B stage changes, the existing platform definition alludes to a use and the contents of the space, whereas practically the only requirements in section 410 is for the construction of the raised floor area, permanent or temporary (403.3 and 403.3.1). This leaves any space used for entertainment and presentations designated as a platform with no requirements for the fire hazards of those uses, even with curtains.

3. Note also that not all stages and platforms are in fact even raised but just a floor area within a building. Further, today stages are

rarely raised above the floor but rather built at the same elevation as the adjacent floors.

4. The use of the term platform is further complicated by many uses of the term “platform” elsewhere in the IBC, regarding platform lifts, equipment platforms, transit and boarding platforms, several uses regarding accessibility (including fishing platforms among others), diving platforms, industrial steel work platforms, "platform decorative trim" (?), used as an equal for stairs to "landing", and item 37 in table 1607.1. The only uses in section 410 are 410.3 Platform construction and 410.3.1 Temporary platforms.

5. For coordination and clarity, every where the phrase "stage and platform" or more commonly "stages and platforms" appears, it should be edited to "stages".6. The revisions to 507.6 and 507.7 are for coordination with deletion of defined term "platform" and addition of Type A and Type B stages.

7. The term Stage Scenery has widely varying interpretations. We believe adding this definition will help narrow those. Furniture is not scenery. Flipcharts, tripods, podiums, lecterns, music stands, choral and band risers, musical instruments, portable projection screens, tables with objects, luggage, appliances, machines, etc. also, are not scenery. Scenery includes walls and ceilings, large three-dimensional objects, stairs and platforms creating multiple levels, and drops typically built with combustible materials for a stage setting. Hard to put in definition but we will suggest code commentary text and hope that will be sufficient.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is editorial and for clarification.

G27-25

G28-25 Part I

IBC: SECTION 202, 423.3.2; IEBC: SECTION 202; IPMC: SECTION 202

Proponents: Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org); Marc Levitan, representing National Institute of Standards and Technology (marc.levitan@nist.gov)

THIS IS A 3 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. PART III WILL BE HEARD BY THE IPMC/IZC COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Revise as follows:

[BG] STORM SHELTER. A *building*, *structure* or portions thereof, constructed in accordance with ICC 500 and ~~designated for use during~~ for protection from tornadoes hurricanes, ~~tornadoes or~~ and other severe windstorms.

Community storm shelter. A storm shelter not defined as a "Residential storm shelter."
This includes *storm shelters* intended for use by the general public, by building occupants or a combination of both.

Residential storm shelter. A storm shelter serving occupants of *dwelling units* and having an occupant load not exceeding 16 persons.

SECTION 423
STORM SHELTERS

423.3 Occupancy classification. The occupancy classification for a *storm shelter* shall be determined in accordance with this section.

423.3.1 Dedicated storm shelters. A *facility* designed to be occupied solely as a *storm shelter* shall be classified as Group A-3 for the determination of requirements other than those covered in ICC 500.

Exceptions:

1. The occupancy category for dedicated *storm shelters* with a design occupant capacity of less than 50 *persons* as determined in accordance with ICC 500 shall be in accordance with Section 303.
2. The occupancy category for a dedicated residential *storm shelter* shall be the Group R occupancy served.

423.3.2 Storm shelters occupied for other purposes ~~within host buildings~~. ~~Where designated *storm shelters* are constructed as a room or space within a host *building*~~ *Storm shelters* that will normally be occupied for other purposes shall comply with~~,~~ the requirements of this code for the occupancy of the *building*, or the individual rooms or spaces thereof, ~~shall apply~~ unless otherwise required by ICC 500.

2024 International Existing Building Code

Revise as follows:

[BG] STORM SHELTER. A *building*, *structure* or portions thereof, constructed in accordance with ICC 500 and~~designated for use during~~ for protection from tornadoes hurricanes,~~tornadoes or~~and other severe windstorms.

2024 International Property Maintenance Code

Revise as follows:

[BG] STORM SHELTER.
A *building*, *structure* or portions thereof, constructed in accordance with ICC 500 and~~designated for use during~~ for protection from tornadoes hurricanes,~~tornadoes or~~and other severe windstorms.

G28-25 Part II

IRC: SECTION 202

Proponents: Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org); Marc Levitan, representing National Institute of Standards and Technology (marc.levitan@nist.gov)

2024 International Residential Code

Revise as follows:

[RB] STORM SHELTER. A *building*, *structure* or portions thereof, constructed in accordance with ICC 500 and ~~designated for use during~~ for protection from tornadoes hurricanes, ~~tornadoes or~~ and other severe windstorms.

G28-25 Part III

IPMC: , 311.3

Proponents: Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org); Marc Levitan, representing National Institute of Standards and Technology (marc.levitan@nist.gov)

2024 International Property Maintenance Code

SECTION 311
STORM SHELTERS

311.1 General. Community *storm shelters* shall be evaluated, maintained and repaired in accordance with this section and ICC 500.

311.2 Evaluation. Community *storm shelters* shall be evaluated annually and when requested by the authority having jurisdiction in accordance with ICC 500.

Revise as follows:

311.3 Maintenance and repairs. Community *storm shelters* shall be maintained in an ~~operable~~ operational condition. All structural ~~and operational~~ elements, impact-protective systems and critical support systems shall be repaired or replaced in accordance with ICC 500 where damaged or found to be inoperable.

Reason: Proposed changes to the next edition of ICC 500 include revising the definition to clarify the use of storm shelters. “Designating” a storm shelter is tied to classifying it for use after an event, which is makes what makes it an emergency shelter that needs to be classified as Risk Category IV. This change focuses on the primary purpose of an ICC 500-compliant storm shelter, which is protection from severe winds during an event.

The definition for 'storm shelter' also appears in the IEBC and IPMC. Since this is scoped to the IBC, the other codes will also be revised.

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

The ICC 500 (Standard for the Design and Construction of Storm Shelters) development committee has held several virtual meetings during 2022 and 2023 to develop the 2023 edition. In addition, there were numerous virtual Working Group meetings. All meetings included members of the committee as well as interested parties. Related documents and reports are posted on the ICC 500 website at ICC 500.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is an editorial clarification for the definition and description for storm sheleters with no change to construction requirements.

G29-25

IBC: [A] 105.2, 201.3, SECTION 202, SECTION 202 (New), 1010.2.3, 1110.18, 1111.4.14, 1808.7.3, 2406.2, 2406.4.5, 3101.1, SECTION 3109, 3109.1; IFC: [BE] 1010.2.3; IPC: SECTION 202; IFGC: SECTION 617 (IFGC), 617.1; IRC: SECTION G2441 (617), G2441.1 (617.1)

Proponents: Jeff Grove, Chair, representing Building Code Action Committee (BCAC) (bcac@iccsafe.org); Andrew Bevis, Chair, representing Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org)

2024 International Building Code

Revise as follows:

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the *International Energy Conservation Code* , *International Fuel Gas Code* , *International Fire Code* , *International Mechanical Code*, ~~or~~ *International Plumbing Code*, or the *International Swimming Pool and Spa Code*, such terms shall have the meanings ascribed to them as in those codes.

[BG] SWIMMING POOL. Any *structure* or product intended for swimming, ~~recreational~~ bathing or wading; ~~that contains water over 24 inches (610 mm) deep~~ designed and manufactured to be connected to a circulation system; installed aboveground, inground, onground, or partially aboveground; and not intended to be drained and filled with each use. ~~This includes in-ground, above-ground and on-ground pools; hot tubs; spas and fixed-in-place wading pools.~~

Add new definition as follows:

SPA. Any structure or product intended for the immersion of persons in temperature-controlled water for the purpose of relaxing, exercise, therapy or treatment; designed and manufactured to be connected to a circulation system; and not intended to be drained and filled with each use.

Revise as follows:

[A] 105.2 Work exempt from permit. Exemptions from *permit* requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this *jurisdiction*. *Permits* shall not be required for the following:

Building:

1. One-story detached accessory *structures* used as tool and storage sheds, playhouses and similar uses, provided that the floor area is not greater than 120 square feet (11 m^2).
2. Fences, other than swimming pool and spa barriers, not over 7 feet (2134 mm) high.
3. Oil derricks.
4. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II or IIIA liquids.
5. Water tanks supported directly on grade if the capacity is not greater than 5,000 gallons (18 925 L) and the ratio of height to diameter or width is not greater than 2:1.
6. Sidewalks and driveways not more than 30 inches (762 mm) above adjacent grade, and not over any *basement* or *story* below and are not part of an *accessible route*.
7. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
8. Temporary motion picture, television and theater stage sets and scenery.
9. Prefabricated *swimming pools* accessory to a Group R-3 occupancy that are less than 24 inches (610 mm) deep, are not greater than 5,000 gallons (18 925 L) and are installed entirely above ground.
10. Shade cloth *structures* constructed for nursery or agricultural purposes, not including service systems.
11. Swings and other playground equipment accessory to detached one- and two-family *dwellings*.
12. Window *awnings* in Group R-3 and U occupancies, supported by an *exterior wall* that do not project more than 54 inches (1372 mm) from the *exterior wall* and do not require additional support.
13. Nonfixed and movable fixtures, cases, racks, counters and partitions not over 5 feet 9 inches (1753 mm) in height.

Electrical:

1. ***Repairs* and maintenance:** Minor *repair* work, including the replacement of lamps or the connection of *approved* portable electrical equipment to *approved* permanently installed receptacles.
2. **Radio and television transmitting stations:** The provisions of this code shall not apply to electrical equipment used for radio and television transmissions, but do apply to equipment and wiring for a power supply and the installations of towers and antennas.
3. **Temporary testing systems:** A *permit* shall not be required for the installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.

Gas:

1. Portable heating appliance.
2. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.

Mechanical:

1. Portable heating appliance.
2. Portable ventilation equipment.
3. Portable cooling unit.
4. Steam, hot or chilled water piping within any heating or cooling equipment regulated by this code.
5. Replacement of any part that does not alter its approval or make it unsafe.
6. Portable evaporative cooler.
7. Self-contained refrigeration system containing 10 pounds (4.54 kg) or less of refrigerant and actuated by motors of 1 horsepower (0.75 kW) or less.

Plumbing:

1. The stopping of leaks in drains, water, soil, waste or vent pipe, provided, however, that if any concealed trap, drain pipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work and a *permit* shall be obtained and inspection made as provided in this code.
2. The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures and the removal and reinstallation of water closets, provided that such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.

SECTION 1010
DOORS, GATES AND TURNSTILES

1010.2.3 Hardware height. Door handles, pulls, latches, locks and other operating devices shall be installed 34 inches (864 mm) minimum and 48 inches (1219 mm) maximum above the finished floor.

Exceptions:

1. Locks used only for security purposes and not used for normal operation are permitted at any height.
2. Where the International Swimming Pool and Spa Code requires restricting access to a swimming pool ~~,~~ or spa ~~or hot tub~~, and where door and gate latch release mechanisms are accessed from the outside of the barrier and are not of the self-locking type, such a mechanism shall be located above the finished floor or ground surface not less than 52 inches (1219 mm) and not greater than 54 inches (1370 mm), provided that the latch release mechanism is not a self-locking type such as where the lock is operated by means of a key, electronic opener or the entry of a combination into an integral combination lock.

SECTION 1110
OTHER FEATURES AND FACILITIES

1110.18 Controls, operating mechanisms and hardware. Controls, operating mechanisms and hardware intended for operation by the occupant, including switches that control lighting and ventilation and electrical convenience outlets, in accessible spaces, along *accessible routes* or as parts of accessible elements shall be accessible.

Exceptions:

1. Operable parts that are intended for use only by service or maintenance personnel shall not be required to be *accessible.*
2. Access doors or gates in barrier walls and fences protecting swimming pools ~~,~~ and spas ~~and hot tubs~~ shall be permitted to comply with Section 1010.2.3.
3. Operable parts exempted in accordance with ICC A117.1 are not required to be accessible.

SECTION 1111
RECREATIONAL FACILITIES

1111.4.14 Swimming pools~~, wading pools, cold baths, hot tubs~~ and spas. *Swimming pools~~, wading pools, cold baths, hot tubs~~* and spas shall be *accessible* and be on an *accessible route*.

Exceptions:

1. A catch pool or a designated section of a pool used as a terminus for a water slide flume shall not be required to provide an *accessible* means of entry, provided that a portion of the catch pool edge is on an *accessible route* or, where the area at the catch pool edge is located on a raised platform restricted to use by staff and persons exiting the pool, an *accessible* route serves the gate or area where participants discharge from the activity.
2. Where spas~~, cold baths or hot tubs~~ are provided in a cluster, at least 5 percent, but not less than one of each type of spa~~, cold bath or hot tub~~ in each cluster, shall be *accessible* and be on an *accessible* route.
3. *Swimming pools~~,~~* and ~~wading pools,~~ spas~~, cold baths and hot tubs~~ that are required to be *accessible* by Sections 1111.2.2 and 1111.2.3 are not required to provide *accessible* means of entry into the water.

SECTION 1808
FOUNDATIONS

1808.7.3 Swimming pools ~~Pools~~. The setback between swimming pools regulated by this code and slopes shall be equal to one-half the *building* footing setback distance required by this section. That portion of the swimming pool wall within a horizontal distance of 7 feet (2134 mm) from the top of the slope shall be capable of supporting the water in the swimming pool without soil support.

SECTION 2406
SAFETY GLAZING

2406.2 Impact test. Where required by other sections of this code, glazing shall be tested in accordance with CPSC 16 CFR Part 1201. Glazing shall comply with the test criteria for Category II, unless otherwise indicated in Table 2406.2(1).

Exception: Glazing not in doors or enclosures for ~~hot tubs, whirlpools~~ spas, saunas, steam rooms, bathtubs and showers shall be permitted to be tested in accordance with ANSI Z97.1. Glazing shall comply with the test criteria for Class A, unless otherwise indicated in Table 2406.2(2).

2406.4.5 Glazing and wet surfaces. Glazing in walls, enclosures or fences containing or facing ~~hot tubs,~~ spas, ~~whirlpools,~~ saunas, steam rooms, bathtubs, showers and indoor or outdoor *swimming pools* where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) measured vertically above any standing or walking surface shall be considered to be a hazardous location. This shall apply to single glazing and all panes in multiple glazing.

Exception: Glazing that is more than 60 inches (1524 mm), measured horizontally and in a straight line, from the water's edge of a bathtub, ~~hot tub,~~ spa~~, whirlpool~~ or *swimming pool*.

SECTION 3101
GENERAL

3101.1 Scope. The provisions of this chapter shall govern special *building* construction including membrane *structures*, *temporary structures*, *pedestrian walkways* and tunnels, *awnings* and *canopies*, *marquees*, signs, telecommunications and broadcast towers, *swimming pools~~,~~* and spas ~~and hot tubs~~, automatic vehicular gates, solar energy systems, *greenhouses*, relocatable buildings and *intermodal shipping containers*.

SECTION 3109
SWIMMING POOLS~~,~~ AND SPAS ~~AND HOT TUBS~~

3109.1 General. The design and construction of *swimming pools~~,~~* and spas ~~and hot tubs~~ shall comply with the *International Swimming Pool and Spa Code* .

2024 International Fire Code

Revise as follows:

[BE] 1010.2.3 Hardware height. Door handles, pulls, latches, locks and other operating devices shall be installed 34 inches (864 mm) minimum and 48 inches (1219 mm) maximum above the finished floor.

Exceptions:

1. Locks used only for security purposes and not used for normal operation are permitted at any height.
2. Where the International Swimming Pool and Spa Code requires restricting access to a swimming pool ~~,~~ or spa ~~or hot tub~~, and where door and gate latch release mechanisms are accessed from the outside of the barrier and are not of the self-locking type, such a mechanism shall be located above the finished floor or ground surface, not less than 52 inches (1219 mm) and not greater than 54 inches (1370 mm), provided that the latch release mechanism is not a self-locking type such as where the lock is operated by means of a key, electronic opener or the entry of a combination into an integral combination lock.

2024 International Plumbing Code

Revise as follows:

[BG] SWIMMING POOL. ~~A permanent or temporary~~ Any structure or product ~~that is~~ intended to be used for swimming, bathing or wading; ~~and that is~~ designed and manufactured ~~or built~~ to be connected to a circulation system; installed aboveground, inground, onground, or partially aboveground; and not intended to be drained and filled with each use ~~A swimming pool can be open to the public regardless of whether a fee is charged for its use or can be accessory to a residential setting where the pool is available only to the household and guests of the household.~~

2024 International Fuel Gas Code

Revise as follows:

SECTION 617 (IFGC)
SWIMMING POOL AND SPA HEATERS

617.1 General. ~~Pool~~ Swimming Pool and spa heaters shall be *listed* in accordance with ANSI Z21.56/CSA 4.7 and shall be installed in accordance with the manufacturer's instructions.

2024 International Residential Code

Revise as follows:

SECTION G2441 (617)
SWIMMING POOL AND SPA HEATERS

G2441.1 (617.1) General. ~~Pool~~ Swimming pool and spa heaters shall be *listed* in accordance with ANSI Z21.56/CSA 4.7 and shall be

installed in accordance with the manufacturer's instructions.

Reason: This proposal is in coordination with the ISPSC new definitions for swimming pool and spa being proposed by the PMGCAC. This proposal also proposes to use the definitions consistently throughout the IBC. "Swimming pool" is already used in Section 105.2 Item 9, 303.4, 303.5, 507.6, 507.7, Table 1004.5 (in one location), 1202.3, 2609.4, 3102.8.3 and G112.5.

The definition for "spa" includes inground permanent spas and portable electric spas also known as hot tubs, as well as cold baths, all of which are connected to a circulation system and not intended to be drained and filled with each use. It does not include a whirlpool, which is a type of bathtub with jets that propel water, which is drained after each use. The proposal removes all references to "whirlpools" when addressing types of spas used in the aquatic industry. Using the definition will reduce 'laundry lists' in the code and provides consistency.

The BCAC will also be submitting coordinating proposals in Group B for the IRC, IZC and IECC.

This is also intended to be consistent with code changes proposed for the definitions in the ISPSC.

This proposal is submitted by the ICC Building Code Action Committee (BCAC) and the ICC Plumbing Mechanical Gas Code Action Committee (PMGCAC).

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

PMGCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 and 2024 PMGCAC has held several virtual meetings open to any interested party. In addition, there were several virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the PMGCAC website at PMGCAC.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal is for consistent terminology for swimming pools and spas throughout the IBC. There are no technical changes.

Staff Analysis: The defintion for 'swimming pool' and 'spa' in the ISPSC was modified by SP1-24. IRC Chapter 24 is copied from the IFGC; see RB38-25.

G29-25

G30-25

IBC: SECTION 202

Proponents: Henry Kosarzycki, representing Self (hkosarzycki@flad.com)

2024 International Building Code

Revise as follows:

TEMPORARY STRUCTURE. Any *building* or *structure* erected ~~for a period of 180 days or less~~ to support *temporary events*. ~~*Temporary structures* include a range of *structure* types (*public occupancy temporary structures*, temporary *special event structures*, *tents*, umbrellas and other membrane *structures*, *relocatable buildings*, temporary *bleachers*, etc.) for a range of purposes (storage, equipment protection, dining, workspace, assembly, etc.).~~

Reason: There are two issues with the defintion of temporary structure - the days and the list.
The provisions address 180 days to 365 days, but this definition sets the limit at 180 days. This is confusing and contradictory. The period of time is already addressed in Section 3103.1 - so why repeat it?

3103.1 General. The provisions of Sections 3103.1 through 3103.8 shall apply to *structures* erected for a period of less than 180 days. Temporary *special event structures*, *tents*, umbrella *structures* and other membrane *structures* erected for a period of less than 180 days shall also comply with the *International Fire Code*. *Temporary structures* erected for a longer period of time and *public-occupancy temporary structures* shall comply with applicable sections of this code.

Exceptions:

1. *Public-occupancy temporary structures* complying with Section 3103.1.1 shall be permitted to remain in service for 180 days or where *approved* by the *building official*.
2. *Public-occupancy temporary structures* within the confines of an *existing structure* are not required to comply with Section 3103

Why use 'umbrella' and not 'umbrella structures?' That is the defined term in the IFC and what is listed in 3103.1.

UMBRELLA STRUCTURE.
A structure, enclosure or shelter with or without sidewalls or drops, constructed of fabric or pliable material supported by a central pole or poles (see "*Tent*").

If these provisions are to protect the public why are we listing storage and equipment protection? Workspace?

No definition should include "etc." in a laundry list!

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a defintion. There are no changes to the construction requirements.

G31-25

IBC: SECTION 202 (New)

Proponents: Jennifer Goupil, American Society of Civil Engineers and Structural Engineering Institute, representing American Society of Civil Engineers (jgoupil@asce.org)

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

2024 International Building Code

Add new definition as follows:

TORNADO-PRONE REGION. The area of the conterminous United States most vulnerable to tornadoes, as shown in Figure 1609.5.

Reason: ASCE 7-22 introduced Chapter 32 Tornado Loads and related provisions in Chapter 1 General, Chapter 2 Combination of Loads, and Chapter 26 Wind Loads: General Requirements. While IBC 2024 generally adopted the new ASCE 7-22 provisions, several sections of IBC 2024 do not adequately clarify the tornado design requirements. This proposal includes adding a Chapter 2 Definition for the Tornado-Prone Region.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Proposed IBC code changes are generally editorial clarifications that improve the thoroughness of IBC for alignment to the introduction of tornado loads in ASCE 7-22 and IBC 2024.

Staff Analysis: The term 'tornado-prone region' is currently once used in Section 1609.5 and is the titel of Figure 1609.5.

G32-25 Part I

IBC: SECTION 202; IFC: SECTION 202

Proponents: David Renn, PE, SE, City and County of Denver, representing Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

THIS IS A 2 PART CODE CHANGE.

PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE.

PART II WILL BE HEARD BY THE RESIDENTIAL BUILDING CODE COMMITTEE.

SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Revise as follows:

[A] TOWNHOUSE UNIT. A single-family *dwelling* unit in a *townhouse* that extends from the foundation to the roof and has a *yard*,*court* or *public way* on not fewer than two sides.

2024 International Fire Code

Revise as follows:

[A] TOWNHOUSE UNIT. A single-family *dwelling* unit in a *townhouse* that extends from the foundation to the roof and has a *yard*, *court* or *public way* on not fewer than two sides.

G32-25 Part II

IRC: SECTION 202

Proponents: David Renn, PE, SE, City and County of Denver, representing Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

2024 International Residential Code

Revise as follows:

[RB] TOWNHOUSE UNIT. A single-family *dwelling unit* in a *townhouse* that extends from foundation to roof and that has a *yard*,*court* or *public way* on not less than two sides.

Reason: The current definition of townhouse unit requires that the unit have a yard or public way on two sides, and the definition of yard requires the yard to be an open space other than a court. By definition, a court is a space bounded on three or more sides by walls or buildings. Based on these definitions, townhouses that are staggered front to back create courts which are not allowed. Given that IRC Section R302.1 requires a lot line or an imaginary line between townhouse units to measure fire separation distance to, exterior walls of the units adjacent to a court will be protected based on distance to these lines, preventing fire spread from one unit to another. Therefore, there is no hazard addressed by prohibiting a court to count as an open side for a townhouse. Note that the imaginary line requirement was added in the 2024 IRC and without this there may have been a hazard in previous codes if there was no lot line and the exterior walls were not protected to prevent spread of fire from one unit to another. See figure below showing the staggered townhouse configuration with a court.

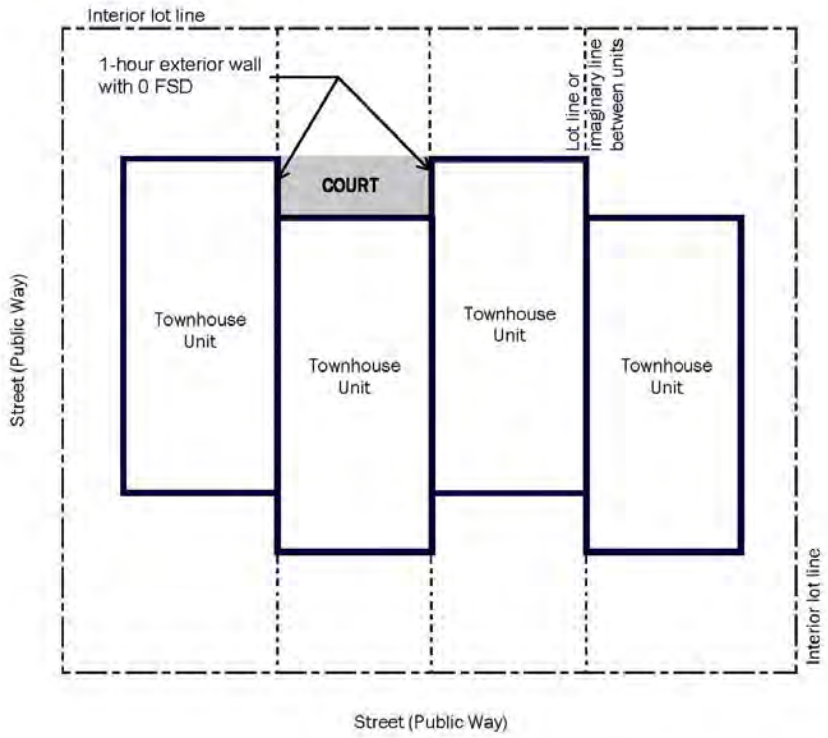
Note that if a townhouse unit has an emergency escape and rescue opening (EERO) on the court side of the unit, IRC Section R319.1 requires the court (or yard) to open to a public way, which will typically prohibit an enclosed court (i.e., all sides having a wall or building). However, if a condition exists where there are no EERO openings into the court, and exterior walls are protected based on lot lines or imaginary lines, an enclosed court would be allowed just as an enclosed yard is currently allowed.

The definitions of court and yard are included in this proposal for reference - there are no proposed changes to these definitions.

This proposal revises the definition of townhouse unit to include a court as one of the required open sides. As described above, this condition presents no hazard due to new requirements for lot lines or imaginary lines between units.

The following defintions are located here for reference:

> **[BG] COURT.** An open, uncovered space, unobstructed to the sky, bounded on three or more sides by exterior *building* walls or other enclosing devices.
>
> **[BG] YARD.** An open space, other than a *court*, unobstructed from the ground to the sky, except where specifically provided by this code, on the *lot* on which a *building* is situated.



Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal simply adds an option for an open side of a townhouse unit to be a court. This adds a design option not previously allowed but is not expected to change the cost of construction since either townhouse separation walls or fire-resistance rated exterior walls are currently required for adjacent townhouse units.

G32-25 Part II

G33-25 Part I

IBC: SECTION 202

Proponents: Jennifer Goupil, American Society of Civil Engineers and Structural Engineering Institute, representing American Society of Civil Engineers (jgoupil@asce.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Revise as follows:

[BS] WINDBORNE DEBRIS REGION. Areas within *hurricane-prone regions* located:

1. Within 1 mile (1.61 km) of the mean high-water line where an Exposure D condition exists upwind at the waterline and the basic wind speed, *V*, is 130 mph (58 m/s) or greater. ~~; or~~
2. In areas where the basic wind speed, *V*, is 140 mph (63 m/s) or greater.
3. Anywhere in the State of Hawaii.

For *Risk Category* II buildings and structures and Risk Category III buildings and structures, except health care facilities, the windborne debris region shall be based on Figure 1609.3.(1). For *Risk Category* IV buildings and structures and *Risk Category* III health care facilities, the windborne debris region shall be based on Figure 1609.3(2).

Reason: This coordination code change proposal will align the IBC with requirements of existing standards required in the State of Hawaii. Additionally, the revisions to ASCE 7 are occurring simultaneously, which will result in clear requirements in both the governing standards and the code.

Technical Rationale

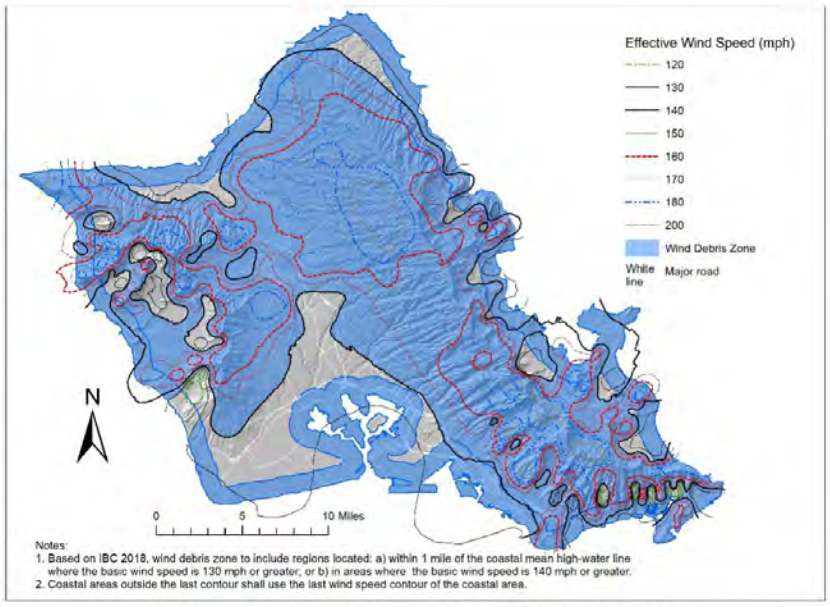
Physically implausible wind debris regions result in Hawaii when its micro-zoned Basic Wind Speed maps with complex topographic effects are used for defining the wind-borne debris region. As illustrated below, applying the wind maps with the criteria laid out in the ASCE 7-22, Section 26.12.3.1, which is also captured in the I-codes definition of a windborne debris region, results in very irregular debris zones with interspersed veins of excluded areas that have vanishing thin extents as well as small pockets of windborne debris zones.

Furthermore, on Kauai, the wind-borne debris region per ASCE 7-22 and the current I-code windborne debris region definition, excludes the town of Lihue that had photographic and video documentation of copius amounts of large wind-borne debris during Hurricane Iniki (1992). The relatively small dimensions of the islands in Hawaii generally do not result in degradation of the intensities of landfalling or near-landfalling hurricanes.

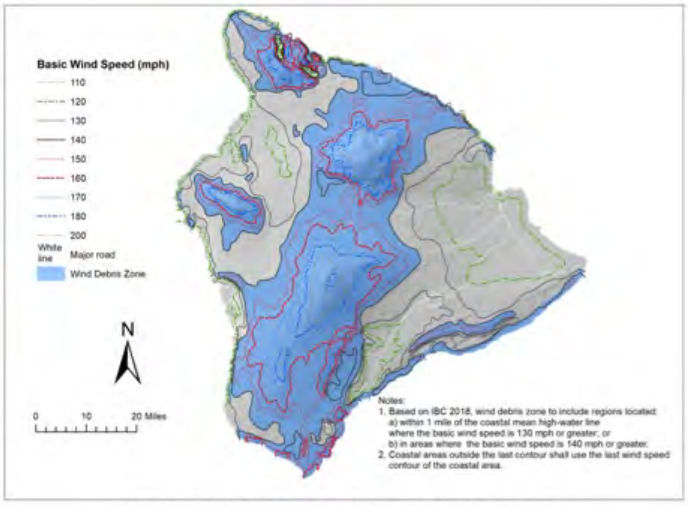
Since 2005 to the present, ASTM E1996, Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes, has defined all of Hawaii to be in Wind Zone 1. Further, most recently, a proposal to address this issue was put forth to the ASCE 7 Subcommittee on Wind Loads, where it passed both that subcommittee and the main committee for adoption into the next edition.

To avoid contradictions and to re-establish consistency with the simple and clear definition for Hawaii that has existed in ASTM E1996, and as proposed in what will be the 2028 edition of ASCE 7, this ICC proposal follows by adding a third category that makes it clear the entire state of Hawaii is within a wind-borne debris region. This also brings consistency with the windborne debris region definition in the IRC that does list Hawaii, although a corresponding code change to that definition has also been submitted to make the language completely identical.

Additional information with pictures that illustrate the problem follows.

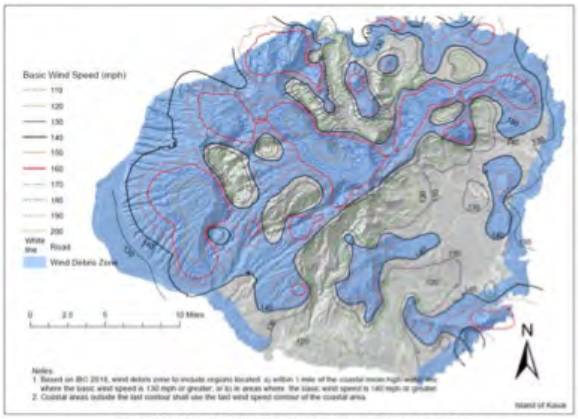


Wind Debris Zones for Risk Category II Buildings Based on IBC 2018



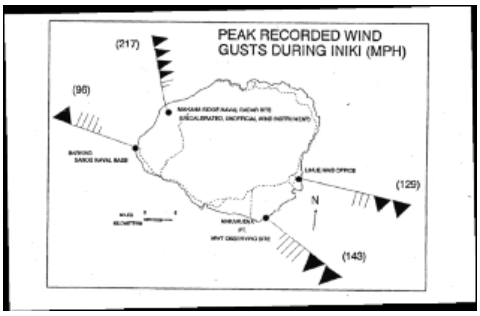
Wind Debris Zones for Risk Category II Buildings Based on IBC 2018

The above illustrates Hawaii windborne debris regions for RC II when applying the criteria of ASCE 7-16/ASCE 7-22/IBC 2018, 2021, and 2024.



Wind Debris Zones for Risk Category II Buildings Based on IBC 2018

The above illustrates the problematic Kauai windborne debris regions for RC II per ASCE 7-16/ASCE 7-22/IBC 2018, 2021, and 2024.



NOAA Natural Disaster Survey Report and NOAA Storm Data for September 1992


Wind-Borne Debris in Lihue, Kauai, during Hurricane Iniki (1992). Figure insert caption states, “Sheets of roofing iron, a pallet, broken plants and other debris fly though the air at height of Hurricane Iniki in Lihue, Kauai.”

Hurricane Iniki –Preliminary Observations of Wind Engineering Research Council Post-Disaster Team (Perry, Chiu, and Schroeder): “With few exceptions, loss of windows and roof coverings of all types was common, resulting in major water damage to building contents and interiors. Most glass breakage appeared to be due to wind borne debris.”

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There is no resulting cost implication from this code change proposal because these requirements are already existing and required by the State of Hawaii.

G33-25 Part I

G33-25 Part II

IRC: SECTION 202

Proponents: Jennifer Goupil, American Society of Civil Engineers and Structural Engineering Institute, representing American Society of Civil Engineers (jgoupil@asce.org)

2024 International Residential Code

[RB] WINDBORNE DEBRIS REGION. Areas within *hurricane-prone regions* located ~~in accordance with one of the following~~:

1. Within 1 mile (1.61 km) of the mean high-water line where an Exposure D condition exists upwind at the water line and the ultimate design wind speed, V_{ult}, is 130 mph (58 m/s) or greater.

2. In areas where the ultimate design wind speed, V_{ult}, is 140 mph (63 m/s) or greater~~; or Hawaii~~.

3. Anywhere in the state of Hawaii.

Reason: This coordination code change proposal will align the IBC with requirements of existing standards required in the State of Hawaii. Additionally, the revisions to ASCE 7 are occurring simultaneously, which will result in clear requirements in both the governing standards and the code. This change is also being proposed in the IBC for consistency.

Technical Rationale Physically implausible wind debris regions result in Hawaii when its micro-zoned Basic Wind Speed maps with complex topographic effects are used for defining the windborne debris region. Applying the wind maps with the criteria laid out in the ASCE 7-22, Section 26.12.3.1, results in very irregular debris zones with interspersed veins of excluded areas that have vanishingly thin extents as well as small pockets of windborne debris zones. Furthermore, on Kauai, the 2022 edition of ASCE 7 excludes the town of Lihue that had photographic and video documentation of copius amounts of large windborne debris during Hurricane Iniki (1992). The relatively small dimensions of the islands in Hawaii generally do not result in degradation of intensities of landfalling or near-falling hurricanes.

Since 2005 to the present, ASTM E1996, Standard for Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes, has defined all of Hawaii to be in Wind Zone 1. Further, most recently, a proposal to address this issue was put forth to the ASCE 7 Subcommittee on Wind Loads, where it passed both that subcommittee and the main ASCE 7 committee for adoption in what will be the 2028 edition.

A corresponding proposal in the IBC, where the windborne debris region definition is completely silent on Hawaii, has been submitted based on the above reasoning and clearly adds anywhere in the State of Hawaii as the 3rd area classified a windborne debris region. The IRC is not silent about Hawaii, but this proposal aligns the IRC definition to be consistent with the IBC proposal, and make it clear that anywhere in the State of Hawaii falls within the windborne debris region.

This proposal and its corresponding IBC proposal, if adopted, would then have the I-codes align with how Hawaii will be treated in the 2028 edition of ASCE 7 as well as how the state is currently classified in the ASTM E1996 Standard.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There is no resulting cost implication from this code change proposal because these requirements are already existing and required by the State of Hawaii.

G34-25

IBC: 303.1.2; IFC: [BG] 203.2.2

Proponents: Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

2024 International Building Code

SECTION 303
ASSEMBLY GROUP A

Delete and substitute as follows:

~~**303.1.2 Small assembly spaces.** The following rooms and spaces shall not be classified as Assembly occupancies:~~

1. ~~A room or space used for assembly purposes with an *occupant load* of less than 50 *persons* and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.~~
2. ~~A room or space used for assembly purposes that is less than 750 square feet (70 m^2) in area and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.~~

303.1.2 Small assembly spaces. Rooms or spaces used for assembly purposes that are less than 750 square feet (70 m^2) in area, or with an occupant load less than 50 persons, shall be classified as Group B or part of the main occupancy.

2024 International Fire Code

Delete and substitute as follows:

~~**[BG] 203.2.2 Small assembly spaces.** The following rooms and spaces shall not be classified as Assembly occupancies:~~

1. ~~A room or space used for assembly purposes with an *occupant load* of less than 50 persons and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.~~
2. ~~A room or space used for assembly purposes that is less than 750 square feet (70 m^2) in area and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.~~

[BG] 203.2.2 Small assembly spaces. Rooms or spaces used for assembly purposes that are less than 750 square feet (70 m^2) in area, or with an occupant load less than 50 persons, shall be classified as Group B or part of the main occupancy.

Reason: The change will clarify the intent of the provision is that the assembly space is a support space for the main occupancy, such as conference rooms in office buildings and fitness rooms in residential buildings. Some jurisdictions use the 10 percent of the area of the story threshold of Section 508.2 when applying this provision because the word “accessory” is used. The misinterpretation unnecessarily limits the size of conference rooms in small office 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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The change would not increase the cost of construction because it is clarifying that the code permits small assembly spaces in smaller buildings.

G34-25

G35-25

IBC: 303.1.2, TABLE 1607.1; IFC: [BG] 203.2.2

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

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

2024 International Building Code

Revise as follows:

303.1.2 Small assembly ~~spaces~~ areas. The following rooms and spaces shall not be classified as Assembly occupancies:

1. A room or space used for assembly purposes with an *occupant load* of less than 50 *persons* and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.
2. A room or space used for assembly purposes that is less than 750 square feet (70 m^2) in area and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.

TABLE 1607.1 MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L_0 , AND MINIMUM CONCENTRATED LIVE LOADS

OCCUPANCY OR USE		UNIFORM (psf)	CONCENTRATED (pounds)	ALSO SEE SECTION
1. Apartments (see residential)		—	—	—
2. Access floor systems	Office use	50	2,000	—
	Computer use	100	2,000	—
3. Armories and drill rooms		150[a]	—	—
4. Assembly areas	Fixed seats (fastened to floor) and small assembly areas in accordance with Section 303.1.2	60[a]	—	—
	Lobbies	100[a]		
	Movable seats	100[a]		
	Stage floors	150[a]		
	Platforms (assembly)	100[a]		
	Bleachers, folding and telescopic seating and grandstands	100[a] (See Section 1607.18)		
	Stadiums and arenas with fixed seats (fastened to the floor)	60[a] (See Section 1607.18)		
	Other assembly areas	100[a]		
5. Balconies and decks		1.5 times the live load for the area served, not required to exceed 100	—	—
6. Catwalks for maintenance and service access		40	300	—
7. Cornices		60	—	—
8. Corridors	First floor	100	—	—
	Other floors	Same as occupancy served except as indicated		
9. Dining rooms and restaurants		100[a]	—	—
10. Dwellings (see residential)		—	—	—
11. Elevator machine room and control room grating (on area of 2 inches by 2 inches)		—	300	—
12. Finish light floor plate construction (on area of 1 inch by 1 inch)		—	200	—
13. Fire escapes		100	—	—
	On single-family dwellings only	40		
14. Fixed ladders		See Section 1607.10		—
15. Garages and vehicle floors	Passenger vehicle garages	40[c]	See Section 1607.7	—
	Trucks and buses	See Section 1607.8		
	Fire trucks and emergency vehicles	See Section 1607.8		
	Forklifts and movable equipment	See Section 1607.8		
16. Handrails, guards and grab bars		See Section 1607.9		—
17. Helipads	Helicopter takeoff weight 3,000 pounds or less	40[a]	See Section 1607.6.1	Section 1607.6
	Helicopter takeoff weight more than 3,000 pounds	60[a]	See Section 1607.6.1	Section 1607.6
	Corridors above first floor	80	1,000	
	Operating rooms, laboratories	60	1,000	

	OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (pounds)	ALSO SEE SECTION
18. Hospitals	Patient rooms	40	1,000	
19. Hotels (see residential)		—	—	—
20. Libraries	Corridors above first floor	80	1,000	—
	Reading rooms	60	1,000	—
	Stack rooms	150[b]	1,000	Section 1607.17
21. Manufacturing	Heavy	250[b]	3,000	—
	Light	125[b]	2,000	
22. Marquees, except one- and two-family dwellings		75	—	—
23. Office buildings	Corridors above first floor	80	2,000	—
	File and computer rooms shall be designed for heavier loads based on anticipated occupancy	—	—	
	Lobbies and first-floor corridors	100	2,000	
	Offices	50	2,000	
24. Penal institutions	Cell blocks	40	—	—
	Corridors	100		
25. Public restrooms		Same as live load for area served but not required to exceed 60 psf	—	—
26. Recreational uses	Bowling alleys, poolrooms and similar uses	75[a]	—	—
	Dance halls and ballrooms	100[a]		
	Gymnasiums	100[a]		
	Theater projection, control, and follow spot rooms	50		
	Ice skating rinks	250[b]		
	Roller skating rinks	100[a]		
27. Residential	One- and two-family dwellings:			
	Uninhabitable attics without storage	10		
	Uninhabitable attics with storage	20		
	Habitable attics and sleeping areas	30		
	Canopies, including marquees	20	—	Section 1607.21
	All other areas	40		
	Hotels and multifamily dwellings:			
	Private rooms and corridors serving them	40		
	Public rooms	100 [a]		
	Corridors serving public rooms	100		
28. Roofs	Ordinary flat, pitched, and curved roofs (that are not occupiable)	20	—	
	Roof areas used for assembly purposes	100[a]	—	
	Roof areas used for occupancies other than assembly	Same as occupancy served	—	
	Vegetative and landscaped roofs:			
	Roof areas not intended for occupancy	20	—	Section 1607.14
	Roof areas used for assembly purposes	100[a]	—	
	Roof areas used for occupancies other than assembly	Same as occupancy served	—	
	Awnings and canopies:			
	Fabric construction supported by a skeleton structure	5[a]	—	
	All other construction, except one- and two-family dwellings	20	—	
	Primary roof members exposed to a work floor:			
	Single panel point of lower chord of roof trusses or any point along primary structural members supporting roofs over manufacturing, storage warehouses, and repair garages	—	2,000	Section 1607.15
	All other primary roof members	—	300	
	All roof surfaces subject to maintenance workers	—	300	
29. Schools	Classrooms	40	1,000	—
	Corridors above first floor	80	1,000	
	First-floor corridors	100	1,000	
30. Scuttles, skylight ribs and accessible ceilings		—	200	—
31. Sidewalks, vehicular driveways and yards, subject to trucking		250[b]	8,000	Section 1607.19
32. Stairs and exits	One- and two-family dwellings	40	300	Section 1607.20
	All other	100	300	Section 1607.20
33. Storage areas above ceilings		20	—	—
34. Storage warehouses (shall be designed for heavier loads if required for anticipated storage)	Heavy	250[b]	—	—
	Light	125[b]		
	Retail:			

	OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (pounds)	ALSO SEE SECTION
35.	Stores			—
	First floor	100	1,000	
	Upper floors	75	1,000	
	Wholesale, all floors	125[b]	1,000	
36.	Vehicle barriers	See Section 1607.11		—
37.	Walkways and elevated platforms (other than exitways)	60	—	—
38.	Yards and terraces, pedestrian	100[a]	—	—

For SI: 1 inch = 25.4 mm, 1 square inch = 645.16 mm^2, 1 square foot = 0.0929 m^2, 1 pound per square foot = 0.0479 kN/m^2, 1 pound = 0.004448 kN.

a. Live load reduction is not permitted.

b. Live load reduction is only permitted in accordance with Section 1607.13.1.2 or Item 1 of Section 1607.13.2.

c. Live load reduction is only permitted in accordance with Section 1607.13.1.3 or Item 2 of Section 1607.13.2.

2024 International Fire Code

Revise as follows:

[BG] 203.2.2 Small assembly ~~spaces~~ areas. The following rooms and spaces shall not be classified as Assembly occupancies:

1. A room or space used for assembly purposes with an *occupant load* of less than 50 persons and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.
2. A room or space used for assembly purposes that is less than 750 square feet (70 m^2) in area and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.

Attached Files

- **ASCE 2023 Structural Journal Article Corotis-et-al reduced part 2.pdf**
  https://www.cdpaccess.com/proposal/11073/35127/files/download/8924/
- **ASCE 2023 Structural Journal Article Corotis-et-al reduced part 1.pdf**
  https://www.cdpaccess.com/proposal/11073/35127/files/download/8923/

Reason: The proposed code change is intended to avoid confusion caused when an assembly area is classified as a occupancy Group B and not occupancy Group A2 or A-3. This allowance dates back to the legacy codes. The floor live load table in IBC Table 1607.1 displays live loads based on uses based and not based on occupancy and generalizes all assembly areas.

Assembly areas with fixed seating are assigned a lower live load since the seating area is better defined. When the floor live load for an assembly area using fixed seats is shown at 60 psf a logical reason is the location of the load is defined and not moveable and by defining the seating an aisle is collaterally defined.

When 7 psf per occupant is multiplied by 7 results in 700 lb per occupant it is clear that the load builds in a level of conservatism to account for occupant comfort due to floor vibrations, deflection and also the possibly of the occupants clustered in one area of the floor and not others.

Small assembly areas are similar to areas of fixed seating and when employee lunch areas, small conference rooms and small restaurants like a fast-food subway sandwich store are proposed; the small space has a floor area less than 750 sq ft in the assembly areas is self-limiting, a 25 by 30 area that includes seating, merchandizing shelving etc.

My jurisdiction during the 1990's assigned a floor live load of 75 psf similar to what a legacy code required for retail spaces.

There is limited literature on this subject however proponent is aware of proposals to ASCE 7 for a similar subject area for huddle rooms. An article "Design Live Loads for Office Gathering Spaces published in the Journal of Structural Engineering in 2023 recommends

revisiting the building code requirements and using a 50 pfs floor live load for huddle rooms that are small assembly areas.

Small assembly areas include furniture like seating, conference tables etc to make the space useable and as a result the load is forced to be distributed.

Bibliography: ASCE Structural

Cost Impact: Decrease

Estimated Immediate Cost Impact:

This code change will reduce confusion and will reduce the cost of construction since office buildings include floors designed for 70 psf LL (office live load plus partition loads). Floor live load has changed over the decades, and since the legacy Uniform Building Code, and as a result the cost reduction is zero in an existing building since the floor will most likely be compliant with the proposed 60 psf live load. With the proposed live load existing and proposed floors will certainly more compliant than if the 100 pf live load required by the 2024 IBC is implemented; the 2024 IBC will require significant strengthening of the existing floor, or heavier framing for new floors. In an existing building this could cost $300,000 or more in a steel framed building or $100,000 to $200,000 in a wood framed building. In accordance with "Building Valuation Data – FEBRUARY 2024" for a Group B occupancy Type IA construction is 38% more costly than Type VA construction. Concrete buildings tend have floors with additional capacity since a large portion of the gravity load is the dead load due to the heavy weight of reinforced concrete. In a new building the cost increase will be 20% if constructed with structural steel and less if constructed with concrete since additional reinforcing and concrete may be required with roughly the same labor costs; if prestressed concrete it can assumed to be less costly than reinforced concrete since additional pre-stressing and slightly thicker slabs may be require.

Estimated Immediate Cost Impact Justification (methodology and variables):

Lower live load requires smaller floor framing and as a result reduces cost of compliance with the 2024 IBC. The costs include after hours work to access the underside of floors if tenant spaces below are occupied, removal and replacement of ceiling finishes and HVAC if any exists below the floor. If the floor is wood framed strengthening to comply with the 2024 IBC will be simpler than strengthening floors framed with structural steel framing due to the weight of framing materials and steel plates and the need for welding equipment to field welding to weld reinforcing plates. It is assumed that the cost is $300 per square foot under the 700 sq ft room above and accounting for framing that spans to receiving columns beyond the small assembly area.

G35-25

G36-25

IBC: 303.4; IFC: [BG] 203.2.8

Proponents: Steve Thomas, Shums Coda Associates, representing Colorado Chapter Code Development Committee (sthomas@coloradocode.net)

2024 International Building Code

Revise as follows:

303.4 Assembly Group A-3. Group A-3 occupancy includes assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A, including but not limited to:

Amusement arcades

Art galleries

Bowling alleys

Community halls

Courtrooms

Dance halls (not including food or drink consumption)

Exhibition halls

Funeral parlors

Greenhouses for the conservation and exhibition of plants that provide public access

Gymnasiums (without spectator seating)

<u>Classrooms having an occupant load of 50 or more and used for educational purposes above the 12th grade</u>

Indoor *swimming pools* (without spectator seating)

Indoor tennis courts (without spectator seating)

Lecture halls

Libraries

Museums

Places of religious worship

Pool and billiard parlors

Waiting areas in transportation terminals

2024 International Fire Code

Revise as follows:

[BG] 203.2.8 Assembly Group A-3. Group A-3 occupancy includes assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A, including but not limited to:

Amusement arcades

Art galleries

Bowling alleys

Community halls

Courtrooms

Dance halls (not including food or drink consumption)

Exhibition halls

Funeral parlors

Greenhouses for the conservation and exhibition of plants that provide public access

Gymnasiums (without spectator seating)

Classrooms having an occupant load of 50 or more and used for educational purposes above the 12th grade

Indoor swimming pools (without spectator seating)

Indoor tennis courts (without spectator seating)

Lecture halls

Libraries

Museums

Places of religious worship

Pool and billiard parlors

Waiting areas in transportation terminals

Reason: There is no clear understanding on what a lecture hall is. In speaking with many people that regulate colleges and universities, they tell me that if they have a classroom with an occupant load of 50 or more, they classify the spaces as a Group A-3 Occupancy. Some lecture halls and classrooms can have very large occupant loads and it does not seem logical to call them B occupancies. The intent of the change is to clarify how to handle a classroom in a higher education facility with an occupant load greater than 49. This is consistent with other assembly uses with larger occupant loads.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Since most jurisdictions already classify large classrooms as Group A-3 occupancies already, there should be not any increase or decrease in the cost of construction. This is intended to be a clarification to make the code read the way people are enforcing it.

G36-25

G37-25

IBC: 303.4; IFC: [BG] 203.2.8

Proponents: Steve Thomas, Shums Coda Associates, representing Colorado Chapter Code Development Committee (sthomas@coloradocode.net)

2024 International Building Code

Revise as follows:

303.4 Assembly Group A-3. Group A-3 occupancy includes assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A, including but not limited to:

Amusement arcades

Art galleries

Bowling alleys

Community halls

Courtrooms

Dance halls (not including food or drink consumption)

Exhibition halls

Funeral parlors

Greenhouses for the conservation and exhibition of plants that provide public access

Gymnasiums (without spectator seating)

Indoor or outdoor *swimming pools* (without spectator seating)

Indoor or outdoor tennis courts (without spectator seating)

Lecture halls

Libraries

Museums

Places of religious worship

Pool and billiard parlors

Waiting areas in transportation terminals

2024 International Fire Code

Revise as follows:

[BG] 203.2.8 Assembly Group A-3. Group A-3 occupancy includes assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A, including but not limited to:

Amusement arcades

Art galleries

Bowling alleys

Community halls

Courtrooms

Dance halls (not including food or drink consumption)

Exhibition halls

Funeral parlors

Greenhouses for the conservation and exhibition of plants that provide public access

Gymnasiums (without spectator seating)

Indoor or outdoor swimming pools (without spectator seating)

Indoor or outdoor tennis courts (without spectator seating)

Lecture halls

Libraries

Museums

Places of religious worship

Pool and billiard parlors

Waiting areas in transportation terminals

Reason: Many buildings are now constructing swimming pools and tennis courts on occupiable roofs. It is our position that these spaces should have an occupancy classification. We selected Group A-3 occupancies since indoor swimming pools and indoor tennis courts are already listed in that occupancy. The hazards are the same whether the use is indoors or outdoors. By classifying the areas as an occupancy, the rest of the code can be applied consistently. For example, much of the means of egress requirements are based on the occupancy classification. This will provide the user of the code a clear understanding of the requirements to be applied to these uses.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This clarifies what occupany classification a pool falls under, whether it indoors and outdoors. This will not change how most buildings are designed and how the code is enforced.

G37-25

G38-25

IBC: SECTION 305 (New), 305.1 (New); IFC: 203.4 (New)

Proponents: Greg Johnson, Johnson & Associates Consulting Services, representing self (gjohnsonconsulting@gmail.com); Robert Buchetto, HED, representing Self (rbuchetto@hed.design); Jay Peters, representing Codes and Standards International (peters.jay@me.com)

2024 International Building Code

Add new text as follows:

SECTION 305
DATA CENTERS GROUP D

305.1 Data Centers Group D. *Data center* Group D includes the use of of a *building*, or portion thereof, for the housing of information technology equipment engaged in data processing where not classified as a *computer room*.

2024 International Fire Code

Add new text as follows:

203.4 Data Centers Group D. *Data center* Group D includes the use of of a*building*, or portion thereof, for the housing of information technology equipment engaged in data processing where not classified as a*computer room*.

Reason: Data centers are unique building uses that do not neatly fall into any other occupancy classification. AHJ currently assign various classifications (B, F-2, S-1, S-2) to these buildings which are characterized by only intermittent occupancy in the frequently very large data halls, accessory B uses, and accessory energy storage systems. Providing an occupancy classification specific to this unique use will facilitate the development of code provisions appropriate to the specific hazards. Note that data centers and computer rooms are both information technology equipment facilities with individual definitions making it possible to readily assign 'Group D', without capturing computer rooms in the occupancy classification.

This proposal is the first of several addressing data centers.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

These buildings are already being constructed. Assigning a unique occupancy classification to data centers does not automatically affect costs.

G39-25 Part I

IBC: 305.2.2, 305.2.3, 308.5.3, 308.5.4, 310.4.1; IFC: [BG] 203.4.2.2, [BG] 203.4.2.3, [BG] 203.7.4.3, [BG] 203.7.4.4, [BG] 203.9.3.1

Proponents: Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org); Jeff O'Neill, Chair, representing Committee on Healthcare (ahc@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

SECTION 305
EDUCATIONAL GROUP E

305.2 Group E, day care facilities. This group includes *buildings* and *structures* or portions thereof occupied by more than five children older than $2^1/_2$ years of age who receive educational, supervision or *personal care services* for fewer than 24 hours per day.

305.2.1 Within places of religious worship. Rooms and spaces within *places of religious worship* providing such day care during religious functions shall be classified as part of the primary occupancy.

Revise as follows:

305.2.2 Five or fewer children. A *facility* having five or fewer children receiving such day care shall be classified as part of the primary occupancy. Such a facility, located within a detached one- or two- family dwelling or townhouse unit that is within the scope of the *International Residential Code*, shall be constructed in accordance with this code or the *International Residential Code* provided such facilities are protected by an automatic sprinkler system installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*.

Delete without substitution:

~~**305.2.3 Five or fewer children in a dwelling unit.** A *facility* such as the above within a *dwelling unit* and having five or fewer children receiving such day care shall be classified as a Group R-3 occupancy or shall comply with the *International Residential Code*.~~

SECTION 308
INSTITUTIONAL GROUP I

308.5 Institutional Group I-4, day care facilities. Institutional Group I-4 occupancy shall include *buildings* and *structures* occupied by more than five *persons* of any age who receive *custodial care* for fewer than 24 hours per day by *persons* other than parents or guardians; relatives by blood, marriage or adoption; and in a place other than the home of the *person* cared for. This group shall include, but not be limited to, the following:

Adult day care

Child day care

308.5.1 Classification as Group E. A child day care *facility* that provides care for more than five but not more than 100 children $2^1/_2$ years or less of age, where the rooms in which the children are cared for are located on a *level of exit discharge* serving such rooms and each of these child care rooms has an *exit* door directly to the exterior, shall be classified as Group E.

308.5.2 Within a place of religious worship. Rooms and spaces within *places of religious worship* providing such care during religious

functions shall be classified as part of the primary occupancy.

Revise as follows:

308.5.3 Five or fewer persons receiving care. A *facility* having five or fewer *persons* receiving *custodial care* shall be classified as part of the primary occupancy. Such a facility, located within a detached one- or two- family dwelling or townhouse unit that is within the scope of the *International Residential Code*, shall be constructed in accordance with this code or the *International Residential Code* provided such facilities are protected by an automatic sprinkler system installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code.*

Delete without substitution:

~~**308.5.4 Five or fewer persons receiving care in a dwelling unit.** A *facility* such as the above within a *dwelling unit* and having five or fewer *persons* receiving *custodial care* shall be classified as a Group R-3 occupancy or shall comply with the *International Residential Code.*~~

SECTION 310
RESIDENTIAL GROUP R

Revise as follows:

~~**310.4.1**~~ **310.1.1 Care facilities within a dwelling.** Care *facilities* for five or fewer *persons* receiving care or a day care that are located within a detached one- or two- family dwelling or townhouse unit that is within the scope of the *International Residential Code*, shall be constructed in accordance with this code or ~~single-family *dwelling* are permitted to comply~~ with the *International Residential Code* provided such facilities are protected by an *automatic sprinkler system* ~~is~~ installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*.

2024 International Fire Code

Revise as follows:

[BG] 203.4.2.2 Five or fewer children. A facility having five or fewer children receiving such day care shall be classified as part of the primary occupancy. Such a facility, located within a detached one- or two- family dwelling or townhouse unit that is within the scope of the *International Residential Code*, shall be constructed in accordance with this code or the *International Residential Code* provided such facilities are protected by an automatic sprinkler system installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code.*

Delete without substitution:

~~**[BG] 203.4.2.3 Five or fewer children in a dwelling unit.** A facility such as the above within a *dwelling unit* and having five or fewer children receiving such day care shall be classified as a Group R-3 occupancy or shall comply with the *International Residential Code* .~~

Revise as follows:

[BG] 203.7.4.3 Five or fewer persons receiving care. A facility having five or fewer persons receiving *custodial care* shall be classified as part of the primary occupancy. Such a facility, located within a detached one- or two- family dwelling or townhouse unit that is within the scope of the *International Residential Code*, shall be constructed in accordance with this code or the *International Residential Code* provided such facilities are protected by an automatic sprinkler system installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code.*

Delete without substitution:

~~**[BG] 203.7.4.4 Five or fewer persons receiving care in a dwelling unit.** A facility such as the above within a *dwelling unit* and having five or fewer persons receiving *custodial care* shall be classified as a Group R-3 occupancy or shall comply with the *International Residential Code*.~~

Revise as follows:

[BG] ~~203.9.3.1~~ 203.9.1 Care facilities within a dwelling. Care *facilities* for five or fewer *persons* receiving care or a day care that are located within a detached one- or two- family dwelling or townhouse unit that is within the scope of the *International Residential Code*, shall be constructed in accordance with this code or ~~single-family~~ *dwelling* ~~are permitted to comply~~ with the *International Residential Code* provided such facilities are protected by an *automatic sprinkler system* ~~is~~ installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*.

G39-25 Part I

G39-25 Part II

IRC: R101.2

Proponents: Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org); Jeff O'Neill, Chair, representing Committee on Healthcare (ahc@iccsafe.org)

2024 International Residential Code

Revise as follows:

R101.2 Scope. The provisions of this code shall apply to the construction, *alteration*, movement, enlargement, replacement, *repair*, equipment, use and occupancy, location, removal and demolition of detached one- and two-family *dwellings* and *townhouses* not more than three *stories above grade plane* in height with a separate means of egress and their *accessory structures* not more than three *stories above grade plane* in height.

Exception: The following shall be permitted to be constructed in accordance with this code where provided with an automatic sprinkler system complying with Section P2904:

1. Live/work units located in *townhouses* and complying with the requirements of Section 508.5 of the *International Building Code*.
2. *Owner*-occupied *lodging houses* with five or fewer *guestrooms*.
3. A care facility with five or fewer *persons* receiving custodial care within a *dwelling unit*.
4. A care facility with five or fewer persons receiving medical care within a *dwelling unit*.
5. A day care facility for five or fewer *persons* of any age receiving care within a *dwelling unit* or *townhouse unit*.

Reason: The purpose of this code change is to clarify how the occupancy classification for small child day care or adult day care facilities is determined. The proposal allows small daycare or adult care facilities serving five or fewer persons to be classified as part of the primary occupancy of a building housing such a facility, and to note that where they are contained in one- and two-family dwellings or townhouses falling within the scope of the International Residential Code they are permitted to be constructed either per the IBC or IRC.

Consolidating the requirements recognizes Group R-2 townhouses or apartments may also have contain a small day care facility and allows for such facilities serving 5 or fewer occupants to match the main occupancy. This fixes a glitch where the literal text in current Sections 305.2.3 and 308.5.4 says a day care in a dwelling unit make this an R-3 even though the building may be Group R-2.

For facilities that meet the scoping of the IRC (detached single family dwellings, duplexes, and townhouses three stories or less above grade plane), the day care facilities can continue to be constructed under the IRC.A similar BCAC proposal submitted last cycle, G34-21, was disapproved over concerns the original proposal expanded the scope of IRC to include apartment buildings, and that it could be argued a dwelling unit in an apartment building is within the scope of the IRC. Also, some felt the proposal language implied that dwelling units can be included in Group I facilities. BCAC worked with the opponents to develop a public comment to explicitly recognize the types of buildings covered in the IRC scope but was not able to overturn the committee disapproval. This new proposal reflects the clarifications requested by the opponents and committee last cycle.

This proposal is submitted by the ICC Building Code Action Committee (BCAC) the ICC Committee for Healthcare (CHC). .

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

The Committee on Healthcare (CHC) was established by the ICC Board of Directors in 2011 to pursue opportunities to study and develop effective and efficient provisions for Hospital, Nursing Homes, Assisted Living and Ambulatory Care Facilities. This committee was formed in cooperation with the American Society for Healthcare Engineering (ASHE). In July of 2017, the ICC Board made CHC a standing committee. In 2023 and 2024 the CHC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the CHC website at CHC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is basically a coordination item for what facilities can use IRC. This should not change construction requirements.

G39-25 Part II

G40-25 Part I

IBC: 308.2.4, 308.3.2, 310.4.1, 310.4.2; IFC: [BG] 203.7.1.4, [BG] 203.7.2.2, [BG] 203.9.3.1, [BG] 203.9.3.2

Proponents: Eirene Knott, representing BRR Architecture (eirene.knott@brrarch.com); Kota Wharton, representing Self (kwharton@grovecityohio.gov)

THIS IS A 2 PART CODE CHANGE.

PART I WILL BE HEARD BY THE IBC-GENERAL CODE COMMITTEE.

PART II WILL BE HEARD BY THE RESIDENTIAL BUILDING CODE COMMITTEE.

SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

SECTION 305
EDUCATIONAL GROUP E

305.2.3 Five or fewer children in a dwelling unit. A *facility* such as the above within a *dwelling unit* and having five or fewer children receiving such day care shall be classified as a Group R-3 occupancy or shall comply with the *International Residential Code*.

SECTION 308
INSTITUTIONAL GROUP I

308.2 Institutional Group I-1. Institutional Group I-1 occupancy shall include *buildings*, *structures* or portions thereof for more than 16 *persons*, excluding staff, who reside on a *24-hour basis* in a supervised environment and receive *custodial care* . *Buildings* of Group I-1 shall be classified as one of the occupancy conditions specified in Section 308.2.1 or 308.2.2 and shall comply with Section 420. This group shall include, but not be limited to, the following:

Alcohol and drug centers

Assisted living *facilities*

Congregate care *facilities*

Group homes

Halfway houses

Residential board and care *facilities*

Social rehabilitation *facilities*

Revise as follows:

308.2.4 Five or fewer persons receiving custodial care. A *facility* with five or fewer *persons* receiving *custodial care* shall be classified as Group R-3 or shall comply with the *International Residential Code* ~~provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*~~.

308.3 Institutional Group I-2. Institutional Group I-2 occupancy shall include *buildings* and *structures* used for *medical care* on a *24-hour basis* for more than five *persons* who are *incapable of self-preservation*. This group shall include, but not be limited to, the following:

Foster care facilities

Detoxification facilities

Hospitals

Nursing homes

Psychiatric hospitals

308.3.2 Five or fewer persons receiving medical care. A facility with five or fewer *persons* receiving *medical care* shall be classified as Group R-3 or shall comply with the *International Residential Code* ~~provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*~~.

308.5 Institutional Group I-4, day care facilities. Institutional Group I-4 occupancy shall include *buildings* and *structures* occupied by more than five *persons* of any age who receive *custodial care* for fewer than 24 hours per day by *persons* other than parents or guardians; relatives by blood, marriage or adoption; and in a place other than the home of the *person* cared for. This group shall include, but not be limited to, the following:

Adult day care

Child day care

308.5.4 Five or fewer persons receiving care in a dwelling unit. A *facility* such as the above within a *dwelling unit* and having five or fewer *persons* receiving *custodial care* shall be classified as a Group R-3 occupancy or shall comply with the *International Residential Code*.

SECTION 310
RESIDENTIAL GROUP R

310.4 Residential Group R-3. Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

Buildings that do not contain more than two *dwelling units*

Care *facilities* that provide accommodations for five or fewer *persons* receiving care

Congregate living facilities (nontransient) with 16 or fewer occupants

Boarding houses (nontransient)

Convents

Dormitories

Emergency services living quarters

Fraternities and sororities

Monasteries

Congregate living facilities (*transient*) with 10 or fewer occupants

Boarding houses (*transient*)

Lodging houses with five or fewer *guest rooms*

Hotels (nontransient) with five or fewer *guest rooms*

Motels (nontransient) with five or fewer *guest rooms*

310.4.1 Care facilities within a dwelling. Care *facilities* for five or fewer *persons* receiving care that are within a single-family *dwelling* are permitted to comply with the *International Residential Code* ~~provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*~~.

310.4.2 Lodging houses. *Owner*-occupied *lodging houses* with five or fewer *guest rooms* shall be constructed in accordance with this

code or the *International Residential Code*~~, provided that *facilities* constructed using the *International Residential Code* are protected by an *automatic sprinkler system* installed in accordance with Section P2904 of the *International Residential Code*~~.

2024 International Fire Code

Revise as follows:

[BG] 203.7.1.4 Five or fewer persons receiving custodial care. A facility with five or fewer persons receiving *custodial care* shall be classified as Group R-3 or shall comply with the *International Residential Code* ~~provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*~~.

[BG] 203.7.2.2 Five or fewer persons receiving medical care. A facility with five or fewer persons receiving medical care shall be classified as Group R-3 or shall comply with the *International Residential Code* ~~provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*~~.

[BG] 203.9.3.1 Care facilities within a dwelling. Care facilities for five or fewer persons receiving care that are within a single-family *dwelling* are permitted to comply with the *International Residential Code* ~~provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*~~.

[BG] 203.9.3.2 Lodging houses. Owner-occupied *lodging houses* with five or fewer *guestrooms* shall be constructed in accordance with the *International Building Code* or the *International Residential Code*~~, provided that facilities constructed using the *International Residential Code* are protected by an *automatic sprinkler system* installed in accordance with Section P2904 of the *International Residential Code*~~.

G40-25 Part I

G40-25 Part II

IRC: R101.2

Proponents: Eirene Knott, representing BRR Architecture (eirene.knott@brrarch.com); Kota Wharton, representing Self (kwharton@grovecityohio.gov)

2024 International Residential Code

Revise as follows:

R101.2 Scope. The provisions of this code shall apply to the construction, *alteration*, movement, enlargement, replacement, *repair*, equipment, use and occupancy, location, removal and demolition of detached one- and two-family *dwellings* and *townhouses* not more than three *stories above grade plane* in height with a separate means of egress and their *accessory structures* not more than three *stories above grade plane* in height.

Exception: The following shall be permitted to be constructed in accordance with this code ~~where provided with an automatic sprinkler system complying with Section P2904~~:

1. Live/work units located in *townhouses* and complying with the requirements of Section 508.5 of the *International Building Code*.
2. *Owner*-occupied *lodging houses* with five or fewer *guestrooms*.
3. A care facility with five or fewer *persons* receiving custodial care within a *dwelling unit*.
4. A care facility with five or fewer persons receiving medical care within a *dwelling unit*.
5. A day care facility for five or fewer *persons* of any age receiving care within a *dwelling unit* .

Reason: This code change clarifies the sprinkler trigger point between the residential and building code. The intent is to push the trigger point for sprinklers back to the International Residential Code which would allow for jurisdictional preemption to integrate seamlessly with the code.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is removing inconsistent and redundant language. There is no change to technical criteria.

G41-25

IBC: 308.1; IFC: [BG] 203.7

Proponents: Jeff O'Neill, Chair, representing Committee on Healthcare (ahc@iccsafe.org); Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

2024 International Building Code

SECTION 308
INSTITUTIONAL GROUP I

Revise as follows:

308.1 Institutional Group I. Institutional Group I occupancy includes, among others, the use of a *building* or *structure*, or a portion thereof, in which care or supervision is provided to *persons* who are <u>are receiving custodial care or medical care</u> ~~or are *incapable of self-preservation* without physical assistance~~ or in which *persons* are detained for penal or correctional purposes or in which the liberty of the occupants is restricted. Institutional occupancies shall be classified as Group I-1, I-2, I-3 or I-4.

308.2 Institutional Group I-1. Institutional Group I-1 occupancy shall include *buildings*, *structures* or portions thereof for more than 16 *persons*, excluding staff, who reside on a *24-hour basis* in a supervised environment and receive *custodial care* . *Buildings* of Group I-1 shall be classified as one of the occupancy conditions specified in Section 308.2.1 or 308.2.2 and shall comply with Section 420. This group shall include, but not be limited to, the following:

Alcohol and drug centers

Assisted living *facilities*

Congregate care *facilities*

Group homes

Halfway houses

Residential board and care *facilities*

Social rehabilitation *facilities*

308.2.1 Condition 1. This occupancy condition shall include *buildings* in which all *persons* receiving *custodial care* who, without any assistance, are capable of responding to an emergency situation to complete building evacuation.

308.2.2 Condition 2. This occupancy condition shall include *buildings* in which there are any *persons* receiving *custodial care* who require *limited verbal or physical assistance* while responding to an emergency situation to complete *building* evacuation.

308.2.3 Six to 16 persons receiving custodial care. A *facility* housing not fewer than six and not more than 16 *persons* receiving *custodial care* shall be classified as Group R-4.

308.2.4 Five or fewer persons receiving custodial care. A *facility* with five or fewer *persons* receiving *custodial care* shall be classified as Group R-3 or shall comply with the *International Residential Code* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*.

308.5 Institutional Group I-4, day care facilities. Institutional Group I-4 occupancy shall include *buildings* and *structures* occupied by more than five *persons* of any age who receive *custodial care* for fewer than 24 hours per day by *persons* other than parents or guardians; relatives by blood, marriage or adoption; and in a place other than the home of the *person* cared for. This group shall include, but not be limited to, the following:

Adult day care

Child day care

2024 International Fire Code

Revise as follows:

[BG] 203.7 Institutional Group I. Institutional Group I occupancy includes, among others, the use of a *building* or *structure*, or a portion thereof, in which care or supervision is provided to *persons* who are are receiving custodial care or medical care~~or are *incapable of self-preservation* without physical assistance~~ or in which *persons* are detained for penal or correctional purposes or in which the liberty of the occupants is restricted. Institutional occupancies shall be classified as Group I-1, I-2, I-3 or I-4.

Reason: The main scope of Group I is not accurate. Group I-1 are persons that are capable of self-preservation.

This proposal is submitted by the ICC Committee for Healthcare (CHC).

The Committee on Healthcare (CHC) was established by the ICC Board of Directors in 2011 to pursue opportunities to study and develop effective and efficient provisions for Hospital, Nursing Homes, Assisted Living and Ambulatory Care Facilities. This committee was formed in cooperation with the American Society for Healthcare Engineering (ASHE). In July of 2017, the ICC Board made CHC a standing committee. In 2023 and 2024 the CHC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the CHC website at CHC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a correlation of Section 308.1 with Section 308.2. There are no change to construction requirements.

G41-25

G42-25 Part I

IBC: 308.2.4, 308.3.2, 310.4.1; IFC: [BG] 203.7.1.4, [BG] 203.7.2.2, [BG] 203.9.3.1

Proponents: Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org); Jeff O'Neill, Chair, representing Committee on Healthcare (ahc@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

SECTION 308
INSTITUTIONAL GROUP I

Revise as follows:

308.2.4 Five or fewer persons receiving custodial care. A *facility* with five or fewer *persons* receiving *custodial care* shall be classified as Group R-2 or Group R-3 based on the primary occupancy of the building. ~~or shall comply~~ Such a facility, located within a detached one- or two- family dwelling or townhouse unit that is within the scope of the *International Residential Code*, shall be constructed in accordance with this code or with the *International Residential Code* provided such facilities shall be protected by an *automatic sprinkler system* ~~is~~ installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*.

308.3.2 Five or fewer persons receiving medical care. A facility with five or fewer *persons* receiving *medical care* shall be classified as Group R-2 or Group R-3 based on the primary occupancy of the building. ~~or shall comply~~ Such a facility, located within a detached one- or two- family dwelling or townhouse unit that is within the scope of the *International Residential Code*, shall be constructed in accordance with this code or with the *International Residential Code* provided such facilities shall be protected by an *automatic sprinkler system* ~~is~~ installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*.

SECTION 310
RESIDENTIAL GROUP R

~~**310.4.1**~~**310.1.1 Care facilities within a dwelling.** Care *facilities* for five or fewer *persons* receiving medical care or custodial care that are located within a ~~single-family *dwelling* are permitted to comply~~ detached one- or two- family dwelling or townhouse unit that is within the scope of the *International Residential Code*, shall be constructed in accordance with this code or with the *International Residential Code* provided such facilities shall be protected by an *automatic sprinkler system* ~~is~~ installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*.

2024 International Fire Code

Revise as follows:

[BG] 203.7.1.4 Five or fewer persons receiving custodial care. A *facility* with five or fewer *persons* receiving *custodial care* shall be classified as Group R-2 or Group R-3based on the primary occupancy of the building.~~or shall comply~~Such a facility, located within a detached one- or two- family dwelling or townhouse unit that is within the scope of the*International Residential Code*, shall be constructed in accordance with this code orwith the *International Residential Code*provided such facilities shall be protected by an *automatic sprinkler system* ~~is~~ installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*.

[BG] 203.7.2.2 Five or fewer persons receiving medical care. A facility with five or fewer *persons* receiving *medical care* shall be

classified as Group R-2 or Group R-3based on the primary occupancy of the building.~~or shall comply~~Such a facility, located within a detached one- or two- family dwelling or townhouse unit that is within the scope of the *International Residential Code*, shall be constructed in accordance with this code or with the *International Residential Code* providedsuch facilities shall be protected by an *automatic sprinkler system* ~~is~~ installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*.

[BG] ~~**203.9.3.1**~~ **203.9.1 Care facilities within a dwelling.** Care *facilities* for five or fewer *persons* receiving medical care or custodial care that are located within a ~~single-family~~*dwelling*~~are permitted to comply~~ detached one- or two- family dwelling or townhouse unit that is within the scope of the *International Residential Code*, shall be constructed in accordance with this code or with the *International Residential Code* provided such facilities shall be protected by an *automatic sprinkler system* ~~is~~ installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*.

G42-25 Part I

G42-25 Part II

IRC: R101.2

Proponents: Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org); Jeff O'Neill, Chair, representing Committee on Healthcare (ahc@iccsafe.org)

2024 International Residential Code

Revise as follows:

R101.2 Scope. The provisions of this code shall apply to the construction, *alteration*, movement, enlargement, replacement, *repair*, equipment, use and occupancy, location, removal and demolition of detached one- and two-family *dwellings* and *townhouses* not more than three *stories above grade plane* in height with a separate means of egress and their *accessory structures* not more than three *stories above grade plane* in height.

Exception: The following shall be permitted to be constructed in accordance with this code where provided with an automatic sprinkler system complying with Section P2904:

1. Live/work units located in *townhouses* and complying with the requirements of Section 508.5 of the *International Building Code*.
2. *Owner*-occupied *lodging houses* with five or fewer *guestrooms*.
3. A care facility with five or fewer *persons* receiving custodial care within a *dwelling unit* or *townhouse unit*.
4. A care facility with five or fewer persons receiving medical care within a *dwelling unit* or *townhouse unit*.
5. A day care facility for five or fewer *persons* of any age receiving care within a *dwelling unit* .

Reason: The purpose of this code change is to clarify how the occupancy classification for small medical or custodial care facilities is determined. The proposal allows these small care facilities serving five or fewer persons to be classified as part of the primary occupancy of any home environment, be it a detached single-family dwelling, townhouse, apartment or condominium, housing such a facility, and to note that where they are contained in one- and two-family dwellings or townhouses falling within the scope of the International Residential Code they are permitted to be constructed either per the IBC or IRC.

The Fair Housing Act does not allow for “family” to be defined by blood or marriage. Multiple court cases have confirmed that people have the right to live in a home environment instead of an institutional facility if they so choose. If this is a business, this small group home is most likely operating as a family; and would fall below the licensure rules of most states. However, in most cases, this will be couple with foster children or someone taking care of a friend who needs assistance - not a business. The IBC does not typically go into issues on licensure or who is paying what – it looks at the use of the space.

This proposal does not change what sorts of care facilities can currently be constructed under the IRC, however, in the past there have been arguments that these care facilities should not be permitted under the IRC. This proposal clarifies that such care facilities in dwellings that meet the scoping of the IRC (detached single family dwellings, duplexes, and townhouses three stories or less above grade plane), can continue to be constructed under the IRC.A similar BCAC proposal submitted last cycle, G42-21, was disapproved over concerns the original proposal expanded the scope of IRC to include apartment buildings, and that it could be argued a dwelling unit in an apartment building is within the scope of the IRC. Also, some felt the proposal language implied that dwelling units can be included in Group I-2 facilities. BCAC worked with the opponents to develop a public comment to explicitly recognize the types of buildings covered in the IRC scope but was not able to overturn the committee disapproval. This new proposal reflects the clarifications requested by the opponents and committee last cycle.

This proposal is submitted by the ICC Building Code Action Committee (BCAC) the ICC Committee for Healthcare (CHC).

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

The Committee on Healthcare (CHC) was established by the ICC Board of Directors in 2011 to pursue opportunities to study and

develop effective and efficient provisions for Hospital, Nursing Homes, Assisted Living and Ambulatory Care Facilities. This committee was formed in cooperation with the American Society for Healthcare Engineering (ASHE). In July of 2017, the ICC Board made CHC a standing committee. In 2023 and 2024 the CHC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the CHC website at CHC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is basically a coordination item for what facilities can use the IRC. This should not change construction requirements.

G42-25 Part II

G43-25

IBC: 310.3; IFC: [BG] 203.9.2

Proponents: Scot Harris, Preston Wood & Associates, LLC. Jack Preston Wood AIBD/NCBDC, representing self (scot@jackprestonwood.com)

2024 International Building Code

Revise as follows:

310.3 Residential Group R-2. Residential Group R-2 occupancies containing *sleeping units* or more than two *dwelling units* per tract of land where the occupants are primarily permanent in nature, including:

Apartment houses

Condominiums

Townhouse dwelling units on a single tract of land as defined by metes and bounds

Congregate living facilities (nontransient) with more than 16 occupants

Boarding houses (*nontransient*)

Convents

Dormitories

Emergency services living quarters

Fraternities and sororities

Monasteries

Hotels (nontransient) with more than five *guest rooms*

Live/work units

Motels (nontransient) with more than five *guest rooms*

Vacation timeshare properties

2024 International Fire Code

Revise as follows:

[BG] 203.9.2 Residential Group R-2. Residential Group R-2 occupancies containing sleeping units or more than two *dwelling units* per tract of land where the occupants are primarily permanent in nature, including:

Apartment houses

Condominiums

Townhouse dwelling units on a single tract of land as defined by metes and bounds

Congregate living facilities (nontransient) with more than 16 occupants

Boarding houses (nontransient)

Boarding houses (nontransient)

Convents

Dormitories

Emergency services living quarters

Fraternities and sororities

Monasteries

Hotels (nontransient) with more than five guestrooms

Live/work units

Motels (nontransient) with more than five guestrooms

Vacation timeshare properties

Reason: This is one part of a multi-part proposal to further define the parameters when determining if a building can be permitted under the IRC or IBC. See proposal RB58-25.

The phrase “Townhouse” is littered throughout the IRC publication, but no attention has been addressed as to when a townhouse can be permitted as a R-2 or R-3 Building Classification. By adding the tract of land phrase, it will become clearer. It is my understanding that the IRC is inclusive to R-3 Building Classifications.

On a separate subject:

“Condominiums” is a glorified way to say separate entities can own the dwelling space inside an apartment house or other types of dwelling structures. I know of some instances where an apartment was converted to a condominium and some instances where a building was intentionally designed as a condominium. I have even seen hotels and motels converted to condominiums. This sleeping unit type shall be added to this section.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is for clarification purposes only (see reason statement).

G43-25

G44-25

IBC: 310.4; IFC: [BG] 203.9.3

Proponents: Scot Harris, Preston Wood & Associates, LLC. Jack Preston Wood AIBD/NCBDC, representing self (scot@jackprestonwood.com)

2024 International Building Code

Revise as follows:

310.4 Residential Group R-3. Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

Buildings that do not contain more than two *dwelling units* on a single tract of land as defined by metes and bounds

Care *facilities* that provide accommodations for five or fewer *persons* receiving care

Congregate living facilities (nontransient) with 16 or fewer occupants

Boarding houses (nontransient)

Convents

Dormitories

Emergency services living quarters

Fraternities and sororities

Monasteries

Congregate living facilities (*transient*) with 10 or fewer occupants

Boarding houses (*transient*)

Lodging houses with five or fewer *guest rooms*

Hotels (nontransient) with five or fewer *guest rooms*

Motels (nontransient) with five or fewer *guest rooms*

2024 International Fire Code

Revise as follows:

[BG] 203.9.3 Residential Group R-3. Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

Buildings that do not contain more than two *dwelling units* on a single tract of land as defined by metes and bounds

Care facilities that provide accommodations for five or fewer persons receiving care

Congregate living facilities (nontransient) with 16 or fewer occupants

Boarding houses (nontransient)

Convents

Dormitories

Emergency services living quarters

Fraternities and sororities

Monasteries

Congregate living facilities (transient) with 10 or fewer occupants

Boarding houses (transient)

Lodging houses with five or fewer guestrooms

Hotels (nontransient) with five or fewer guestrooms

Motels (nontransient) with five or fewer guestrooms

Reason: This is one part of a multi-part proposal to further define the parameters when determining if a building can be permitted under the IRC or IBC. See proposal RB58-25.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is for clarification purposes only (see reason statement).

G44-25

G45-25 Part I

IBC: 310.4; IFC: [BG] 203.9.3

Proponents: Jeffrey Shapiro, P.E., FSFPE, LTFR, representing Lake Travis Fire Rescue (jeff.shapiro@intlcodeconsultants.com)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC-GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Revise as follows:

310.4 Residential Group R-3. Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

Buildings that do not contain more than two *dwelling units*

Townhouse units

Care *facilities* that provide accommodations for five or fewer *persons* receiving care

Congregate living facilities (nontransient) with 16 or fewer occupants

Boarding houses (nontransient)

Convents

Dormitories

Emergency services living quarters

Fraternities and sororities

Monasteries

Congregate living facilities (*transient*) with 10 or fewer occupants

Boarding houses (*transient*)

Lodging houses with five or fewer *guest rooms*

Hotels (nontransient) with five or fewer *guest rooms*

Motels (nontransient) with five or fewer *guest rooms*

2024 International Fire Code

Revise as follows:

[BG] 203.9.3 Residential Group R-3. Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

Buildings that do not contain more than two *dwelling units*

Townhouse units

Care facilities that provide accommodations for five or fewer persons receiving care

Congregate living facilities (nontransient) with 16 or fewer occupants

Boarding houses (nontransient)

Convents

Dormitories

Emergency services living quarters

Fraternities and sororities

Monasteries

Congregate living facilities (transient) with 10 or fewer occupants

Boarding houses (transient)

Lodging houses with five or fewer guestrooms

Hotels (nontransient) with five or fewer guestrooms

Motels (nontransient) with five or fewer guestrooms

G45-25 Part I

G45-25 Part II

IFC: [A] 102.5

Proponents: Jeffrey Shapiro, P.E., FSFPE, LTFR, representing Lake Travis Fire Rescue (jeff.shapiro@intlcodeconsultants.com)

2024 International Fire Code

Revise as follows:

[A] 102.5 Application of residential code. Where structures are designed and constructed in accordance with the *International Residential Code*, the provisions of this code shall apply as follows:

1. Construction and design provisions of this code pertaining to the exterior of the structure shall apply including, but not limited to, premises identification, fire apparatus access and water supplies. Where interior or exterior systems or devices are installed, construction permits required by Section 105.6 shall apply.
2. Administrative, operational and maintenance provisions of this code shall apply.
3. Sections 1103.8 and 1103.9 of this code shall apply. For the purpose of applying these sections, buildings classified as one- and two-family dwellings and townhouses in accordance with the *International Residential Code* shall be regulated as Group R occupancies.

Reason: This proposal addresses a couple holes in the code with respect to ensuring proper protection of existing one- and two-family dwellings and townhouses with respect to providing smoke alarms and carbon monoxide alarms. It has always been the intent of the IFC to require that smoke alarms, and now CO alarms, be retrofitted into existing dwelling units, regardless of whether they are built under the IRC or IBC. IFC Chapter 11 makes this somewhat clear by including provisions for Group R-3 occupancies, and one can assign Group R-3 to IRC one- and two-family dwellings and townhouse units for purposes of applying Sections 1103.8 and 1103.9. However, that could be seen as a stretch since the IRC doesn't assign occupancy classifications and IFC Section 102.5 creates a path to arguably avoid compliance via the IRC since the IRC doesn't specifically address retrofitting of alarms into existing dwellings. The intent of this proposal is to close that apparent loophole.

In reviewing this issue, I noticed that townhouse units also need to be better addressed when it comes to occupancy classification. Townhouse units that are constructed as separate buildings, rather than as part of larger Group R-1 or Group R-2 multifamily occupancy townhouse structures, currently fall into an occupancy classification hole. In any case, three or more townhouse units will create a townhouse, but depending on the fire separations between townhouse units, the townhouse structure might be a single multifamily occupancy or an accumulation of multiple individual occupancies, presumably R-3, but the code doesn't currently state that. The proposed change to the R-3 definition should fix that.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The intent is to clarify current code provisions by eliminating ambiguities in the text. See reason statement.

G46-25 Part I

IBC: 310.5; IFC: [BG] 203.9.4

Proponents: Jeff O'Neill, Chair, representing Committee on Healthcare (ahc@iccsafe.org); Eirene Knott, representing BRR Architecture (eirene.knott@brrarch.com); Kota Wharton, representing Self (kwharton@grovecityohio.gov)

THIS IS A 2 PART CODE CHANGE.

PART I WILL BE HEARD BY THE IBC-GENERAL CODE COMMITTEE.

PART II WILL BE HEARD BY THE RESIDENTIAL BUILDING CODE COMMITTEE.

SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

SECTION 310
RESIDENTIAL GROUP R

Revise as follows:

310.5 Residential Group R-4. Residential Group R-4 occupancy shall include *buildings*, *structures* or portions thereof for more than five but not more than 16 *persons*, excluding staff, who reside on a *24-hour basis* in a supervised residential environment and receive *custodial care*. *Buildings* of Group R-4 shall be classified as one of the occupancy conditions specified in Section 310.5.1 or 310.5.2. This group shall include, but not be limited to, the following:

Alcohol and drug centers

Assisted living *facilities*

Congregate care *facilities*

Group homes

Halfway houses

Residential board and care *facilities*

Social rehabilitation *facilities*

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code.

Such a facility, located within a dwelling unit that is within the scope of the I*nternational Residential Code*, shall be permitted to be constructed in accordance with this code or with the International Residential Code.

2024 International Fire Code

Revise as follows:

[BG] 203.9.4 Residential Group R-4. Residential Group R-4 shall include buildings, structures or portions thereof for more than five but not more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised residential environment and receive custodial care. Buildings of Group R-4 shall be classified as one of the occupancy conditions specified inSection 203.9.4.1 or 203.9.4.2. This group shall include, but not be limited to, the following:

Alcohol and drug centers

Assisted living facilities

Congregate care facilities

Group homes

Halfway houses

Residential board and care facilities

Social rehabilitation facilities

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in the *International Building Code*.
Such a facility, located within a dwelling unit that is within the scope of the I*nternational Residential Code*, shall be permitted to be constructed in accordance with this code or with the International Residential Code.

G46-25 Part I

G46-25 Part II

IRC: R101.2, SECTION 202 (New)

Proponents: Jeff O'Neill, Chair, representing Committee on Healthcare (ahc@iccsafe.org); Eirene Knott, representing BRR Architecture (eirene.knott@brrarch.com); Kota Wharton, representing Self (kwharton@grovecityohio.gov)

2024 International Residential Code

SECTION R101
SCOPE AND GENERAL REQUIREMENTS

Revise as follows:

R101.2 Scope. The provisions of this code shall apply to the construction, *alteration*, movement, enlargement, replacement, *repair*, equipment, use and occupancy, location, removal and demolition of detached one- and two-family *dwellings* and *townhouses* not more than three *stories above grade plane* in height with a separate means of egress and their *accessory structures* not more than three *stories above grade plane* in height.

Exception: The following shall be permitted to be constructed in accordance with this code where provided with an automatic sprinkler system complying with Section P2904:

1. Live/work units located in *townhouses* and complying with the requirements of Section 508.5 of the *International Building Code*.
2. *Owner*-occupied *lodging houses* with five or fewer *guestrooms*.
3. A care facility with five or fewer *persons* receiving custodial care within a *dwelling unit*.
4. A care facility with five or fewer persons receiving medical care within a *dwelling unit*.
5. A day care facility for five or fewer *persons* of any age receiving care within a *dwelling unit*.
6. A care facility within a dwelling unit or townhouse unit with more than five but not more than 16 *persons*, excluding staff, who reside in a supervised residential environment and receive *custodial care*.

Add new definition as follows:

CUSTODIAL CARE. Describes *persons* who receive assistance with day-to-day living tasks such as cooking, taking medication, bathing, using toilet *facilities* and other tasks of daily living. *Custodial care* includes *persons* receiving care who have the ability to respond to emergency situations and may receive *limited verbal or physical assistance*. These care recipients may evacuate at a slower rate and/or who have mental and psychiatric complications.

Reason: The intent of this proposal is to restore to the codes an allowance for a Group R-4 Group home to be constructed under the IRC. This was permitted in the code from 2000 through 2009.

We would like to stress that Group R-4 is limited to 16 occupants, and residents are required to be capable of self-preservation. This was occupant limit was originally based on 1) the allowances for an NFPA13D sprinkler system, and 2) that in the national census, 98% of the homes that identified themselves as a family, were 16 or few occupants. A group home could be a home for young adults recovering from addiction, a home for batter women and their children, or a group of elderly adults. These facilities are not a Nursing home.

There is a serious issue with homelessness in the United States. Many of these individuals would benefit from the opportunity to live in a supervised environment, either on a permanent basis, or a temporary basis to help them get back on their feet. The ADA includes an 'integration mandate' that requires state and local governments the provide services in a residential setting - not just in institutions - Community Integration | ADA.gov. The Fair Housing Act specified that families cannot be determined only by 'blood or marriage', therefor, a people that live in a group home should be treated equally as a family. Fair Housing and Related Law | HUD.gov / U.S. Department of Housing and Urban Development (HUD)The Department of Justice is suing the state of Pennsylvania over discrimination that restricts community-based housing. Middle District of Pennsylvania | Justice Department Sues Pennsylvania Over Discriminatory

Code Requirements That Restrict Community-Based Housing for People with Disabilities | United States Department of Justice

There are reports from other states over similar lawsuits.

While the building code provides minimum life safety requirements for all housing, the concern is that the specific needs and capabilities of the residents in Group Homes are not being considered in the development of requirements.G20-09/10 removed the option for Group R-4 to be constructed under the IRC in Section 310.1 as part of a comprehensive overhaul for care facilities. This change was not explained in the reason statement. The reason did state that "Federal regulations and state licensing provisions were considered, but primarily in terms of avoiding conflicting requirements." There was not a similar change to the IRC because the scopes were not coordinated at that time.

The following is provided for context - Specifically Section 308.2.3 would send a user to Section 310.5 for Group R-4 requirements.

SECTION308
INSTITUTIONAL GROUP I

308.2 Institutional Group I-1. Institutional Group I-1 occupancy shall include *buildings*, *structures* or portions thereof for more than 16 *persons*, excluding staff, who reside on a *24-hour basis* in a supervised environment and receive *custodial care*. *Buildings* of Group I-1 shall be classified as one of the occupancy conditions specified in Section 308.2.1 or 308.2.2 and shall comply with Section 420. This group shall include, but not be limited to, the following:

Alcohol and drug centers

Assisted living *facilities*

Congregate care *facilities*

Group homes

Halfway houses

Residential board and care *facilities*

Social rehabilitation *facilities*

308.2.1 Condition 1. This occupancy condition shall include *buildings* in which all *persons* receiving *custodial care* who, without any assistance, are capable of responding to an emergency situation to complete building evacuation.

308.2.2 Condition 2. This occupancy condition shall include *buildings* in which there are any *persons* receiving *custodial care* who require *limited verbal or physical assistance* while responding to an emergency situation to complete *building* evacuation.

308.2.3 Six to 16 persons receiving custodial care. A *facility* housing not fewer than six and not more than 16 *persons* receiving *custodial care* shall be classified as Group R-4.

308.2.4 Five or fewer persons receiving custodial care. A *facility* with five or fewer *persons* receiving *custodial care* shall be classified as Group R-3 or shall comply with the *International Residential Code* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 of this code or Section P2904 of the *International Residential Code*.

SECTION310
RESIDENTIAL GROUP R

310.1 Residential Group R. Residential Group R includes, among others, the use of a *building* or *structure*, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I or when not regulated by the *International Residential Code*. Group R occupancies not constructed in accordance with the *International Residential Code* as permitted by Sections 310.4.1 and 310.4.2 shall comply with Section 420.

This proposal is submitted by the ICC Committee for Healthcare (CHC).

This proposal is submitted by the The Committee on Healthcare (CHC) was established by the ICC Board of Directors in 2011 to pursue

opportunities to study and develop effective and efficient provisions for Hospital, Nursing Homes, Assisted Living and Ambulatory Care Facilities. This committee was formed in cooperation with the American Society for Healthcare Engineering (ASHE). In July of 2017, the ICC Board made CHC a standing committee. In 2023 and 2024 the CHC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the CHC website at CHC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is restoring an option for Group homes that is consistent with single family homes. The construction requirements should be the same.

G46-25 Part II

G47-25

IBC: 311.1.1; IFC: [BG] 203.10.1

Proponents: Jeffrey Grove, representing Southern Nevada ICC Chapter (jeff.grove@coffman.com); Allen Burris, Clark County Nevada, representing Southern Nevada Chapter (allen.burris@clarkcountynv.gov)

2024 International Building Code

SECTION 311
STORAGE GROUP S

Revise as follows:

311.1.1 Accessory storage spaces. A room or space used for storage purposes that is accessory to another occupancy, and does not exceed the square footage of the main occupancy shall be classified as part of that occupancy.

2024 International Fire Code

Revise as follows:

[BG] 203.10.1 Accessory storage spaces. A room or space used for storag, and does not exceed the square footage of the main occupancy shall be classified as part of that occupancy.

Reason: The code removed any size limitations for accessory storage spaces and then failed to define the term Accessory Storage Space. It could be argued that storage is always accessory to something – factory, retail use, business, etc. Drawn to its logical extreme conclusion, the code allows a large warehouse with a small office and a Group B classification. The removal of the size limitation effectively removes the S occupancy designation from the code.

There is no guideline to determining the significantly higher hazard of the storage activity.

This new approach to classifying storage spaces does not vary based upon the size of the storage space. There is no square footage or percentage threshold, such as 100 square feet or 10%, over which the Group S classification will be applied. Where the storage use is considered as accessory to the other uses in building, it shall be classified in accordance with those other uses. The key point is the hazard level that storage brings to the building. It is assumed that accessory storage uses pose little additional hazard above the occupancies which they serve. Where storage activities pose a significantly higher hazard than the other uses in the building, they would typically not be considered accessory and therefore classified as a Group S occupancy.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The code change proposal is a clarification of the intent of the code and is not anticipated to increase or decrease the cost of construction.

G48-25

IBC: 311.1.1; IFC: [BG] 203.10.1

Proponents: Raymond Steadward Jr, Town of Enfield CT, representing Myself (rsteadward@enfield.org)

2024 International Building Code

Delete without substitution:

~~**311.1.1 Accessory storage spaces.** A room or space used for storage purposes that is accessory to another occupancy shall be classified as part of that occupancy.~~

2024 International Fire Code

Delete without substitution:

~~**[BG] 203.10.1 Accessory storage spaces.** A room or space used for storage purposes that is accessory to another occupancy shall be classified as part of that occupancy.~~

Reason: This section has introduced confusion since it came in. The committee reasoning from the approval seemed to indicate that these accessory storage spaces were already covered in 508 and this clarification was arguably unnecessary. If the desire is to raise the allowable storage to greater than 10% and stay accessory, that should be addressed in 508. If the intent is to not call certain storage rooms a storage use, that is best to go back to 509 and spell it out specifically there with incidental. The unintended consequences of this section and the way the commentary was written for it are as follows.

If this section truly waives the accessory limits on storage uses, you can build a car dealership and call the repair garage bays accessory under this section, and not sprinkler them under the B use…With no size limit or Ch. 9 restrictions.

Bibliography: 2018 IBC code insights to section 311.1.1

2018 IBC Commentary

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

I believe this to be a clarification of what the intent was supposed to be.

G49-25

IBC: 312.1; IFC: [BG] 203.11

Proponents: Jeanne Rice, representing NYSDOS (jeanne.rice@dos.ny.gov); Bryant Arms, representing NYS DOS (bryant.arms@dos.ny.gov); Stephen Van Hoose, representing NYS DOS (stephen.vanhoose@dos.ny.gov); Bryan Toepfer, representing NY DOS (bryan.toepfer@dos.ny.gov); Larissa DeLango, representing NYSDOS (larissa.delango@dos.ny.gov); China Clarke, representing New York State Dept of State (china.clarke@dos.ny.gov); Kevin Duerr-Clark, representing NYSDOS (kevin.duerr-clark@dos.ny.gov); Chad Sievers, NYS, representing NYS Dept of State (chad.sievers@dos.ny.gov); Daniel Carroll, New York State Department of State, representing Division of Building Standards and Codes (daniel.carroll@dos.ny.gov)

2024 International Building Code

SECTION 312
UTILITY AND MISCELLANEOUS GROUP U

Revise as follows:

312.1 General. *Buildings* and *structures*, or portions thereof, of an accessory character and miscellaneous *structures*, or portions thereof, not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

Agricultural buildings

Aircraft hangars, accessory to a one- or two-family residence (see Section 412.4)

Barns

Carports

Communication equipment *structures* with a *gross floor area* of less than 1,500 square feet (139 m^2)

Fences more than 7 feet (2134 mm) in height

Grain silos, accessory to a residential occupancy

Livestock shelters

Private garages

Retaining walls

Sheds

Stables

Tanks

Towers

2024 International Fire Code

Revise as follows:

[BG] 203.11 Miscellaneous Group U. *Buildings* and *structures*, or portions thereof, of an accessory character and miscellaneous *structures*, or portions thereof, not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

Agricultural buildings

Aircraft hangar, accessory to a one- or two-family residence (see Section 412.4 of the *International Building Code*)

Barns

Carports

Communication equipment structures with a gross floor area of less than 1,500 square feet (139 m^3)

Fences more than 7 feet (2134 mm) in height

Grain silos, accessory to a residential occupancy

Livestock shelters

Private garages

Retaining walls

Sheds

Stables

Tanks

Towers

Reason: All occupancy types except Group U make it clear that the occupancy type applies to portions of buildings that fall under that occupancy. Despite Group U lacking this language, Table 508.4 includes Group U in the occupancy fire separation provisions, which clearly implies that Group U is intended to apply to portions of a building which fall under the scope of Group U. Due to "or portions thereof" being omitted from Section 312.1, there has been confusion brought to NYS regarding whether or not Group U can apply to portions of a building, such as utility rooms. This proposal adds this language in a similar manner to all the other occupancy types, thus clarifying that Group U can apply to portions of a building.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This edit simply clarifies that portions of buildings can qualify as U occupancies.

G49-25

G50-25

IBC: 402.6.2

Proponents: Marcelo Hirschler, representing GBH International (mmh@gbhint.com)

2024 International Building Code

SECTION 402
COVERED MALL AND OPEN MALL BUILDINGS

402.6.2 Kiosks. Kiosks and similar *structures* (temporary or permanent) located within the *mall* of a *covered mall building* or within the perimeter line of an *open mall building* shall meet the following requirements:

1. Combustible kiosks or other *structures* shall not be located within a *covered* or *open mall* unless constructed of any of the following materials:
   1.1. *Fire-retardant-treated* wood complying with Section 2303.2.
   1.2. Foam plastics having a maximum heat release rate not greater than 100 kW (105 Btu/h) when tested in accordance with the exhibit booth protocol in UL 1975 or when tested in accordance with NFPA 289 using the 20 kW ignition source.
   1.3. Aluminum composite material (ACM) meeting the requirements of Class A *interior finish* in accordance with Chapter 8 when tested as an assembly in the maximum thickness intended.
   1.4 Laminated panels complying with the requirements for laminated products in Section 803.11, except that, when tested in accordance with ASTM E84 or UL 723, the laminated panel shall have a Class A classification.
2. Kiosks or similar *structures* located within the *mall* shall be provided with *approved automatic sprinkler system* and detection devices.
3. The horizontal separation between kiosks or groupings thereof and other *structures* within the *mall* shall be not less than 20 feet (6096 mm).
4. Each kiosk or similar *structure* or groupings thereof shall have an area not greater than 300 square feet (28 m^2).

Reason: The list of materials that are permitted in kiosks does not address materials that are commonly used in such areas, namely laminated panels. Such panels are typically composed of a factory-produced laminated product with a wood substrate and a plastic laminate. It is very rare for such panels to be made with fire-retardant treated wood (FRTW) substrates and the list does not cover laminated FRTW panels either. Therefore this addition is important to the list.

The proposal bases the requirements on what is required for laminated products in section 803.11 of the IBC, with the added requirement that the panels must exhibit a flame spread index of not more than 25 (meaning a Class A) in accordance with ASTM E84 (while 803.11 allows Class A, B, or C) or meet the chapter 8 requirements based on testing to NFPA 286. The smoke requirement is the same for Classes A, B, and C, and remains a requirement. A Class A laminated panel would be consistent with the fire safety requirements associated with other materials in the list.

Note that the proposal is specific about factory produced laminated products, meaning that it would not apply to a veneer or a facing applied on site, covered by Section 803.12.

IBC 803.11 reads as follows:

803.11 Laminated products factory produced with a wood substrate, *Laminated products factory produced with a wood substrate shall comply with one of the following:*
1. The laminated product shall meet the criteria of Section 803.1.1.1 when tested in accordance with NFPA 286 using the product-mounting system, including adhesive, as described in Section 5.8 of NFPA 286.
2. The laminated product shall have a Class A, B, or C flame spread index and smoke-developed index, based on the requirements of Table 803.13, in accordance with ASTM E84 or UL 723. Test specimen preparation and mounting shall be in accordance with ASTM E2579.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

It is likely that such laminated panels are actually in use now.

G50-25

G51-25

IBC: 402.8.9 (New)

Proponents: Jeffrey Grove, representing Southern Nevada ICC Chapter (jeff.grove@coffman.com); Allen Burris, Clark County Nevada, representing Southern Nevada Chapter (allen.burris@clarkcountynv.gov)

2024 International Building Code

SECTION 402
COVERED MALL AND OPEN MALL BUILDINGS

Add new text as follows:

402.8.9 Stairway door operation. Stairway doors, other than the exit discharge doors, shall be permitted to be locked from the stairway side. Stairway doors that are locked from the stairway side shall be capable of being unlocked without unlatching where any of the following conditions occur:

1. Shall be capable of being unlocked individually or simultaneously upon a signal from the fire command center, where present, or a signal by emergency personnel from a single location inside the main entrance to the building.
2. Simultaneously upon activation of a fire alarm signal in an area served by the stairway.
3. Upon failure of the power supply to the lock or locking system.

Exception: Stairway doors opening directly into tenant spaces are permitted to unlock without unlatching only upon a signal from the fire command center, where present, or a signal by emergency personnel from a single location inside the main entrance to the building.

Reason: The conditions above create a possible security and insurance risk for stairs to unlock automatically upon alarm when the access door is directly into a privately leased or owner tenant space. Tenant spaces may have only certain hours of operation and are closed during off hours leaving these spaces unprotected. These areas are at risk of intentional or unintentional alarms providing free access to their units / tenant space. A savvy criminal could pull a fire alarm and gain access to businesses and burglarize the space. Therefore, it is reasonable to allow these types of spaces to utilize only the manual function from the fire command center to unlock the associated doors to their spaces, so only trained personnel (either fire department or facility personnel) can provide this necessary access.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The power and controls for the equipment outlined in the code change proposal will be present based if the doors are elected to be locked in the non-egress direction. The modifications required as part of the code change proposal can be handled by the applicable installing contractors.

G52-25

IBC: 403.6.1, Table 403.6.1 (New), 3002.4, [F] 3003.1.3

Proponents: Jeffrey Grove, representing Southern Nevada ICC Chapter (jeff.grove@coffman.com); Allen Burris, Clark County Nevada, representing Southern Nevada Chapter (allen.burris@clarkcountynv.gov)

2024 International Building Code

SECTION 403
HIGH-RISE BUILDINGS

Revise as follows:

403.6.1 Fire service access elevator. In *buildings* with an occupied floor more than 120 feet (36 576 mm) above the lowest level of fire department vehicle access, not fewer than two fire service access elevators, or all elevators, whichever is less, shall be provided in accordance with Section 3007. Each fire service access elevator shall have a capacity of not less than 3,500 pounds (1588 kg) and shall comply with Section 3002.4.

Exception: Where a building is provided with multiple ambulance stretcher-sized elevator cars in accordance with Section 3002.4 in the quantities prescribed in Table 403.6.1, fire service access elevators shall not be required.

Add new text as follows:

TABLE 403.6.1 AMBULANCE STRETCHER-SIZED ELEVATOR CAR

HIGHEST FLOOR LEVEL SERVED ABOVE THE LOWEST LEVEL OF FIRE DEPARMTNE ACCESS (feet)	NUMBER OF ELEVATOR CLARS TO ACCOMMODATE AN AMBULANCE STRETCHER[a]
120 - 599	3
600 - 899	4
900 and greater	5

For SI: 1 foot = 0.348 m

SECTION 3002
HOISTWAY ENCLOSURES

Revise as follows:

3002.4 Elevator car to accommodate ambulance stretcher. Where elevators are provided in *buildings* four or more *stories* above, or four or more *stories* below, *grade plane*, not fewer than one elevator, or the number specified in Table 403.6.1 for high-rise buildings, shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate an ambulance stretcher 24 inches by 84 inches (610 mm by 2134 mm) with not less than 5-inch (127 mm) radius corners, in the horizontal, open position and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall be not less than 3 inches (76 mm) in height and shall be placed inside on both sides of the hoistway door frame.

SECTION 3003
EMERGENCY OPERATIONS

[F] 3003.1.3 Two or more elevators. Where two or more elevators are controlled by a common operating system, all elevators shall automatically transfer to standby power within 60 seconds after failure of normal power where the standby power source is of sufficient

capacity to operate all elevators at the same time. Where the standby power source is not of sufficient capacity to operate all elevators at the same time, all elevators shall transfer to standby power in sequence, return to the designated landing and disconnect from the standby power source. After all elevators have been returned to the designated level, not less than one elevator, and all elevators installed in accordance with the Exception to Section 403.6.1, shall remain operable from the standby power source.

Reason: The use of these elevators have been incorporated into every high-rise greater than 120 feet in Southern Nevada since the adoption of the 2000 IBC.

Base IBC Section 403.6.1 requires a minimum of two (2) fire service access elevators, or all elevators, whichever is less, to be provided in buildings with an occupied floor more than 120' above the lowest level of fire department access. Per the commentary to the 2021 IBC, this is based on past experience that has shown that elevators are often not available due to shutdowns for various reasons. Requiring two (2) fire service access elevators increases the likelihood there will be an elevator available for fire department use in an emergency event.

High rise elevator cores are typically located centrally within a tower, and exit stairs are typically located on either end of the tower. Depending on the size and occupant load of the tower, a tertiary (or more) stair may be located centrally within the tower; however, such stairs are typically not necessary and therefore not provided, many times resulting in a modification to the tower design to accommodate a stair and elevator adjacent to each other.

The design and economic implications of providing a minimum of two (2) fire service access elevators in high-rise buildings is significant when taking into consideration all of the required support features in addition to the elevators themselves, such as enclosed lobbies with direct access to an interior exit stair. Requiring fire service access elevators to open into an enclosed lobby with direct access to an interior exit stair could potentially eliminate a guestroom from each level, or leasable space from each level, etc., due to the footprint required for the lobby and stair. IBC Section 3007.6.4 requires fire service access elevator lobbies to have a minimum size of 150 square feet with a minimum dimension of 8 feet, and interior exit stairs are required to be sized in accordance with IBC Section 1009.2.

Further, the base code only mandates two (2) fire service access elevators for fire department use, including "supertall" buildings, which could have a negative impact on firefighter response & operations. The proposed Exception to Section 403.6.1 would require additional stretcher elevators based on floor height instead of providing only (2) fire service access elevators regardless of building height. It is important to provide tools for firefighting in large structures. It is important to maximum protection to large/tall facilities. If a major event occurs, this proposed amendment will provide multiple means of access for emergency responders beyond that which is required by base code, providing for efficient and effective response. By amending Section 403.6.1 and 3002.4 as proposed, not only would larger elevators be required, but also additional elevators would be required for the various heights of high-rise facilities.

Section 3003.1.3 would also require updates to correspond with changes to earlier part of the code and ties it back to the Exception to Section 403.6.1 to be provided with secondary power simultaneously so that all elevators are available. Simultaneous access is necessary as emergency responders utilize multiple teams performing various functions.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This code change proposal provides an alternative to the base code provisions that is not mandatory. It is an option to the base code provisions. The base code provisions do not change.

G52-25

G53-25

IBC: 404.5

Proponents: William Warlick, representing Self (william.warlick@slcgov.com)

2024 International Building Code

SECTION 404
ATRIUMS

Revise as follows:

404.5 Smoke control. A smoke control system shall be installed in accordance with Section 909.

Exceptions:

1. In other than Group I-2, and Group I-1, Condition 2, smoke control is not required for *atriums* that connect only two *stories.*
2. A smoke control system is not required for *atriums* connecting more than two *stories* when all of the following are met:
   2.1. Only the two lowest *stories* shall be permitted to be open to the *atrium.*
   2.2. All *stories* above the lowest two *stories* shall be separated from the *atrium* in accordance with the provisions for a *shaft* in Section 713.4.
   2.3 The *atrium* does not contain any *means of egress* component above the two lowest stories.

Reason: Starting with the 2015 IBC, components of the means of egress system have been allowed to be in an atrium: 1019.3 Exception 5, 1023.2 Exception 2 (E139-12). It is important to note that the reason statement for change proposal E139-12 assumed that an atrium would be “protected by various active systems including … smoke control features.”

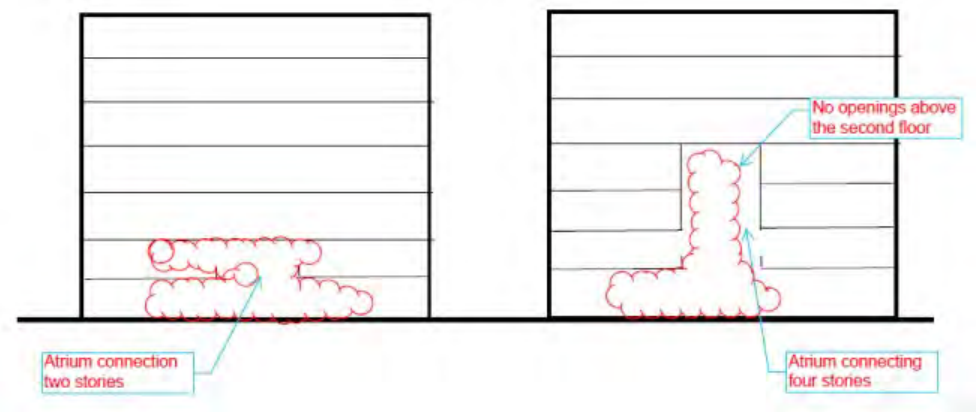
Later, the 2021 IBC introduced a revised Section 404.5 (G32-18) providing another exception allowing no smoke control for atriums taller than two stories.

The intent of the smoke control system (according to the G32-18 reason statement) is “to provide a tenable environment for the evacuation or relocation of occupants,” and to maintain “the height of the lowest horizontal surface of the smoke layer interface to at least 6 feet above any walking surface that forms a portion of a required egress system within the smoke zone.”

The proposed smoke control exception was envisioned to apply where “there are no walking surfaces in the atrium above the 2 lowest stories,” and “there are no operable windows or doors above the 2 lowest stories in the atrium.” (G32-18)

To guarantee of life safety, the proponent relied on the concept of a “smoke reservoir” according to the 2012 version of the proposal:

“In a simple 2-story atria smoke will migrate up through the atrium until it reaches the underside of the ceiling where then it will across the underside of the ceiling on the 2nd floor. By raising the “ceiling” of the atrium, a “smoke reservoir” is created where smoke will move into thus keeping the walking surfaces on the 1st, and more importantly the 2nd story, tenable for a longer period of time.” (G56-12)



Drawing from G56-12

The Committee Action modifications to the proposal in the 2018 cycle focused on the shaft construction and the relationship of atrium provisions to Sections 712 and 713 (a theme in that cycle). Unfortunately in this process a problem with Section 404 was overlooked: that separate provisions put both the means of egress and the smoke hazard within the same shaft/atrium enclosure.

The intent of this change proposal is to clarify that egress components cannot be located in the portion of an atrium that is intended to be used as a smoke reservoir.

Bibliography: Change proposal E139-12, ICC Public Hearing April – May 2012.

Change proposal G56-12, 2012 ICC Final Action Agenda.

Change proposal G32-18, 2018 Group A Committee Action Hearings.

Change proposal G32-18, 2018 Group A Public Comment Agenda.

Change proposal G35-18, 2018 Group A Committee Action Hearings.

Change proposal G35-18, 2018 Group A Public Comment Agenda.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The code never intended for an *interior exit stairway* to extend through a smoke reservoir. In spite of the recent code changes affecting atriums, their smoke control, their enclosure, and egress through them, this is still not allowed. Per IBC 1022.1: An *exit* shall not be used for any purpose that interferes with its function as a *means of egress*. And, an *exit access stairway* could not be used for egress through more than one adjacent story (1006.3.2) regardless of this code change.

G53-25

G54-25

IBC: 404.6

Proponents: Allen Burris, Clark County Nevada, representing Southern Nevada Chapter (allen.burris@clarkcountynv.gov); Jeffrey Grove, representing Southern Nevada ICC Chapter (jeff.grove@coffman.com)

2024 International Building Code

SECTION 404
ATRIUMS

Revise as follows:

404.6 Enclosure of atriums. *Atrium* spaces shall be separated from adjacent spaces by a 1-hour *fire barrier* constructed in accordance with Section 707 or a *horizontal assembly* constructed in accordance with Section 711, or both.

Exceptions:

1. A *fire barrier* is not required where a glass wall forming a *smoke partition* is provided. The glass wall shall comply with all of the following:
   1.1. *Automatic* sprinklers are provided along both sides of the separation wall and doors, or on the room side only if there is not a walkway on the *atrium* side. The sprinklers shall be located between 4 inches and 12 inches (102 mm and 305 mm) away from the glass and at intervals along the glass not greater than 6 feet (1829 mm). The sprinkler system shall be designed so that the entire surface of the glass is wet upon activation of the sprinkler system without obstruction.
   1.2. The glass wall shall be installed in a ~~gasketed~~ frame in a manner that limits the passage of smoke and allows the framing system ~~deflects~~ to deflect without breaking (loading) the glass before the sprinkler system operates.
   1.3. Where glass doors are provided in the glass wall, they shall be either *self-closing* or automatic-closing.
2. A *fire barrier* is not required where a glass-block wall assembly complying with Section 2110 and having a $^{3}/_{4}$-hour *fire protection rating* is provided.
3. A *fire barrier* is not required between the *atrium* and the adjoining spaces of up to three floors of the *atrium* provided that such spaces are accounted for in the design of the smoke control system.
4. In other than Group I-2 and Group I-1, Condition 2, a *fire barrier* is not required between the *atrium* and the adjoining spaces where the *atrium* is not required to be provided with a smoke control system.
5. In Group I-2 and Group I-1, Condition 2, a *fire barrier* is not required between the *atrium* and the adjoining spaces, other than care recipient sleeping or treatment rooms, for up to three *stories* of the *atrium* provided that such spaces are accounted for in the design of the smoke control system and do not provide access to care recipient sleeping or treatment rooms.
6. A *horizontal assembly* is not required between the *atrium* and openings for escalators complying with Section 712.1.3.
7. A *horizontal assembly* is not required between the *atrium* and openings for *exit access stairways* and *ramps* complying with Item 4 of Section 1019.3.

Reason: This code change proposal proposes to delete the word “gasketed”. The word gasketed does not allow for structural or wet-set glazed systems to be used. There are tested assemblies, even for rated glass, that do not have gaskets. For example, PLO/WA90-01 uses PVC tape, sealant, and angle stops. The frame is still being loaded but no gaskets are used. The current language is too restrictive on designers when there are proven technologies available that produce the same results but would address unique designs or systems not anticipated in the code.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal does not remove any existing options. It only adds options for the designer.

G54-25

G55-25

IBC: 404.6

Proponents: Jeffrey Grove, representing Southern Nevada ICC Chapter (jeff.grove@coffman.com); Allen Burris, Clark County Nevada, representing Southern Nevada Chapter (allen.burris@clarkcountynv.gov)

2024 International Building Code

SECTION 404
ATRIUMS

Revise as follows:

404.6 Enclosure of atriums. *Atrium* spaces shall be separated from adjacent spaces by a 1-hour *fire barrier* constructed in accordance with Section 707 or a *horizontal assembly* constructed in accordance with Section 711, or both.

Exceptions:

1. A *fire barrier* is not required where a glass wall forming a *smoke partition* is provided. The glass wall shall comply with all of the following:
   1.1. ~~*Automatic* sprinklers are~~ A separately zoned *automatic sprinkler system* is provided along both sides of the separation wall and doors, or on the room side only if there is not a walkway on the *atrium* side. The sprinklers shall be located between 4 inches and 12 inches (102 mm and 305 mm) away from the glass and at intervals along the glass not greater than 6 feet (1829 mm). The sprinkler system shall be designed so that the entire surface of the glass is wet upon activation of the sprinkler system without obstruction.
   1.2. The glass wall shall be installed in a gasketed frame in a manner that the framing system deflects without breaking (loading) the glass before the sprinkler system operates.
   1.3. Where glass doors are provided in the glass wall, they shall be either *self-closing* or automatic-closing.
2. A *fire barrier* is not required where a glass-block wall assembly complying with Section 2110 and having a $^{3}/_{4}$-hour *fire protection rating* is provided.
3. A *fire barrier* is not required between the *atrium* and the adjoining spaces of up to three floors of the *atrium* provided that such spaces are accounted for in the design of the smoke control system.
4. In other than Group I-2 and Group I-1, Condition 2, a *fire barrier* is not required between the *atrium* and the adjoining spaces where the *atrium* is not required to be provided with a smoke control system.
5. In Group I-2 and Group I-1, Condition 2, a *fire barrier* is not required between the *atrium* and the adjoining spaces, other than care recipient sleeping or treatment rooms, for up to three *stories* of the *atrium* provided that such spaces are accounted for in the design of the smoke control system and do not provide access to care recipient sleeping or treatment rooms.
6. A *horizontal assembly* is not required between the *atrium* and openings for escalators complying with Section 712.1.3.
7. A *horizontal assembly* is not required between the *atrium* and openings for *exit access stairways* and *ramps* complying with Item 4 of Section 1019.3.

Reason: This code change proposal requires a separately zoned sprinkler system when the design approach described in Exception No. 1 is used. This provides correlation with NFPA 13.

Cost Impact: Increase

Estimated Immediate Cost Impact:

The sprinklers and the sprinkler piping at the atrium enclosure are provided based upon current code language.

Increased costs could include the following:

- Additional dedicated main/line for the sprinklers (instead of sprinklers feeding from the adjacent system and branch lines)
- Additional system connection to the riser manifold.
- Additional valve for dedicated system.
- Additional testing for the dedicated system including commissioning and hydrostatic testing.

The added cost for each system would be approximately $2,500 - $5,000.

Estimated Immediate Cost Impact Justification (methodology and variables):

Cost estimate is based upon industry experience and interface with installing contractors.

G55-25

G56-25

IBC: 405.1

Proponents: Daniel Nichols, representing MTA Construction and Development (dnichols@mnr.org)

2024 International Building Code

SECTION 405
UNDERGROUND BUILDINGS

Revise as follows:

405.1 General. The provisions of Sections 405.2 through 405.9 apply to *building* spaces having a floor level used for human occupancy more than 30 feet (9144 mm) below the finished floor of the lowest *level of exit discharge*.

Exceptions: The provisions of Section 405 are not applicable to the following *buildings* or portions of *buildings*:

1. One- and two-family *dwellings*, sprinklered in accordance with Section 903.3.1.3.
2. Parking garages provided with *automatic sprinkler systems* in compliance with Section 405.3.
3. Fixed guideway transit and passenger rail systems.
4. *Grandstands, bleachers*, stadiums, arenas and similar *facilities*.
5. Where the lowest *story* is the only *story* that would qualify the *building* as an underground *building* and has an area not greater than 1,500 square feet (139 m^2) and has an *occupant load* less than 10.
6. Pumping stations and other similar mechanical spaces intended only for limited periodic use by service or maintenance personnel.

Reason: The term "fixed guideway transit systems" was the original name of NFPA 130, but was expanded in scope to include "passenger rail". This code change proposal matches the current title of the document that adequately reflects the same level of exemption needed in the IBC.

Bibliography: NFPA 130 - Fixed Guideway Transit and Passenger Rail Systems, 2023 edition

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is an editorial change to reflect the current title of the intended standard.

G57-25

IBC: SECTION 202, SECTION 202 (New), 406.2.7, 406.2.7.1 (New), 406.2.7.2 (New), 406.2.7.3 (New), 406.2.7.4 (New), 406.2.7.5 (New), 406.2.7.6 (New), UL Chapter 35 (New)

Proponents: Robert Davidson, Davidson Code Concepts LLC, representing Self (rjd@davidsoncodeconcepts.com); Robert Marshall, representing FCAC (fcac@iccsafe.org); Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

2024 International Building Code

SECTION 202
DEFINITIONS

Revise as follows:

[BG] ELECTRIC VEHICLE CHARGING STATION. One or more vehicle spaces served by an electric vehicle charging system equipment, electric vehicle supply equipment, electric vehicle power export equipment, or wireless power transfer equipment.

Add new definition as follows:

ELECTRIC VEHICLE POWER EXPORT EQUIPMENT (EVPE). The electrical equipment, including the outlet on the vehicle, that is used to provide electrical power at voltages equal to or greater than 30 volts AC or 60 volts DC to an external loads from the vehicle, where the vehicle is the source of supply.

SECTION 406
MOTOR-VEHICLE-RELATED OCCUPANCIES

Revise as follows:

406.2.7 Electric vehicle charging stations and systems. Where provided, *electric vehicle charging* ~~systems~~ *stations* shall ~~be installed in accordance with NFPA 70. Electric vehicle charging system equipment shall be *listed* and *labeled* in accordance with UL 2202. Electric vehicle supply equipment shall be *listed* and *labeled* in accordance with UL 2594. Accessibility to *electric vehicle charging stations* shall be provided in accordance with Section 1107~~comply with 406.2.7.1 through 406.2.7.6.

Add new text as follows:

406.2.7.1 Installation. *Electric vehicle charging stations* shall be installed in accordance with NFPA 70, the manufacturer's installation instructions, and the listing.

406.2.7.2 Equipment listings. Equipment used in electric vehicle charging stations shall be *listed* and *labeled* as applicable in accordance with the following:

1. Electric vehicle charging equipment in accordance with UL 2202.
2. Electric vehicle supply equipment in accordance with UL 2594.
3. Electric vehicle wireless power transfer equipment in accordance with UL 2750.

406.2.7.3 Electric vehicle power export equipment.. *Electric vehicle power export equipment* shall comply with Section 1208 of the *International Fire Code*.

406.2.7.4 Accessibility. Accessibility to electric vehicle charging stations shall be provided in accordance with Section 1107.

406.2.7.5 Disconnects. *Electric vehicle charging stations* shall be provided with electric vehicle disconnects and signage in accordance with Section 611 of the *International Fire Code* and NFPA 70.

406.2.7.6 Protection from vehicle impact damage. *Electric vehicle charging stations* shall be protected from vehicle impact damage in accordance with Section 312 of the *International Fire Code*.

Add new standard(s) as follows:

UL

UL LLC
333 Pfingsten Road
Northbrook, IL 60062

2750-2023 Wireless Power Transfer Equipment for Electric Vehicles

Reason: The purpose of this proposal is to provide clarity regarding locations where electric vehicles (EVs) are being charged.

The current Section 406.2.7 is broken down into separate subsections to address installation, listings, accessibility, disconnects, and vehicle impact protection. The requirements are not new, the purpose is to provide correlation pointers.
There are four types of equipment used for charging EVs:

1. EV charging system equipment (UL 2202) – conductive charging equipment is located off board of the EV.
2. EV power export equipment (UL 9741) - can be unidirectional or bidirectional. Unidirectional EVPE equipment exports power from the vehicle to an offboard load, such as a receptacle bank. Bidirectional equipment provides power to the vehicle for charging of the onboard battery, and exports power to the grid, premise or load, but export and charging do not occur at the same time.
3. EV supply equipment (UL 2594) - provide power to a charger that is on-board the EV.
4. EV wireless power transfer equipment (UL 2750) - infrastructure equipment (off board an EV) that transfers power to an EV through a magnetic resonance coupling between the off-board equipment and the EV.

The already code-defined term “electric vehicle charging station” best describes any location where the charging of EVs takes place.
The use of the term “electric vehicle charging system” does not encompass all four of the different types of equipment used.
New Section 406.2.7.1 – Equipment used in a EV charging station needs to be installed in accordance with NFPA 70, as well as with the manufacturer’s installation instructions and the listing.

New Section 406.2.7.2 – Clarifies the different equipment, and the listing requirements.
New Section 406.2.7.3 - EV power export equipment (EVPE) has additional requirements established by F175-24 in Group A.
New Section 407.2.5 – A new section 611 has been established in the IFC by F86-24 in Group A.
New Section 407.2.6 – Section 312 of the IFC has been updated by F45-24 in Group A to provide clarity on different methods for vehicle impact protection.

This proposal is submitted jointly by the ***ICC Building Code Action Committee (BCAC)*** and the ***ICC Fire Code Action Committee (FCAC)***.

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at **BCAC webpage**.

FCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 and early 2024 the FCAC has held several virtual meetings and one in-person meeting open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the **FCAC Website**

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There is no increase in construction costs of buildings with this change as it is an editorial and correlation proposal. It relies on requirements addressing these issues found within this code and the International Fire Code.

Staff Analysis: A review of the standard proposed for inclusion in the code, UL 2750-2023 Wireless Power Transfer Equipment for Electric Vehicles, with regard to some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April

1, 2025.

G57-25

G58-25

IBC: 406.2.7

Proponents: Donald Monahan, Parking-Xpert.com, LLC, representing National Parking Association (don.monahan@comcast.net); mary smith, Walker consultants, representing National Parking Association (msmith@walkerconsultants.com)

2024 International Building Code

SECTION 406
MOTOR-VEHICLE-RELATED OCCUPANCIES

Revise as follows:

406.2.7 Electric vehicle chargers ~~charging stations and systems~~. Where provided, electric vehicle chargers ~~charging systems~~ shall be installed in accordance with NFPA 70. DC EV chargers ~~electric vehicle charging systems~~ shall be listed and labeled in accordance with UL 2202. ~~Electric vehicle supply equipment~~ AC EV chargers shall be listed and labeled in accordance with UL 2594. Accessibility ~~of to electric vehicle charging stations'~~ EV charging spaces shall be provided in accordance with Section 1107.

Reason: The Access Board and others define STATIONS as a group of EV charging spaces in a defined area, not specifically to the charger, i.e., the operating device. The UL listings are only for the chargers and not the entire EVSE. UL 2022 is for DC chargers and UL 2594 is for AC chargers.

Bibliography: UL EV Charging Standards:
https://www.ul.com/insights/electric-vehicle-onboard-equipment-and-charging-infrastructure-standards?utm_mktocampaign=autobattery_autosbroad_p36d60&utm_mktoadid=694093073736&campaignid=21117929431&adgroupid=156893
lHiaznIUyKhgioF90xd471WvSY9DHuSljBKjIRnAXT7RRoCw5AQAvD_BwE

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal corrects the terminology used and does not affect the cost.

G58-25

G59-25

IBC: 406.3.1

Proponents: Steve Thomas, Shums Coda Associates, representing Colorado Chapter Code Development Committee (sthomas@coloradocode.net)

2024 International Building Code

SECTION 406
MOTOR-VEHICLE-RELATED OCCUPANCIES

Revise as follows:

406.3.1 Classification. *Private garages* and carports shall be classified as Group U occupancies. Each *private garage* shall be not greater than 1,000 square feet (93 m^2) in area. Multiple *private garages* are permitted in a *building* where each *private garage* is separated from the other *private garages* by 1-hour ~~*fire barriers*~~ *fire partitions* in accordance with Section ~~707~~ 708, or 1-hour *horizontal assemblies* in accordance with Section 711, or both.

Reason: This is a constructability issue. The current language requires fire barriers between private garages over 1,000 square feet. Fire barriers are required to extend from the foundation or floor to the underside of the floor/roof sheathing above. This becomes very difficult to do with trusses penetrating the fire barriers. There are not listed firestop systems for wood members penetrating a fire assembly. By changing the requirement to a fire partition, the wall can terminate at the bottom of a roof assembly having the same fire-resistance rating as the fire partition (one-hour). This eliminates the problems with the wood truss members penetrating the rated wall assembly. It is not that difficult to construct a one-hour fire-resistant roof assembly. The separtion between the separate spaces is still maintained but is easier to construct.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

It is not believed that there is any change in the cost of construction. It may actually reduce the cost since the contractor will not need to figure out how to address wood penetrations through a rated wall assembly. The cost of the firestopping is approximately the same as building the one-hour roof-ceiling assembly.

G59-25

G60-25

IBC: SECTION 202, 406.3.1, 406.3.1.1 (New)

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

2024 International Building Code

Revise as follows:

[BG] PRIVATE GARAGE. A *building* or portion of a *building* in which motor vehicles used by the *owner* or tenants of the *building* or *buildings* on the premises are stored or kept, without provisions for repairing or servicing such vehicles ~~for profit~~.

SECTION 406
MOTOR-VEHICLE-RELATED OCCUPANCIES

406.3.1 Classification. Individual ~~*Private*~~ *private garages, or multiple private garages,* and carports, shall be classified as Group U occupancies. ~~Each~~ A single *private garage* shall be not greater than ~~1,000~~ 3,000square feet (~~93~~ 279 m^2) in area and openings in fire barriers separating it from other garages shall not be permitted. Multiple *private garages* complying with Section 406.3.1.1are permitted. ~~in a *building* where each *private garage* is separated from the other *private garages* by 1-hour *fire barriers* in accordance with Section 707, or 1-hour *horizontal assemblies* in accordance with Section 711, or both~~.

Add new text as follows:

406.3.1.1 Multiple private garages. The combined building area of private garages shall not exceed the allowable area determined in in accordance with Section 506 and Section 508 as applicable. Multiple private garages are permitted in a building where all of the following requirements are satisfied.

1. Each private garage in a multiple private garage arrrangment shall have an area not greater than 1,000 square feet (93 m).
2. Each private garage shall be separated from the other private garages with1-hour fire barriers in accordance with Section 707, or 1-hour horizontal assemblies in accordance with Section 711, or both.
3. Private garages shall not be located in buildings including open or enclosed parking garages.
4. The combined building area of private garages shall not exceed the allowable area determined in in accordance with Section 506 and Section 508 as applicable.

Attached Files

- **Fire loss in the United States _ NFPA Research.pdf**
  https://www.cdpaccess.com/proposal/11076/35255/files/download/9213/
- **Car service vs repair.pdf**
  https://www.cdpaccess.com/proposal/11076/35255/files/download/9212/
- **2000 IBC Sect 406 private garages.pdf**
  https://www.cdpaccess.com/proposal/11076/35255/files/download/9202/
- **G68-21 private garages.pdf**
  https://www.cdpaccess.com/proposal/11076/35255/files/download/8927/
- **G59-12 private garages.pdf**
  https://www.cdpaccess.com/proposal/11076/35255/files/download/8925/

Reason: The proposed code change is submitted to address what may have been an error in the adoption of a significant reduction to the permitted area for private garages when amendments to the 2012 IBC were debated and ultimately approved in Portland. While not apparent then, code application for projects today reveals that what seemed to be a benign code change is placing significant burdens on small residential mixed-use projects and small non-residential projects incorporating private garages for their tenants.

The General Committee considered and disapproved code change G68-21 due an error in which the separation between garages was proposed. The committee did not appear to be opposed to the concept overall and the submitted public comment did not move forward at the Public Comment Hearings.

This code change seeks to make the following changes:

1. Allow one private garage having a maximum floor area of 3,000 sq ft in a building.
2. Prohibit openings through fire barriers serving other garages in the same building.
3. Allow multiple private garages to collectively exceed 3,000 sq ft as the code presently permits if they individually do not exceed 1,000 sq ft and if the total area complies with the allowable building area based on the type of construction.
4. For consistency with the 2000 IBC the definition for Private Garage is being modified to preclude all repair and service work.

The requirement in the 2012 IBC existed for decades under the legacy Uniform Building Code and was moved over into the 2000 IBC; additionally, the FSD rules for free standing group U occupancies at 5 feet for exterior walls and openings that existed under the UBC are the same as they are in the IBC where exterior wall and wall openings limitations stop at 5 feet for standalone group U private garages.

Many urban Cities in the United States, like San Diego, are working to solve housing affordability issues and encourage infill development to eliminate blight. Frequently these projects are proposed on constrained sites and on sites that previously accommodated one or two single family dwellings with alley access from a 15 ft or 20 ft wide alley. Additionally, and to encourage walkable communities zoning regulations require some street frontage of non-residential space so a token office or small retail space are incorporated. The proposed code change seeks to permit small projects to incorporate. private garages classified as Group U that have an area up to 3,000 sq ft as was the case prior to publication of the 2015 IBC. This code change will provide the following benefit:

- Will allow small parking garages to serve a mixed-use building without classifying the garage as Group S-2 public or open garages.
- Will prevent the need to divide up a small garage with fire barriers to satisfy the 1,000 sq ft area limit and require the installation of overhead rolling fire doors that will not be maintained.

Many of the proposed private garages need to exceed 1,000 sq ft to accommodate accessible parking, spaces with required electric vehicle chargers as well as residential and non-residential parking.

When parking requirements for residential and non-residential uses are compounded with required accessible parking spaces for both residential and non-residential uses as well as spaces for electric vehicle charging systems a small project has no room for the placement of the 1-hour fire barriers and as a result another option is necessary. Vehicle stacker lifts are becoming popular to accommodate small garages however accessible and EV parking cannot be stacked and drive aisles and turning spaces are also needed to access all three types of spaces. Consistent application of the code is not possible since a garage classified as Group S-2 does not require a separation from a private garage classified as Group U so applicants have separated private garages from one another with a 1-hour fire barrier and classified the drive aisle leading to those garages as Group S-2.The main reason that a Group U parking garage is desirable is that exterior wall opening area limitations applicable to S-2 enclosed parking garage are the type of construction limitations and fire separation distance limitations.

Code Change G59-12: The proposed code change provides a necessary update to the IBC to correct inadvertent issues that resulted from the adoption of G59-12 attached which was submitted by the Building Code Action Committee. The code changes revised Section 406 to complete regulations for private garages that somehow during the drafting of the 2000 IBC omitted necessary requirements for carports and the code change added definitions for private garages. Additionally, then Section 406.3.2 was deleted to not allows area increases to the then permitted 3,000 sq ft area limit. Section 406.3.1 was also revised to require a 1-hour fire barrier to separate private garages from one-another and most likely the building configuration envisioned was exterior driveways open to the sky providing access to a series of side by side double or tandem private garages that had direct/indirect access to dwelling units.

The 2000 IBC allowed the 3,000 sq ft limit and a copy of Section 406.3 is attached and while not defining Private Garage prohibits repair and fueling in Private Garages. Repair work is different from vehicle service such as an oil change so prohibiting repair work is reasonable since it is not expected that tenants or fleet owners will perform repairs, however oil changes and other miscellaneous service work that does not involve cutting, welding and using open flame is most like so whether repairs are paid for or not should not be

material to the use classification, furthermore it is not enforceable. An attachment is provided that includes a differentiation between vehicle repair and vehicle service.

The code changed lowered the area threshold to 1,000 from the 3,000 sq ft that has existed since the publication of the 1967 UBC but did not provide justification for why it was necessary to reduce the area from a fire risk perspective. The justification also discussed the area limit in the context of natural ventilation openings and cited Section 402.2 of the International Mechanical code that requires “The minimum openable area to the outdoors shall be 4 percent of the floor area being ventilated.” exterior openings. Furthermore, an additional general requirement in the charging Section 401.2 to the chapter
4 requires that “Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403.” If mechanical ventilation is not present the IMC requires natural ventilation for all uses and occupancies including private garages,
and as a result, there was no reason to reduce the area of garages due to ventilation concerns. The proposed code change results in an option to allow a larger private garage that has been 3,000 sq ft for more than 45 years with no known issues due CO exposure or fire hazards. Additionally, auto emissions have improved significantly over the past 50 years and the prevalence of electric vehicles and hybrid vehicles further reduces vehicle emissions. Hazards in garages due to CO occur during long term exposure and where there is a constant flow of motor vehicles like in the case for example of below ground garages in regional shopping malls. The hazards are primarily to the parking toll taker when not automated. Mixed use residential buildings are always protected at least with an NFPA 13-R system, and the garages are protected with an NFPA 13 compliant system, and this code change reasonably reinstates regulations that have existed for decades without lessening fire safety even with the increased hazards due to plastics in vehicles and difficulties in fighting fire in electric and hybrid vehicles due to batteries.

The NFPA report Fire Loss in the United States dated 10/31/24 shows a significant and steady decline of vehicle fire in structures, however when a vehicle fire spreads to a structure the data reports this with structure fires. A 40 ft by 75 ft Private Garage for example optimistically have room for 7 or 8 parking spaces *[20 ft wide drive aisle for backup, van accessible parking space and accessible EVCS space, seven 18 ft by 9 ft parking stalls]* without use of vehicle stackers. Proponent believes the 2012 IBC provided a reasonable level of safety when considering 3,000 sq ft garages include drive aisles and 1,000 sq ft ones do not.

We request that the Committee vote to approve this code change as submitted or as modified if it is deemed that the definition revision is not necessary.

Bibliography: Fire loss in the United States | NFPA Research

Cost Impact: Increase

Estimated Immediate Cost Impact:

This code change will reduce confusion and will reduce the cost of construction since office buildings include floors designed for 70 psf LL (office live load plus partition loads). Floor live load has changed over the decades, and since the legacy Uniform Building Code, and as a result the cost reduction is zero in an existing building since the floor will most likely be compliant with the proposed 60 psf live load. With the proposed live load existing and proposed floors will certainly more compliant than if the 100 pf live load required by the 2024 IBC is implemented; the 2024 IBC will require significant strengthening of the existing floor, or heavier framing for new floors. In an existing building this could cost $300,000 or more in a steel framed building or $100,000 to $200,000 in a wood framed building. In accordance with “Building Valuation Data – FEBRUARY 2024” for a Group B occupancy Type IA construction is 38% more costly than Type VA construction. Concrete buildings tend have floors with additional capacity since a large portion of the gravity load is the dead load due to the heavy weight of reinforced concrete. In a new building the cost increase will be 20% if constructed with structural steel and less if constructed with concrete since additional reinforcing and concrete may be required with roughly the same labor costs; if prestressed concrete it can assumed to be less costly than reinforced concrete since additional prestressing and slightly thicker slabs may be require.

Estimated Immediate Cost Impact Justification (methodology and variables):

Lower live load requires smaller floor framing and as a result reduces cost of compliance with the 2024 IBC. The costs include after hours work to access the underside of floors if tenant spaces below are occupied, removal and replacement of ceiling finishes and HVAC if any exists below the floor. If the floor is wood framed strengthening to comply with the 2024 IBC will be simpler than strengthening floors framed with structural steel framing due to the weight of framing materials and steel plates and the need for welding equipment to field welding to weld reinforcing plates. It is assumed that the cost is $300 per square foot under the 700 sq ft room above and accounting for framing that spans to receiving columns beyond the small assembly area.

G62-25

IBC: 406.3.1, 406.3.2

Proponents: David Renn, PE, SE, City and County of Denver, representing Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

2024 International Building Code

SECTION 406
MOTOR-VEHICLE-RELATED OCCUPANCIES

Revise as follows:

406.3.1 Classification. *Private garages* and carports shall be classified as Group U occupancies. Each *private garage* shall be not greater than 1,000 square feet (93 m^2) in area. Multiple *private garages* are permitted in a *building* where each *private garage* is separated from the other *private garages* by 1-hour *fire barriers* in accordance with Section 707, or 1-hour *horizontal assemblies* in accordance with Section 711, or both. For other than *private garages* separated from *dwelling units* they serve per Sections 406.3.2.1 and 406.3.2.2, multiple vehicle storage spaces separated with non-rated partitions are allowed within each *private garage*.

406.3.2 Separation. For other than *private garages* adjacent to *dwelling units*, the separation of *private garages* from other occupancies shall comply with Section 508. Separation of *private garages* from *dwelling units* they serve shall comply with Sections 406.3.2.1 and 406.3.2.2. Separation of *private garages* from other *dwelling units* shall comply with Sections 420.2 and 420.3.

406.3.2.1 Dwelling unit separation. The *private garage* shall be separated from the *dwelling unit* and its *attic* area by means of *gypsum board,* not less than $^1/_2$ inch (12.7 mm) in thickness, applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than a $^5/_8$-inch (15.9 mm) *Type X gypsum board* or equivalent and $^1/_2$-inch (12.7 mm) *gypsum board* applied to structures supporting the separation from habitable rooms above the garage. Door openings between a *private garage* and the *dwelling unit* shall be equipped with either solid wood doors or solid or honeycomb core steel doors not less than $1^3/_8$ inches (34.9 mm) in thickness, or doors in compliance with Section 716.2.2.1 with a *fire protection rating* of not less than 20 minutes. Doors shall be *self-closing* and self-latching.

406.3.2.2 Ducts. Ducts in a *private garage* and ducts penetrating the walls or ceilings separating the *dwelling unit* from the garage, including its *attic* area, shall be constructed of sheet steel of not less than 0.019 inch (0.48 mm) in thickness and shall not have openings into the garage.

Reason: Note that Sections 406.3.2.1 and 406.3.2.2 are provided for reference only - there are no changes proposed for these sections.

The separation requirements between a private garage and dwelling unit, given in Section 406.3.2.1 and 406.3.2.2, are identical to separation requirements between a garage and a dwelling unit in the International Residential Code. These separation requirements are less than the fire partition and horizontal assembly separations required by Sections 420.2 and 420.3 for typical separation between dwelling units and other occupancies. The lesser separation between a garage and a dwelling unit is allowed since the occupants of the dwelling unit have control over, and awareness of, what is stored in the garage. If a garage adjacent to a dwelling unit serves a different dwelling unit, this control and awareness is not provided, and separation should be as required for separation of a dwelling unit and another occupancy. We believe the current intent of the code is that the garage/dwelling unit separation requirements are for garages that serve the adjacent dwelling unit, and this proposal clarifies this. Separation of private garages adjacent to dwelling units they don't serve must still meet dwelling unit separation requirements of IBC 420.2 and 420.3, so a requirement to comply with these sections is included in this proposal.

Also, Section 406.3.1 allows private garages to be up to 1,000 SF in area, but it is not clear if this 1,000 SF can be subdivided with non-rated partitions to form separate vehicle storage spaces. Since the code doesn't prohibit these non-rated partitions, we believe the intent is to allow spaces separated with non-rated partitions within a private garage. However, when private garages serve dwelling units with the reduced separation allowed by Sections 406.3.2.1 and 406.3.2.2, it is appropriate to provide fire-resistance rated separations

between garages serving different dwelling units. This is due to the control and awareness issue mentioned above. This proposal clarifies that non-rated partition separations are allowed within a private garage except where the garages serve adjacent dwelling units.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Based on discussions with several jurisdictions, it is believed that most jurisdictions feel the private garage / dwelling unit separations in 406.3.2.1 and 406.3.2 are intended for garages adjacent to the unit they serve and are enforcing this accordingly. Therefore, this proposal is in line with the current intent and enforcement of the code, and provides clarification of this intent, so there will be no cost impact.

G62-25

G63-25

IBC: 406.5.8 (New), [F] 406.6.3, 406.6.4 (New)

Proponents: Robert Davidson, Davidson Code Concepts LLC, representing Self (rjd@davidsoncodeconcepts.com); Robert Marshall, representing FCAC (fcac@iccsafe.org); Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

2024 International Building Code

SECTION 406
MOTOR-VEHICLE-RELATED OCCUPANCIES

406.4 Public parking garages. Parking garages, other than *private garages*, shall be classified as public parking garages and shall comply with the provisions of Sections 406.2 and 406.4 and shall be classified as either an *open parking garage* or an enclosed parking garage. *Open parking garages* shall also comply with Section 406.5. Enclosed parking garages shall also comply with Section 406.6. See Section 510 for special provisions for parking garages.

406.5 Open parking garages. *Open parking garages* shall comply with Sections 406.2, 406.4 and 406.5.

Add new text as follows:

406.5.8 Automatic Sprinkler system. An open parking garage shall be equipped with an automatic sprinkler system as required by Sections 903.2.10 through 903.2.10.3.

406.6 Enclosed parking garages. Enclosed parking garages shall comply with Sections 406.2, 406.4 and 406.6.

Revise as follows:

[F] 406.6.3 Automatic sprinkler system. An enclosed parking garage shall be equipped with an *automatic sprinkler system* in accordance with Section 903.2.10 through 903.2.10.3.

Add new text as follows:

406.6.4 Standpipe system. An enclosed parking garage shall be equipped with a standpipe system as required by Section 905.3.

Reason: The purpose of this proposal is to provide guidance to users of the International Building Code by adding correlation language linking to existing protection requirements.

The new Section [F] 406.5.8 was added by proposal F97-24 during the Group A hearings, however it only pointed to one of 4 separate sections containing suppression triggers. The phrase "through 903.2.10.3" has been added to pick up all of the triggers.

This proposal is submitted jointly by the ***ICC Building Code Action Committee (BCAC)*** and the ***ICC Fire Code Action Committee (FCAC)***.

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at **BCAC webpage**.

FCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 and early 2024 the FCAC has held several virtual meetings and one in-person meeting open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the **FCAC Website**

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There is no increase in construction costs of buildings with this change as it is a correlation proposal. It relies on requirements addressing these issues found within this code and the International Fire Code.

G63-25

G64-25

IBC: SECTION 202 (New), 406.2.7, UL Chapter 35 (New)

Proponents: Jonathan Roberts, representing UL Solutions (jonathan.roberts@ul.com)

2024 International Building Code

Add new definition as follows:

ELECTRIC VEHICLE POWER EXPORT EQUIPMENT (EVPE). The electrical equipment, including the outlet on the vehicle, that is used to provide electrical power at voltages equal to or greater than 30 volts AC or 60 volts DC to an external loads from the vehicle, where the vehicle is the source of supply.

SECTION 406
MOTOR-VEHICLE-RELATED OCCUPANCIES

Revise as follows:

406.2.7 Electric vehicle charging stations and systems. Where provided, electric vehicle charging systems shall be installed in accordance with NFPA 70. Electric vehicle charging system equipment shall be *listed* and *labeled* in accordance with UL 2202. Electric vehicle supply equipment shall be *listed* and *labeled* in accordance with UL 2594. *Electric vehicle power export equipment* shall be *listed* and *labeled* in accordance with UL 9741. Accessibility to *electric vehicle charging stations* shall be provided in accordance with Section 1107.

Add new standard(s) as follows:

UL

UL LLC
333 Pfingsten Road
Northbrook, IL 60062

9741-2023 Electric Vehicle Power Export Equipment (EVPE)

Reason: Electric vehicle power export equipment (EVPE) is a new trend to use an electric vehicle to provide power to the building. EVPE can be unidirectional or bidirectional. Unidirectional equipment exports power from the vehicle to an offboard load, such as a receptacle bank. Bidirectional equipment provides power to the vehicle for charging of the onboard battery, and exports power to the grid, premise or load, but export and charging do not occur at the same time. There are three manufacturers with listed equipment.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The cost for obtaining listed EV power export equipment may or may not represent increased product costs over obtaining non-listed equipment that have not been independently investigated to applicable standards for determining product safety and performance.

Obtaining and maintaining a listing for EV power export equipment involves both product investigation costs and costs for periodic inspection of production, as required by the definition of “listed”. However, the impact of any potential cost increase can be weighed by the code development committee against the user and code official safety benefits derived from requiring listed equipment, as well as the additional benefit of less effort needed to demonstrate or determine compliance.

Staff Analysis: A review of the standard proposed for inclusion in the code, UL 9741-2023 Electric Vehicle Power Export Equipment (EVPE), with regard to some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025.

G65-25

IBC: 406.3.2.1

Proponents: Tim Earl, GBH International, representing the Gypsum Association (tearl@gbhint.com)

2024 International Building Code

SECTION 406
MOTOR-VEHICLE-RELATED OCCUPANCIES

Revise as follows:

406.3.2.1 Dwelling unit separation. The *private garage* shall be separated from the *dwelling unit* and its *attic* area by means of *gypsum board,* not less than $^{1}/_{2}$ inch (12.7 mm) in thickness, applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than a $^{5}/_{8}$-inch (15.9 mm) *Type X gypsum board* or other material with a 40-minute *fire-resistance rating* ~~equivalent~~ and $^{1}/_{2}$-inch (12.7 mm) *gypsum board* applied to structures supporting the separation from habitable rooms above the garage. Door openings between a *private garage* and the *dwelling unit* shall be equipped with either solid wood doors or solid or honeycomb core steel doors not less than $1^{3}/_{8}$ inches (34.9 mm) in thickness, or doors in compliance with Section 716.2.2.1 with a *fire protection rating* of not less than 20 minutes. Doors shall be *self-closing* and self-latching.

Reason: Type X gypsum board is a special type of gypsum panel product with core additives to increase fire resistance (in accordance with applicable ASTM standards). Proving equivalency to Type X is not straightforward, and there is no known alternative to it. When we conducted an informal poll of code users, many of the answers to the question “What do you consider equivalent to Type X gypsum board” were alarming.

Although nothing is exactly “equivalent” to Type X gypsum board, the primary property of interest is fire-resistance. The IBC assigns a fire-resistance rating of 40 minutes for type X board in vertical assemblies as part of the calculated method. Allowing any material with the same calculated fire-resistance rating in this application is a reasonable substitution. Beyond that, alternate materials should be approved as specified in Section 104.11, which was comprehensively revised last cycle.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

None. Anyone wishing to use an alternate material can still do so in accordance with Section 104.11.

G65-25

G66-25

IBC: 406.5.1, 406.6.1 (New), 406.6.4.1

Proponents: Bill McHugh, CM Services, Inc., representing National Fireproofing Contractors Association (bill@mc-hugh.us)

2024 International Building Code

SECTION 406
MOTOR-VEHICLE-RELATED OCCUPANCIES

406.5 Open parking garages. *Open parking garages* shall comply with Sections 406.2, 406.4 and 406.5.

Revise as follows:

406.5.1 Construction. *Open parking garages* shall be of Type I, II or IV construction. *Open parking garages* shall meet the design requirements of Chapter 16.*Open parking garage* floor assemblies shall provide a *fire-resistance rating* of not less than 4 hours. Separations from the parking garage to other occupancies and to *shaft enclosures* shall be constructed to provide a 4 hour *fire-resistance rating.*For *vehicle barriers*, see Section 406.4.2.

406.6 Enclosed parking garages. Enclosed parking garages shall comply with Sections 406.2, 406.4 and 406.6.

Add new text as follows:

406.6.1 Construction. Enclosed parking garage floor assemblies shall provide a *fire-resistance rating* of not less than 4 hours. Separations from the parking garage to other occupancies and to *shaft enclosures* shall be constructed to provide a 4 hour *fire-resistance rating.*

Revise as follows:

406.6.4.1 Separation. *Mechanical-access enclosed parking garages* shall be separated from other occupancies and accessory uses by not less than 4 ~~2~~ hour *fire barriers* constructed in accordance with Section 707 or by not less than 4~~2~~ hour *horizontal assemblies* constructed in accordance with Section 711, or both.

Reason: The purpose of this code proposal is to address the risks present in parking garages. Whether it is an internal combustion engine, or battery technology power in vehicles, all are now in structures. Most cars now have plastic gas tanks as well as much more plastics than in previous decades. There are lithium ion and other types of batteries in cars, along with a host of combustibles.

The proposal increases fire-resistance ratings to 4 hours for parking garages. The 4 hours is the highest practical fire-resistance-rating that exists for most common construction building elements. Four hours is also the fire-resistance rating that current fire-resistance-rated assembly breach / opening / penetration / joint protection items such as fire-dampers, firestopping, fire rated doors, can provide for fire-resistance continuity.

We have no idea when an electric vehicle powered by Lithium-ion or any other type of batteries, in addition to internal combustion engine, or hybrid will arrive at a parking garage.

Preventing fire spread into areas where people are located, and protecting the structure against collapse in parking garages, is critical to safety and resilience. More importantly, the people living or working upstairs from the parking garage need protection. The structure needs to withstand the longer fire-duration that internal combustion engines, Lithium ion or other type of battery fires might bring to these structures.

Fighting parking garage fires can be extremely difficult due to access, and other factors. This is especially when battery powered electric vehicles are involved. We understand the water required to keep certain types of batteries cool during thermal runaway is massive. Moving the vehicle outside the garage for burnout might not be an option in parking garages where exits can be a long way away, or on another floor.

Protect these garages with 4 hour fire-resistance ratings. It is the best the fire-resistance industry can offer for the building occupants safety.

Cost Impact: Increase

Estimated Immediate Cost Impact:

This proposal will increase the cost of construction of the floor assembly, horizontal assembly, wall assembly and breach protection by approximately 25% - 40% of only the assemblies required to have the increased fire-resistance rating. The cost will be absorbed into the rest of the building's cost of construction as not every floor or wall above the parking garage needs to be fire-resistance rated.

The approximate cost addition is as follows:

- Shafts for elevators, stairwells with doors - Approx. 40-50 cents per sf of floor area (Approx. 2 stairwells, elevator, 2 mechanical shafts, or trash/other purposed shafts).
- Fireproofing - Approx. $0.75-1.00 per sf of floor area.

There is a new innovation in gypsum panels reducing labor costs for a 4-hour fire-resistance-rated assembly.

Estimated Immediate Cost Impact Justification (methodology and variables):

The protection is justified because the assemblies are supporting parking garages and buildings. Offices, apartments, condos, etc. above these parking garages assume they are safe.

Estimated Life Cycle Cost Impact:

Maintaining protection of a 4 hour fire-resistance-rated assembly is no different than a 2 hour fire-resistance-rated assembly. There should be no increase in cost of maintaining protection for the building life cycle.

G66-25

G67-25

IBC: SECTION 202 (New), 406.5.2.2 (New)

Proponents: Jeffrey Grove, representing Southern Nevada ICC Chapter (jeff.grove@coffman.com); Allen Burris, Clark County Nevada, representing Southern Nevada Chapter (allen.burris@clarkcountynv.gov)

2024 International Building Code

Add new definition as follows:

VENTILATION WELL. A vertical open area bound on all sides by walls and used to provide natural ventilation with an unobstructed opening to sky at the top.

SECTION 406
MOTOR-VEHICLE-RELATED OCCUPANCIES

Add new text as follows:

406.5.2.2 Opening above grade. When *ventilation wells* are used to satisfy natural ventilation requirements for *open parking garages*, the width of the ventilation well opening to sky shall be one and one-half times the height of the adjacent structure to the bottom of the lowest required opening. The minimum required width of the *ventilation well* shall be maintained for not less than the length of the required openings.

Exception: The *ventilation well* opening width is not restricted if any of the following are met or provided:

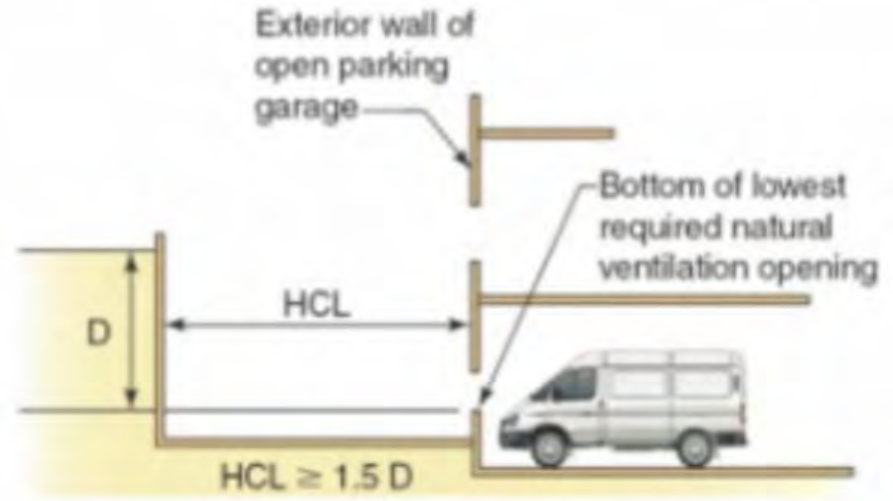
1. Supplemental mechanical ventilation meeting the requirements of Section 406.6.2 is provided for the *open parking garage*.
2. Where *approved* by the *building official*, an engineering analysis proving equivalent natural ventilation requirements are met.

Attached Files

- **ventilation well exhibit.pdf**
  https://www.cdpaccess.com/proposal/12138/35857/files/download/9439/

Reason: There is no definition in the building code for the vertical, open to air shafts used for natural ventilation. This type of a feature is being proposed with increased frequency. The definition helps alleviate wording complexity in the proposed section and allows for future use in the code.

Because permanently open exterior walls provide sufficient natural ventilation and permit the dissipation of heated gasses, open parking garages are viewed as a relatively low hazard. However, there are situations where the required openings are located within ventilation wells that are significantly below the roof levels of the parking garage and adjacent buildings, which makes it more difficult to provide the necessary openness required for good performance. A clear horizontal space as described by this section and the openings below grade section (406.5.2.1) must be provided by the ventilation well's opening to the sky. As the distance of the openings below the adjoining roof level increases, the minimum required width of the ventilation well opening also increases proportionally. The dimensional requirements are based on the provisions of Section 1202.5.1.2 for openings below grade. The extent of the required clear space allows for adequate ventilation well open space to meet the intent and dynamics of natural ventilation requirements for open parking garages.The dimensional requirements do not need to be met if sufficient mechanical ventilation is provided as required for enclosed parking garages in Section 406.6.2. This allows the garage to meet the requirements of an opening parking garage without having to comply with all the enclosed parking garage requirements. In addition, an engineering analysis can be provided to demonstrate the natural ventilation performance is sufficient.



Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This code change proposal provides guidance on how to address ventilation of open parking garages with the usage of ventilation wells.

G67-25

G68-25

IBC: 407.2.1 (New), 420.9.1 (New), 420.11.2 (New), 422.7.1 (New), UL Chapter 35 (New)

Proponents: Jonathan Roberts, representing UL Solutions (jonathan.roberts@ul.com)

2024 International Building Code

SECTION 407
GROUP I-2

Add new text as follows:

407.2.1 Ignition prevention. Electric cooktops and ranges shall include heating elements that have been tested and *listed* in accordance with UL 858 to prevent ignition of cooking oil.

SECTION 420
GROUPS I-1, R-1, R-2, R-3 AND R-4

420.9.1 Ignition prevention. Electric cooktops and ranges shall include heating elements that have been tested and *listed* in accordance with UL 858 to prevent ignition of cooking oil.

420.11.2 Ignition prevention. Electric cooktops and ranges shall include heating elements that have been tested and *listed* in accordance with UL 858 to prevent ignition of cooking oil.

SECTION 422
AMBULATORY CARE FACILITIES

422.7.1 Ignition prevention. Electric cooktops and ranges shall include heating elements that have been tested and *listed* in accordance with UL 858 to prevent ignition of cooking oil.

Add new standard(s) as follows:

UL

UL LLC
333 Pfingsten Road
Northbrook, IL 60062

858-2014 Household Electric Ranges - with revisions through August 2023

Reason: This proposal correlates these IBC sections with appliance requirements approved in the IFC Group A along with the current requirements for electric cooktops and ranges in IRC M1503.2, IRC M1901.2, and IMC 917.1. The IRC and IMC already require the appliance to be listed and labeled to UL 858.

The latest edition of UL 858 includes the testing requirement for the heating elements to prevent cooking oil ignition.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Editorial only and aligns with other changes within the body of the codes.

Staff Analysis: UL 858-2014 Household Electric Ranges is currently referenced in the IRC and IMC.

G69-25

IBC: 408.9, SECTION 202 (New)

Proponents: Crystal Sujeski, representing CAL FIRE/Office of the State Fire Marshal (crystal.sujeski@fire.ca.gov)

2024 International Building Code

SECTION 408
GROUP I-3

Delete and substitute as follows:

~~**408.9 Windowless buildings.** For the purposes of this section, a windowless *building* or portion of a *building* is one with nonopenable windows, windows not readily breakable or without windows. Windowless *buildings* shall be provided with an engineered smoke control system to provide a tenable environment for exiting from the *smoke compartment* in the area of fire origin in accordance with Section 909 for each windowless *smoke compartment*.~~

408.9 Tenable Environment. Areas occupied by residents for sleeping of Conditions 3, 4 and 5 shall be provided with a smoke control system in accordance with Section 909 to provide a tenable environment for exiting from the smoke compartment in the area of fire origin. No venting or smoke control is required when an engineering analysis in accordance with Section 909.4 shows an acceptable safe egress time compared to the onset of untenable conditions within the smoke compartment.

Add new definition as follows:

TENABLE ENVIRONMENT. An environment in which the products of combustion, toxic gases, smoke and heat are limited or otherwise restricted to maintain the impact on occupants to a level that is not life threatening.

Reason: The proposed changes integrate the intent of the code.

The intent of 408.9 model code as described in the 2021 IBC Code and Commentary – “An engineered smoke control system through which the products of combustion can be vented is required for smoke compartments in which there are no openings. The smoke control system is to provide a tenable environment during the period it takes the occupants to egress from a smoke compartment that is the area of fire origin”.

The code language uses the term of “Windowless”, where a windowless building or portion of a building is one with nonopenable windows, windows not readily breakable or without windows. However, the California State Fire Marshal (SFM) task group noticed the code language for “Windowless” is only defined in 408.9 and there are no prescriptive design requirements for number, location and size of openable windows or the maximum time duration of “readily breakable” for security window/s, and/or specific documentation requirements that the openable windows or readily breakable windows will create a tenable environment within the smoke compartment.

Pending the size, volume and configuration of the smoke compartment, to include the number of housing pods within the a compartment (most housing pods are typically separated between each other with Type 1 construction materials) – no documentation or analysis has been required in the code language to show the smoke compartment complies as a tenable environment – with or without windows.

This proposed new language will mandate I-3 occupancies with sleeping areas within any smoke compartments to provide required supplemental documentation / engineering analysis (909.4) showing the smoke compartment will have a Tenable Environment **or** provide an engineered smoke control system.

The proposal can clarify design flexibility, since the design could use operable openings / vents, or no openings where there are high ceiling areas, that can bank the smoke. This proposal removes the term “Windowless” and inserts the Definition of *Tenable Environment*.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There should be no increase in building cost. However, there has been a schedule impact during agency review because the current requirements are not clear. These clarifications should streamline review of detention facilities which may result in some cost savings due to reduced plan review time.

G69-25

G70-25

IBC: 408.9

Proponents: Gabriel Levy, incandescence life safety, inc, representing Colorado Chapter Code Development Committee (glevy@incandescencels.com)

2024 International Building Code

SECTION 408
GROUP I-3

408.9 Windowless buildings. For the purposes of this section, a windowless *building* or portion of a *building* is one with nonopenable windows, windows not readily breakable or without windows. Windowless *buildings* shall be provided with an engineered smoke control system to provide a tenable environment for exiting from the *smoke compartment* in the area of fire origin in accordance with ~~Section 909~~ NFPA 92 for each windowless *smoke compartment*.

Reason: IBC 909 mandates minimum design standards for smoke control systems. However, imposing prescriptive requirements contradicts the concept of an "engineered" system. This requirement is most applicable for smoke exhaust in a multi-story prisons with large atrium-style shared cores. However, many detention facilities do not use this configuration. In a single-story facility with holding cells that have a ceiling height of only 10-12 feet, it is not feasible to provide a smoke exhaust system that meets all prescriptive requirements of IBC 909 (namely, maintaining a smoke layer 6 feet above the walking surface). Without a substantial ceiling height, turbulence and mixing will disrupt the development of a consistent smoke layer boundary.

A performance-based approach, which can account for various architectural configurations, is more suitable for designing some smoke control systems. Unfortunately, IBC 909 does not accommodate this. NFPA 92, a well-established standard already referenced in the IBC, offers a more robust framework for smoke control system design, aligning with industry best practices and engineering principles.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The change proposal is editorial in nature and has no cost impact on the cost of construction for windowless buildings or smoke control.

G70-25

G71-25

IBC: 408.9

Proponents: Gabriel Levy, incandescence life safety, inc, representing Colorado Chapter Code Development Committee (glevy@incandescencels.com)

2024 International Building Code

SECTION 408
GROUP I-3

Revise as follows:

408.9 ~~Windowless buildings~~Smoke control system. ~~For the purposes of this section, a windowless *building* or portion of a *building* is one with nonopenable windows, windows not readily breakable or without windows. Windowless *buildings*~~Detention areas without operable exterior wall openings shall be provided with an engineered smoke control system to provide a tenable environment for exiting from the *smoke compartment* in the area of fire origin in accordance with Section 909 for each ~~windowless~~ *smoke compartment*.

Reason: Sections 408.10 and 408.11 are titled 'Fire alarm system' and 'Automatic sprinkler system', respectively. To maintain consistency, Section 408.9 should be titled 'Smoke control system'.
The first sentence of this section provides a definition, which is inconsistent with IBC formatting. If provided, the definition should be in Section 202, not as an introduction to the requirement. Furthermore, the definition is entirely contradictory to common sense. According to the existing definition, a "windowless building" does not have to be a building, nor does it have to be windowless. To remove this confusion, the definition is struck entirely from this section. The requirement is only applicable in I-3 buildings, and is intended to apply to portions of a building where occupants are incapable of self preservation. Therefore, "detention areas" is used to indicate that the requirement exists where egress is restricted.

The commentary states that "the intent of this section is that staff must have some means to ventilate the products of combustion; therefore, where the window cannot be broken by items readily available to the staff, the area is considered windowless." It is undesirable to design breakable-glass in a detention facility. However, it is not uncommon to see doors from a communal day room which open to a secured exterior court. Opening such as an exterior door should be considered equivalent to breaking a window for ventilation purposes. However, because a door is not a window, it does not apply to the existing code language. Therefore "without operable exterior wall openings" is used to allow for better configurations, rather than breaking a window.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The cost of a door is negligible compared to the cost of a window in the scale of a prison's cost of construction.

G72-25

IBC: 410.2.5.1 (New)

Proponents: Jeffrey Grove, representing Southern Nevada ICC Chapter (jeff.grove@coffman.com); Allen Burris, Clark County Nevada, representing Southern Nevada Chapter (allen.burris@clarkcountynv.gov)

2024 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Add new text as follows:

410.2.5.1 Activation. When provided, a proscenium curtain shall be activated by manual emergency operation, fusible link, ultra-fast rate-of-rise heat detection installed in accordance with Section 907.3, or signal of water flow from any automatic sprinkler system covering the stage as required by Section 410.6.

Reason: The 2006 IBC had an activation sub-section to Section 410.3.5. However, this and other proscenium curtain subsections were removed during the 2009 code cycle when the addition of NFPA 80 entered the main Section 410.3.5. The reference to NFPA 80 for all requirements regarding a proscenium fire curtain; however, would not directly apply to activation for the other elements of proscenium protection at the stage opening.

NFPA 80 (2022 edition), Section 20.7.3.1 states “The fire safety curtain assembly shall be activated by manual emergency operation and rate-of-rise heat detection located above the stage.” There is no guidance as to the design requirements for rate-of-rise detection in the IBC, NFPA 72, or NFPA 80 (e.g., full coverage on stage or just a line of detectors at the opening).

The proposed activation subsection seeks to detail the options for activation of the physical proscenium opening and not have designers, engineers, or AHJ having to work through separate standards. NFPA 80 discusses manual and heat detection requirements; however, does not detail fusible links or sprinkler systems in the same area. Additionally, NFPA 80 references an FM Data Sheet in the heat detectors. The addition aims to incorporate multiple activation items for the release of a curtain or horizontal sliding door providing the physical separation between the stage and audience. Any required fire suppression, fire detection, and / or smoke control systems activation would be based on further engineering determination.

The code change proposal is necessary to clarify the intent of the codes (i.e., address the lack of guidance regarding prescriptive activation devices).

It should be noted that these requirements have been implemented in multiple theaters across Southern Nevada area since the adoption of the 2012 IBC to provide acceptable requirements for the activation of the proscenium curtain.

Bibliography: NFPA 80, Standard for Fire Doors and Other Opening Protectives, 2022 Edition.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This code change proposal provides additional guidance as to the means of activation of the proscenium curtain and therefore does not have an impact to the cost of construction.

G73-25

IBC: SECTION 202, 410.1, 410.2, 410.2.1, 410.2.3, 410.2.4, 410.2.5, 410.4 (New), 410.4.1 (New), 410.5 (New), 410.5.1 (New), 410.5.2 (New), 410.5.3 (New)

Proponents: William Conner, representing American Society of Theatre Consultants (bill@bcaworld.com)

2024 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Revise as follows:

410.1 Applicability. The provisions of Sections 410.1 through 410.15 ~~410.7~~ shall apply to ~~all~~ those parts of *buildings* and *structures* that contain *stages and technical production areas* ~~or platforms and similar appurtenances as herein defined~~.

Add new text as follows:

410.4 Stage construction. Type A *stages* with a stage area of 5000 square feet (464 m^2) or less and a stage height of 50 feet (15.24 m) or less and all Type B *stages* shall be of the construction type as required for the occupancy. Type A *stages* with a stage area greater than 5000 square feet (464 m^2) or a stage height greater than 50 feet (15.24 m) shall be of Type I, II, or IV construction.

410.4.1 Structural framing. Beams installed only for the attachment of portable or fixed stage equipment shall be permitted to be without a fire-resistance rating in all construction types.

410.5 Stage fire area. *Stages*, contiguous audience areas, and contiguous backstage and support areas not separated from the performance area by fire-resistance-rated construction shall be separated from the rest of the building where required in Sections 410.7.1 through 410.7.3. Separation shall be by fire barriers or horizontal assemblies, or both.

410.5.1 Two hour separation at Type A stages. Fire areas with Type A stages serving an audience occupant load greater than 300 and with a stage area greater than 5000 square feet (464 m^2) or a stage height greater than 50 feet (15.24 m) shall be separated from the rest of the building by construction with a two hour fire-resistance rating.

410.5.2 One hour separation at Type A stages. Fire areas with Type A stages with a stage area greater than 2500 square feet (232.25 m^2) or a stage height greater than 30 feet (9.14 m) or serving an audience occupant load greater than 1000 shall be separated from the rest of the building by construction with a one hour fire-resistance rating.

410.5.3 One hour separation at Type B stages. Fire areas with Type B stages with a stage area greater than 2500 square feet (232.25 m^2) or serving an audience occupant load greater than 2000 shall be separated from the rest of the building by construction with a one hour fire-resistance rating.

Delete without substitution:

~~**410.2 Stages.** *Stage* construction shall comply with Sections 410.2.1 through 410.2.7.~~

~~**410.2.1 Stage construction.** *Stages* shall be constructed of materials as required for floors for the type of construction of the *building* in which such *stages* are located.~~

~~**Exception:** *Stages* need not be constructed of the same materials as required for the type of construction provided that the construction complies with one of the following:~~

1. *Stages* of Type IIB or IV construction with a nominal 2-inch (51 mm) wood deck, provided that the *stage* is separated from other areas in accordance with Section 410.2.4.

2. In *buildings* of Type IIA, IIIA and VA construction, a fire-resistance-rated floor is not required, provided that the space below the *stage* is equipped with an *automatic sprinkler system* or *fire-extinguishing system* in accordance with Section 903 or 904.

3. In all types of construction, the finished floor shall be constructed of wood or *approved* noncombustible materials. Openings through stage floors shall be equipped with tight-fitting, solid wood trap doors with *approved* safety locks.

410.2.3 Exterior stage doors. Where protection of openings is required, exterior *exit* doors shall be protected with *fire door assemblies* that comply with Section 716. Exterior openings that are located on the *stage* for *means of egress* or loading and unloading purposes, and that are likely to be open during occupancy of the theater, shall be constructed with vestibules to prevent air drafts into the auditorium.

410.2.4 Proscenium wall. Where the stage height is greater than 50 feet (15 240 mm), all portions of the *stage* shall be completely separated from the seating area by a proscenium wall with not less than a 2-hour fire-resistance rating extending contiuously from the foundation to the roof.

Exception: Where a *stage* is located in a *building* of Type I construction, the proscenium wall is permitted to extend continuously from a minimum 2-hour fire-resistance-rated floor slab of the space containing the *stage* to the roof or a minimum 2-hour fire-resistance-rated floor deck above.

410.2.5 Proscenium curtain. Where a *proscenium wall* is required to have a *fire-resistance rating*, the *stage* opening shall be provided with a fire curtain complying with NFPA 80, horizontal sliding doors complying with Section 716 having a *fire protection rating* of not less than 1 hour, or an *approved* water curtain complying with Section 903.3.1.1 or, in *facilities* not utilizing the provisions of *smoke-protected assembly seating* in accordance with Section 1030.6.2, a smoke control system complying with Section 909 or natural *ventilation* designed to maintain the smoke level not less than 6 feet (1829 mm) above the floor of the *means of egress*.

[BG] PROSCENIUM WALL. The wall that separates the *stage* from the auditorium or assembly seating area.

Reason: This proposal is submitted on behalf of the American Society of Theatre Consultants. https://theatreconsultants.org/

This proposal along with the related proposal on definitions recognizes the changes in design of stages and auditoriums since the 19th century, and replaces the untested and ineffective separation of the stage from the auditorium. We set out with the two main goals: (1) to clarify the types of stages and to establish clear thresholds for when various additional features for fire protection; and (2) to replace the separation between stage and audience with a separation between the stage and audience combined and the rest of the building.

The proposed definitions are in a separate closely related proposal as follows:

[BG] STAGE. A space within a building utilized for entertainment or presentations, which includes overhead hanging curtains, drops, scenery or stage effects other than lighting, and sound, projections, and video display and the mounting provisions for them.

Type A stage. A stage that is designed and constructed for use with curtains and stage scenery.

Type B stage . A stage that is designed and constructed for use without curtains and stage scenery.

STAGE SCENERY. The constructed scenes or hangings used on a stage to form a theater set.

Note that furniture is not scenery. Flipcharts, tripods, podiums, lecterns, music stands, portable projection screens, tables with objects, luggage, appliances, machines, etc. also, not scenery. Scenery are walls and ceilings and large three-dimensional objects and drops typically built with combustible materials for a stage setting. Hard to put in definition but we will suggest code commentary text and hope that will be sufficient.

SUMMARIZING PROPOSED REQUIREMENTS FOR TYPE A AND TYPE B STAGES:

For a Type A stage with a maximum stage area of 2500 sf and a maximum stage height of 30' and serving a maximum audience

occupancy of 1000 seats, no additional features of fire protection are required beyond that which is required for the occupancy, probably A-1. 50 x 50 or 100 x 25 and 30' high is a pretty decent size stage for a cafeteria, gym, or a banquet hall; a flexible theatre up to 70' x 70' x 30'.

For a Type A stage with a maximum stage area of 5000 sf or a maximum stage height of 50' or serving a maximum audience occupancy of 1000, a 1-hour separation of stage and auditorium together from rest of building is required.

For a Type A stage serving an audience occupancy of over 300 and a stage area over 5000 sf or stage height over 50', a 2-hour separation of stage and auditorium together from rest of building is required and in addition it shall be of types 1, 2, or 4 construction.

In addition for a Type A Stage serving an audience occupancy of over 300 and with either a stage area over 2500 sf or a stage height over 30' shall be vented.

For a Type B with a maximum stage area of 2500 sf and serving a maximum audience occupancy of 2000, no additional features of fire protection are required beyond that which is required for the occupancy, probably A-1. Therefor, a traditional raised or not raised floor area at the front of a church or lecture hall or in a music only recital or concert hall are Type B stages.

For a Type B stage a stage area over 2500 sf or serving an audience occupancy over 2000, a 1-hour separation of stage and auditorium together from rest of building is required.

Furniture is not scenery. Flipchart stands, podiums, lecterns, music stands, portable projection screens, tables with objects, etc. also, not scenery. Scenery are walls and ceilings and large three-dimensional objects and drops typically built with combustible materials for a stage setting. Hard to put in definition but we will suggest code commentary text and hope that will be sufficient.

Fire sprinklers required on all stages, most likely because any A occupancy over 300 total building occupancy is required to be sprinklered.

WHAT HAS CHANGED FROM THE 19TH CENTURY THEATRE

1. The basis for the requirements for theatres and performing arts stages in IBC, IFC, NFPA 101 and NFPA 5000 are based on very early 1900s models and much has changed in 120 years. Significantly the amount of combustibles and the use of LED lighting and equipment has virtually eliminated the fire hazard that was so common before the electric light bulb. The efficacy of the proscenium wall and fire safety curtain is unproven.

2. Theatres in 1900 were a for profit business and generally were two stand alone buildings, one with audience and all its support spaces and one with stage with all its support spaces, in built up urban areas. Now the overwhelming majority are in schools: 40,000± K-12 and 5000± higher education versus1000± broadway, touring venues, regional producing theatres, and community theatres combined. Overwhelmingly the stage and auditorium are one part of a much larger building with many other uses and possibly other occupancies such as the contemporary high school or a performing arts center.

3. Scenery was much more plentiful and nearly all composed of combustible fabric and wood. From John R Freeman PE report on the Iroquois Theatre fire:

"On the Iroquois stage at the time of the fire there was more than ten thousand square yards of canvas, or two and one-half acres, and in addition about three thousand square yards, or half an acre, of gauze. To hang this required nearly eleven miles in length of 5/8 inch manila rope, and in the frames, battens, braces, profiles and set pieces, the stage carpenter of the Iroquois tells me, after making careful estimate, that there was about eight thousand square feet of white pine lumber. The total weight of this fuel was more than ten tons, all dry as tinder, and all set or hung in a way to give the quickest possible exposure and spread to the flames."

That is around 10 psf of combustibles. A mixture of factors including labor costs to produce that much scenery, use of wire rope and steel instead of kerosene soaked manila rope and dry pine for much of the stage equipment, much less wood and other combustibles used in the construction, and much more reliance on projections than painted cloth. A "big" play in a high school is likely to be in the 2 to 4 psf range. Compared with big box stores and factories, even residential occupancies, this is small.

4. Lighting during the "great age of theatre fires" from roughly 1850 to 1900 where the life of a theatre averaged 5 years before burning to the ground, and like at the Iroquois, was open flame or open arc lighting. It was sparks from an arc light that started the fire at the Iroquois. The Rhoads Opera House fire in Boyertown PA, January 13, 1908: "The fire started when a kerosene lamp being used for stage lighting was knocked over, starting a fire on the stage." The electric light bulb ended almost all theatre fires. Since the early 1900s

there have been a few fires where electric incandescent lighting ignited fabric on stage as was common previously. Incandescent theatre lights are hot but not like flames and open arcs lamps. Since the early 2000's LED theatre lighting has taken over and they are not hot.

5. Fire sprinklers were unheard of on stages in early 1900s, but since 1960s have been required and have been effective. The Chicago Public Library auditorium and Peace Center for the Arts in Greenville both had fires in 1990s - drapery covering incandescent lights - and a single fire sprinkler extinguished the fire. Its important to keep in mind that the lighting over stage is typically around 25' off the floor and the combustibles above that well within 50' for the roof and sprinklers, challenging the conventional thinking about sprinkler efficacy being limited to 50' above the floor.

6. Smoke ventilation reliability has improved substantially. From the The Ringtheater fire, December 8, 1881, which resulted in documenting the need for it; and the Edinburgh's Palace Empire Theatre fire, May 9,1911 where everyone in the auditorium escaped; and at the Iroquois where they did not operate. If there is a fire on a stage, ventilation to keep the audience areas relatively smoke free for at least 10 minutes is key.

7. Inward swinging doors, narrow and steep stairs, unfamiliar door hardware, and other egress restrictions all contributed to the deaths in most of not all of these historic theatre fires. What was common and permitted 50 to 100 years ago is not the same today. More egress, wider egress, higher occupant loads factors, and more requirements for maintaining the means of egress all contribute.

8. Based on records and personal experience, most stage fires occur when the there is no audience present. *Modern Opera Houses and Theatres* published in 3 volumes, by Edwin O. Sachs and Ernest A. E. Woodrow, published 1896 through 1898, documents that the average life of a theatre built between 1850 and 1900 was five years before there was a substantial loss from fire notes this. The attached "NFPA data 1990" shows this.

8. Proposed 410.4.1 is relocating text from existing 410.2.2 shown deleted below under Technical Production Areas.

Section 410 pre-print - a draft of what section 410 would look like if all ASTC proposals were accepted

"ATTAC-65" is the 1992 BCMC report which was used as the basis for the first edition of the IBC and largely unchanged in the 2024 IBC.

"nfpa data 1990" is a report from NFPA records of "Recent Fires Originating on Stages or in Projection Rooms or Areas". Note the last page is NOT and NFPA summary but one which ASTC wrote.

"NFPA 101_5000 Assembly Occupancies..." is a recent summary of fires originating on stages ffom NFPA data

"Stage Ventilation - Clearing the Heat and Smoke" 2013 article published in Protocol regarding stage ventilation.

"Fire Protection for Stages without Reliance on the Fire Safety Curtain" paper from International Theatre Architecture and Engineering conference 2002

- **Section 410 pre-print.pdf**
  https://www.cdpaccess.com/proposal/11511/35524/documentation/183906/attachments/download/9148/
- **Fire Protection for Stages without Reliance on the Fire Safety Curtain.pdf**
  https://www.cdpaccess.com/proposal/11511/35524/documentation/183906/attachments/download/9119/
- **Stage Ventilation - Clearing the Heat and Smoke.pdf**
  https://www.cdpaccess.com/proposal/11511/35524/documentation/183906/attachments/download/9108/
- **NFPA 101_5000 Assembly Occupancy Stage ...ire Data - bill bcaworld.pdf**
  https://www.cdpaccess.com/proposal/11511/35524/documentation/183906/attachments/download/8900/
- **nfpa data1990.pdf**
  https://www.cdpaccess.com/proposal/11511/35524/documentation/183906/attachments/download/8899/
- **ATTAC-65.PDF**
  https://www.cdpaccess.com/proposal/11511/35524/documentation/183906/attachments/download/8898/

Cost Impact: Decrease

Estimated Immediate Cost Impact:

On stages which do not currently require a proscenium wall and fire safety curtain, there is little impact as the compartmentalization is basically unchanged.

Clarifying the difference between a type A and type B stage, and the generally lesser cost for fire protection features on a type B stage, may result in savings for a few projects which have traditionally been mislabeled. The opposite may also be true, requiring a little more fire resistant rated construction for a stage that was erroneously labeled as a platform.

While the ASTC believes this will not change the total amount of money spent on a theatre to change, the immediate impact of no longer requiring a fire safety curtain and two hour wall between audience and stage will decrease the cost of that part of the building. Fire safety curtains start in the $100,000 range and can exceed $500,000. The savings in the proscenium wall construction and fire rated opening protectives is offset by the requirement to include the auditorium within the stage fire area - for over 50' stages.

Estimated Immediate Cost Impact Justification (methodology and variables):

$100,000 to over $500,000 just on costs of fire safety curtains.

G73-25

G74-25

IBC: 410.2.1

Proponents: David Bueche, representing Hoover Treated Wood Products (dbueche@frtw.com)

2024 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Revise as follows:

410.2.1 Stage construction. *Stages* shall be constructed of materials as required for floors for the type of construction of the *building* in which such *stages* are located.

Exception: *Stages* need not be constructed of the same materials as required for the type of construction provided that the construction complies with one of the following:

1. *Stages* of Type IIB or IV construction with a nominal 2-inch (51 mm) wood deck, provided that the *stage* is separated from other areas in accordance with Section 410.2.4.
2. *Stages* are permitted to be constructed of *fire-retardant-treated wood* for Types II, and IV construction, provided that the *stage* is separated from other areas in accordance with Section 410.2.4.
3. ~~2.~~ In *buildings* of Type IIA, IIIA and VA construction, a fire-resistance-rated floor is not required, provided that the space below the *stage* is equipped with an *automatic sprinkler system* or *fire-extinguishing system* in accordance with Section 903 or 904.
4. ~~3.~~ In all types of construction, the finished floor shall be constructed of wood or *approved* noncombustible materials. Openings through stage floors shall be equipped with tight-fitting, solid wood trap doors with *approved* safety locks.

Reason: By allowing the use of fire-retardant-treated wood (FRTW) while maintaining the required separation, stages could provide improved fire resistance compared to the untreated wood currently permitted by Exception 1 for Types IIB and IV construction, for instance. Furthermore, FRTW is already allowed in permanent platforms for Types I, II, and IV construction (IBC Section 410.3).

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0. The addition of fire-retardant-treated wood as an option to this section of the code may decrease the cost of construction.

Estimated Immediate Cost Impact Justification (methodology and variables):

Fire-retardant-treated wood is generally less expensive than noncombustible materials. Because FRTW is used as an alternate to these materials in various applications, the cost may be less.

G75-25

IBC: 410.2.1.1, 410.2.1 (New), 410.2.2 (New), 410.2.3 (New), 410.3 (New)

Proponents: William Conner, representing American Society of Theatre Consultants (bill@bcaworld.com)

2024 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Revise as follows:

410.2 ~~**410.2.1.1**~~ **Stage** ~~**height and**~~ **area.** Stage areas shall be measured to include the entire performance area and ~~adjacent~~ contiguous backstage and support areas not separated from the performance area ~~by fire-resistance-rated construction. Stage height shall be measured from the lowest point on the stage floor to the highest point of the underside of the roof or floor deck above the *stage*~~.

Add new text as follows:

410.2.1 Stage area boundary. Areas separated from the *stage* by fire-resistance-rated construction where required by Section 410.7 or separated from the performance area by doors and walls where fire resistance rated construction is not required shall not be included in the *stage* area.

410.2.2 Flexible stages. In spaces where the *stage* and audience areas are not defined, *stage* area be permitted to be as shown in the construction documents or to be calculated as not more than 50% of the combined *stage* and audience area.

410.2.3 Stage level. *Stage* area shall only include areas at the level of the stage floor and shall not include technical production areas above the *stage* or rooms or spaces below the stage that are open to the stage and within the same footprint.

410.3 Stage height. *Stage* height shall be measured from the lowest point on the *stage* floor to the highest point of the underside of the roof or floor deck above the *stage*. Spaces below and open to the *stage* shall not contribute to *stage* height.

Reason: This proposal is submitted on behalf of the American Society of Theatre Consultants. https://theatreconsultants.org/
Since these terms were introduced, experience has indicated additional detail and clarity is beneficial. There is no change in intent from when developed in the BCMC process around 1990.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

These changes are for clarification for stage height and areas.

G76-25

IBC: SECTION 202, [BE] 410.5.2, 410.6 (New), 410.7 (New), 410.7.1 (New), 410.7.2 (New), 410.7.3 (New), 410.7.4 (New), 410.7.5 (New), 410.7.5.1 (New), 410.7.5.2 (New), 410.2.1, 410.3, 410.3.1, 507.6, 507.7

Proponents: William Conner, representing American Society of Theatre Consultants (bill@bcaworld.com)

2024 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Add new text as follows:

410.6 Space below stage. Where fire-resistant-rated construction is required for a stage and the stage floor fire-resistance rating is less than required in Section 410.7 or where there are openings in the stage floor to the space below the stage, the space below the stage shall be included within the stage fire area and separated from the rest of the building in accrdance with Section 410.5.

410.7 Stage floors. Permanent *stage* floors shall be constructed of materials as required for floors for the type of construction of the *building* in which such *stages* are located except as indicated in Section 410.7.1 and 410.7.2.

410.7.1 Non-fire-resistant stage floors. Stage floor construction shall be a nominal 2-inch (51 mm) wood deck or other approved materials.

410.7.2 Finished stage floors assembly. In all types of construction, the finished stage floor, subfloor, sleepers, and blocking shall be constructed of wood or approved noncombustible materials.

410.7.3 Raised stage floors. Where the stage floor is raised above the building floor, the raised floor including structural support shall be constructed of fire-retardant-treated wood or other approved non-combustible materials. Where the space beneath the raised stage floor is used for storage or any purpose other than equipment, wiring or plumbing, the floor assembly shall be not less than 1-hour fire-resistance-rated construction. Where the space beneath the raised stage floor is used only for equipment, wiring or plumbing, the underside of the raised stage floor need not be protected.

410.7.4 Stage floor openings. Where there are stage floor openings, the space below the stage floor opening shall be included within the stage fire area.

410.7.5 Stage floor opening inserts. Stage floor opening inserts where provided shall be constructed of approved materials and shall support loads as required for stages.

410.7.5.1 Removable inserts. Manually removable inserts shall have gaps no greater than 1/8-inch (3.18 mm) between the insert and adjacent stage floor. Approved hardware shall secure the insert in place.

410.7.5.2 Operable inserts. Mechanized inserts shall have gaps no greater than 3/8-inch (9.53 mm) between the insert and adjacent stage floor.

Delete without substitution:

~~**410.2.1 Stage construction.** *Stages* shall be constructed of materials as required for floors for the type of construction of the *building* in which such *stages* are located.~~

~~**Exception:** *Stages* need not be constructed of the same materials as required for the type of construction provided that the construction complies with one of the following:~~

1. ~~*Stages* of Type IIB or IV construction with a nominal 2-inch (51-mm) wood deck, provided that the *stage* is separated from other areas in accordance with Section 410.2.4.~~
2. ~~In *buildings* of Type IIA, IIIA and VA construction, a fire-resistance-rated floor is not required, provided that the space below the *stage* is equipped with an *automatic sprinkler system* or *fire-extinguishing system* in accordance with Section 903 or 904.~~
3. ~~In all types of construction, the finished floor shall be constructed of wood or *approved* noncombustible materials. Openings through stage floors shall be equipped with tight-fitting, solid wood trap doors with *approved* safety locks.~~

~~**410.3 Platform construction.** Permanent *platforms* shall be constructed of materials as required for the type of construction of the *building* in which the permanent *platform* is located. Permanent *platforms* are permitted to be constructed of *fire-retardant-treated wood* for Types I, II and IV construction where the *platforms* are not more than 30 inches (762 mm) above the main floor, and not more than one-third of the room floor area and not more than 3,000 square feet (279 m^2) in area. Where the space beneath the permanent *platform* is used for storage or any purpose other than equipment, wiring or plumbing, the floor assembly shall be not less than 1-hour fire-resistance-rated construction. Where the space beneath the permanent *platform* is used only for equipment, wiring or plumbing, the underside of the permanent *platform* need not be protected.~~

~~**410.3.1 Temporary platforms.** *Platforms* installed for a period of not more than 30 days are permitted to be constructed of any materials permitted by this code. The space between the floor and the *platform* above shall only be used for plumbing and electrical wiring to *platform* equipment.~~

~~**[BG] PLATFORM.** A raised area within a *building* used for worship, the presentation of music, plays or other entertainment; the head table for special guests; the raised area for lecturers and speakers; boxing and wrestling rings; theater-in-the-round *stages*; and similar purposes wherein, other than horizontal sliding curtains, there are no overhead hanging curtains, drops, scenery or stage effects other than lighting and sound. A temporary platform is one installed for not more than 30 days.~~

Revise as follows:

[BE] 410.5.2 Stairway and ramp enclosure. *Exit access stairways* and *ramps* serving a *stage* ~~*or platform*~~ are not required to be enclosed. *Exit access stairways* and *ramps* serving *technical production areas* are not required to be enclosed.

SECTION 507
UNLIMITED AREA BUILDINGS

507.6 Group A-3 buildings of Type II construction. The area of a Group A-3 *building* not more than one *story above grade plane*, used as a *place of religious worship*, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor *swimming pool* or tennis court of Type II construction, shall not be limited provided that the following criteria are met:

1. The *building* shall not have a *Type A stage* ~~other than a *platform*~~.
2. The *building* shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. The *building* shall be surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

507.7 Group A-3 buildings of Type III and IV construction. The area of a Group A-3 *building* of Type III or IV construction, with not more than one *story above grade plane* and used as a *place of religious worship*, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor *swimming pool* or tennis court, shall not be limited provided that the following criteria are met:

1. The *building* shall not have a *Type A stage* ~~other than a *platform*~~.
2. The *building* shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. The assembly floor shall be located 21 inches (533 mm) or less from street or grade level and all *exits* are provided with *ramps* complying with Section 1012 to the street or grade level.

4. The *building* shall be surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

Reason: This proposal is submitted on behalf of the American Society of Theatre Consultants. https://theatreconsultants.org/

Summary: The existing section "410.2.1 Stage construction." was always about stage floors, not the whole stage. This proposal is to better organize and update the code for current practices.

Reason:

Note that not all stage floors are raised, as was prevalent up to the mid 20th century. Whether it was labeled a "stage" or a "platform", either could be at the same elevation as a floor level or it could be at an elevation above the floor level.

1. Fundamental is including the space below stage when not separated from the stage by fire resistive construction, that it be included in the stage fire area and thus separated from the rest of the building. Below, the specific intent is required to be protected by automatic fire protection.

2. Proposed 410.9.1 permits a traditional stage floor construction, even though not used as extensively as previously.

3. Proposed 410.9.2 permits a typical today built up stage floor of resilient pads, sleepers, sub-floor, and finished floor.

4. Proposed 410.9.3 permits the classic raised stage floor, with the same exemptions from protection, coordinated with proposed automatic fire protection in these areas.

5. Proposed 410.9.4 permits openings, typically for traps or lifts (removable inserts and mechanized inserts) in all stages.6.

6. The use of the term platform is further complicated by many uses of the term “platform” elsewhere in the IBC, regarding platform lifts, equipment platforms, transit and boarding platforms, several uses regarding accessibility (including fishing platforms among others), diving platforms, industrial steel work platforms, "platform decorative trim" (?), used as an equal for stairs to "landing", and item 37 in table 1607.1. The only uses in section 410 are 410.3 Platform construction and 410.3.1 Temporary platforms.

7. The revisions to 507.6 and 507.7 are for coordination with deletion of defined term "platform" and addition of Type A and Type B stages.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

These changes simply clarify stage floors and assures compartmentalization appropriate to the hazards.

G76-25

G77-25

IBC: 410.2.7

Proponents: William Conner, representing American Society of Theatre Consultants (bill@bcaworld.com)

2024 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Revise as follows:

410.8 ~~410.2.7~~ Stage ventilation. Emergency *ventilation* shall be provided for Type A *stages* larger than 2,500 ~~1,000~~ square feet (232.25 ~~93~~ m^2) in floor area, or with a *stage* height greater than 30 ~~50~~ feet (9.14 m ~~15 240 mm~~). Such *ventilation* shall comply with Section 410.8.1 ~~410.2.7.1~~ or 410.8.2 ~~410.2.7.2~~.

Exception: Type A stages serving an audience of 300 or less are not required to have emergency ventilation.

Reason: This proposal is submitted on behalf of the American Society of Theatre Consultants. https://theatreconsultants.org/

Summary: Coordinate with changes to stage construction and separation.

Reason: History has shown the necessity for safety of venting the stage as pointed out in an earlier proposal, noting the extensive engineering study following The Ringtheater fire, December 8, 1881; the Edinburgh's Palace Empire Theatre fire, May 9, 1911 where the fire safety curtain did not close but everyone in the auditorium escaped in a smoke free auditorium; and at he Iroquois where the vents were not complete and did not operate. If there is a fire on a stage, ventilation to keep the audience areas relatively smoke free is key.

1. Changes to 410.10 is primarily coordination with other changes, modifying the height and area thresholds as well as excluding the small space.2. Adjustment to the area and height at which ventilation is required are an attempt on better align the requirements with the hazard of combustibles on the stage. 3. The 300 spectator limit is for both the smaller studio or black box theatre or small end stage where there is less combustible scenery, and to recognize the greater efficiency and speed of egress for the audience to be outside the stage fire area.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There is no cost savings intent to these changes. There may be some savings for a small sub-set of stages where because of the lower amount of combustibles venting is not required. This is somewhat offset by clarifying the requirement for stages where venting was not installed and should have been.

G78-25

IBC: SECTION 202, 410.1, 410.2.2, 410.9.1 (New), 410.9.2 (New)

Proponents: William Conner, representing American Society of Theatre Consultants (bill@bcaworld.com)

2024 International Building Code

Revise as follows:

[BG] TECHNICAL PRODUCTION AREA. Open elevated areas or spaces intended for entertainment technicians to walk on and occupy for servicing and operating entertainment technology systems and equipment. Galleries, including fly and lighting galleries, gridirons, catwalks, tension wire grids, technical bridges, and similar areas are designed for these purposes.

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

410.1 Applicability. The provisions of Sections 410.1 through 410.6 shall apply to all parts of *buildings* and *structures* that contain *stages* ~~or *platforms*~~ and ~~similar appurtenances as herein defined~~ technical production areas.

410.9 ~~410.2.2~~ Technical production areas~~: galleries, gridirons and catwalks.~~. ~~Beams designed only for the attachment of portable or fixed theater equipment, gridirons, galleries and catwalks~~*Technical production areas* shall be constructed of *approved* materials consistent with the requirements for the type of construction of the *building*; and a *fire-resistance rating* shall not be required. ~~These areas shall not be considered to be floors, *stories, mezzanines* or levels in applying this code.~~ ~~**Exception:** Floors of fly galleries and catwalks shall be constructed of any *approved* material.~~

Add new text as follows:

410.9.1 Technical production area floors. The walking surface of *technical production areas* shall be constructed of any *approved* material.

410.9.2 Technical production area levels. *Technical production areas* shall not be considered to be *floors*, *stories*, *mezzanines* or levels in applying this code.

Reason: This proposal is submitted on behalf of the American Society of Theatre Consultants. https://theatreconsultants.org/

Summary: These changes are to update the definitions and are nearly editorial for the requirements to improve the readability and more consistent interpretation.

Reason:

1. The growth in use of tension wire grids warrants its inclusion by name in the definition of Technical Production Areas. It should be noted that tension wire grids are defined in the ANSI E1.76 - 2023 Tension Wire Grids standard.

2. The increasing use of the term technical bridges in place of catwalks and galleries warrants its inclusion by name in the definition of Technical Production Areas.

3. Instead of listing each technical production area, just use the defined term.

4. The existing exemption for structural framing only for stage equipment not being protected is relocated to stage construction. For people unfamiliar with stage equipment and it mounting, much of it clamps to the structural framing and is intended to be repositioned as production needs require. in particular, note B to table 601 (below) is fundamental but this requirement permits structural framing "only for stage equipment" regardless of its elevation above a floor is still exempt, as if it were itself a piece of the stage equipment.

b.

Except in Group F-1, H, M and S-1 occupancies, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking where every part of the roof construction is 20 feet or more above any floor or mezzanine immediately below.

5. Floors changed to walking surfaces for clarity with them not being considered floors.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Clarification and inclusion of technical bridges and tension wire grids. Also coordination with other changes, moving construction related requirement to section on construction.

G78-25

G79-25

IBC: 410.4, 410.4.1, 410.4.2

Proponents: William Conner, representing American Society of Theatre Consultants (bill@bcaworld.com)

2024 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Delete without substitution:

~~**410.4 Dressing and appurtenant rooms.** Dressing and appurtenant rooms shall comply with Sections 410.4.1 and 410.4.2.~~

Delete and substitute as follows:

~~**410.4.1 Separation from stage.** The *stage* shall be separated from dressing rooms, scene docks, property rooms, workshops, storerooms and compartments contiguous to the *stage* and other parts of the *building* by *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. The *fire resistance rating* shall be not less than 2 hours for stage heights greater than 50 feet (15 240 mm) and not less than 1 hour for *stage* heights of 50 feet (15 240 mm) or less.~~

410.11 Dressing rooms. Dressing rooms serving the stage shall be separated from each other, the stage and auditorium, with not less than a 1 hour fire-resistance-rated fire barriers, horizontal assemblies or both. Multiple dressing rooms with an aggregate net area of 1000 square feet (93 m^2) or less shall not be required to be separated from each other.

~~**410.4.2 Separation from each other.** Dressing rooms, scene docks, property rooms, workshops, storerooms and compartments contiguous to the *stage* shall be separated from each other by not less than 1-hour *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both.~~

410.12 Appurtenant rooms. Workshops and storage rooms serving the stage shall be separated from each other, the stage and auditorium, and the rest of the building, by not less than a 1-hour fire-resistance-rated fire barriers, horizontal assemblies or both.

Reason: This proposal is submitted on behalf of the American Society of Theatre Consultants. https://theatreconsultants.org/

1. The 410.13 requirements are definitely a holdover from the 19th century theatre with the stage as a separate building from the auditorium containing the dressing rooms, often in tiers above the wings or in the trap room below the stage, along with any storage, “trunk rooms”, workshops, etc. These spaces have been and to a lesser extent remain spaces with many combustibles such as costumes and wigs, as well as some combustible products such as hair spray, and often a collection of hair dryers, curling irons, flat irons, coffee makers, and immersion heaters. In new buildings, these spaces are no longer within the stage, but separate, often not even contiguous with or on the same level as the stage. The stage fire area in the proposed changes in 410.7 assures fire resistive construction separation from the stage and auditorium. This primarily requires separation from the rest of the building, as always, but does permit some clustering of small dressing rooms within a single fire area no larger than 1000 sf.

2. 410.14 maintains the separation of work rooms and storage rooms from the rest of the building, as a reminder and possibly redundant requirement for separating work rooms and store rooms from many uses or occupancies.

3. Other proposals include changes to assure the stage along with auditorium are separated from these spaces and separated from the rest of the building in all but very small buildings.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

While there could be very minor savings in a cluster of dressing rooms, this is basically clarification and recognizing the changes in over 100 years of the design and construction of theatres.

G79-25

G80-25

IBC: 410.2.4

Proponents: William Conner, Bill Conner Associates LLC, representing American Society of Theatre Consultants (bill@bcaworld.com)

2024 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Revise as follows:

410.2.4 Proscenium wall. Where the stage height is greater than 50 feet (15 240 mm), all portions of the *stage* shall be completely separated from the seating area by a proscenium wall with not less than a 2-hour fire-resistance rating extending contiuously from the foundation to the roof.

~~**Exception**~~ **Exceptions:**

1. No separation is required of a stage from a seating area with an aggregate occupant load of 300 or less.
2. Where a *stage* is located in a *building* of Type I construction, the proscenium wall is permitted to extend continuously from a minimum 2-hour fire-resistance-rated floor slab of the space containing the *stage* to the roof or a minimum 2-hour fire-resistance-rated floor deck above.

Reason: The time required for 300 or fewer occupants to egress does not justify this extra compartmentalization and fire safety curtain. This concept originated when all theatres with tall stages had seating for large number of people, many more than 300. Note that at this occupant load, all required exit access for the audience is permitted to be through the stage. This really allows the small spaces, typically a small flexible theatre, theatre in the round, or small recital hall, to not include some features that are not justified for the size an egress time.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

The code change proposal will decrease the cost of construction. This is a marginal call - it's unlikely it will change cost much on only a few projects a year.

Estimated Immediate Cost Impact Justification (methodology and variables):

Average cost of a fire safety curtain is $25,000-50,000 or more depending on size, motorization, style, and market. Additional cost of the wall for 2 hours rating can vary from insignificant to hundreds of thousands.

Estimated Life Cycle Cost Impact:

Decrease - $1500 +/- per year for manufacturer recommended annual inspections for a estimated 40 to 50 year life of the fire safety curtain.

Estimated Life Cycle Cost Impact Justification (methodology and variables):

The impact is not spending money on a feature that has not shown its usefulness. Typically this will affect a single digit percentage of the several hundred new small community high school auditoriums and stages built each year, each typically in the $3m to $6m range.

G81-25

IBC: 410.2.6, 410.3.1

Proponents: William Conner, representing American Society of Theatre Consultants (bill@bcaworld.com)

2024 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Delete without substitution:

~~**410.2.6 Scenery.** Combustible materials used in sets and scenery shall meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701, in accordance with Section 806 and the *International Fire Code*. Foam plastics and materials containing foam plastics shall comply with Section 2603 and the *International Fire Code*.~~

~~**410.3.1 Temporary platforms.** *Platforms* installed for a period of not more than 30 days are permitted to be constructed of any materials permitted by this code. The space between the floor and the *platform* above shall only be used for plumbing and electrical wiring to *platform* equipment.~~

Reason: This proposal is submitted on behalf of the American Society of Theatre Consultants. https://theatreconsultants.org/

These are not in the construction documents and not a part a plan review or actually installed during construction. They are appropriate requirements for the IFC. ASTC intends and plans to submit proposals to the IFC for the group A hearings for the 2030 edition.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There is no cost impact from having these out of the building code and put into the fire code.

G81-25

G82-25

IBC: 410.2.7.1, [F] 410.2.7.2

Proponents: William Conner, representing American Society of Theatre Consultants (bill@bcaworld.com)

2024 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Revise as follows:

410.8.1 ~~**410.2.7.1**~~ **Roof vents.** Two or more vents constructed to open automatically by *approved* heat-activated devices and with an aggregate clear opening area of not less than 5 percent of the area of the *stage* shall be located near the center and above the highest part of the *stage area*. Supplemental means shall be provided for manual operation of the ventilator from the *stage* floor. Where *labeled* devices permitting manual operation from the *stage* floor are not available, the manual operation device is not required to be *labeled* and *listed*.~~Curbs shall be provided as required for skylights in Section 2610.2.~~ Vents shall be *labeled*.

[F] 410.8.2 ~~**410.2.7.2**~~ **Smoke control.** Smoke control in accordance with Section 909 shall be provided to maintain the smoke layer interface not less than 6 feet (1829 mm) above the highest level of the assembly seating or above the top of the proscenium opening where a *proscenium wall* is provided in compliance with Section 410.2.4.

Attached Files

- **Stage Ventilation 2024.pdf**
  https://www.cdpaccess.com/proposal/11544/35546/files/download/8853/

Reason: This proposal is submitted on behalf of the American Society of Theatre Consultants. https://theatreconsultants.org/

Summary: Clarify that manual emergency operation should be possible from the stage floor and make that possible.

Reason: See attached white paper for information to architect and engineer clients regarding stage vents.

1. Require the vents to be manually operable from the floor in an emergency. Most roof vents ship with a manual release line and handle that does not reach anywhere near the stage floor. Besides being useless except from a technical production area, they should be operable from the stage floor near an entrance to the stage.

2. Allow vents not labeled for manual operation to be modified to be able to be opened from the stage.

3. The curb requirement was deleted in deference to the listing and manufactures instructions which set mounting requirements.

4. 410.10.2 is shown for information and numbering change. In the next Group A cycle we plan to propose deleting "or above the top of the proscenium opening where a proscenium wall is provided in compliance with Section 410.2.4". This change is for coordination with the deletion of the requirement for proscenium wall, with a resulting more stringent requirement.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

These changes are for clarification of the intent of the historical intent of the requirements. In so far as roof vents which have been installed without provisions for manual operation from the floor, there will be some additional cost, estimated around $1000 to 2500 per vent, depending on methods chosen, and typically 2 to 8 vents per stage.

G83-25

IBC: 410.2.7

Proponents: William Conner, Bill Conner Associates LLC, representing American Society of Theatre Consultants (bill@bcaworld.com)

2024 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Revise as follows:

410.2.7 Stage ventilation. Emergency *ventilation* shall be provided for *stages* larger than 1,000 square feet (93 m^2) in floor area, or with a *stage* height greater than 50 feet (15 240 mm). Such *ventilation* shall comply with Section 410.2.7.1 or 410.2.7.2.

Exception: No ventilation is required for a stage serving a seating area with an aggregate occupant load of 300 or less.

Reason: The time required for 300 or fewer occupants to egress does not justify the requirement for this. Generally these are black box (flexible) theatres, arena ("in-the-round") theatres, recital halls, or facilities with similar and often flexible and/or undefined stage and seating areas. Relative to a full working stage with larger seating areas, the potential amount of combustibles in these small spaces is very small. This is particularly necessary because these small spaces often are below other occupied spaces, unlike a large auditorium and stage where the top of the stage is almost always roof and venting is not difficult. The origin of this was in 1850s and was based on large opera houses with gas lighting, and simply was continued as the art form evolved to where small spaces were often necessary or desired.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

This change will decrease cost of the small modest space with stage area open to roof $10,000-20,000 for several roof vents. For a larger stage area that is under occupiable floors, the cost for venting and shaft will be many times the low end savings. No doubt there will be additional energy savings as the typical vents are not especially well insulated or well sealed.

Estimated Immediate Cost Impact Justification (methodology and variables):

The cost is simply not justified for no demonstrated safety returns.

Estimated Life Cycle Cost Impact:

Minimal savings from occasional maintenance and replacement in 25-50 years.

Estimated Life Cycle Cost Impact Justification (methodology and variables):

The cost is simply not justified for no demonstrated safety returns.

G84-25

IBC: 420.6 (New)

Proponents: Jeffrey Grove, representing Southern Nevada ICC Chapter (jeff.grove@coffman.com); Allen Burris, Clark County Nevada, representing Southern Nevada Chapter (allen.burris@clarkcountynv.gov)

2024 International Building Code

SECTION 420
GROUPS I-1, R-1, R-2, R-3 AND R-4

Add new text as follows:

420.6 Visual Access. The primary entry door of a dwelling unit or sleeping unit in Group R-1 and R-2 occupancies shall be provided with a means for visually identifying a visitor without opening the unit entry door. Peepholes, where used, shall provide a minimum 180-degree range of view.

Reason: This requirement essentially requires a peephole or other type of door viewer such as a doorbell camera be provided at unit entry doors as it provides an additional level of safety for interior occupants. This provision was recommended by the Las Vegas Metropolitan Police Department (LVMPD) and has been in place for all Group R-1 & R-2 occupancies in Southern Nevada for several code cycles. LVMPD originally cited studies that found this requirement lead to a decrease in the number home invasion crimes related to unforced entries (i.e. when the occupant willingly opened the door to intruders)

While this is not a base code requirement in either the IBC or the FHA for Group R-2 occupancies, the FHA does recommend peepholes or sidelights be provided at all dwelling unit entry doors. Given the FHA recommendations and the recommendations by law enforcement, it seems prudent to mandate this provision for all Group R-1 and R-2 occupancies as a cost effective way to increase public safety.

Cost Impact: Increase

Estimated Immediate Cost Impact:

UL listed fire rated peepholes can be readily obtained for less than $10 per device.

Estimated Immediate Cost Impact Justification (methodology and variables):

These devices can be readily obtained by a wide variety of vendors.

G85-25

IBC: SECTION 424 (New), 424.1 (New), 424.2 (New), 424.3 (New), 424.4 (New), 424.5 (New), 424.5.1 (New), 424.5.2 (New), UL Chapter 35 (New)

Proponents: James Lynch, Fire Solutions Group, representing Framery

2024 International Building Code

Add new text as follows:

SECTION 424
ACOUSTIC PODS

424.1 General. Acoustic pods exceeding 100 square feet (9.3 m^2) or less in floor area and 8 feet (2438 mm) or less in height shall comply with all applicable requirements in this section.

424.2 Listing. Acoustic pods shall be listed and labeled in accordance with UL 962 and installed in accordance with the listing and the manufacturer's instructions.

424.3 Locations. Acoustic pods shall only be installed in approved locations and shall not obstruct required means of egress.

424.4 Elevation change. Acoustic pods with integral floors shall be permitted to have an elevation change measured from the finished floor that is a maximum of 5 inches (127 mm) higher than the floor of the existing structure outside the modular booth.

424.5 Fire suppression. Fire suppression acoustic pods shall be installed in rooms or spaces equipped with an automatic sprinkler system in accordance with Section 903.3.1.1. Installation of pods shall not interfere with clearances of existing sprinkler heads.

Exceptions:

1. Pod installations that meet the requirements of Section 9.2.10 of NFPA 13 and the following:
   1.1. Where multiple pods are proposed, the booths are separated by a distance of 18 inches from one another.
   1.2. The clearance between the top of the pods and ceiling sprinklers is a minimum of 18 inches.
   1.3. Per Section 9.2.10.2 of NFPA 13, the area of any pod does not exceed 24 square feet. The area is to be the interior area of the booth, excluding the area of the enclosing walls.
2. Pod installations where the top of the booth has louvers that open automatically on the activation of the fire alarm or with the loss of power.
3. Where the booth has an applicable testing report accompanied by full-scale fire testing report by an approved agency showing that ceiling sprinklers control a fire originating from inside the booth.

424.5.1 Smoke detection. An automatic smoke detection system complying with Section 907 shall be provided in the rooms or spaces in which the privacy pod's are located. The system shall activate the occupant notification system in accordance with Section 907.5.

424.5.2 Smoke alarms. Audibility requirements of NFPA 72 and Section 907.5.2.1 of the *International Fire Code* apply to the acoustic pod. If these requirements are not met, an alarm shall be placed inside the pod.

Add new standard(s) as follows:

UL

UL LLC
333 Pfingsten Road
Northbrook, IL 60062

962-22 Prefabricated privacy booths and sleep capsules

Reason: This proposed addition to the code provides guidance on the installation of acoustic pods similar to section on play spaces.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The changes proposed to the code provide clarification to the requirements rather than additional requirements for the installers therefore there are no additional cost.

Staff Analysis: A review of the following standards proposed for inclusion in the code regarding some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025.
UL962-22 Prefabricated privacy booths and sleep capsules

G85-25

G86-25

IBC: SECTION 202 (New), 312.1, SECTION 429 (New), 429.1 (New), NFPA Chapter 35 (New); IFC: SECTION 202 (New), [BG] 203.11

Proponents: Kevin Duerr-Clark, representing NYS DOS (kevin.duerr-clark@dos.ny.gov); Chad Sievers, NYS, representing NYS DOS (chad.sievers@dos.ny.gov); Daniel Carroll, New York State Department of State, representing Division of Building Standards and Codes (daniel.carroll@dos.ny.gov); John R Addario - NYS Department of State, NEW YORK STATE CODES DIVISION, representing New York State Department of State Division of Building Standards and Codes (john.addario@dos.ny.gov); Brian Tollisen, representing NYS Department of State (brian.tollisen@dos.ny.gov); Jeanne Rice, representing NYSDOS (jeanne.rice@dos.ny.gov); China Clarke, New York State Dept of State, representing Manager Technical Support Unit (china.clarke@dos.ny.gov)

2024 International Building Code

Add new definition as follows:

LIVE FIRE TRAINING BUILDING. A building in which live fire training evolutions are conducted on a repetitive basis.This shall include, but not be limited to, containerized training structures, live fire training structures, and training towers.

Revise as follows:

312.1 General. *Buildings* and *structures* of an accessory character and miscellaneous *structures* not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

Agricultural buildings
Aircraft hangars, accessory to a one- or two-family residence (see Section 412.4)
Barns
Carports
Communication equipment *structures* with a *gross floor area* of less than 1,500 square feet (139 m^2)
Fences more than 7 feet (2134 mm) in height
Grain silos, accessory to a residential occupancy
Live fire training buildings
Livestock shelters
Private garages
Retaining walls
Sheds
Stables
Tanks
Towers

Add new text as follows:

SECTION 429
LIVE FIRE TRAINING BUILDINGS

429.1 Live fire training buildings. Live fire training buildings and any appurtenances connected or attached to such buildings or structures shall be designed and constructed in accordance with the applicable provisions of NFPA 1402 and this code.

Add new standard(s) as follows:

NFPA

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169-7471

1402-2019	Standard on Facilities for Fire Training and Associated Props

2024 International Fire Code

Add new definition as follows:

LIVE FIRE TRAINING BUILDING. A building in which live fire training evolutions are conducted on a repetitive basis.This shall include, but not be limited to, containerized training structures, live fire training structures, and training towers.

Revise as follows:

[BG] 203.11 Miscellaneous Group U. Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

Agricultural buildings
Aircraft hangar, accessory to a one- or two-family residence (see Section 412.4 of the *International Building Code*)
Barns
Carports
Communication equipment structures with a gross floor area of less than 1,500 square feet (139 m^3)
Fences more than 7 feet (2134 mm) in height
Grain silos, accessory to a residential occupancy
Live fire training buildings
Livestock shelters
Private garages
Retaining walls
Sheds
Stables
Tanks
Towers

Reason: Live fire training facilities contain unique types of buildings/structures that are in some instances, purposely designed to not meet building codes and/or simulate potentially hazardous conditions. NFPA 1402, when combined with the building codes of the jurisdiction, provides for the necessary design and construction provisions of these types of buildings and gives the code enforcement community the tools necessary to properly regulate them. The scope of the standard acknowledges that building codes and gas codes do not address the unique and specific requirements for these specialized types of facilities. It is not the intent of this proposal to capture buildings that are designed, constructed, and maintained to the International Building Code and International Fire Code already, such as a B or A occupancy where instruction on fire practices takes place, rather, to capture those buildings not clearly covered by the Codes that would typically require variances or modifications of code language to be compliant.

From the previous cycle, based on committee comments, the definition of “Live Fire Training Building” was modified to ensure only buildings where live fire training exercises are conducted are captured. The “associated systems, appliances and props” was also removed from the definition and the term “appurtenances” was added to the section to ensure the intent is not to capture stand-alone props that may be co-located at the same facility such as a gas-fired car prop but to capture gas-fired props used to simulate fire in or on the structure. Furthermore the requirement that the building still had to be constructed following the applicable provisions of the IBC was added.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

According to the industry, this standard is already the standard of practice, this code change is simply codifying the standard. So no increase is anticipated.

Staff Analysis: A review of the standard proposed for inclusion in the code, NFPA 1402-2019 Standard on Facilities for Fire Training and Associated Props, with regard to some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025.

G87-25

IBC: SECTION 202 (New), SECTION 202, 304.1, 304.5 (New), 407.1, 407.12 (New), [F] 414.2, 422.1, 422.8 (New), SECTION 429 (New), 429.1 (New), 429.2 (New), 429.3 (New); IFC: SECTION 202 (New), SECTION 202, [BG] 203.3, 203.3.4 (New), 5003.8.3

Proponents: Jeff O'Neill, Chair, representing Committee on Healthcare (ahc@iccsafe.org)

2024 International Building Code

Add new definition as follows:

CLINICAL LABORATORY. Labs examining materials derived from the human body for the purpose of providing information for the diagnosis, prevention, or treatment of any disease or impairment of, or the assessment of the health of, human beings.
[F] HIGHER EDUCATION LABORATORY. Laboratories in Group B occupancies used for educational purposes above the 12th grade. Storage, use and *handling* of chemicals in such laboratories shall be limited to purposes related to testing, analysis, teaching, research or developmental activities on a nonproduction basis.

Revise as follows:

[F] LABORATORY SUITE. A fire-rated, enclosed laboratory area providing one or more laboratory spaces ~~within a Group B educational occupancy~~ that includes ancillary uses such as offices, bathrooms and corridors that are contiguous with the laboratory area, and are constructed in accordance with Section 428.

SECTION 304
BUSINESS GROUP B

304.1 Business Group B. Business Group B occupancy includes, among others, the use of a *building* or *structure*, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

Airport traffic control towers

Ambulatory care facilities

Animal hospitals, kennels and pounds

Banks

Barber and beauty shops

Car wash

Civic administration

Clinic, outpatient

Clinical laboratories

Dry cleaning and laundries: pick-up and delivery stations and self-service

Educational occupancies for students above the 12th grade including *higher education laboratories*

Electronic data entry

Food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining *facilities* not more than 2,500 square feet (232 m^2) in area

Laboratories: testing and research

Lithium-ion or lithium metal battery testing, research and development

Motor vehicle showrooms

Post offices

Print shops

Professional services (architects, attorneys, dentists, physicians, engineers, etc.)

Radio and television stations

Telephone exchanges

Training and skill development not in a school or academic program (this shall include, but not be limited to, tutoring centers, martial arts studios, gymnastics and similar uses regardless of the ages served, and where not classified as a Group A occupancy)

304.2 Airport traffic control towers. Airport traffic control towers shall comply with Section 412.2.

304.3 Ambulatory care facilities. *Ambulatory care facilities* shall comply with Section 422.

304.4 Higher education laboratories. *Higher education laboratories* shall comply with Section 428.

Add new text as follows:

304.5 Clinical Laboratories. *Clinical laboratories* shall comply with Section 429.

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 407
GROUP I-2

Revise as follows:

407.1 General. Occupancies in Group I-2 shall comply with the provisions of Sections 407.1 through ~~407.11~~ 407.12 and other applicable provisions of this code.

Add new text as follows:

407.12 Clinical laboratories. *Clinical laboratories* serving Group I-2 occupancies shall comply with Section 429.

SECTION 414
HAZARDOUS MATERIALS

Revise as follows:

[F] 414.2 Control areas. *Control areas* shall comply with Sections 414.2.1 through 414.2.5 and the *International Fire Code*.

~~Exception~~ Exceptions:

1. *Higher education laboratories* in accordance with Section 428 of this code and Chapter 38 of the *International Fire Code*.
2. *Clinical laboratories* in accordance with Section 429 of this code and Chapter 38 of the *International Fire Code*.

SECTION 422

AMBULATORY CARE FACILITIES

422.1 General. Occupancies classified as *ambulatory care facilities* shall comply with the provisions of Sections 422.1 through ~~422.7~~ 422.8 and other applicable provisions of this code.

Add new text as follows:

422.8 Clinical laboratories. *Clinical laboratories* serving *ambulatory care facilities* shall comply with Section 429.

SECTION 429
CLINICAL LABORATORIES

429.1 Scope. *Clinical laboratories* complying with the requirements of Section 429.1 through 429.3 shall be permitted to exceed the maximum allowable quantities of *hazardous materials* in *control areas* set forth in Tables 307.1(1) and 307.1(2) without requiring classification as a Group H occupancy. Except as specified in Section 429, such laboratories shall comply with all applicable provisions of this code and the *International Fire Code*.

429.2 Application. The provisions of Section 429 shall be applied as exceptions or *additions* to applicable requirements of this code. Unless specifically modified by this section, the storage, *use* and *handling* of *hazardous materials* shall comply with all other provisions in Chapters 38 and 50 through 67 of the *International Fire Code* and Section 429 of this code for quantities not exceeding the maximum allowable quantity.

429.3 Construction. Clinical laboratories shall be constructed in accordance with Sections 428.3 and 428.4.

2024 International Fire Code

Add new definition as follows:

CLINICAL LABORATORY. Labs examining materials derived from the human body for the purpose of providing information for the diagnosis, prevention, or treatment of any disease or impairment of, or the assessment of the health of, human beings.
HIGHER EDUCATION LABORATORY. Laboratories in Group B occupancies used for educational purposes above the 12th grade. Storage, use and handling of chemicals in such laboratories shall be limited to purposes related to testing, analysis, teaching, research or developmental activities on a nonproduction basis.

Revise as follows:

LABORATORY SUITE. A fire-rated enclosed laboratory area that will provide one or more laboratory spaces, ~~within a Group B educational occupancy,~~ that are permitted to include ancillary uses such as offices, bathrooms and corridors that are contiguous with the laboratory area, and are constructed in accordance with Chapter 38.

[BG] 203.3 Business Group B. Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

Airport traffic control towers

Ambulatory care facilities

Animal hospitals, kennels and pounds

Banks

Barber and beauty shops

Car wash

Civic administration

Clinic-outpatient

Clinical laboratories

Dry cleaning and laundries: pick-up and delivery stations and self-service

Educational occupancies for students above the 12th grade, including higher education laboratories

Electronic data entry

Food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities not more than 2,500 square feet (232 m^2) in area.

Laboratories: testing and research

Lithium-ion or lithium metal battery testing, research and development

Motor vehicle showrooms

Post offices

Print shops

Professional services (architects, attorneys, dentists, physicians, engineers, etc.)

Radio and television stations

Telephone exchanges

Training and skill development not in a school or academic program (This shall include, but not be limited to, tutoring centers, martial arts studios, gymnastics and similar uses regardless of the ages served, and where not classified as a Group A occupancy.)

[BG] 203.3.1 Airport traffic control towers. Airport traffic control towers shall comply with Section 412.2 of the *International Building Code*.

[BG] 203.3.2 Ambulatory care facilities. Ambulatory care facilities shall comply with Section 422 of the *International Building Code*.

[BG] 203.3.3 Higher education laboratories. Higher education laboratories shall comply with Section 428 of the *International Building Code*.

Add new text as follows:

203.3.4 Clinical laboratories. *Clinical laboratories* serving *ambulatory care facilities* shall comply with Section 429 of the *International Building Code*.

Revise as follows:

5003.8.3 Control areas. *Control areas* shall comply with Sections 5003.8.3.1 through 5003.8.3.5.3.

~~Exception~~ Exceptions:

1. Higher education laboratories in accordance with Chapter 38 of this code and Section 428 of the *International Building Code*.
2. *Clinical laboratories* in accordance with Section 429 of the *International Building Code* and Chapter 38 of this code.

Reason: It is not the intent of this proposal to change any of the requirements for Higher Education Laboratories. Change to the IFC are correllative or pointers only. More extensive coordination will be provided for the IFC next cycle.

Laboratories in hospitals are subject to close regulatory scrutiny, and are tracked by hospital Safety Offices and its Environment of Care

(EOC) committees. This is one way in which clinical laboratories are very similar to research labs in academic settings.Quantities of hazardous material in clinical labs are very low. Clinical labs generate more infectious waste from tissue, fluid and blood samples that are tested. Issues such as quantities of hazardous material, waste handling, and integrity of rated barriers are particular issues that are documented and tracked by the EOC Committee. The EOC committee typically has direct review with a hospital or health system board of directors. This data is also tracked by the federal government, particularly the Center for Medicare and Medicaid Services (CMS), on a regular basis. Elements of this proposed code change include:

The definition for “Clinical Laboratory” is derived directly from the requirements for Clinical Laboratory Improvement Amendments (CLIA), a subset of CMS requirements. The amendments are part of the Conditions of Participation each hospital must follow to receive reimbursement for lab tests performed on patients. The number of cases receiving CMS funding is roughly 50% to 60% of all through a hospital.

The change to the defintion of 'laboratory suite' is only intended as correllative to allow for this defintion to be used for both types of laboratories.

For standby and emergency power, Section 1208.2.8 is currently referenced for the I-2 occupancies, which then reference into NFPA 99 to make the requirement consistent for the hospitals these labs are in.

Control areas are also separately referenced to Chapters 407 (for I-2, Condition 2) and 422 (For Ambulatory in B-Occupancies) to make sure the Incidental Uses table is in effect, which spell out existing requirements for Labs in I-2, Condition 2 occupancies, by way of Chapter 7 to Chapter 509 Incidental Uses.

For more information, reference links to CMS and CLIA requirements are as follows:

https://www.cms.gov/medicare/quality/clinical-laboratory-improvement-amendments

https://www.cms.gov/outreach-and-education/medicare-learning-network mln/mlnproducts/downloads/cliabrochure.pdf

Section 428 is shown here for context.

SECTION 428
HIGHER EDUCATION LABORATORIES

[F] 428.1 Scope. *Higher education laboratories* complying with the requirements of Sections 428.1 through 428.4 shall be permitted to exceed the maximum allowable quantities of *hazardous materials*in *control areas* set forth in Tables 307.1(1) and 307.1(2) without requiring classification as a Group H occupancy. Except as specified in Section 428, such laboratories shall comply with all applicable provisions of this code and the *International Fire Code*.

[F] 428.2 Application. The provisions of Section 428 shall be applied as exceptions or *additions* to applicable requirements of this code. Unless specifically modified by Section 428, the storage, *use* and *handling* of *hazardous materials* shall comply with all other provisions in Chapters 38 and 50 through 67 of the *International Fire Code* and this code for quantities not exceeding the maximum allowable quantity.

[F] 428.3 Laboratory suite construction. Where *laboratory suites* are provided, they shall be constructed in accordance with this section and Chapter 38 of the *International Fire Code*. The number of *laboratory suites* and percentage of maximum allowable quantities of *hazardous materials*in *laboratory suites* shall be in accordance with Table 428.3.

[F] TABLE 428.3 DESIGN AND NUMBER OF LABORATORY SUITES PER FLOOR

FLOOR LEVEL		PERCENTAGE OF THE MAXIMUM ALLOWABLE QUANTITY PER LAB SUITE[a]	NUMBER OF LAB SUITES PER FLOOR	FIRE-RESISTANCE RATING FOR FIRE BARRIERS IN HOURS[b]
Above Grade Plane	21+	Not allowed	Not Permitted	Not Permitted
	16-20	25	1	2[c]
	11-15	50	1	2[c]
	7-10	50	2	2[c]
	4-6	75	4	1
	3	100	4	1
	1-2	100	6	1
Below Grade Plane	1	75	4	1
	2	50	2	1
	Lower than 2	Not Allowed	Not Allowed	Not Allowed

a. Percentages shall be of the maximum allowable quantity per control area shown in Tables 307.1(1) and 307.1(2), with all increases allowed in the footnotes to those tables.

b. Fire barriers shall include walls, floors and ceilings necessary to provide separation from other portions of the building.

c. Vertical fire barriers separating laboratory suites from other spaces on the same floor shall be permitted to be 1-hour fire-resistance rated.

[F] 428.3.1 Separation from other nonlaboratory areas. *Laboratory suites* shall be separated from other portions of the *building* in accordance with the most restrictive of the following:

1. *Fire barriers* and *horizontal assemblies* as required in Table 428.3. *Fire barriers* shall be constructed in accordance with Section 707 and *horizontal assemblies* constructed in accordance with Section 711.

   Exception: Where an individual *laboratory suite* occupies more than one *story*, the *fire-resistance rating* of intermediate floors contained within the *laboratory suite* shall comply with the requirements of this code.

2. Separations as required by Section 508.

[F] 428.3.2 Separation from other laboratory suites. *Laboratory suites* shall be separated from other *laboratory suites* in accordance with Table 428.3.

[F] 428.3.3 Floor assembly fire resistance. The floor assembly supporting *laboratory suites* and the construction supporting the floor of *laboratory suites* shall have a *fire-resistance rating* of not less than 2 hours.

Exception: The floor assembly of the *laboratory suites* and the construction supporting the floor of the *laboratory suites* are allowed to be 1-hour *fire-resistance* rated in *buildings* of Types IIA, IIIA and VA construction, provided that the *building* is three or fewer *stories.*

[F] 428.3.4 Maximum number. The maximum number of *laboratory suites* shall be in accordance with Table 428.3. Where a *building* contains both *laboratory suites* and *control areas,* the total number of *laboratory suites* and *control areas* within a *building* shall not exceed the maximum number o*f laboratory suites* in accordance with Table 428.3.

[BE] 428.3.5 Means of egress. *Means of egress* shall be in accordance with Chapter 10.

[F] 428.3.6 Standby or emergency power. Standby or emergency power shall be provided in accordance with Section 414.5.2 where *laboratory suites* are located above the sixth *story above grade plane* or located in a *story* below *grade plane.*

[F] 428.3.7 Ventilation. *Ventilation* shall be in accordance with Chapter 7 of NFPA 45, and the *International Mechanical Code*.

[F] 428.3.8 Liquid-tight floor. Portions of *laboratory suites* where *hazardous materials* are present shall be provided with a liquid-tight floor.

[F] 428.3.9 Automatic sprinkler systems. *Buildings* containing *laboratory suites* shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

[F] 428.4 Percentage of maximum allowable quantity in each laboratory suite. The percentage of maximum allowable quantities of *hazardous materials* in each *laboratory suite* shall be in accordance with Table 428.3.

This proposal is submitted by the ICC Committee for Healthcare (CHC).

The Committee on Healthcare (CHC) was established by the ICC Board of Directors in 2011 to pursue opportunities to study and develop effective and efficient provisions for Hospital, Nursing Homes, Assisted Living and Ambulatory Care Facilities. This committee was formed in cooperation with the American Society for Healthcare Engineering (ASHE). In July of 2017, the ICC Board made CHC a standing committee. In 2023 and 2024 the CHC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the CHC website at CHC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Operationally, costs may go down because adoption of this change proposal will result in more flexibility to place clinical laboratories in new hospitals, increasing efficiency of operations with less personnel or systems to function in the hospital setting.

G87-25

G88-25

IBC: [A] 101.3, SECTION 429 (New), 429.1 (New), 429.2 (New), 429.2.1 (New), 429.2.2 (New), 429.3 (New), 429.3.1 (New), 429.4 (New), 429.5 (New), ASTM Chapter 35 (New)

Proponents: Thom Zaremba, Roetzel & Andress, representing National Glass Association (tzaremba@ralaw.com); Nicholas Resetar, representing Glazing Industry Code Committee (nresetar@ralaw.com)

2024 International Building Code

Revise as follows:

[A] 101.3 Purpose. The purpose of this code is to establish the minimum requirements to provide a reasonable level of safety, health and general welfare through structural strength, means of ingress and egress, stability, sanitation, light and *ventilation*, energy conservation, and for providing a reasonable level of life safety and property protection from the hazards of fire, *explosion* or *dangerous* conditions, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations.

Add new text as follows:

SECTION 429
EDUCATIONAL OCCUPANCIES - FORCED ENTRY RESISTANCE

429.1 General. All Group E occupancies with an occupant load of 50 or more shall comply with Sections 429.2 through 429.5.

Exceptions:

1. Group E day care facilities.
2. Group E occupancies accessory to places of religious worship.

429.2 Main Entrances. Main entrances shall be constructed and designed to provide those inside the building with a view to areas where pedestrians and vehicles approach the entrance.

429.2.1 Windows, doors, sidelights and other glazed areas. Windows, doors, and sidelights in main entrances within the scope of Section 429.2 shall be rated assemblies in accordance with ASTM F3561-23. Other glazed areas in the main entrance with an exposed area equal to or greater than 5 square feet (0.46 m^2) and a bottom edge less than 72 inches (1828.8 mm) above the finished ground level shall be rated assemblies in accordance with ASTM F3561-23.

429.2.2 Ground floor windows, doors and sidelights in exterior walls. If warranted by a registered design professional's assessment of forced entry risk, ground floor windows, doors and sidelights in exterior walls shall be rated assemblies in accordance with ASTM F3561-23.

429.3 Classrooms. Interior classroom windows and doors shall be designed and constructed to provide a view from the classroom into corridor or other areas used to approach the classroom.

429.3.1 Interior classroom windows, doors and sidelights. If warranted by a registered design professional's assessment of forced entry risk, interior classroom windows, doors and sidelights shall be rated assemblies in accordance with ASTM F3561-23.

429.4 Locking arrangements. Locking arrangements in doors shall comply with applicable provisions of Section 1010.2.7.

429.5 Fire safety, evacuation and lockdowns. Fire safety, evacuation and lockdown plans shall comply with applicable provisions of Sections 401.2 and 404 of the *International Fire Code*.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428

F3561-23 Standard Test Method for Forced-Entry-Resistance of Fenestration Systems After Simulated Active Shooter Attack

Reason: Proposed change to Section 101.3

An issue surfaced when the new Chapter 4 sections regarding forced entry resistance in E-occupancies was vetted. Is IBC Section 101.3 broad enough to include "ingress?" On the one hand, since "egress" is expressly included in Section 101.3, one might reasonably conclude that "ingress" is also impliedly included since a building cannot be exited unless it is first entered. On the other hand, one might reasonably conclude that for something to be within the purpose of the Code, it should be express, not implied. Since both interpretations appear reasonable, this proposed change to Section 101.3 is meant to allow the Technical Committee to address the issue.

The following may be helpful. A few years ago, in response to the many times that armed shooters have forced entry into occupied buildings, the ICC Board of Directors established the Ad Hoc Committee on Building Safety and Security ("Committee"). The Board tasked the Committee to "comprehensively explore and assess building safety and security."

In creating the Committee, the ICC Board understood that building safety not only includes their means of egress systems, but also their means of ingress. The Committee also understood that. In its final report, at p.3, the Committee concluded that, "Building safety and security is of the utmost importance. The design, layout and building features in both new and existing buildings can have an impact on both safety and security during targeted violent acts."

Whether the Committee concludes that "ingress" is already impliedly included in Section 101.3 - or - the term "ingress" should be added, it is clear that the life safety and security of building occupants depends both on properly constructed means of ingress and egress.

We urge you to support this proposal.

Proposed Addition of Section 429

This proposal is meant to provide school designers with a powerful new tool to assist them in making school occupants safer from active shooters. A new standard, namely, ***ASTM F3561-23 (Standard Test Method for Forced-Entry Resistance of Fenestration Systems After Simulated Active Shooter Attack)*** was specifically developed to enable school designs to incorporate building materials into ingress areas that have been tested and rated to resist forced entry by an active shooter.

The Scope of ASTM F3561, Section 1.1, explains the justification for its adoption by the IBC: "This test method sets forth the requirements and testing procedures to test forced-entry-resistant building components, construction components, and specialty security equipment. This test method is intended primarily for manufacturers to test and rate their windows, doors, modular panels, glazings, and similar products to ensure that all manufactured products meet the necessary requirements for forced-entry protection after sustaining an active shooter assault."

ASTM F3561 provides an objectively repeatable way to measure and assess whether the building components and assemblies used in a means of ingress area are, or are not, capable of resisting forced-entry attempts by an armed intruder. ASTM F3561 provides eight (8) increasingly difficult levels of testing forced-entry resistant building assemblies. This permits designers (i) to select the level of ASTM F3561 protection most appropriate for the risk associated with a particular means of ingress area and (ii) to ensure that the ingress area is constructed using materials rated to achieve that level of intruder resistance.

If adopted, the proposal would require applicable schools to construct main entrance areas so that those inside the school can see students and vehicles, including potential intruders, approaching the entrance. Additionally, it would require the windows, doors and sidelights in the main entrance to be constructed using rated assemblies, tested to ensure compliance with one of the eight levels of entry resistance established by ASTM F3561. It would also require glazed areas used in vestibule and other main entrance areas with an exposed area equal to or greater than 5 square feet and a bottom edge 72 inches or less above the finished ground level to be constructed using ASTM F3561 rated assemblies. (The square footage for required ASTM F3561 protection was borrowed from the size of the Code's emergency escape and rescue openings. *See*, IBC Section 1031.3.1. Seventy-two inches above grade was selected as a height beyond the reach of armed intruders, effectively exempting transoms and other out of reach areas of glazing from the additional cost associated with ASTM F3561 compliance.)

Beyond the main entrance area, the proposal also addresses classrooms and other potential ground floor ingress areas in exterior walls.

As in the case of main entrances, interior classroom doors and windows would be required to have a view from the classroom to corridor areas used to approach the classroom. Additionally, if warranted by a Registered Design Professional's assessment of forced entry risk, interior classroom window, door and sidelight assemblies would be required to be rated in accordance with ASTM F3561. Likewise, if warranted by a Registered Design Professional's assessment of forced entry risk, windows, doors and sidelights in ground floor exterior walls outside the main entrance would require assemblies rated in accordance with ASTM F3561.

According to the Federal Bureau of Investigation, the mean police response time to an active school shooter is about three (3) minutes. Lives can quickly be lost inside the building unless an active shooter's entry into the building can be stopped or delayed until the police arrive. We now have a consensus standard that, when judiciously used to design and construct the means of building ingress, can reliably slow or stop active shooters from entering our schools and their classrooms until the police arrive.

We urge your support for these proposals.

Bibliography:

Proposed change to Section 103.1

Ad Hoc Committee on Building Safety and Security, *Building Safety and Security Report*, International Code Council, Inc. copyright 2022.

Proposed Addition of Section 429

Sandy Hook Promise, *17 Facts About Gun Violence and School Shootings,* https://www.sandyhookpromise.org/glog/gun-violence/facts-about-gun-violence-and-school-shootings/.

Education Week, *School Shootings in 2023: How Many and Where*, January 6, 2023, https://www.edweek.org/leadership/schools-shootings-this-year-how-many-andwhere/2023/01.

FBI Law Enforcement Bulletin, *Police Response Time to Active Shooter Attacks,* https://leb.fbi,gov.image-repository/police-response-time-to-active-shooter-attacks.jpg/view.

Cost Impact: Increase

Estimated Immediate Cost Impact:

Proposed Change to Section 101.3

The proposed change to Section 101.3 is a clarification and has no cost impact on the cost of construction.

Proposed addition of Section 429

The cost of ASTM F3561 compliant assemblies in exterior building areas is approximately 41% more than the cost of assemblies compliant with current code. For an 850 sq. ft. main entrance area, this would be a $113,959 increase based on average cost (see cost justification). However, in a 105,000 sq. ft. school with 1,500 students, this cost of ASTM F3561 compliance would add less than 0.4% to the total construction cost of the school.

Estimated Immediate Cost Impact Justification (methodology and variables):

The infrastructure to manufacture the framing and most other components needed to construct entrance door and window assemblies for building ingress is already in place. It is modified to accommodate the varying sizes, thicknesses, weights, and energy requirements necessary for the manufacture of different types of products, for example, standard, hurricane resistant, fire rated or bullet resistant assemblies. The cost to manufacture, assemble and install means of ingress assemblies tested to ASTM F3561 in exterior building applications is comparable to the cost to produce and install tested hurricane resistant assemblies in exterior applications. Publicly available data indicates that the cost of these hurricane resistant assemblies are approximately 41% more than the cost of standard (non-hurricane resistant) assemblies. ***See***, Architectural Digest, *How Much Do Hurricane Windows Cost? (2024 Guide)*, https://www.architecturaldigest.com/reviews/windows/hurricane-windows-cost; Architectural Digest, *How Much Does Window Replacement Cost?* (2024), https://www.architecturaldigest.com/reviews/windows/windows/window-replacement-cost; Forbes, *How Much Does Window Replacement Cost in 2024?,* https://www.forbes.com/home-improvement/windows/window-replacement-cost/,

Two significant variables are:

(1) Registered Design Professional Assessments of Risk. The cost of incorporating this proposal into the construction costs of a school will depend on the total number of ground floor ingress areas the school building has and the total number of ingress areas that are determined to be at risk of armed intruder access. As the number of ground floor ingress areas are determined by a Registered Design Professional to warrant protection increases, the cost of construction will likely increase.

(2) The specific location of the school. This is an important variable since it will likely affect the total square foot cost of construction, and the total square foot size of the school which will increase as the student population of the school increases. Construction costs depend on location. Those in the Eastern and Western United States are the highest, while those in the South are the lowest, and those in the Midwest are in the middle. However, school size varies with the size of its student population, which will likely be larger in urban areas and smaller in rural, areas. The recommended square footage required per student is 59 sq. ft. for kindergarten through grade 6 and 80 sq. ft. for grades 7 and 8. **See**. CA Department of Education Sacramento, *Guide to School Site Analysis and Development* (2000 ed.), https://www.cde.ca.gov/ls/fa/sf/guideschoolsite.asp#:text=Greenee%20School%20Facilities%20Act%20of.for%20grades%20seven%20a

The average cost to build a school in the U.S. is currently $327 per sq. ft. **See**, ProEst, *Commercial Construction Costs Per Square Foot*, https::/proest.com/construction/cost-estimates/commercial-costs-per-square-foot/

Cost Justification: If the main entrance to a school is 850 sq. ft., its average costs of construction to current code is estimated to be $277,950. This proposal would increase that cost by 41% or $113,959. However, if that school has1,500 students and a total of 105,000 sq. ft., the additional cost of ASTM F3561 compliance for the main entrance area would be **less than 0.4%** of the total $34,446,180 cost to construct the school.

Staff Analysis: A review of the standard proposed for inclusion in the code, ASTM F3561-23 Standard Test Method for Forced-Entry-Resistance of Fenestration Systems After Simulated Active Shooter Attack, with regard to some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025.

G88-25

G89-25

IBC: SECTION 429 (New), 429.1 (New), 429.2 (New), 429.3 (New), 429.4 (New), 429.5 (New), 429.6 (New), 429.7 (New), 429.8 (New), 429.9 (New), 429.9.1 (New), 429.10 (New), 429.11 (New), 429.12 (New), 429.13 (New)

Proponents: Robert Davidson, Davidson Code Concepts LLC, representing Self (rjd@davidsoncodeconcepts.com); Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org); Robert Marshall, representing FCAC (fcac@iccsafe.org)

2024 International Building Code

Add new text as follows:

SECTION 429
BATTERY AND ESS RELATED OCCUPANCIES, EQUIPMENT AND OPERATIONS

429.1 General. Occupancies, equipment, and operations involving the following battery related uses shall comply with this code, the *International Fire Code*, the *International Mechanical Code* and NFPA 70.

1. Energy Storage Systems (ESS)
2. Battery manufacturing
3. Battery recycling
4. Battery repurposing
5. Manufacturing, charging, use, repair or storage of battery powered vehicles, mobility devices and equipment
6. Battery research and development
7. Battery storage

429.2 Energy storage systems. The installation, replacement, repair and operation of energy storage systems shall comply with Section 1207 of the *International Fire Code* and NFPA 855.

429.3 Battery manufacturing, recycling, research and development. Battery manufacturing, recycling, research and development. Occupancies, equipment, and operations involving battery manufacturing, recycling or research and development shall comply with Chapter 42 of the *International Fire Code.*

429.4 Vehicle and Equipment manufacturing and repair. Occupancies and operations involving the manufacturing or repair of battery powered vehicles, mobility devices and equipment shall comply with Chapter 42 of the *International Fire Code.*

429.5 Powered equipment and mobility device charging. Occupancies, equipment, and operations involving the charging of batteries for powered equipment and mobility devices shall comply with Chapter 42 of the *International Fire Code.*

429.6 Battery storage. Occupancies and operations involving battery storage shall comply with Chapters 32 and 42 of the *International Fire Code.*

429.7 Seismic protection. Where this code or the *International Fire Code* requirements provide for seismic protection for equipment and structural elements the protection shall comply with Chapter 16.

429.8 Structure. The structural loads for parking structures to accommodate EV's, and structural loads for buildings or structures to accommodate stationary energy storage systems, shall be designed in accordance with Chapter 16.

429.9 Fire-resistance-rated separations. Where this code or the *International Fire Code* requires operations or activities to be separated from adjoining areas by fire-resistance-rated construction the fire barriers shall be constructed in accordance with Section 707 and the horizontal assemblies constructed in accordance with Section 711, as applicable.

429.9.1 Penetrations and openings. Penetrations of fire-resistance-rated separations shall comply with Section 714. Openings in fire-resistance-rated separations shall comply with Section 716.

429.10 Fire protection. Where this code or the *International Fire Code* requires smoke detection, fire detection or fire suppression to be provided, the fire protection systems shall be installed in accordance with Chapter 9 and Chapter 27 of this code and the *International Fire Code* as applicable.

429.11 Gas detection systems. Where this code or the *International Fire Code* require gas detection systems to be provided, they shall be installed in accordance with Section 916 and Chapter 27 of this code.

429.12 Explosion control. Where this code or the *International Fire Code* requires explosion control to be provided it shall be installed in accordance with Section 414.5.1 of this code and Section 911 of *the International Fire Code.*

429.13 Mechanical exhaust ventilation. Where this code or the *International Fire Code* requires mechanical exhaust to be provided, it shall be installed in accordance with the *International Fire Code*, the *International Mechanical Code* and NFPA 70.

Reason: The purpose of this proposal is to provide guidance to users of the *International Building Code* that there are important construction requirements to apply from other sections of this code and from the *International Fire Code* relevant to battery R&D, manufacturing, recycling, storage and energy storage systems. The proposed language provides correlation language and where appropriate linkage to other sections of the *International Building Code.*

The International Fire Code Sections 320, 322, 911, 1201, 1206, 1207 and Chapter 32 contain requirements relative to the construction and occupancy of buildings and structures. Some examples are fire detection systems, gas detection systems mechanical exhaust systems, explosion control, fire-resistance-rated separations, and seismic requirements.

This proposal does not present new requirements, it is simply correlation guidance so the user of the building code is made aware that when it comes to activities dealing with batteries the fire code must be applied also.

This proposal is submitted jointly by the ***ICC Building Code Action Committee (BCAC)*** and the ***ICC Fire Code Action Committee (FCAC)***.

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at **BCAC webpage**.

FCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 and early 2024 the FCAC has held several virtual meetings and one in-person meeting open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the **FCAC Website**

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There is no increase in construction costs of buildings with this change as it is a correlation proposal. It relies on requirements addressing these issues found within the *International Building Code* and the *International Fire Code currently.*

G89-25

G90-25

IBC: SECTION 430 (New), 430.1 (New), 430.2 (New), 430.2.1 (New), 430.2.1.1 (New), 430.2.1.2 (New), 430.2.1.3 (New), 430.2.1.4 (New), 430.2.1.4.1 (New), 430.2.1.4.2 (New), 430.2.1.4.3 (New), 430.2.1.4.3.1 (New), 430.2.2 (New), 430.2.2.1 (New), 430.2.2.2 (New), 430.2.2.3 (New), 430.2.3 (New), 430.2.3.1 (New), 430.2.3.1.1 (New), 430.2.3.1.2 (New), 430.2.3.1.3 (New), 430.2.3.1.4 (New), 430.2.4 (New), 430.2.4.1 (New), 430.2.4.2 (New), 430.2.4.3 (New), 430.2.4.4 (New), 430.2.4.5 (New), 430.2.4.6 (New), SECTION 202 (New)

Proponents: Tristen Magallanes, representing DPR Construction (tristenm@dpr.com)

2024 International Building Code

Add new text as follows:

SECTION 430
INFORMATION TECHNOLOGY EQUIPMENT (ITE) AISLE CONTAINMENT ENCLOSURE

430.1 Applicability. The provisions of Sections 430.2 through 430.2.4.6 shall apply to all parts of *ITE aisles containment enclosure* structures, both *ITE hot ailses* and *ITE cold aisles*, that contain information technologyand equipment and associate appurtenances as herein defined.

430.2 ITE Containment Enclosure. *ITE aisle containment enclosure* and *ITE hot air enclosure* construction shall comply with Sections 430.2 through 430.2.1.4.3.1.

430.2.1 ITE containment enclosure construction. *ITE aisle containment enclosure* shall be constructed of materials as required for support and design for the type of equipment required to provide air-movement from the information technology equipment racks.

430.2.1.1 Hot and cold aisle application. *ITE aise containment enclosure* shall be applied to *ITE hot aisles* or *ITE cold aisles* of information technology equipment.

430.2.1.2 Containment enclosure type. *ITE aisle containment enclosure* and *ITE hot air enclosure* systems shall be one of the following types:

1. Factory-packaged and aftermarket systems designed, provided, and installed in accordance with the manufacturer's instructions.
2. Field-constructed systems designed and constructed using common construction materials.

430.2.1.3 Containment enclosure design. *ITE aisle containment enclosure* and *ITE hot air enclosure* systems shall not be considered to be plenums.

430.2.1.4 ITE aisle containment enclosure finishes. Finishes of the *ITE aisle containment enclosure* shall comply with Section 430.2.1.4.1 through 430.2.4.3.1.

430.2.1.4.1 Classification of containment enclosure finishes. Wall and ceiling finishes of the *ITE aisle containment enclosure* shall have a minimum of a Class A rating in accordance with Section 803 and classified in accordance with ASTM E84 or UL 723. Such *interior finish* materials shall be grouped in classes outlined in Ssection 803.1.2 in accordance with their flame spread and *smoke-developed indices.*

430.2.1.4.2 Class of interior finish. Walls and ceiling finishes of the *ITE aisle containment enclosure* in spaces that are fully protected by an *automatic sprinkler system,* or an *automatic fire-extinguishing system* shall be permitted to be Class B or better than in accordance

with Section 803 and ASTM E84 or UL 723. Such *interior finish* materials shall be grouped in classes outlined in Section 803.1.2 in accordance with their flame spread and *smoke-developed indices*.

430.2.1.4.3 Floor finish. Interior floor finishes used in *ITE aisle containment enclosure* areas shall be Class I in accordance with Section 804.

430.2.1.4.3.1 Floor Classification. *Interior floor finish* and floor covering materials required by Section 804.4.2 to be of Class I materials shall be classified in accordance with ASTM E648 or NFPA 253. The classification referred to herein corresponds to the classifications determined by ASTM E648 or NFPA 253 as a Class I, 0.45 watts/cm^2 or greater.

430.2.2 Protection systems. Protection systems shall comply with this Sections 430.2.2.1 through 430.2.2.3.

430.2.2.1 Automatic sprinkler system. Information technology equipment areas with *ITE aisle containment enclosures* shall be equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1. Where the application of *ITE aisle containment enclosure* or *ITE hot air enclosure* systems creates obstructions to proper operation of sprinkler systems, the sprinkler system shall be modified as necessary to comply with Section 903.

430.2.2.2 Alternative protection. Alternative *automatic fire-extinguishing systems* complying with Section 904 shall be permitted instead of automatic sprinkler protection were recognized by the applicable standard and *approved* by the fire code official.

430.2.2.3 Automatic water mist systems. *Automatic water mist system* shall be designed and installed in accordance with Section 904.11, and the manufacturer's instructions. *Automatic water mist systems* shall be automatically actuated.

430.2.3 Automatic fire detection. *Automatic fire detection* shall be provided for all *ITE aisle containment enclosure* systems. Detection and suppression components within *ITE aisle containment enclosure* shall be rated for the intended temperatures of *ITE hot aisles* when installed in those locations.

430.2.3.1 New system installations in existing ITE areas. Where a newly installed *ITE aisle containment enclosure* systems are installed in an existing information technology equipment area, the existing suppression and detection systems shall be evaluated, modified, and tested as necessary to maintain compliance with the applicable codes and standards.

430.2.3.1.1 Early warning detection. Automatic detection equipment shall be installed to provide early warning of fire.

430.2.3.1.2 Smoke detection listing. The equipment used shall be a listed smoke detection–type system installed and maintained in accordance with Section 907.

430.2.3.1.3 Evaluation of detection system effectiveness. Each of the information technology equipment areas and *ITE aisle containment enclosure* automatic detection systems shall be evaluated to determine the hazards and ambient conditions that are present and the corresponding performance level of the detection system.

430.2.3.1.4 Monitoring of detection system. The alarms and trouble signals of automatic detection or extinguishing systems shall be arranged to annunciate a signal at a constantly attended location.

430.2.4 Means of egress. Means of egress shall comply with Sections 430.2.4.1 through 430.2.4.6.

430.2.4.1 ITE Containment enclosure doors. Where *ITE aisle containment enclosures* are provided with doors for openings, the doors shall be side-hinged swinging doors.

430.2.4.2 Arrangement. Where two or more *exits* or *exit access doorways* from the *ITE aisle containment enclosures* are required in accordance with Section 1006.2, not fewer than one *exit* or *exit access doorway* shall be provided on each side of an *ITE aisle containment enclosure*.

430.2.4.3 Number of means of egress. Not fewer than one *means of egress* shall be provided from *ITE aisle containment enclosures.*

430.2.4.4 Exit access travel distance. The *exit access* travel distance shall be not greater than 300 feet (91 440 mm) for *ITE aisle containment enclosures* without a sprinkler system and 400 feet (122 mm) for buildings equipped throughout with an *automatic sprinkler system*in accordance with Section 903.3.1.1.

430.2.4.5 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).

430.2.4.6 Width. The path of egress travel within and from the *ITE aisle containment enclosures* shall be not less than 22 inches (559 mm).

Add new definition as follows:

INFORMATION TECHNOLOGY EQUIPMENT (ITE) AISLE. The passageway between information technology equipment or between information technology equipment and the room wall that allows personnel access to the information technology equipment for service or operation of the equipment.
INFORMATION TECHNOLOGY EQUIPEMENT (ITE) AISLE CONTAINMENT ENCLOSURE. An enclosure design for connection to HVAC equipment or cooling equipment design method deployed in the occupied area of an air-cooled information technology equipment space utilizing physical separation of hot exhaust air from cooler intake air between equipment cabinets, rows of information technology equipment, or associated power and cooling infrastructure; containment is typically above and at both ends of a hot aisle or a cold aisle, in whole or part.
INFORMATION TECHNOLOGY EQUIPEMENT (ITE) COLD AISLE . The aisle on the front side of the airflow intakes on the information technology equipment where HVAC cooling airflow is controlled to cool the information technology equipment.
INFORMATION TECHOLOGY EQUIPEMENT (ITE) HOT AIR ENCLOSURE. An air conveyance assembly used to direct heated exhaust air from information technology equipment cabinets, enclosures, or racks area directly to a removal air path.
INFORMATION TECHNOLOGY EQUIPMENT (ITE) HOT AISLE. The aisle at the rear side of the information technology equipment where heated exhaust air is controlled and directed into the aisle for return to the HVAC equipment.

Reason: This new section is proposed to be added to Chapter 4 to provide specific regulations for an Information Technology Equipment (ITE) Aisle Containment Enclosure which are used in data centers hall.

The proposed new section introduces definitions and construction requirements for Information Technology Equipment (ITE) aisle containment enclosures, addressing a gap in the International Building Code (IBC). These enclosures are critical components in modern data centers, providing enhanced control over airflow while improving energy efficiency and enhance cooling performance.

This proposal seeks to standardize the terminology, materials, and safety measures related to ITE aisle containment systems. By defining key terms, specifying construction materials, and incorporating fire protection and egress standards, the proposed language ensures that these systems meet safety requirements while optimizing performance.

The development of these new sections reflects the industry's transition towards sustainable solutions. Our team has introduced a sustainable aisle containment offering designed to reduce carbon emissions and expand available options for data center operators. By codifying these solutions, the proposed section aligns with environmental goals and offers a clear framework for adoption and compliance, ultimately benefiting the industry by providing consistency and promoting innovation.

This addition is driven by the needed for specific code language and the introduction of a sustainable aisle containment solution that expands industry options, enabling compliance with evolving environmental standards, and contributing to carbon footprint reduction. By codifying these containment enclosures, the proposed language seeks to provide consistency in application, enhance safety and functionality, and encourage sustainable practices within the industry.

These enclosures are currently being installed at a later date once the occupancy certification and service racks are installed. Many aisle containment enclosures may not be reviewed and inspected until much later in the construction or during the annual inspection. This new language is designed to work with and allow current containment enclosures systems to continue to be used while allowing safety and sustainable alternative designs to be considered.

Proposed New Definition. These new definitions are required to ensure that the new terms proposed in this new Chapter 4 section for

ITE containment enclosures are properly defined, identified, and used for the installation of this equipment and enforcement is applied consistently.

The definition of an *ITE Aisle* is as that the ITE Aisle has key elements including passageway between equipment intended for movement of people and/or equipment; typically located between opposing rows of ITE enclosures or racks but could be between two free-standing pieces or racks of ITE; and are intended for routine human activity such as service or operation (therefore not a plenum space).

The definition of an *ITE Aisle Containment Enclosure* has key elements for defining the housing or construction of the containment enclosure and includes an occupied area for service of the ITE equipment, the area for the capture of the air movement from the ITE equipment, and is connected to the HVAC equipment (excluding areas above a ceiling or below a raised floor); utilizing physical separation between hot and cold air (excluding structural or construction methods such as fire-rated walls); and can be either a hot aisle or a cold aisle or a mix of both at select portions of the aisle.

The definition of a *ITE Cold Aisle* is defined as the area of the containment enclosure that is part of the airflow controlled having intake air cold, implying an aisle normally intended for operation and services of the ITE, and cool air from the output of the HVAC system.

The definition of the *ITE Hot Air Enclosure* is defined as an air conveyance assembly, sometimes referred to as a collar, duct, or chimney which is typically from specific equipment rather that from larger areas such as room or data hall; the hot air enclosure is not required to be physically connected to a duct or plenum, but can be so the heated air can be exhausted, cooled and recirculated, or removed from the space.

The definition of the *ITE Hot Aisle* is defined as the heated airflow that is contained and controlled to exhaust air hot generated by the ITE equipment, implying an aisle normally intended for access to service of the ITE, and is part of the heated air returning to the input of the HVAC system that can be exhausted, cooled and recirculated, or removed from the space.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposed code addition has no cost impact on the current installation of ITE aisle containment systems. The new section does not introduce additional requirements that would increase the cost of compliance for existing installations or commonly used products.

Our specific sustainable aisle containment product is designed to be cost-neutral in comparison to traditional systems. While it may result in a 3-5% increase in material costs for some installations, this is offset by the potential operational cost savings through improved energy efficiency and sustainability. These savings can contribute to a lower total cost of ownership over the lifecycle of the installation and result in overall cost savings.

Overall, the proposed language provides clear guidance for the industry without imposing undue financial burdens, while fostering opportunities for adopting innovative and sustainable solutions.

G90-25

G91-25

IBC: CHAPTER 6, CHAPTER 5

Proponents: Eirene Knott, representing BRR Architecture (eirene.knott@brrarch.com)

2024 International Building Code

Revise as follows:

CHAPTER ~~6~~5
TYPES OF CONSTRUCTION

CHAPTER ~~5~~6
GENERAL BUILDING HEIGHTS AND AREAS

Reason: For most designers, the flow of the IBC presents occupancy, then the allowable building size based on occupancy, but construction type, which follows the allowable size is part of the building sizing. Wouldn't it make more sense to have the construction types first then have the allowable building size after both occupancy and construction types have been presented?

All this code change does is more Chapter 6, Construction Types, to be before Chapter 5, General Building Heights and Area.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is only moving current code text.

G92-25

IBC: SECTION 503, 503.1, FIGURE 503.1 (New)

Proponents: Larry Sherwood, Sustainable Energy Action Committee, representing IREC (larry@irecusa.org); Philip Oakes, representing NASFM; Dara Yung, representing California Solar & Storage Association (CALSSA) (dara@calssa.org); Joseph H. Cain, P.E., representing Solar Energy Industries Association (SEIA) (joecainpe@gmail.com)

2024 International Building Code

SECTION 503
GENERAL BUILDING HEIGHT AND AREA LIMITATIONS

Revise as follows:

503.1 General. Unless otherwise specifically modified in Chapter 4 and this chapter, *building height*, number of *stories* and *building area* shall not exceed the limits specified in Sections 504 and 506 based on the type of construction as determined by Section 602 and the occupancies as determined by Section 302 except as modified hereafter. *Building height*, number of *stories* and *building area* provisions shall be applied independently. For the purposes of determining area limitations, height limitations and type of construction, each portion of a building separated by one or more *fire walls* complying with Section 706 shall be considered to be a separate building.

Exceptions:

1. Other than structural requirements, rooftop-mounted *photovoltaic (PV) panel systems* with no use underneath shall not constitute an additional story or additional floor area and shall be permitted to exceed the height limit of a building where one of the following conditions are met:
   - 1.1. For all occupancies, the highest point of the *rooftop-mounted PV panel system* shall meet the lower of the following values:
     - 1.1.1. 3 feet (915 mm) above the allowable building height.
     - 1.1.2. 3 feet (915 mm) above the roof of the building immediately below.
   - 1.2. For installations on low-slope roofs (roof slope < 2:12) in other than Group R-3 and R-4 occupancies, the highest point of the rooftop-mounted *PV panel system* shall meet the lower of the following values:
     - 1.2.1. 10 feet (3050 mm) above the allowable building height.
     - 1.2.2. 10 feet (3050 mm) above the roof of the building immediately below.
2. Other than structural requirements, *elevated photovoltaic (PV) support structures* installed on the roof of an open parking structure or the roof of an enclosed parking garage shall not constitute an additional story or additional floor area and shall be permitted to exceed the height limit of a building where all the following conditions are met (see Figure 503.1):
   - 2.1. The area within the perimeter of *elevated PV support structures* has maximum rectangular dimension of 40 feet by 150 feet (12 195 mm by 45 720 mm).
   - 2.2. The distance between *elevated PV support structures* is a minimum of 10 feet (3050 mm) clear.
   - 2.3. The driveway aisle separating *elevated PV support structures* has a minimum width of 25 feet (7620 mm) clear.
   - 2.4. *Elevated PV support structures* are used only for parking purposes with no storage.
   - 2.5. *Elevated PV support structures* are completely open on all sides, other than necessary structural supports, with no interior partitions.

Add new text as follows:

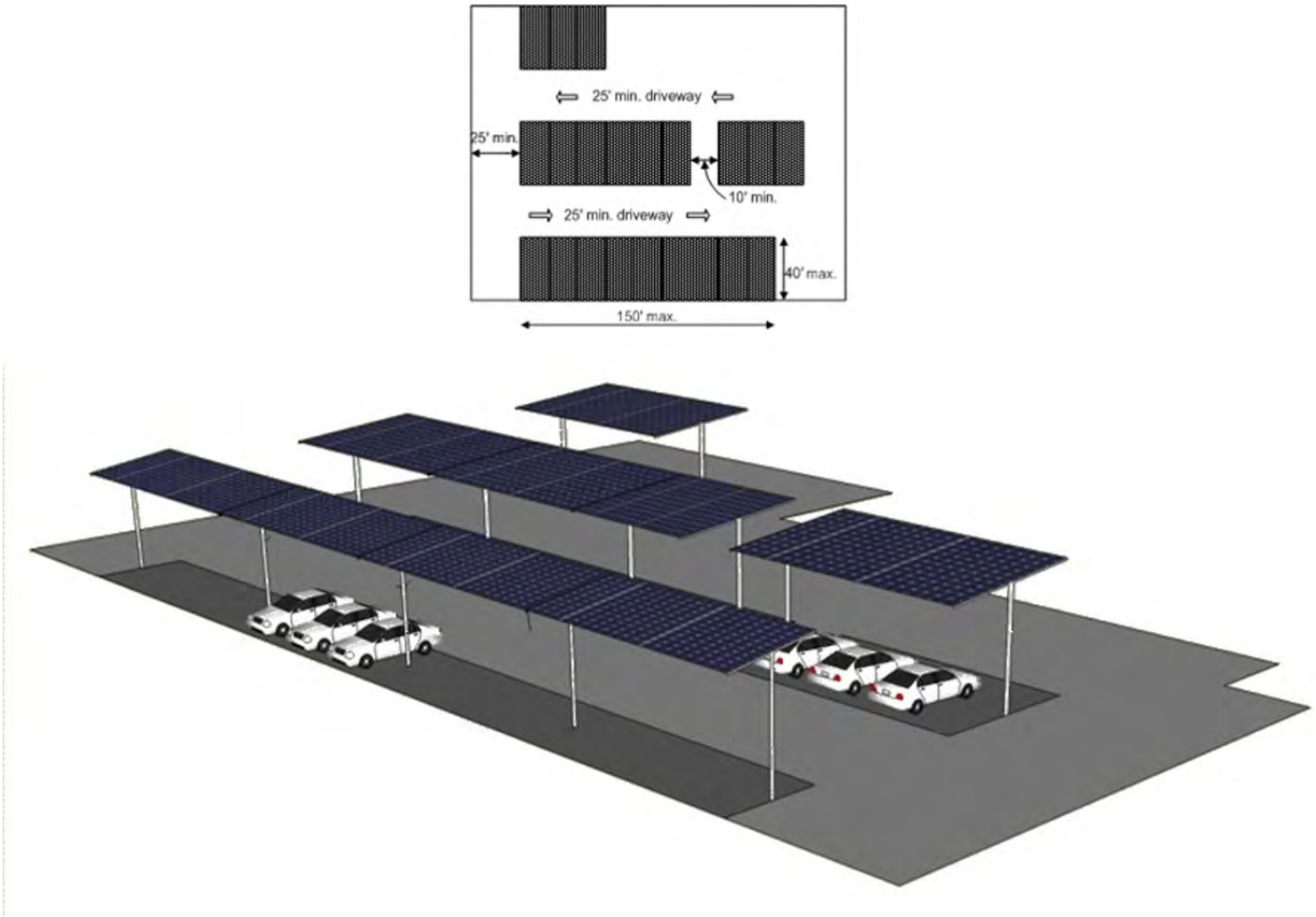


FIGURE 503.1 LOCATION OF *ELEVATED PV SUPPORT STRUCTURES* ON OPEN PARKING STRUCTURES

Reason: The primary objective of this proposal is to provide exceptions to clarify that elevated PV support structures can be installed on top of a multi-story parking garage under certain conditions without impacting restrictions on number of stories, height or area. Likewise, under certain conditions, rooftop-mounted PV systems do not cause a building to be noncompliant with these provisions. The exceptions in this proposal are similar to exceptions that have existed in the California Building Code for several cycles, with support of the fire service and without any compromises in safety to the building or fire fighters. These exceptions will not impact the ability to fight fires on top of buildings.

Without the exceptions proposed here, rooftop solar structures can be interpreted to constitute an additional story of the building, increase the overall building height or where there is a use underneath such as elevated PV support structures, increase the floor area of the building. As a result, solar installations may not be allowed in buildings that are built to the maximum height, story or floor area. The proposed code revision provides an exemption for photovoltaic systems from these code restrictions.

Exception 1: This amendment allows solar PV systems to be installed above the maximum building height specified by code with limitation. This amendment will make it feasible to install rooftop solar PV systems on top of buildings that are built to the maximum height which is especially common in existing buildings. It will also make it practical for PV panels to be installed above the roof with the required tilt angle and be at a height that avoids interference with vents and equipment on the roof.

Exception 2: The amendment allows solar PV panel installations over parking stalls to be installed without being considered a story or floor area, these restrictions may prevent solar PV systems from being installed in buildings that have the maximum number of stories or floor area which is especially common in existing buildings. The exception requires minimum spacing between solar PV panel structures to allow fire access and provide a fire break.

These exceptions have existed in the California Building Code for several cycles. These provisions have been used by California cities and counties by industry, building owners, building departments, and fire departments, without questions or concerns that have come to the attention of the co-proponents. All stakeholders have been able to utilize these technical requirements without issues, and without any proposed modifications to the language for multiple cycles.

This proposal was prepared by the Sustainable Energy Action Committee (SEAC), a forum for all stakeholders (including, but not limited to, AHJs, designers, engineers, contractors, first responders, manufacturers, suppliers, utilities, and testing labs) to collaboratively identify and find solutions for issues that affect the installation and use of solar energy systems, energy storage systems, demand response, and energy efficiency. The purpose is to facilitate the deployment and use of affordable, clean and renewable energy in a safe, efficient, and sustainable manner. All recommendations from SEAC are approved by diverse stakeholders through a consensus process.

This proposal was prepared by the Sustainable Energy Action Committee (SEAC), a forum for all stakeholders (including, but not limited to, AHJs, designers, engineers, contractors, first responders, manufacturers, suppliers, utilities, and testing labs) to collaboratively identify and find solutions for issues that affect the installation and use of solar energy systems, energy storage systems, demand response, and energy efficiency. The purpose is to facilitate the deployment and use of affordable, clean and renewable energy in a safe, efficient, and sustainable manner.

All recommendations from SEAC are approved by diverse stakeholders through a consensus process. For more information, please visit www.sustainableenergyaction.org

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

It encourages the use of solar without adversely impacting safety.

G92-25

G93-25

IBC: 503.1.4.1

Proponents: David Renn, PE, SE, City and County of Denver, representing Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

2024 International Building Code

503.1.4 Occupiable roofs. A roof level or portion thereof shall not be used as an occupiable roof unless 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 occupiable roofs shall not be included in the *building area* as regulated by Section 506. An *occupiable roof* shall not be included in the *building height* or number of *stories* as regulated by Section 504, provided that the *penthouses* and other enclosed *rooftop structures* comply with Section 1511.

Exceptions:

1. The occupancy located on an *occupiable 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 Sections 907.5.2.1 and 907.5.2.3 is provided in the area of the *occupiable roof* . *Emergency voice/alarm communication* system notification per Section 907.5.2.2 shall also be provided in the area of the *occupiable roof* where such system is required elsewhere in the building.
2. Assembly occupancies shall be permitted on roofs of open parking spaces of Type I or Type II construction, in accordance with the exception to Section 903.2.1.6.

Revise as follows:

503.1.4.1 Enclosures ~~over~~around occupiable roof areas. Elements or *structures* enclosing the *occupiable roof* areas shall not extend more than 48 inches (1220 mm) above the surface of the *occupiable roof*.

Exceptions :

1. *Penthouses* constructed in accordance with Section 1511.2 and towers, domes, spires and cupolas constructed in accordance with Section 1511.5.
2. Elements or *structures* enclosing the *occupiable roof* areas where the *roof deck* is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.
3. Elements or *structures* enclosing *occupiable roof* areas located on the same level as a *story*.

Reason: The enclosure height limitation for occupiable roofs is written for occupiable roofs that are the highest level of the building; however, there are many instances where occupiable roofs are lower on the building and are located on a level that is already classified as a story. For this case, the current requirements do not allow the exterior wall of the building that continues up from the occupiable roof to enclose the occupiable roof. This is obviously not the intent as this would prohibit low roofs on buildings. This requirement is also not needed since the level is already regulated as a story. This proposal corrects this oversight in the code by exempting occupiable roofs that are on the same level as a story.

Note that Section 503.1.4 is included for reference only - there are no changes proposed for this section.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

It is clearly not the intent of the code to prohibit low occupiable roofs; therefore, this proposal is simply an editorial change to clarify the intent of the code with no cost impact.

G94-25 Part I

IBC: 503.1.4.1

Proponents: Jeff O'Neill, Chair, representing Committee on Healthcare (ahc@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE EXISTING BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Revise as follows:

503.1.4.1 Enclosures over occupiable roof areas. Elements or *structures* enclosing the occupiable roof areas shall not extend more than 48 inches (1220 mm) above the surface of the occupiable roof.

Exceptions:

1. *Penthouses* constructed in accordance with Section 1511.2 and towers, domes, spires and cupolas constructed in accordance with Section 1511.5.
2. Elements or *structures* enclosing the *occupiable roof* areas where the *roof deck* is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.
3. In Group I-1 and I-2 facilities, required guards enclosing the occupiable roof areas shall be permitted to be greater than 48 inches (1219 mm) above the surface of the occupiable roof to prevent elopement or self-harm.

G94-25 Part II

IEBC: 1011.5.1, 1011.5.2

Proponents: Jeff O'Neill, Chair, representing Committee on Healthcare (ahc@iccsafe.org)

2024 International Existing Building Code

Revise as follows:

1011.5.1 Means of egress for change to a higher-hazard category. Where a change of occupancy classification is made to a higher-hazard category (lower number) as shown in Table 1011.5, the means of egress shall comply with the requirements of Chapter 10 of the *International Building Code*.

Exceptions:

1. Stairways shall be enclosed in compliance with the applicable provisions of Section 903.1.
2. Existing stairways including handrails and guards complying with the requirements of Chapter 9 shall be permitted for continued use subject to approval of the *code official*.
3. Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.
4. Existing corridor walls constructed on both sides of wood lath and plaster in good condition or $^{1}/_{2}$-inch-thick (12.7 mm) gypsum wallboard shall be permitted. Such walls shall either terminate at the underside of a ceiling of equivalent construction or extend to the underside of the floor or roof next above.
5. Existing corridor doorways, transoms and other corridor openings shall comply with the requirements in Sections 804.7.1, 804.7.2 and 804.7.3.
6. Existing dead-end corridors shall comply with the requirements in Section 804.8.
7. An operable window complying with Section 1011.5.6 shall be accepted as an *emergency escape and rescue opening*.
8. In Group I-1 and I-2 facilities, required guards enclosing the *occupiable roof* areas shall be permitted to be greater than 48 inches (1219 mm) above the surface of the *occupiable roof* ~~where the occupants, because of clinical needs, require restraint or containment as part of a function of a psychiatric or cognitive treatment area~~ to prevent elopement or self-harm.

1011.5.2 Means of egress for change of use to an equal or lower-hazard category. Where a change of occupancy classification is made to an equal or lesser-hazard category (higher number) as shown in Table 1011.5, existing elements of the means of egress shall comply with the requirements of Section 905 for the new occupancy classification. Newly constructed or configured means of egress shall comply with the requirements of Chapter 10 of the *International Building Code*.

Exceptions:

1. Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.
2. In Group I-1 and I-2 facilities, required guards enclosing the *occupiable roof* areas shall be permitted to be greater than 48 inches (1219 mm) above the surface of the *occupiable roof* ~~where the occupants, because of clinical needs, require restraint or containment as part of a function of a psychiatric or cognitive treatment area~~ to prevent elopement or self-harm.

Reason: The intent of this proposal is to allow higher guards for patient safety around outdoor patient garden/exercise areas on the roof.

The Healthcare committee understands the guard height limitation for low rise buildings was to allow for fire department access to the roof. However, we feel that this change is desperately needed to the routine safety of residents.

Access to fresh air and getting outside is incredibly important for the well-being of older adults who live in Group I-1 & I-2 care facilities. Outdoor areas are also important for patient mental health and wellness in hospitals. g care recipients spend up to 90% of their time indoors and if the only choice of outdoor space requires staff or volunteers to take them downstairs, via an elevator, to get outside, care recipients never get the opportunity to be outside. Hospitals and nursing homes in a urban environment often don't have property that would allow for outdoor patient areas. If a garden space or other outdoor area can be

created on a roof adjacent to sleeping areas, this can make getting outside much easier.

These types of facilities have extensive fire and safety evacuation plans and staff that is trained in assisting care recipients and guests for evacuation/defend-in-place during an emergency. Fire departments perform regular inspections of these buildings, so they would be very familiar with the layouts. In addition, these facilities have exceptionally good records for a small number of fire events. All I-1 and I-2 occupancies already require automatic sprinkler systems.
Unfortunately, while we want care recipients to get outside, we also need to keep them safe. We know that exit seeking behavior is prevalent and a 48" barrier is not enough to protect from elopement or self harm.
There was a similar change in Group A, G105-21 that had an original intention of allowing for guards to exceed the height limitation required by IBC Section 503.1.4.1. The modification to broaden this allowance for "walls, parapets, rooftop structures (some of which are exempted in Exception 1), and wind screens" on roofs above the reach of fire departments (>75') was appropriate. However, there is still the issue with existing buildings that want to expand or add an occupied roof with the result being:

- If any structure or guard is above 48" high, this is now being considered an additional story so they could violate height limitations for the type of construction.
- If the building is less than 75' in height, you cannot have guards high enough to discourage people from jumping off the roof.

Below are pictures of a roof garden on a memory care facility. There are glass panels between the columns. The overhead trellis system is made from aluminum or steel, and prevents people from climbing up and over the glass.

Regarding the change to the IEBC - It has been brought to our attention that there are many folks, in healthcare settings, that seek to commit suicide. These could be care recipients with depression or cognitive challenges (who would have a clinical need), but it could also include care recipients that receive an unfavorable diagnosis or even family members, friends or medical staff. The proposed change would broaden the scope of where higher guards would be permitted to prevent self-harm to all users of these spaces. As noted previously, these I-1 and I-2 facilities have staff that are trained to assist in the event of an emergency and fire departments are familiar with the layout and conditions.

This proposal is submitted by the ICC Committee for Healthcare (CHC).

The Committee on Healthcare (CHC) was established by the ICC Board of Directors in 2011 to pursue opportunities to study and develop effective and efficient provisions for Hospital, Nursing Homes, Assisted Living and Ambulatory Care Facilities. This committee was formed in cooperation with the American Society for Healthcare Engineering (ASHE). In July of 2017, the ICC Board made CHC a standing committee. In 2023 and 2024 the CHC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the CHC website at CHC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is an optional allowance for certain facilities so will provide design flexibility. It will cost more if such barriers are constructed but that is an option for the building owner.

G94-25 Part II

G95-25

IBC: 504.3

Proponents: Matt Archer, City of Lone Tree, representing Code Change Committee of ICC Colorado Chapter (matt.archer@cityoflonetree.com)

2024 International Building Code

Revise as follows:

504.3 Height in feet. The maximum height, in feet above grade plane, of a *building* shall not exceed the limits specified in Table 504.3.

Exception: Towers, spires, steeples and other *rooftop structures* shall be constructed of materials consistent with the required type of construction of the *building* except where other construction is permitted by Section 1511.2.4. Such *structures* shall not be used for habitation or storage. The *structures* shall be unlimited in height where of noncombustible materials and shall not extend more than 20 feet (6096 mm) above the allowable *building height* where of combustible materials (see Chapter 15 for additional requirements).

Reason: This proposal is editorial in nature, the words 'in feet' provide no real definitive understanding of where or how to measure. Adding the defined term 'grade plane' provides clarity for how to measure. While the term grade plane is in the title of table, it is best practice to have the defining term in the charging language of the code and let the table clarify the heights.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal should not have any cost impacts as it is editorial in nature. Adding the defined term 'grade plane' provides clarity for how to measure.

G96-25

IBC: TABLE 504.3, TABLE 504.4

Proponents: Jeffrey Shapiro, LTFR, representing Lake Travis Fire Rescue (jshapiro@LTFR.org)

2024 International Building Code

Revise as follows:

TABLE 504.3 ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE[a]

Portions of table not shown remain unchanged.

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R[h]	NS[d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13D	60	60	60	60	60	60	60	60	60	60	60~~50~~	60~~40~~
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

TABLE 504.4 ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE[a, b]

Portions of table not shown remain unchanged.

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-3[h]	NS[d]	UL	11									3	3
	S13D	4	4	4	4	4	4	4	4	4	4	~~4~~3	~~4~~3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4

Reason: Although I serve as a consultant to the National Fire Sprinkler Association, this proposal has not been reviewed or endorsed by NFSA, and I am not representing NFSA on this issue.

Recommended changes are supported on the basis of:

1. Improved correlation between the IRC and IBC with respect to limits on Type V-B construction,
2. Empirical evidence supporting the effectiveness of NFPA 13D sprinkler systems in controlling and extinguishing dwelling fires that was not available when the IBC originally considered story/height credit for Group R3 more than 25 years ago.

1. IRC Correlation: Following approval of Proposal RB17-07/08, which added an allowance for habitable attics to the 2009 IRC, the IRC has continued to expand the habitable attic concept to the point where it essentially constitutes a 4th story, even though the code is technically limited to 3-story construction. Proposal RB166-16 eliminated a prior restriction requiring the ceiling of a habitable attic to be limited to rafters/roof framing, so lacking restrictions on the height of surrounding knee walls or dormer size, the 2018 and 2021 IRC editions essentially equate habitable attics and stories. Proposal RB152-19 called attention to the IRC 4th story habitable attic loophole, with the intent of pushing such construction back to the IBC, but that proposal was later modified to instead place a size limit on habitable attics and require NFPA 13D fire sprinklers when a habitable attic is placed above the third story. Today, standing outside of a newly constructed dwelling with a habitable attic above the third story, you'd be looking at what appears to be an 4-story unlimited height (in feet) Type V-B building, protected by a NFPA 13D sprinkler system, that meets the IRC. It makes no sense for the IBC to not allow Type V construction or require changing to a NFPA 13R sprinkler system to construct a similarly configured Group R-3 building.

2. Performance of residential sprinkler systems: Since the question of NFPA 13D performance was previously considered in the code arena, a considerable number of NFPA 13D sprinkler systems have been installed throughout the U.S., and there have been a considerable number of fires in structures protected by NFPA 13D systems, enough to provide meaningful data regarding the effectiveness of these systems in controlling and extinguishing dwelling fires. An analysis of data captured by the National Fire Incident Reporting System shows that in more than 2,500 fire incidents in the period 2000-2022 where sprinklers operated and were effective, presumably NFPA 13D systems considering that the data is associated with one-and two-family dwelling fires, fire spread was limited to the object or room of origin in 87% of fires, and up to the story of origin in a total of 92% of fires. This seems sufficiently equivalent to the effectiveness of NFPA 13 and NFPA 13R systems to justify receiving similar height/story incentive for one- and two-family dwellings and townhouses.

It is noteworthy that the ICC has already rendered favorable consideration on a variety of incentives for NFPA 13D sprinkler systems for dwelling unit protection, so this proposal is not plowing entirely new ground. For example, IBC Section 1031.2, Exception 5 (which recognizes NFPA 13D for a means of escape incentive); IFC Section 1205.2.1.3 (which allows a reduction of required setbacks for PV systems on roofs); IFC Appendix Table B105.1(1) (which allows a reduction in required fire flow); IFC Appendix Section D107.1 (which allows a reduction in the required number of fire apparatus access roads); IRC Section R317.5 (which per reference to Table R302.1(2) equates sprinkler protection to a 1-hour exterior wall and property line separation or wall penetrations and openings); among others.

It is also important to point out that the additional story will not trigger requirements in Section 1023.2 for additional fire-resistive protection of the 4-story stairway because stairways within dwelling and townhouse units are *exit access stairways,* not interior exit stairways (to which Section 1023.2 applies).

Cost Impact: Decrease

Estimated Immediate Cost Impact:

Since similar construction is already permitted under the IRC, the estimated impact is $0, and adding the recommended provisions to the IBC is not a significant change with respect to the ICC code family.

Estimated Immediate Cost Impact Justification (methodology and variables):

This proposal would allow a larger area of the habitable attic under the IRC as a full 4th story in the IBC. Allowing a larger area of what is essentially already permitted by code adds design freedom and only impacts cost when someone would chose to take advantage of the proposed allowance. It could also be viewed as a cost reduction for cases where the larger area of the upper story would otherwise require changing from a NFPA 13D system (under the IRC) to a NFPA 13R system (under the IBC), or changing from Type V to Type I, Type II, Type III or Type IV construction to exceed IRC habitable attic area limits that were added in the 2021 IRC. Regardless of which code is used, IBC or IRC, dwellings affected by this proposal will require fire sprinklers, even in jurisdictions where IRC Section 313 has not been adopted, because IRC Section 326 requires sprinklers per NFPA 13D or IRC P2904 to extend a habitable attic above the third story of an IRC dwelling.

G96-25

G97-25

IBC: TABLE 504.3, TABLE 504.4

Proponents: Greg Johnson, Johnson & Associates Consulting Services, representing self (gjohnsonconsulting@gmail.com); Robert Buchetto, HED, representing Self (rbuchetto@hed.design); Jay Peters, representing Codes and Standards International (peters.jay@me.com)

2024 International Building Code

TABLE 504.3 ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE[a]

Portions of table not shown remain unchanged.

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, D, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = *Buildings* equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.3.

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

b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.

c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.

d. The NS value is only for use in evaluation of existing building height in accordance with the *International Existing Building Code*.

e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.

f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and with Section 1103.5 of the *International Fire Code*.

g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.

h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

TABLE 504.4 ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE[a, b]

Portions of table not shown remain unchanged.

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
D	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2

UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.3.

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

b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.

c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.

d. The NS value is only for use in evaluation of existing building height in accordance with the *International Existing Building Code*.

e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.

f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and Section 1103.5 of the *International Fire Code*.

g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.

h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Reason: Data centers are unique uses and should have their own occupancy classification to remove confusion in the field, as is proposed in a companion proposal. Data centers are frequently assigned an F-1 or S-1 occupancy classification. The values proposed in this proposal are consistent with a S-1 occupancy classification.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Data centers are currently and frequently being constructed with these height limits so no additional costs accrue.

G97-25

G98-25

IBC: 504.4

Proponents: William Koffel, Koffel Associates, Inc., representing Semiconductor Industry Association (wkoffel@koffel.com)

2024 International Building Code

Revise as follows:

504.4 Number of stories. The maximum number of *stories above grade plane* of a *building* shall not exceed the limits specified in Table 504.4.

Exception: In a Group H-5 mixed-occupancy building of Type IA construction, the number of stories shall be permitted to be 8 where all of the following are met:

1. The Group H-2 occupancies are located no more than 3 stories above grade.
2. The Group H-3 occupancies are located no more than 6 stories above grade.
3. The Group H-2 and H-3 occupancies are separated by a minimum of 80 feet (24 384 mm) in accordance with Section 415.6.5.

Reason: Group H-5 occupancies in buildings of Type IA construction are currently restricted to 4 stories even though the height limit in feet is unlimited. The four stories was based upon the design and construction of semiconductor facilities at the time, which did not include fabrication areas located above another fabrication area. However, the NFPA 318 Technical Committee is developing criteria for stacked fabs and semiconductor facilities are currently being design using the concept of stacked fabs.

Increasing the number of stories to 8 may be more restrictive than the provisions being developed by the NFPA 318 Technical Committee. However, this is considered to be the initial step which can be re-evaluated once the criteria for stacked fabs has been fully developed.

Recognizing that Section 415.6.5 has been revised to increase the quantities permitted in Group H-2 and H-3 areas in a mixed-occupancy Group H-5 building, the location of these areas should be restricted. Since Table 504 does not restrict the number of stories for Group H-2 and Group H-3 occupancies in buildings of Type IA construction, the proposal incorporates the number of story limits for Type 1B construction as a condition for allowing more stories of Group H-5 occupancies.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0

Estimated Immediate Cost Impact Justification (methodology and variables):

By allowing an increase in the number of stories for Group H-5 occupancies, the cost of construction will be decreased when the option is used.

G99-25

IBC: 505.2

Proponents: Jeffrey Grove, representing Southern Nevada ICC Chapter (jeff.grove@coffman.com); Allen Burris, Clark County Nevada, representing Southern Nevada Chapter (allen.burris@clarkcountynv.gov)

2024 International Building Code

Revise as follows:

505.2 Mezzanines. A *mezzanine* or *mezzanines* in compliance with Section 505.2 shall be considered a portion of the *story* below. Such *mezzanines* shall not contribute to either the *building area* or number of *stories* as regulated by Section 503.1. The area of the *mezzanine* shall be included in determining the *fire area*. The clear height above and below the *mezzanine* floor construction shall be not less than 7 feet 6 inches (~~2134~~ 2286 mm).

Exception: The clear height above and below the mezzanine shall not be less than 7 feet for spaces with one exit in accordance with Table 1006.2.1.

Reason: Section 1208.2 dictates a minimum ceiling height of 7'-6" for occupiable spaces, habitable spaces, and corridors. The charging statement for Section 1003.2 states "The means of egress shall have a ceiling height of not less than 7 feet 6 inches (2286 mm) above the finished floor." With some exceptions for sloped ceilings, projections, stairs, and parking garages. Both Sections defer to Section 505.2 for mezzanines in the exceptions.

Mezzanines are grouped with equipment platforms in the code.

In fact, Section 505 is entitled: **MEZZANINES AND EQUIPMENT PLATFORMS**. This is consistent with the thought that mezzanines are primarily small areas for equipment or storage. However, the size of the mezzanine is only limited by the area of the floor below under 505.2.1.; larger floor plates allow larger mezzanines. From a design standpoint the code encourages the use of large mezzanines since they do not count as stories and do not contribute to building area under 503.1. The occupancy group of mezzanines is also not limited. Because of these two conditions the code allows large occupancy loads in mezzanines. Mezzanines are also intended to be open to the floor below. The charging statement in **Section 505.2.3 Openness.** Requires these areas be "open and unobstructed to the room in which… except for walls not more than 42 inches in height (1067) in height, columns, and posts." It is understood that this is for smoke buildup in the low ceiling areas compromising the means of egress path. However, the code allows enclosure of these spaces in the Exceptions if either the occupant load is under 10 or two or more exits or access to exits are provided.

The proposed code change proposal would coordinate these various requirements, by using the same two exit requirement in the exceptions to trigger the height requirements mentioned elsewhere in the code. Lastly, greater occupancy loads increases evacuation times, and there will usually be a stair component in the exit access further increasing evacuation times. Limiting the occupant loads for these low ceiling heights to the exiting requirements shown in Table 1006.2.1 would reduce any potential risk of endangering occupants in a fire event.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This code change proposal is a clarification only and has no impact to the cost of construction. See reason statement.

G100-25

IBC: 505.2.3

Proponents: Jeffrey Grove, representing Coffman Engineers (jeff.grove@coffman.com)

2024 International Building Code

Revise as follows:

505.2.3 Openness. A *mezzanine* shall be open and unobstructed to the room in which such *mezzanine* is located except for walls not more than 42 inches (1067 mm) in height, columns and posts.

Exceptions:

1. *Mezzanines* or portions thereof are not required to be open to the room in which the *mezzanines* are located, provided that the *occupant load* of the aggregate area of the enclosed space is not greater than 10.
2. A *mezzanine* having two or more exits or access to exits is not required to be open to the room in which the *mezzanine* is located.
3. *Mezzanines* or portions thereof are not required to be open to the room in which the *mezzanines* are located, provided that the aggregate floor area of the enclosed space is not greater than 10 percent of the *mezzanine* area.
4. In industrial *facilities*, *mezzanines* used for control equipment are permitted to be glazed on all sides.
5. ~~In occupancies other than Groups H and I, which are no more than two *stories above grade plane* and equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, a *mezzanine* having two or more *exits* or access to exits shall not be required to be open to the room in which the *mezzanine* is located.~~

Reason: This change proposes to remove Exception 5 as it is redundant when compared to the conditions of Exception 2. Exception 5 has all the same requirements as Exception 2 plus additional requirements. As such, there is no scenario in which a mezzanine would comply with Exception 5 but not Exception 2. As a result, there is no need to include Exception 5 in the code.

Section 505.2.3 was most recently revised for the 2015 IBC. The 2015 revision simplified Exception 2 by eliminating the requirement that, “at least one of the means of egress provides direct access to an exit from the mezzanine level.” This language was eliminated after it was determined that allowing exit access stairways to serve as mezzanine exits is consistent with the allowances of Section 1019.3 (at that time Section 1018.3). The language deleted for the 2015 edition had previously been the only condition of Exception 2 that was not included with Exception 5. With its elimination, Exceptions 2 and 5 became redundant.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Proposal removes redundancy. See reason statement.

G101-25

IBC: 505.3.4 (New)

Proponents: David Renn, PE, SE, City and County of Denver, representing Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

2024 International Building Code

Add new text as follows:

505.3.4 Equipment platform construction. *Equipment platforms* and their structural framing members shall be built of materials consistent with the types permitted for the type of construction of the *building*. Where structural framing members of *equipment platforms* provide bracing for the *building* columns or bearing walls, such framing members shall have a *fire-resistance rating* as required for the type of construction of the *building*.

Reason: The code is currently silent on construction requirements of equipment platforms. Since these are unoccupied platforms that are often constructed with open steel grating, it is not appropriate to consider the platforms to be "floors" (with associated framing members) that would have to meet fire-resistance rating requirements for type of construction. However, due to the large size allowed for equipment platforms (up to two-thirds of the area of the room in which they are located), and the associated fuel load of these platforms, it seems appropriate that these platforms be constructed of materials consistent with the type of construction of the building. For example, in a non-combustible Type I or II construction, equipment platforms should be constructed of non-combustible materials.

To address the issue above, this proposal adds a requirement for the types of materials allowed for equipment platforms. Also, there are cases where the framing of an equipment platform is used to brace the building columns or bearing walls, which is beneficial to the structural design of the columns or walls. In these cases, it is appropriate to also provide a fire-resistance rating as required for type of construction, which is addressed in this proposal as well.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Since IBC Section 603.1 doesn't list equipment platforms as an item that can be constructed of combustible materials in a Type I or II building, it is believed that most designers and jurisdictions are currently requiring equipment platform materials to be consistent with those permitted for the type of construction. This is consistent with the current intent of the code to limit combustible materials in non-combustible construction types. Therefore, this proposal will have no cost impact relative to current design and enforcement practices.

G102-25

IBC: 506.2.1

Proponents: Brendan Smith, representing CannonDesign (bsmith@cannondesign.com); Scott C Whitehead, representing CannonDesign (swhitehead@cannondesign.com); David Przeklasa, representing CannonDesign (dprzeklasa@cannondesign.com); David Renn, PE, SE, City and County of Denver, representing Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

2024 International Building Code

SECTION 506
BUILDING AREA

Revise as follows:

506.2.1 Single-occupancy buildings. The allowable area of each *story* of a single-occupancy *building* shall be determined in accordance with Equation 5-1:

$$A_a = A_t + (NS \times I_f)$$ **(Equation 5-1)**

where:
A_a = Allowable area (square feet).
A_t = Tabular allowable area factor (NS, S1, S13R, ~~or~~ S13D or SM value, as applicable) in accordance with Table 506.2.
NS = Tabular allowable area factor in accordance with Table 506.2 for a nonsprinklered *building* (regardless of whether the *building* is sprinklered).
I_f = Area factor increase due to frontage (percent) as calculated in accordance with Section 506.3.

The allowable area per *story* of a single-occupancy *building* with a maximum of three *stories* above grade plane shall be determined by Equation 5-1. The total allowable area of a single-occupancy building more than three *stories above grade plane* shall be determined in accordance with Equation 5-2:

$$A_a = [A_t + (NS \times I_f)] \times S_a$$ **(Equation 5-2)**

where:
A_a = Allowable area (square feet).
A_t = Tabular allowable area factor (NS, S13R, S13D or SM value, as applicable) in accordance with Table 506.2.
NS = Tabular allowable area factor in accordance with Table 506.2 for a nonsprinklered *building* (regardless of whether the *building* is sprinklered).
I_f = Area factor increase due to frontage (percent) as calculated in accordance with Section 506.3.
S_a = 3 where the actual number of *stories above grade plane* exceeds three, or
S_a = 4 where the *building* is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.2.

The actual area of any individual floor shall not exceed the allowable area per Equation 5-1.

Reason: SMITH/WHITEHEAD/PRZEKLASA: Equation 5-1 is for establishing allowed area per story. If "SM" is not included here, there is no other way to determine the per story allowable area of a building classified as "SM" by Table 506.2. It appears to have been omitted by mistake.

RENN: There was a code change in the 2021 IBC, based on proposal G85-18, that was intended to be "an editorial reorganization of text". The change requires buildings three stories maximum to use Eq. 5-1 for allowable area of each story, which results in the allowable area of a two-story building being twice the value from Eq. 5-1 and the allowable area of a three-story building being three times the value from Eq. 5-1. However, Eq. 5.1 includes a tabular allowable area factor, A_t, that does not include an SM (sprinklered multi-story) value for Table 506.2. Since SM is not included, it is unclear how you would calculate the allowable area for a two- or three-story building. If designers use the S1 (sprinklered single-story) values for a two- or three-story building, there is a significant increase in allowable area from what was allowed before, which was not the intent of G85-18.

This proposal addresses the issue above by simply adding SM into the definition of A_t for Eq. 5-1, which results in the same allowable building area as allowed prior to the 2021 IBC.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

SMITH/WHITEHEAD/PRZEKLASA: It is simply a clarification to correct what appears to be an error in the current text. It will have no impact on the quality of any constructed area, and therefore no impact on the cost of any such constructed area.

RENN: This proposal is intended to fix an unintentional editorial error that was made in a code change for the 2021 IBC. Since Table 506.2 requires the use of NS, S1, S13R, S13D or SM, as applicable, it is believed that the SM values are currently being used as intended, so this change should not result in a change in construction cost.

G102-25

G103-25

IBC: SECTION 506, 506.2.1, 506.2.2, 506.2.3 (New), 506.2.4 (New)

Proponents: Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

2024 International Building Code

SECTION 506
BUILDING AREA

Revise as follows:

506.2.1 Single-occupancy buildings. The allowable area ~~of each *story*~~ of a single-occupancy *building* with no more than one story above grade plane shall be determined in accordance with Equation 5-1:

$$A_a = A_t + (NS \times I_f) \quad \textbf{(Equation 5-1)}$$

where:

A_a = Allowable area (square feet).

A_t = Tabular allowable area factor (NS, S1, S13R or S13D value, as applicable) in accordance with Table 506.2.

NS = Tabular allowable area factor in accordance with Table 506.2 for a nonsprinklered *building* (regardless of whether the *building* is sprinklered).

I_f = Area factor increase due to frontage (percent) as calculated in accordance with Section 506.3.

~~The allowable area per *story* of a single-occupancy *building* with a maximum of three *stories* above grade plane shall be determined by Equation 5-1. The total allowable area of a single-occupancy building more than three *stories above grade plane* shall be determined in accordance with Equation 5-2:~~

~~$$A_a = [A_t + (NS \times I_f)] \times S_a \quad \textbf{(Equation 5-2)}$$~~

~~where:~~

~~A_a = Allowable area (square feet).~~

~~A_t = Tabular allowable area factor (NS, S13R, S13D or SM value, as applicable) in accordance with Table 506.2.~~

~~*NS* = Tabular allowable area factor in accordance with Table 506.2 for a nonsprinklered *building* (regardless of whether the *building* is sprinklered).~~

~~I_f = Area factor increase due to frontage (percent) as calculated in accordance with Section 506.3.~~

~~S_a = 3 where the actual number of *stories above grade plane* exceeds three, or~~

~~S_a = 4 where the *building* is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.2.~~

~~The actual area of any individual floor shall not exceed the allowable area per Equation 5-1.~~

506.2.2 Mixed-occupancy buildings. The allowable area of ~~each *story* of~~ a mixed-occupancy *building* with not more than one story above grade plane shall be determined in accordance with the applicable provisions of Section 508.1 based upon Equation 5-1 for each applicable occupancy.~~, Section 508.3.2 for nonseparated occupancies and Section 508.4.2 for separated occupancies.~~

~~For *buildings* with more than three *stories above grade plane*, the total *building area* shall be such that the aggregate sum of the ratios of the actual area of each *story* divided by the allowable area of such *stories*, determined in accordance with Equation 5-3 based on the applicable provisions of Section 508.1, shall not exceed three.~~

~~**(Equation 5-3)**~~

$$A_a = [A_t + (NS \times I_f)]$$

~~where:~~

~~A_a = Allowable area (square feet).~~

~~A_t = Tabular allowable area factor (NS, S13R, S13D or SM value, as applicable) in accordance with Table 506.2.~~

~~*NS* = Tabular allowable area factor in accordance with Table 506.2 for a nonsprinklered *building*, regardless of whether the building is sprinklered.~~

~~I_f = Area factor increase due to frontage (percent) as calculated in accordance with Section 506.3.~~

~~**Exception:** For *buildings* designed as separated occupancies under Section 508.4 and equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.2, the total *building area* shall be such that the aggregate sum of the ratios of the actual area of each *story* divided by the allowable area of such *stories* determined in accordance with Equation 5-3 based on the applicable provisions of Section 508.1, shall not exceed four.~~

Add new text as follows:

506.2.3 Single-occupancy, multistory buildings.. The allowable area of a single-occupancy building with more than one *story above grade plane* shall be determined in accordance with Equation 5-2:

$$A_a = [A_t + (NS \times I_f)] \times S_a \quad \textbf{(Equation 5-2)}$$

where:
A_a = Allowable area (square feet).
A_t = Tabular allowable area factor (NS, S13R, S13D or SM value, as applicable) in accordance with Table 506.2.
NS = Tabular allowable area factor in accordance with Table 506.2 for a nonsprinklered *building* (regardless of whether the *building* is sprinklered).
I_f = Area factor increase due to frontage (percent) as calculated in accordance with Section 506.3.
S_a = Actual number of building *stories* above grade plane, not to exceed three. For buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.2, use the actual number of building *stories above grade plane*, not to exceed four.

506.2.4 Mixed-occupancy, multistory buildings.. Each story of a mixed occupancy building with more than one *story above grade plane* shall individually comply with the applicable requirements of Section 508.1. For buildings with more than three *stories above grade plane*, the total building area shall be such that the aggregate sum of the ratios of the actual area of each *story* divided by the allowable area of such stories, determined in accordance with Equation 5-3 based on the applicable provisions of Section 508.1, shall not exceed three.

$$A_a = [A_t + (NS \times I_f)] \quad \textbf{(Equation 5-3)}$$

where:
A_a = Allowable area (square feet).
A_t = Tabular allowable area factor (NS, S13R, S13D or SM value, as applicable) in accordance with Table 506.2.
NS = Tabular allowable area factor in accordance with Table 506.2 for a nonsprinklered *building* (regardless of whether the *building* is sprinklered).
I_f = Area factor increase due to frontage (percent) as calculated in accordance with Section 506.3.

Exception: For buildings designed as separated occupancies under Section 508.4 and equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.2, the total building area shall be such that the aggregate sum of the ratios of the actual area of each *story* divided by the allowable area of such stories determined in accordance with Equation 5-3 based on the applicable provisions of Section 508.1, shall not exceed four.

Reason: This proposal addresses the unintended consequence of a modification made by G85-18 AM. G85-18 AM states that “this change because it is simply an editorial reorganization of existing text”, However, there are unintended consequences to this proposal that we are addressing.

The sections equations as written result in two different results for the allowable area per story and total allowable area for a 2 and 3 story sprinklered buildings, between the 2018 and 2021 Editions. If the intent was to keep the results the same and only simplify organization of the formulas, there is an error

In the 2018 Edition of the IBC, for multistory buildings, no story can exceed SM + If X NS. This is consistent with 2018 IBC Equation 5-2.

However, in 2021 IBC, no individual story in a multistory building shall exceed S1 + If X NS, since Equation 1 does not have SM as one of the allowable area factors. Assuming there was no change to the results of the formulas, just their organization between 2018 and 2021 IBC.

See example below:

If we follow IBC 2018, Aa = [At + (NS X If) X Sa] = [69,000 (SM) + 23,000 X 0] X 3 = 207,000. And no individual story shall exceed Aa using Sa = 1, then the calculation is Aa = [At + (NS X If) X Sa] = [69,000 (SM) + 23,000 X 0] X 1 = 69,000.

If we follow IBC 2021, Equation 5-1 (which does not have SM) says Aa = At + (NS X If) = 92,000 + (23,000 X 0) = 92,000 is the maximum area per story. Equation 5-2 technically does not apply because it is only for “buildings more than three stories above grade plane.”

Assuming this wording is correct, then we only have Equation 5-1 for our 3 story Business building, which is permitted to have 92,000 sf per story and by extension, if each story were built to its maximum 92,000 sf, it would be permitted to be 276,000 sf total. These are drastically different results, and it would seem the 2018 calculation is correct since it is using the SM value, not S1, since the single-story buildings get an area increase compared to their multistory counterparts and applying S1 to a multistory building does not follow logic. It would seem that these results are incorrect due to the modification to Equation 5-2 in the 2021 Edition.

BCAC proposal correct this unintended consequence by overturning the changes from G85-18 and go back to the 2018 code text

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

No cost impact - reverts to original indented equations in 2018 IBC

G103-25

G104-25

IBC: TABLE 506.2

Proponents: Greg Johnson, Johnson & Associates Consulting Services, representing self (gjohnsonconsulting@gmail.com); Robert Buchetto, HED, representing Self (rbuchetto@hed.design); Jay Peters, representing Codes and Standards International (peters.jay@me.com)

2024 International Building Code

TABLE 506.2 ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable) IN SQUARE FEET[a, b]

Portions of table not shown remain unchanged.

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
D	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000

For SI: 1 square foot = 0.0929 m^2.

UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.3.

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

b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.

c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.

d. The NS value is only for use in evaluation of existing building area in accordance with the *International Existing Building Code*.

e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.

f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and with Section 1103.5 of the *International Fire Code*.

g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.

h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

i. The maximum allowable area for a single-story nonsprinklered Group U greenhouse is permitted to be 9,000 square feet, or the allowable area shall be permitted to comply with Table C102.1 of Appendix C.

Reason: Data centers are unique occupancies and need their own occupancy classification to better inform designers and AHJs. Currently data centers are frequently classified as Group S-1 occupancies. The values proposed for Group D occupancies matches those allowed for Group S-1.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Data centers are currently being constructed with these provisions. Assigning a newly named occupancy classification will not impact

costs.

G104-25

G105-25

IBC: 506.3.2, 506.3.3, TABLE 506.3.3, 506.3.3.1, TABLE 506.3.3.1

Proponents: Jeffrey Grove, representing Coffman Engineers (jeff.grove@coffman.com)

2024 International Building Code

SECTION 506
BUILDING AREA

Revise as follows:

506.3.2 Minimum frontage distance. To qualify for an area factor increase based on frontage, the *public way* or open space adjacent to the *building* perimeter shall have a minimum distance of (W) 20 feet (6096 mm) measured at right angles from the *building* face to any of the following:

1. The closest interior *lot line*.
2. The entire width of a street, alley or *public way.*
3. The exterior face of an adjacent *building* on the same property.

~~The frontage increase shall be based on the smallest *public way* or open space that is 20 feet (6096 mm) or greater, and the percentage of *building* perimeter having a minimum 20 feet (6096 mm) *public way* or open space.~~

Where the value of W is greater than 30 feet (9144 mm), a value of 30 feet (9144 mm) shall be used in calculating the building area increase based on frontage, regardless of the actual width of the *public way* or open space. Where the value of W varies along the perimeter of the building, the calculation performed in accordance with Equation 5-5 shall be based on the weighted average calculated in accordance with Equation 5-4.

$W = (L_1 \times w_1 + L_2 \times w_2 + L_3 \times w_3 \ldots)/F$ **(Equation 5-4)**

where: W (Width: weighted average = Calculated width of *public way* or open space (feet).
L_n = Length of a portion of the exterior perimeter wall.
w_n = Width (≥ 20 feet (6096mm)) of *public way* or open space associated with that portion of the exterior perimeter wall.
F = Building perimeter that fronts on a *public way* or open space having a width of 20 feet (6096 mm) or more.

Exception: Where a building space meets the requirements of Section 507, as applicable, except for compliance with minimum 60 foot (18288 mm) public way or yard requirement, and the value of W is greater than 30 feet (9144 mm), the value of W shall not exceed 60 feet (18,288 mm)

506.3.3 Amount of increase. The area factor increase based on frontage shall be determined in accordance with ~~Table 506.3.3~~ Equation 5-5.

$I_f = [F/P - 0.25]W/30$ **(Equation 5-5)**

where: I_f = Area factor increase due to frontage.
F = Building perimeter that fronts on a public way or open space having minimum distance of 20 feet (6096 mm).
P = Perimeter of entire building (feet).
W = Width of public way or open space (feet) in accordance with Section 506.3.2.

Delete without substitution:

~~**TABLE 506.3.3 FRONTAGE INCREASE FACTOR**[a]~~

PERCENTAGE OF BUILDING PERIMETER	OPEN SPACE (feet)		
	20 to less than 25	25 to less than 30	30 or greater
0 to less than 25	0	0	0
25 to less than 50	0.17	0.21	0.25
50 to less than 75	0.33	0.42	0.50
75 to 100	0.50	0.63	0.75

For SI: 1 foot = 304.8 mm.

a. Interpolation is permitted.

506.3.3.1 Section 507 buildings. Where a *building* meets the requirements of Section 507, as applicable, except for compliance with the minimum 60-foot (18 288 mm) *public way* or *yard* requirement, the area factor increase based on frontage shall be determined in accordance with Table 506.3.3.1. The frontage increase shall be based on the smallest *public way* or open space that is 30 feet (9144 mm) or greater, and the percentage of *building* perimeter having a minimum 30 feet (9144 mm) *public way* or open space.

TABLE 506.3.3.1 SECTION 507 BUILDINGS[a]

PERCENTAGE OF BUILDING PERIMETER	OPEN SPACE (feet)					
	30 to less than 35	35 to less than 40	40 to less than 45	45 to less than 50	50 to less than 55	55 or greater
0 to less than 25	0	0	0	0	0	0
25 to less than 50	0.29	0.33	0.38	0.42	0.46	0.50
50 to less than 75	0.58	0.67	0.75	0.83	0.92	1.00
75 to 100	0.88	1.00	1.13	1.25	1.38	1.50

For SI: 1 foot = 304.8 mm.

a. Interpolation is permitted.

Attached Files

- **Frontage Code Change Proposal Attachment.pdf**
  https://www.cdpaccess.com/proposal/11775/35718/files/download/8994/

Reason: This proposal addresses the unintended consequence of a modification made by G86-18 during the 2021 IBC Code Development Process. G86-18 states that the values in the new frontage factor table (2021 and 2024 IBC Editions) are based on the calculation using Equation 5-5 of the 2018 IBC. However, as you will read below, the frontage factors that are determined using the 2018 IBC vs. the 2021/2024 IBC method are not the same.

In the 2018 Edition of the IBC, the frontage factor (I_f) was determined using an equation that would calculate a value based on a weighted average of the available width of the public way along the building perimeter. In the revision cycle for the 2021 IBC, a code change proposal was approved to simplify the process of determining the frontage factor by providing values in a table format. Per the code change proposal, the proponent argued that “values in the table are based on the calculations using Equation 5-5” of the 2018 IBC. The code change was approved and included in the 2021 and 2024 IBC. The following examples will demonstrate that the 2021/2024 IBC tabular method produces results that are inconsistent with the 2018 IBC calculation method. The main difference between the two methods is that the 2018 IBC method utilizes a weighted average of the available frontage along the building perimeter that fronts on a public way of at least 20 feet; whereas the 2021/2024 IBC method is based on the smallest public way that is 20 feet or greater. This approach can be restrictive for buildings that have a majority of their building perimeter fronting public ways well over 20 feet in width, but have a small portion with a frontage width of only 20 feet. By limiting the frontage factor to the smallest public way, rather than allowing for a weighted average, building configurations will be limited. This disparity is the reason that we believe that the area factor should be calculated using the previous weighted average width calculation method provided in the 2018 IBC.

Additionally, the G86-18 proposal states the frontage increase is easier to determine in the table format because previously, readers were using the wrong value from the area table (Table 506.2). The proponent argues that code users often confused the NS value with the S1 or SM value and that the new frontage factor table will eliminate this confusion. IBC Table 506.2 is not used in determining the frontage factor in either the 2018 or 2021/2024 IBC methods. Once the frontage factor (I_f) is determined, the code user still has to insert the factor into Equation 5-1, 5-2, or 5-3 and select the appropriate NS value from Table 506.2, regardless of which method is used.

Attached to this document are example buildings in various configurations to demonstrate the discrepancies that result in calculating the frontage factor with the 2018 IBC and 2021/2024 IBC methods. Results are outlined below. Below, we present exemplary cases of the various building configurations we studied and their frontage factor results:

1. This building has three sides which can be included in the frontage factor calculation (public way ≥ 20 feet). Using the 2021/2024 IBC tabular method, a frontage factor of 0.33 is produced. If interpolation is performed, as allowed by the Table 506.3.3 footnote, the result is 0.35. Using the 2018 IBC equation method, a result of 0.48 is calculated.
2. This Type IB building meets the requirements for unlimited area buildings of IBC 507, with the exception of the minimum 60-foot public way requirement. Using the 2021/2024 IBC tabular method, a frontage factor of 1.00 is produced. If interpolation is performed, as allowed by the Table 506.3.3 footnote, the result is 1.03. Using the 2018 IBC equation method, a result of 1.16 is calculated.
3. This building was designed as a perfect square, but one side fronts on a public way of only 19 feet. Using the 2021/2024 IBC tabular method, a frontage factor of 0.75 is produced. Using the 2018 IBC equation method, a result of 0.50 is calculated.

As demonstrated in the examples above, the 2021/2024 IBC tabular method does not provide results consistent with the previous 2018 IBC calculation. Therefore, the 2021 IBC code change proponent's statement that values in the 2021/2024 IBC tables are based on the calculations using 2018 IBC Equation 5-5 is inaccurate. We propose that the code language revert back to the previous method of determining the frontage factor, as this approach does not restrict buildings to their smallest public way width. Rather it is balanced by providing greater area increases for buildings with larger frontage widths and smaller area increases for buildings with minimal frontage widths.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This code change proposal is submitted to address unintended errors when calculating the allowable building area. Therefore, this is a code clarification and no impact to the cost of construction.

G105-25

G106-25

IBC: 507.2.1, 507.2.1.1 (New), 506.3.3.1, TABLE 506.3.3.1

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

2024 International Building Code

Revise as follows:

507.2.1 Reduced open space. The *public ways* or *yards* of 60 feet (18 288 mm) in width required in Sections 507.3, 507.4, 507.5, 507.6 and 507.12 shall be permitted to be reduced per Section 507.2.1.1 or 507.2.1.2 ~~to not less than 40 feet (12 192 mm) in width, provided that the following requirements are met:~~

1. ~~The reduced width shall not be allowed for more than 75 percent of the perimeter of the *building*.~~
2. ~~The *exterior walls* facing the reduced width shall have a *fire-resistance rating* of not less than 3 hours.~~
3. ~~Openings in the *exterior walls* facing the reduced width shall have opening protectives with a *fire protection rating* of not less than 3 hours.~~

Add new text as follows:

507.2.1.1 Obstructed open space. *Public ways* or *yards* of 60 feet (18 288 mm) in width required in Sections 507.3, 507.4, 507.5, 507.6 and 507.12 shall be permitted to be reduced to not less than 40 feet (12 192 mm) in width, provided that the following requirements are met:

1. The reduced width shall not be allowed for more than 75 percent of the perimeter of the *building*.
2. The *exterior walls* facing the reduced width shall have a *fire-resistance rating* of not less than 3 hours.
3. Openings in the *exterior walls* facing the reduced width shall have opening protectives with a *fire protection rating* of not less than 3 hours.

Revise as follows:

~~506.3.3.1~~ 507.2.1.2 ~~Section 507 buildings~~ Reduced frontage increase. Where a *building* meets the requirements of Section 507, as applicable, except for compliance with the minimum 60-foot (18 288 mm) *public way* or *yard* requirement, the area factor increase based on frontage shall be determined in accordance with Table ~~506.3.3.1.~~ 507.2.1.2.The frontage increase shall be based on the smallest *public way* or open space that is 30 feet (9144 mm) or greater, and the percentage of *building* perimeter having a minimum 30 feet (9144 mm) *public way* or open space.

TABLE ~~506.3.3.1~~ 507.2.1.2 ~~SECTION 507 BUILDINGS~~[a] ALTERNATIVE REDUCED OPEN SPACE ~~Reduced open space~~

PERCENTAGE OF BUILDING PERIMETER	OPEN SPACE (feet)					
	30 to less than 35	35 to less than 40	40 to less than 45	45 to less than 50	50 to less than 55	55 or greater
0 to less than 25	0	0	0	0	0	0
25 to less than 50	0.29	0.33	0.38	0.42	0.46	0.50
50 to less than 75	0.58	0.67	0.75	0.83	0.92	1.00
75 to 100	0.88	1.00	1.13	1.25	1.38	1.50

For SI: 1 foot = 304.8 mm.

a. Interpolation is permitted.

Reason: The proposed code change is editorial in nature and proposes to relocate reduce frontage requirements for unlimited area

buildings to be located in Section 507 where the regulations appropriately belong. It is not intuitive to go to Section 506 to look for the requirements where they exist, and it is not clear whether you use either the Section 506 rules or the Section 507 rules. The code change that resulted in the revisions shown in Section 506 was a part of a multi-part code change. It was not clear the reason why the building standard was not included in the unlimited area section. G86-18 appears to have been the code change and is attached.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This code change relocates a requirement.

G106-25

G107-25

IBC: 506.3.3.1, TABLE 506.3.3.1

Proponents: Ali Fattah, City of San Diego Development Services Department, representing San Diego Area Chapter of ICC (afattah@sandiego.gov)

2024 International Building Code

507.2.1 Reduced open space. The *public ways* or *yards* of 60 feet (18 288 mm) in width required in Sections 507.3, 507.4, 507.5, 507.6 and 507.12 shall be permitted to be reduced to not less than 40 feet (12 192 mm) in width, provided that the following requirements are met:

1. The reduced width shall not be allowed for more than 75 percent of the perimeter of the *building*.
2. The *exterior walls* facing the reduced width shall have a *fire-resistance rating* of not less than 3 hours.
3. Openings in the *exterior walls* facing the reduced width shall have opening protectives with a *fire protection rating* of not less than 3 hours.

Revise as follows:

~~**506.3.3.1**~~ **507.2.1.1 Section 507 buildings.** Where a *building* meets the requirements of Section 507, as applicable, except for compliance with the minimum 60-foot (18 288 mm) *public way* or *yard* requirement, the area factor increase based on frontage shall be determined in accordance with Table 507.2.1.1 ~~506.3.3.1~~. The frontage increase shall be based on the smallest *public way* or open space that is 30 feet (9144 mm) or greater, and the percentage of *building* perimeter having a minimum 30 feet (9144 mm) *public way* or open space.

TABLE ~~506.3.3.1~~ 507.2.1.1 SECTION 507 BUILDINGS[a]

PERCENTAGE OF BUILDING PERIMETER	OPEN SPACE (feet)					
	30 to less than 35	35 to less than 40	40 to less than 45	45 to less than 50	50 to less than 55	55 or greater
0 to less than 25	0	0	0	0	0	0
25 to less than 50	0.29	0.33	0.38	0.42	0.46	0.50
50 to less than 75	0.58	0.67	0.75	0.83	0.92	1.00
75 to 100	0.88	1.00	1.13	1.25	1.38	1.50

For SI: 1 foot = 304.8 mm.

a. Interpolation is permitted.

Reason: The proposed code change is editorial and co-locates requirements allowing reduced frontage for unlimited area buildings with the remainder of the requirements. Code users will go to the unlimited area building Section 507 and would not think to go back to Section 506 that discusses determination of allowable building area and that also includes area increases due to frontage. Interesting the relocated Section and associated table actually reduce the area of unlimited area buildings.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There is not change in regulatory effect proposed.

G108-25

IBC: 507.4

Proponents: Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

2024 International Building Code

SECTION 507
UNLIMITED AREA BUILDINGS

Revise as follows:

507.4 Sprinklered, one-story buildings. The area of a Group A-4 *building* not more than one *story above grade plane* of other than Type V construction, or the area of a Group B, F, M or S *building* no more than one *story above grade plane* of any construction type, shall not be limited where the *building* is provided with an *automatic sprinkler system* throughout in accordance with Section 903.3.1.1 and is surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

Exceptions:

1. *Buildings* and *structures* of Type I or II construction for rack storage *facilities* that do not have access by the public shall not be limited in height, provided that such buildings conform to the requirements of Sections 507.4 and 903.3.1.1 and Chapter 32 of the *International Fire Code*.
2. The *automatic sprinkler system* shall not be required in areas occupied for indoor participant sports, such as tennis, skating, swimming and equestrian activities in occupancies in Group A-4, provided that all of the following criteria are met:
   2.1. *Exit* doors directly to the outside are provided for occupants of the participant sports areas.
   2.2. The *building* is equipped with a *fire alarm system* with *manual fire alarm boxes* installed in accordance with Section 907.
   2.3. An *automatic sprinkler system* is provided in enclosed spaces ancillary to the sport activity space, such as storage rooms, press boxes, or concession booths ~~or other spaces ancillary to the sport activity space~~.
   2.4. Sprinklers are not required over the bench or bleachers seating providing all the following criteria are met:
      2.4.1. Every part of the roof construction over the seating is 20 feet or more above the highest foot board of the seating.
      2.4.2. The highest foot board of the bleacher is at 30 inches or less above the floor.
      2.4.3. The seating is adjacent to the participant sports areas.

Reason: G146-15 added Item 2.3. The revisions to this item are intended as a clarification.

With the addition of Exception 2.3, there is a question about if sprinklers are required over seating to view the events. G146-15, which was approved as submitted, required automatic sprinkler protection to “storage rooms, press boxes, concession booths or other spaces ancillary to the sport activity space”. The reason statement for this previous code change outlined that “it is appropriate to eliminate fire sprinklers in the large open spaces of these facilities”.

The current code commentary states the following:

“The spectator seating is usually situated around the perimeter of the sports field or area. These types of indoor recreation areas often require very large, open areas with such high ceilings that the installation of an automatic sprinkler system in the immediate participant sport area would be ineffective. The potential for significant fire involvement in such an area is generally quite low because of the low fuel load; therefore, sprinkler coverage is unnecessary for the playing field in most of these buildings. These areas are, therefore, exempt from the suppression requirement of this section, provided that the conditions regarding exiting and the required fire alarm system are met”.

For the uses listed in Exception No. 2, the limited hazard presented by the spectator seating areas is no greater than that of the participant sports areas. Hence, this code change proposal provides clarification as to where automatic sprinkler protection is not required.

The intent of item 2.4 is to limit the size of the seating so a sprinkler exception is not over seating in arenas type arrangements with large crowds, but rather the many sports facilities where the seating is for participants or limited viewers. This would allow for telescopic, permanent or temporary bleachers – typically of 2 or 3 rows. This is not addressing the combustibility of the bleachers. There was a code change proposal for the IBC/IFC (E107-21 D) and the ICC 300 last cycle to require non-combustible bleachers. This was disapproved for both documents. The bleachers would not be a significant fuel load. The 20' above the seating is based on Section Table 601 footnote b where the roof is not required to be rated.

The following are recommended ceiling height for common indoor sports:

Sport	Height
Tennis	30'
Pickle ball	18'
Basketball	17'
Indoor soccer	24'
Standard school gym	25'
Volleyball	23'

Example 1

Example 2

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is clarification for the exceptions for sprinklers over sports areas with bleachers. This is not a change in requirements for sprinklers.

G108-25

G109-25

IBC: 507.4, 507.5

Proponents: Greg Johnson, Johnson & Associates Consulting Services, representing self (gjohnsonconsulting@gmail.com); Robert Buchetto, HED, representing Self (rbuchetto@hed.design); Jay Peters, representing Codes and Standards International (peters.jay@me.com)

2024 International Building Code

Revise as follows:

507.4 Sprinklered, one-story buildings. The area of a Group A-4 *building* not more than one *story above grade plane* of other than Type V construction, or the area of a Group B, D, F, M or S *building* no more than one *story above grade plane* of any construction type, shall not be limited where the *building* is provided with an *automatic sprinkler system* throughout in accordance with Section 903.3.1.1 and is surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

Exceptions:

1. *Buildings* and *structures* of Type I or II construction for rack storage *facilities* that do not have access by the public shall not be limited in height, provided that such buildings conform to the requirements of Sections 507.4 and 903.3.1.1 and Chapter 32 of the *International Fire Code*.
2. The *automatic sprinkler system* shall not be required in areas occupied for indoor participant sports, such as tennis, skating, swimming and equestrian activities in occupancies in Group A-4, provided that the following criteria are met:
   2.1. *Exit* doors directly to the outside are provided for occupants of the participant sports areas.
   2.2. The *building* is equipped with a *fire alarm system* with *manual fire alarm boxes* installed in accordance with Section 907.
   2.3. An *automatic sprinkler system* is provided in storage rooms, press boxes, concession booths or other spaces ancillary to the sport activity space.

507.5 Two-story buildings. The area of a Group B, D, F, M or S *building* not more than two *stories above grade plane* shall not be limited where the *building* is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 and is surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

Reason: Data centers are unique building uses and are being proposed to be added to the code under their own occupancy classification (Group D). As such, the code must provide requirements for this new classification. Group D buildings are generally proposed to meet the criteria of F or S uses which is consistent with the occupancies currently being assigned to these buildings.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The assignment of an occupancy classification to data centers does not automatically increase any costs as these buildings are currently being constructed (typically assigned as an F or S use) with these same technical requirements.

G110-25

IBC: 507.11

Proponents: David Bueche, representing Hoover Treated Wood Products (dbueche@frtw.com)

2024 International Building Code

Revise as follows:

507.11 Group E buildings. The area of a Group E building not more than one *story above grade plane*, of Type II, ~~IIA~~III or IV construction, shall not be limited provided that the following criteria are met:

1. Each classroom shall have not less than two *means of egress*, with one of the *means of egress* being a direct exit to the outside of the *building* complying with Section 1022.
2. The building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. The building is surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

Reason: In Table 601, the hourly fire-resistance rating for bearing walls, both exterior and interior, in Type IIB construction is 0 hours. In Type IIIB construction, the hourly fire-resistance rating for exterior bearing walls is 2 hours and 0 hours for interior bearing walls. In Table 602, for Group E (Educational) occupancies, the most restrictive categories for exterior nonbearing walls and partitions have a 1-hour rating, based on fire separation distance. Yet, Type IIB allows for a 0-hour rating when the fire-separation distance is at least 10 feet but less than 30 feet.

In other words, the hourly fire-resistance rating requirements for Type IIIB construction is just as, and in some cases, more restrictive when compared to Type IIB construction (i.e., 2 hours for exterior bearing walls in Type IIIB vs. 0 hours for Type IIB). However, Type IIB is allowed in this code provision, and Type IIIB is not.

Finally, note that for Group A-3 buildings, Types II (507.6) and III (507.7) construction have essentially the same requirements with nearly identical language except that Type III has an additional requirement for ramps (507.7#3).

Removing the “A” in this proposal will allow Type IIIB construction with its stronger hourly fire-resistance requirements, thus improving building and life safety for educational buildings and their occupants.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0 impact, however, adding Type IIIB construction to this section of the code may decrease the cost of construction.

Estimated Immediate Cost Impact Justification (methodology and variables):

This change will provide users with more options. Usually wood-frame construction materials and techniques are less expensive than comparable noncombustible types of construction with the same fire-resistance requirements.

G111-25

IBC: 507.12

Proponents: David Bueche, representing Hoover Treated Wood Products (dbueche@frtw.com)

2024 International Building Code

Revise as follows:

507.12 Motion picture theaters. In *buildings* of Type II and III construction, the area of a motion picture theater located on the first *story above grade plane* shall not be limited where the *building* is provided with an *automatic sprinkler system* throughout in accordance with Section 903.3.1.1 and is surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

Reason: In Table 601, the most restrictive rating for bearing walls in Type II construction is 1 hour (Type IIA, exterior and interior). In Type III construction, the most restrictive rating for exterior bearing walls is 2 hours (in both Types IIIA and IIIB). In Table 602, for Group A (Assembly) occupancies, the most restrictive categories for exterior nonbearing walls and partitions have a 1-hour rating, based on fire separation distance.

In other words, the hourly fire-resistance rating requirements for Type III construction are just as, and in some cases, more restrictive compared to Type II construction (i.e., 2 hours for Type III vs. 1 hour for Type II).

Finally, note that for Group A-3 buildings, Types II (507.6) and III (507.7) construction have essentially the same requirements with nearly identical language except for Type III has an additional requirement for ramps (507.7#3).

Adding “Type III” to this exception will allow for exterior walls with higher hourly requirements, thus improving building and life safety for motion picture theaters and their occupants.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0 immediate impact. The addition of another use of fire-retardant-treated wood is simply an option to this section of the code that may decrease the cost of construction.

Estimated Immediate Cost Impact Justification (methodology and variables):

This change will provide users with more options. Usually Type III construction is less expensive than Type II construction with the same fire-resistance requirements.

G112-25

IBC: 508.1, 508.4.2

Proponents: William Koffel, Koffel Associates, Inc., representing Semiconductor Industry Association (wkoffel@koffel.com)

2024 International Building Code

SECTION 508
MIXED USE AND OCCUPANCY

Revise as follows:

508.1 General. Each portion of a *building* shall be individually classified in accordance with Section 302.1. Where a *building* contains more than one occupancy group, the *building* or portion thereof shall comply with the applicable provisions of Section 508.2, 508.3, 508.4 or 508.5, or a combination of these sections.

Exceptions:

1. Occupancies separated in accordance with Section 510.
2. Where required by ~~Table~~ Section 415.6.5, areas of Group H-1, H-2 and H-3 occupancies shall be located in a *detached building* or *structure*.

508.4.2 Allowable building area. In each *story*, the *building area* shall be such that the sum of the ratios of the actual *building area* of each separated occupancy divided by the allowable *building* area of each separated occupancy shall not exceed 1.

Exception: Where a minimum of 80 feet separates each Group H-2 and H-3 occupancy in a Group H-5 mixed-occupancy building of Type I construction, the allowable area of each Group H-2 and H-3 occupancy shall be permitted to determined in accordance with Section 506.2.

Reason: The proposal coordinates with the changes made to Section 415.6.5 during the Group A hearings. The requirements for a detached building are determined using Table 415.6.5 as directed by Section 415.6.5. As such, "Table" is revised to say "Section."

The change made to Section 415.6.5 applies the detached building requirements to Group H-2 and H-3 areas in a Group H-5 mixed occupancy building where the Group H-2 and H-3 areas are separated by a distance of at least 80 ft. In order to make these provisions work, the allowable area for such a building needs to increase. Using the current provisions, the ratio of the areas will exceed one for the Group H-2 and H-3 occupancies, even though the building area for a Group H-5 occupancy in a Type I building is unlimited.

Whereas the revisions to Section 415.6.5 "equate" an 80 foot separation to being comparable to a detached building, the proposal uses the same concept for determining allowable areas. The allowable area for each Group H-2 and H-3 area would be calculated the same as the allowable area for a detached building. It is understood that Section 508.2 is used to calculate building area but in this instance the same procedure would be used to calculate the area of each Group H-2 and H-3 area.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0

Estimated Immediate Cost Impact Justification (methodology and variables):

The ability to construct larger semiconductor facilities without going through an alternative compliance method will decrease the cost of construction.

G113-25

IBC: TABLE 508.4

Proponents: Greg Johnson, Johnson & Associates Consulting Services, representing self (gjohnsonconsulting@gmail.com); Robert Buchetto, HED, representing Self (rbuchetto@hed.design); Jay Peters, representing Codes and Standards International (peters.jay@me.com)

2024 International Building Code

Revise as follows:

TABLE 508.4 REQUIRED SEPARATION OF OCCUPANCIES (HOURS)[f]

Portions of table not shown remain unchanged.

OCCUPANCY	A, E		I-1[a], I-3, I-4		I-2		R[a]		F-2, S-2[b], U		B[e], D[g], F-1, M,S-1		H-1		H-2		H-3, H-4		H-5	
	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS
B[e], D[g] F-1, M, S-1	1	2	1	2	2	NP	1	2	1	2	N	N	NP	NP	2	3	1	2	1	NP

S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.N = No separation requirement.NP = Not Permitted.

a. See Section 420.

b. The required separation from areas used only for private or pleasure vehicles shall be reduced by 1 hour but not to less than 1 hour.

c. See Sections 406.3.2 and 406.6.4.

d. Separation is not required between occupancies of the same classification.

e. See Section 422.2 for ambulatory care facilities.

f. Occupancy separations that serve to define fire area limits established in Chapter 9 for requiring fire protection systems shall also comply with Section 707.3.10 and Table 707.3.10 in accordance with Section 901.7.

g. See Table 509.1 for separations for rooms with energy storage systems using lithium-ion or lithium metal batteries.

Reason: Data centers are being proposed to be assigned a Group D occupancy classification. As such, provisions for separated uses must be provided. Current field practice often assigns and S-1 classification so proposed new Group D is added to the row containing S-1. A footnote is provided to reference incidental use Table 509.1 where a new row for lithium ion batteries will be added requiring sprinklers and a 2-hour fire separation.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Data centers are typically be constructed currently with a 2 hour separation between the data hall and any accessory office spaces. This proposal mirrors current industry practices and should add no cost.

G114-25

IBC: 509.4.2

Proponents: Ronald Geren, RLGA Technical Services, LLC, representing Self (ron@specsandcodes.com)

2024 International Building Code

SECTION 509
INCIDENTAL USES

Revise as follows:

509.4.2 Protection. Where Table 509.1 permits an *automatic sprinkler system* without a *fire barrier*, the incidental uses shall be separated from the remainder of the *building* by *smoke partitions* constructed in accordance with Section 710 with doors installed in accordance with Section 710.5.2.2 and 710.5.2.3~~construction capable of resisting the passage of smoke. The walls shall extend from the top of the foundation or floor assembly below to the underside of the ceiling that is a component of a fire-resistance-rated floor assembly or roof assembly above or to the underside of the floor or roof sheathing, deck or slab above. Doors shall be self- or automatic-closing upon detection of smoke in accordance with Section 716.2.6.6. Doors shall not have air transfer openings and shall not be undercut in excess of the clearance permitted in accordance with NFPA 80. Walls surrounding the incidental use shall not have air transfer openings unless provided with *smoke dampers* in accordance with Section 710.8~~.

Reason: This just simplifies the paragraph. The requirements deleted are essentially the same requirements for smoke partitions. Since a smoke partition exists as an assembly, it makes sense to take advantage of that assembly. As a comparison, here are the requirements per Section 509.4.2 compared to the requirements for smoke partitions:

- Section 509.4.2: "[C]onstruction capable of resisting the passage of smoke. The walls shall extend from the top of the foundation or floor assembly below to the underside of the ceiling that is a component of a fire-resistance-rated floor assembly or roof assembly above or to the underside of the floor or roof sheathing, deck or slab above."
    - Smoke Partition, Definition per Section 202: "A wall assembly that extends from the top of the foundation or floor below to the underside of the floor or roof sheathing, deck or slab above or to the underside of the ceiling above where the ceiling membrane is constructed to limit the transfer of smoke."

      Commentary: These are nearly identical.
- Section 509.4.2: "Doors shall be self- or automatic-closing upon detection of smoke in accordance with Section 716.2.6.6."
    - Smoke Partition, Section 710.5.2.3: "Where required elsewhere in the code, doors in smoke partitions shall be self- or automatic-closing by smoke detection in accordance with Section 716.2.6.6."

      Commentary: Both sections refer to Section 716.2.6.6 for smoke-activated doors. Since the smoke partition requirement states, "Where required elsewhere in the code," this section is specifically mentioned in the proposed Section 509.4.2.
- Section 509.4.2: "Doors shall not have air transfer openings and shall not be undercut in excess of the clearance permitted in accordance with NFPA 80."
    - Smoke Partition, Section 710.5.2: "Doors in smoke partitions shall comply with Sections 710.5.2.1 through 710.5.2.3."
      Section 710.5.2.1: "Doors in smoke partitions shall not include louvers.
      "Exception: Where permitted in accordance with Section 407.3.1.1."
      Section 710.5.2.2: " Where required elsewhere in the code, doors in smoke partitions shall meet the requirements for a smoke and draft control door assembly tested in accordance with UL 1784. The air leakage rate of the door assembly shall not exceed 3.0 cubic feet per minute per square foot [0.015424 m3/(s × m2)] of door opening at 0.10 inch of water (25 Pa) for both the ambient temperature test and the elevated temperature exposure test. Installation of smoke doors shall be in accordance with NFPA 105."
      Section 710.5.2.2.1: "Smoke and draft control doors complying only with UL 1784 shall be permitted to show the letter 'S' on the manufacturer's labeling."
      Section 710.5.2.3: Already covered in the comparison above.

Commentary: The original requirement only mentions the restriction on transfer openings and clearances per NFPA 80. NFPA 105, as referenced for smoke partitions, requires clearances complying with NFPA 80 (NFPA 105-22, Section 6.3.3). However, the smoke partition requirements take a step further by establishing specific air leakage performance "[w]here required elsewhere in the code." Thus, this section is specifically mentioned in Section 509.4.2.

- Section 509.4.2: "Walls surrounding the incidental use shall not have air transfer openings unless provided with smoke dampers in accordance with Section 710.8."
    - Smoke Partition, Section 710.8: "The space around a duct penetrating a smoke partition shall be filled with an approved material to limit the free passage of smoke. Air transfer openings in smoke partitions shall be provided with a smoke damper complying with Section 717.3.2.2.

        "**Exception:** Where the installation of a smoke damper will interfere with the operation of a required smoke control system in accordance with Section 909, approved alternative protection shall be utilized."

    Commentary: Since the original provision mentions Section 710.8, the proposed text does not need to make such a reference since it is required for smoke partitions.

Cost Impact: Increase

Estimated Immediate Cost Impact:

Costs will be minimal since the original prescriptive requirements are nearly identical to the requirements for smoke partitions. The only cost increase will be for the "S" label (on doors and frames) and the smoke seals to comply with the leakage requirements that have been added.

Estimated Immediate Cost Impact Justification (methodology and variables):

The cost per door assembly for the label and the requisite seals around the perimeter will add $65 to $100 per opening. All other costs will remain the same. The majority of the cost will be for the "S" labels (about $40 for the door and frame) and $25 for the seals for a standard 3' by 7' door. Double doors will be at the higher end for the additional label and extra length of perimeter to seal.

G114-25

G115-25

IBC: 510.5

Proponents: Gabriel Levy, incandescence life safety, inc, representing Colorado Chapter Code Development Committee (glevy@incandescencels.com)

2024 International Building Code

SECTION 510
SPECIAL PROVISIONS

Revise as follows:

510.5 Group R-1 and R-2 buildings of Type IIIA construction. For *buildings* of Type IIIA construction in Groups R-1 and R-2, the maximum allowable height in Table 504.3 shall be increased by 10 feet (3048 mm) and the maximum allowable number of *stories* in Table 504.4 shall be increased by one where the ~~first~~ floor assembly above the *basement*, where provided, has a *fire-resistance rating* of not less than 3 hours and the floor area is subdivided by 2-hour fire-resistance-rated *fire walls* into areas of not more than 3,000 square feet (279 m^2).

Reason: This height increase should be allowed for buildings which are slab on grade, without a basement.

"First-floor" is language that is inconsistent with the code.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The change proposal is a clarification and has no cost impact on the cost of construction for this option for special provisions.

G115-25

G116-25

IBC: 510.4, 510.7.1

Proponents: Bill McHugh, CM Services, Inc., representing National Fireproofing Contractors Association (bill@mc-hugh.us)

2024 International Building Code

SECTION 510
SPECIAL PROVISIONS

Revise as follows:

510.4 Parking beneath Group R. Where a maximum one *story above grade plane* Group S-2 parking garage, enclosed or open, or combination thereof, of Type I construction or open of Type IV construction, with grade entrance, is provided under a *building* of Group R, the number of *stories* to be used in determining the minimum type of construction shall be measured from the floor above such a parking area. The floor assembly between the parking garage and the Group R above shall comply with the type of construction required for the parking garage and shall also provide a *fire-resistance rating* not less than 4-hours or the mixed occupancy separation required in Section 508.4, whichever is greater.

510.7.1 Fire separation. *Fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711 between the parking occupancy and the upper occupancy shall correspond to the required *fire-resistance rating* prescribed in Table 508.4 for the uses involved or 4-hours, whichever is greater. The type of construction shall apply to each occupancy individually, except that structural members, including main bracing within the open parking *structure*, which is necessary to support the upper occupancy, shall be protected with the more restrictive fire-resistance-rated assemblies of the groups involved as shown in Table 601 or 4 hours, whichever is greater.*Means of egress* for the upper occupancy shall conform to Chapter 10 and shall be separated from the parking occupancy by *fire barriers* having not less than a 4- ~~2~~-hour *fire-resistance rating* as required by Section 707 with *self-closing* doors complying with Section 716 or *horizontal assemblies* having not less than a 4-~~2~~-hour *fire-resistance rating* as required by Section 711, with *self-closing* doors complying with Section 716. *Means of egress* from the *open parking garage* shall comply with Section 406.5.

Reason: The purpose of this code proposal is to address the items, risks present in parking garages below Group R occupancies. Whether it is an internal combustion engine, or battery technology powering vehicles or other devices, there is a risk in parking structures where these items are stored.

Most cars now have plastic gas tanks along with lots of plastics, used where metal was once used for bumpers, fender skirts, grilles, etc. The purpose of this proposal is to increase fire-resistance ratings from 2 hours to 4 hours for the parking garage structure, the floor above it, and the separating fire barriers, located in Group R buildings.

We have no idea when an or many electric vehicle(s) powered by lithium-ion or other type of batteries - or even an internal combustible engine will arrive and catch fire at a parking garage. Many apartment complexes with wood or other type of building element(s) on top of a parking structure - have this risk. How do I know? I just spent a year living in a Group R structure with the situation described above, 2 stories of parking, one at grade, one underground, topped by 5 stories of wood structure containing apartments.

The structure needs to withstand threats inside the building. The fire intensity and duration that lithium ion battery, other battery type, and internal combustion engine and plastic fires bring to these structures is amazing. The structures, and havens of safety need to survive and protect people. The floors above a parking garage(s) need to protect life as well, because people could be sleeping above the garage when these fires take place.

Fighting parking garage fires can be difficult. This is especially true when electric and internal combustion engine vehicles - and other items - are involved. We understand the water required to keep the batteries cool during thermal runaway is massive. Moving the vehicle outside the garage for burnout might not be an option in parking garages where exits can be a long way away, or on another floor.

The big question to ask; is the 2 hour fire-resistance-rating safe enough to protect people sleeping just above a parked vehicle or items stored that have erupted into flames with super intense heat located just under the horizontal assembly? What about the vehicle or items located next to a fire barrier shaft enclosure protecting the elevator and stairwell(s)?

The 4 hour fire-resistance rating is the highest practical fire-resistance rating that exists for most common construction building elements. The 4 hours is also the rating that current fire-resistance-rated assembly breach / opening / penetration / joint protection items such as fire-dampers, firestopping, fire rated doors, provide as well. With this rating the most stringent there is, it is fitting to be used to protect where risks and fuel loads are high.

Preventing fire spread with 4 hour fire barriers, 4 hour floors, horizontal assemblies, and protecting the structure with a 4 hour fire-resistance rating against collapse in parking garages is critical to safety and resilience. More importantly, this protects people from huge risks.

Cost Impact: Increase

Estimated Immediate Cost Impact:

This proposal will increase the cost of construction of the horizontal assembly, floor assembly, wall assembly by approximately 25% - 40% of only the assemblies required to have the increased fire-resistance rating. The cost will be absorbed into the rest of the building's cost of construction that is not required to be 4 hour fire-resistance rated.

The approximate cost addition is as follows:

- Shafts for elevators, stairwells with doors - Approx. 40-50 cents per sf of floor area (Approx. 2 stairwells, elevator, 2 mechanical shafts, or trash/other purposed shafts).
- Fireproofing - Approx. $0.75-1.00 per sf of floor area.

There is a new innovation in gypsum panels reducing labor costs for a 4-hour fire-resistance-rated assembly.

Estimated Immediate Cost Impact Justification (methodology and variables):

The protection is justified...because the assemblies are supporting people's homes. Apartments, condos, above these parking garages assume they are safe. The Lithium ion or other type of battery, internal combustion engine fire resulting from thermal runaway or other reason, is intense. The lithium ion battery fire has an immediate heat release, lasting a long time. The 4 hour fire-resistance-rated assembly is the closest cellulosic fire test we can get to provide longer protection to the horizontal assembly and walls in the garages - that also has listings for breach protection items. This meets the risk, in our opinion.

Estimated Life Cycle Cost Impact:

Maintaining protection of a 4 hour fire-resistance-rated assembly is no different than a 2 hour fire-resistance-rated assembly. There should be no increase in cost of maintaining protection.

G116-25

G117-25

IBC: 510.2

Proponents: Gabriel Levy, incandescence life safety, inc, representing Colorado Chapter Code Development Committee (glevy@incandescencels.com)

2024 International Building Code

SECTION 510
SPECIAL PROVISIONS

Revise as follows:

510.2 Horizontal building separation allowance. A *building* shall be considered as separate and distinct *buildings* for the purpose of determining area limitations, continuity of *fire walls*, limitation of number of *stories* and type of construction where the following conditions are met:

1. The *buildings* are separated with a *horizontal assembly* without unconcealed vertical openings and having a *fire-resistance rating* of not less than 3 hours. Where a *horizontal assembly* contains vertical offsets, the vertical offset shall be constructed as a fire barrier in accordance with Section 707 and shall have a *fire-resistance rating* of not less than 3 hours.
2. The *building* below, including the *horizontal assembly* and any associated vertical offsets, is of Type IA construction.
3. *Shaft*, *stairway, ramp* and escalator enclosures through the *horizontal assembly* shall have not less than a 2-hour *fire-resistance rating* with opening protectives in accordance with Section 716.

   Exception: Where the enclosure walls below the *horizontal assembly* have not less than a 3-hour *fire-resistance rating* with opening protectives in accordance with Section 716, the enclosure walls extending above the *horizontal assembly* shall be permitted to have a 1-hour *fire-resistance rating*, provided that the following conditions are met:

   1. The *building* above the *horizontal assembly* is not required to be of Type I construction.
   2. The enclosure connects fewer than four *stories*.
   3. The enclosure opening protectives above the *horizontal assembly* have a *fire protection rating* of not less than 1 hour.

4. *Interior exit stairways* located within the Type IA *building* are permitted to be of combustible materials where the following requirements are met:

   4.1. The *building* above the Type IA *building* is of Type III, IV, or V construction.

   4.2. The *stairway* located in the Type IA building is enclosed by 3-hour fire-resistance-rated construction with opening protectives in accordance with Section 716.

5. The *building* or buildings above the *horizontal assembly* shall be Group A, B, M, R or S occupancies.
6. The building below the *horizontal assembly* shall be protected throughout by an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, and shall be permitted to be any occupancy allowed by this code except Group H.
7, The maximum *building height* in feet (mm) shall not exceed the limits set forth in Section 504.3 for the building having the smaller allowable height as measured from the *grade plane*.

Reason: The code currently lacks explicit provisions prohibiting openings, including unenclosed exit access stairs, atria, escalators, or other similar elements, from going through podium assemblies. This oversight appears unintentional. Similar to fire walls, podium horizontal assemblies should only have rated or protected openings between construction types to prevent fire and smoke spread.

The term "unconcealed" vertical openings is used to align with the language for other types of vertical openings (IBC 712.1.2). The terms

"unenclosed" or "unprotected" are not suitable for this requirement. Rated penetrations and protected ducts, while technically "unenclosed", are permissible through a podium. Similarly, exit access stairs with draft curtains and closely spaced sprinklers are considered "protected" but should not be allowed through podium assemblies.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The change proposal is a clarification and has no cost impact on the cost of construction for horizontal assemblies.

G117-25

G118-25

IBC: TABLE 601

Proponents: Joseph Summers, Mashantucket Pequot Tribal Nation, representing Self

2024 International Building Code

TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a, b, c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1[b, c]	0
Bearing walls												
Exterior[e, f]	3[a]	2[a]	1	0	2[a]	2[a]	3[a]	2[a]	2[a]	2[a]	1	0
Interior	3[a]	2[a]	1	0	1	0	3[a]	2[a]	2[a]	1/HT[g]	1	0
Nonbearing walls and partitionsExterior	See Table 705.5											
Nonbearing walls and partitionsInterior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 1/2[b]	1[b, c]	1[b, c]	0[c]	1[b, c]	0	1 1/2	1	1	HT	1[b, c]	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Except in Group F-1, H, M and S-1 occupancies, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking where every part of the roof construction is 20 feet or more above any floor or mezzanine immediately below. Fire-retardant-treated *wood* members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.9.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a fire-resistance rating of not less than 1 hour.

Reason: Have had a few projects of Type I-B construction with both primary structural frames and exterior load-bearing walls. In these situations the fire rating of the columns can be reduced by 1-hr when supporting a roof only, but exterior load-bearing walls do not offer this reduction. These situations creates a constructability issue since you have a 2 or 3-hr exterior wall and the roof construction that is bears on these walls is 1-hr rated.

This proposal is to offer the same 1-hr reduction for load-bearing walls as it does for primary structural frames.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

Range from $10k to several $100k, depending on the size and complexity of the structure.

Estimated Immediate Cost Impact Justification (methodology and variables):

This will simplify the constructability of roofs resting on load-bearing walls.

Estimated Life Cycle Cost Impact:

this is primarily for during construction. However, over the life of the structure the potential cost for window and door replacements would reduced

Estimated Life Cycle Cost Impact Justification (methodology and variables):

Depending on the method of the wall construction the windows and doors may be required to be fire-resistant rated and the adoption of this proposal would reduce the fire-resistant requirements for windows and doors, thus reducing the cost of future alterations/renovations.

G118-25

G119-25

IBC: TABLE 601

Proponents: Richard Walke, Creative Technology Inc. and CM Services, representing National Fireproofing Contractors Association (richwalke61@gmail.com)

2024 International Building Code

Revise as follows:

TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III					TYPE IV	TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a, b, c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1[b, c]	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 1/2[b]	1[b, c]	1[b, c]	0[c]	1[b, c]	0	1 1/2	1	1	HT	1[b, c]	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. ~~Except in Group F-1, H, M and S-1 occupancies,~~ Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking ~~where every part of the roof construction is 20 feet or more above any floor or mezzanine immediately below.~~ except where any of the following conditions apply:

   1. In Group F-1, H, M and S-1 occupancies.

   2. Where the roof is occupiable.

   Fire-retardant-treated *wood* members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.9.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a fire-resistance rating of not less than 1 hour.

Reason: The intent of this proposal is to prohibit the use of the “20 ft rule” stated in Exception b of Table 601 for occupiable roofs.

Footnote b as currently written reflects the facts that a roof is typically not occupied and that if sufficient distance exists between the floor below and the bottom side of the roof assembly there is little potential for the ignition of the roofing materials on top of the roof assembly. However, if the roof is occupiable, there is a need to protect those occupants through fire-resistance-rated construction just as if they were occupying the floor beneath the roof. As such, this proposal creates an exception to the use of the “20 ft rule” for occupiable roofs.

Cost Impact: Increase

Estimated Immediate Cost Impact:

Based on industry and manufacturer input, this code proposal will increase the cost of construction by approximately $1 to $3 per square foot of roof assembly protected.

Estimated Immediate Cost Impact Justification (methodology and variables):

This includes materials and labor costs for a typical roof assembly. The total cost in any given building will depend upon the area of the roof assembly and whether or not the "20 ft rule" even applied.

G119-25

G120-25

IBC: TABLE 601

Proponents: Richard Walke, Creative Technology Inc. and CM Services, representing National Fireproofing Contractors Association (richwalke61@gmail.com)

2024 International Building Code

Revise as follows:

TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III					TYPE IV	TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame~~f~~g (see Section 202)	3[a, ~~b~~c]	2[a, ~~b,~~ c, d]	1[~~b,~~ c, d]	0[~~c~~d]	1[~~b,~~ c, d]	0	3[a]	2[a]	2[a]	HT	1[~~b,~~ c, d]	0
Bearing walls												
Exterior~~e, f, g~~	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[~~g~~h]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior~~d~~e	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 1/2[b, c]	1[b, c, d]	1[~~b,~~ c, d]	0[~~c~~d]	1[~~b,~~ c, d]	0	1 1/2[b]	1[b]	1[b]	HT	1[~~b,~~ c, d]	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. The *fire-resistance rating* of an *occupiable roof* shall be equal to or greater than the required *fire-resistance rating* of the floor construction below.

~~b~~ c. Except in Group F-1, H, M and S-1 occupancies, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking where every part of the roof construction is 20 feet or more above any floor or mezzanine immediately below. Fire-retardant-treated *wood* members shall be allowed to be used for such unprotected members.

~~c~~ d. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

~~d~~ e. Not less than the fire-resistance rating required by other sections of this code.

~~e~~ f. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

~~f~~ g. Not less than the fire-resistance rating as referenced in Section 704.9.

~~g~~ h. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a fire-resistance rating of not less than 1 hour.

Reason: The purpose of this code proposal is two-fold. First, it provides protection to the occupants of the occupiable roof. Second, it provides clarity that the entire occupiable roof must be rated.

The first purpose is achieved by requiring an occupiable roof to have a fire-resistance rating equal to the required fire-resistance rating of the floor below. This provides the same degree of fire-resistance for occupants of the occupiable roof as the occupants on the floor below. The second purpose is achieved by reference to an occupiable roof instead of an occupiable space. It is not permitted to rate just that portion of the roof beneath the occupiable space. This proposal recognizes that the size of the occupied space can change after certificate of occupancy is granted. By rating the entire occupiable roof, changes can be made in the size of the occupiable space without the need to address fire-resistance again when the cost of fire-resistance is increased due to obstructed access from the underside of the roof assembly. Ducts, piping, ceiling grid hangers, all cause production to massively slow down when in the way of fireproofing

operations regardless of protection material type.

Cost Impact: Increase

Estimated Immediate Cost Impact:

Based on industry and manufacturer input, this code proposal will increase the cost of construction by approximately $1 to $3 per square foot of roof assembly protected.

Estimated Immediate Cost Impact Justification (methodology and variables):

This includes materials and labor costs for a typical roof assembly. The total cost in any given building will depend upon the area of the roof assembly.

G120-25

G121-25

IBC: TABLE 601

Proponents: Richard Walke, Creative Technology Inc. and CM Services, representing National Fireproofing Contractors Association (richwalke61@gmail.com)

2024 International Building Code

Revise as follows:

TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III					TYPE IV	TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame~~f~~g (see Section 202)	3[a, ~~b~~c]	2[a, ~~b~~, c, d]	1[~~b~~, c, d]	0[~~e~~d]	1[~~b~~, c, d]	0	3[a]	2[a]	2[a]	HT	1[~~b~~, c, d]	0
Bearing walls												
Exterior~~e, f~~, g	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[~~g~~h]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior~~d~~e	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 1/2[~~b~~c]	1[~~b~~, c, d]	1[~~b~~, c, d]	0[~~e~~b,d]	1[~~b~~, c, d]	0[b]	1 1/2	1	1	HT	1[~~b~~, c, d]	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. *Occupiable roofs* of single-story buildings without a required *fire-resistance ratings* on the floor construction of the first floor shall have a *fire-resistance rating* of 1 hr on the *occupiable roof.*

~~b~~ c. Except in Group F-1, H, M and S-1 occupancies, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking where every part of the roof construction is 20 feet or more above any floor or mezzanine immediately below. Fire-retardant-treated *wood* members shall be allowed to be used for such unprotected members.

~~c~~ d. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

~~d~~ e. Not less than the fire-resistance rating required by other sections of this code.

~~e~~ f. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

~~f~~ g. Not less than the fire-resistance rating as referenced in Section 704.9.

~~g~~ h. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a fire-resistance rating of not less than 1 hour.

Reason: The purpose of this code proposal is three-fold. First, it provides protection to the occupants of the occupiable roof. Second, it provides clarity that the entire occupiable roof must be rated.

The first purpose is achieved by requiring an occupiable roof to have a fire-resistance rating of 1 hr. This provides a reasonable period of time for the occupants of the occupiable roof to egress the building in the case of fire. The second purpose is achieved by reference to an occupiable roof instead of an occupiable space. It is not permitted to rate just that portion of the roof beneath the occupiable space. This proposal recognizes that the size of the occupied space can change after certificate of occupancy is granted. By rating the entire occupiable roof, changes can be made in the size of the occupiable space without the need to address fire-resistance again when the cost of fire-resistance is increased due to obstructed access from the underside of the roof assembly. Ducts, piping, ceiling grid hangers, all cause production to massively slow down when in the way of fireproofing operations regardless of protection material type.

Cost Impact: Increase

Estimated Immediate Cost Impact:

Based on industry and manufacturer input, this code proposal will increase the cost of construction by approximately $1 to $3 per square foot of roof assembly protected.

Estimated Immediate Cost Impact Justification (methodology and variables):

This includes materials and labor costs for a typical roof assembly. The total cost in any given building will depend upon the area of the roof assembly.

G121-25

G122-25

IBC: TABLE 601

Proponents: Jeffrey Grove, representing Coffman Engineers (jeff.grove@coffman.com)

2024 International Building Code

Revise as follows:

TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III					TYPE IV	TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a, b, c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1[b, c]	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 1/2[b]	1[b, c]	1[b, c]	0[c]	1[b, c]	0	1 1/2	1	1	HT	1[b, c]	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Except in Group F-1, H, M and S-1 occupancies, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking where every part of the roof construction is 20 feet or more above any floor or mezzanine immediately below. ~~Fire-retardant treated *wood* members shall be allowed to be used for such unprotected members.~~

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.9.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a fire-resistance rating of not less than 1 hour.

Reason: IBC 603.1 Item 1.3 permits fire-retardant treated wood in roof construction of Type I or II buildings. The final sentence of Table 601 footnote b creates redundancy and potential misinterpretation regarding FRT wood use. The current wording could incorrectly suggest FRT wood is limited to unprotected roof members above 20 feet, when it can be used in any Type I or II construction roof assembly meeting Table 601's fire-resistance requirements.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This code change proposal addresses the unintended redundancy and potential misinterpretation regarding FRT wood use. This code change proposal therefore has no impact to the cost of construction.

G123-25

IBC: TABLE 601

Proponents: Jeffrey Grove, representing Coffman Engineers (jeff.grove@coffman.com)

2024 International Building Code

Revise as follows:

TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III					TYPE IV	TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a, b, c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1[b, c]	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 1/2[b]	1[b, c]	1[b, c]	0[c]	1[b, c]	0	1 1/2	1	1	HT	1[b, c]	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Except in Group F-1, H, M and S-1 occupancies, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing, ~~and~~ decking , and portions of columns above 20 feet where every part of the roof construction is 20 feet or more above any floor or mezzanine immediately below. Fire-retardant-treated *wood* members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.9.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a fire-resistance rating of not less than 1 hour.

Reason: For columns that support roofs greater than 20 feet above any floor or mezzanine immediately below, Table 601 Footnote b is understood to primarily be enforced in two ways:

- Columns are required to be encased with fireproofing the full height of the column, including the area of the column 20 feet or more above any floor or mezzanine immediately below, or
- Columns are encased for the first 20 feet above any floor or mezzanine immediately below, with the height of the column above 20 feet permitted to be exposed. This interpretation is recognized by other standards (such as NFPA 101) but not explicit in the IBC codified language. This proposal helps to reinforce this interpretation.

This code modification proposes that fireproofing not be required for the column height above 20 feet, and retains the requirement for fireproofing less than or equal to 20 feet above the floor or mezzanine immediately below.

Encasement is intended to protect structural stability by delaying heating and weakening of structural framing elements due to fire exposure. Encasement is effective where structural members are exposed to high temperatures near to a fire with high fire exposure, with no substantial benefit to life safety and

structural stability where encased members are remote from a fire with reduced fire exposure.

The prescriptive building code acknowledges this behavior in the current Table 601 Footnote b, by permitting primary structural frame members, roof framing and decking and every part of roof construction 20 feet or more above the floor or mezzanine immediately below to be exempt from fireproofing. The exemption of fireproofing greater than 20 feet above the floor or mezzanine acknowledges the lesser severity at higher elevations.

As heat transfer is a function of structural framing size and roof framing members are considerably smaller than columns, for an equivalent fire severity and exposed structural framing, roof framing members will be the limiting factor for structural stability compared to columns.

Given applied protection for roof framing is permitted to be exempt and structural framing for roof framing is considered to be the limiting factor for structural stability, portions of columns greater than 20 feet above the floor or mezzanine immediately below should also be permitted to be exempt for fireproofing, as the level of safety and structural stability is considered to be maintained for this condition.

Bibliography: NFPA 101, Life Safety Code

Cost Impact: Decrease

Estimated Immediate Cost Impact:

This proposal will result in a cost decrease for fire-proofing columns above 20 feet in this scenario. The cost can vary significantly depending upon the fireproofing strategy, but a lower estimate is approximately $5 per square foot for cementitious coatings. For buildings with multiple tall columns which support the roof this can present significant savings.

Estimated Immediate Cost Impact Justification (methodology and variables):

Costing information was gathered with the assistance of installing contractors and vendors.

G123-25

G124-25

IBC: TABLE 601

Proponents: Charles Anderson, City of Minneapolis, representing Self (c.scott.anderson@minneapolismn.gov)

2024 International Building Code

Revise as follows:

TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III					TYPE IV	TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a, b, c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1[b, c]	0
Bearing walls												
Exterior[e, f]	3	2	1	0	~~2~~ 1	~~2~~ 1	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5				1[e]	1[e]				See Table 705.5		
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 1/2[b]	1[b, c]	1[b, c]	0[c]	1[b, c]	0	1 1/2	1	1	HT	1[b, c]	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Except in Group F-1, H, M and S-1 occupancies, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking where every part of the roof construction is 20 feet or more above any floor or mezzanine immediately below. Fire-retardant-treated *wood* members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.9.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a fire-resistance rating of not less than 1 hour.

Reason: Under the UBC, the only legacy code I am familiar with, type III construction required exterior walls to be of non-combustible construction. This generally meant masonry or poured concrete construction. Bearing walls were required to be 4-hr rated and non-bearing walls were rated based on occupancy classification and Fire Separate Distance. Where FSD was 5 feet or less 4-hr rating was required. Where FSD was more than 5 feet and less than 20 feet were 2-hr rating was required. There was an allowance for fire retardant treated wood to be included in walls with a 2-hr or less required rating.

Under the UBC all exterior walls of most type III construction had a significant fire resistive rating.

With the introduction of the IBC in 2000 this changed significantly. The fire resistive rating for exterior bearing walls was reduced from 4-hr to 2-hr. Exterior non-bearing walls were reduced to 1-hr for any walls with a FSD less than 30'. The exception that allows FRT in walls with a 2-hr rating or less was maintained. It did not take designers long to recognize the significance of this change.

The entire exterior wall of type III construction can now be entirely of combustible construction. FRT lumber is still considered combustible construction. Given the higher allowable floor area and height type III construction buildings can, in many urban environments encompass entire blocks. Therefore the non-bearing walls have a FSD in excess of 30 feet so are permitted to have no fire

resistive rating. In these cases there is very little difference between type III and V construction: The difference being the use of FRT and a smattering of 2-hr rated bearing walls.

This proposed change is an attempt to have the code catch up to the current construction practices and perhaps address some unintended results of the changes to the type III construction type in the very first IBC.

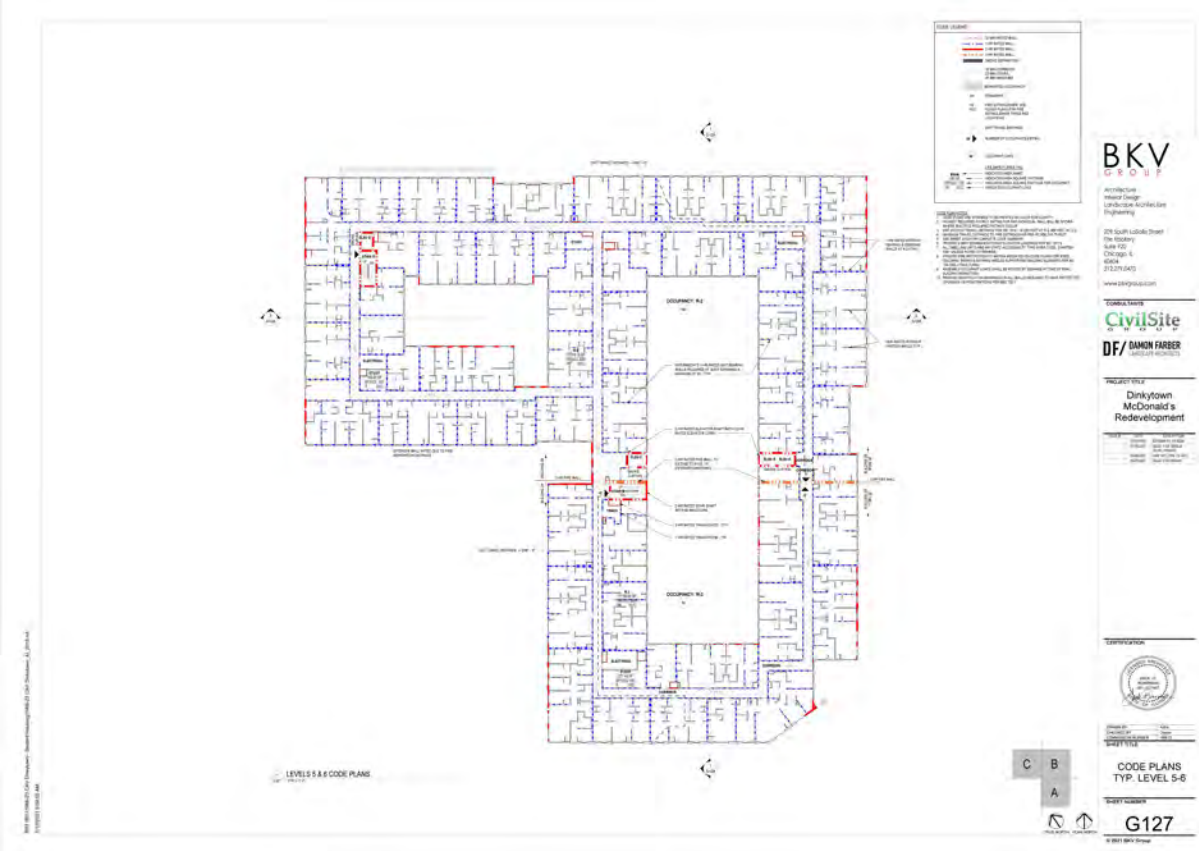
Type III construction is used extensively in the construction of R-2 dwelling units. The current construction practice is to run the floor and roof faming members parallel to the long dimension of the building. Limiting the amount of exterior bearing wall to the greatest extent possible. In a simple rectangular building this is not a significant issue. However most of these structures have numerous recesses in the exterior walls, due either to meeting zoning requirements for articulated facades or to provide for private decks and balconies. These articulations result is numerous short sections of exterior bearing walls. Many as short as 3-5 feet. The code requires that exterior bearing walls have a 2-hr fire resistive rating, designers, contractors and code officials spend an enormous amount of time and energy tracking all of these isolated wall assemblies through the building. This can get even more difficult when on upper levels the building steps back to create a smaller footprint on the upper levels. Again often in response to zoning requirements. Now not only the exterior bearing wall on this upper level is required to be 2-hr rated but all the supporting construction down through the interior of the building must also be 2-hr rated. Often the upper floor will have a different framing arrangement than the lower floor with a larger footprint. So the exterior bearing wall on floor 4 may in fact be above but back from an exterior non bearing wall on the floor 3.

The end result of applying these 2-hr rating requirements to all combustible construction is a great deal of work designing and maintaining isolated fire resistive elements. There is no practical or effective protection of the building construction. But at least we meet the code.

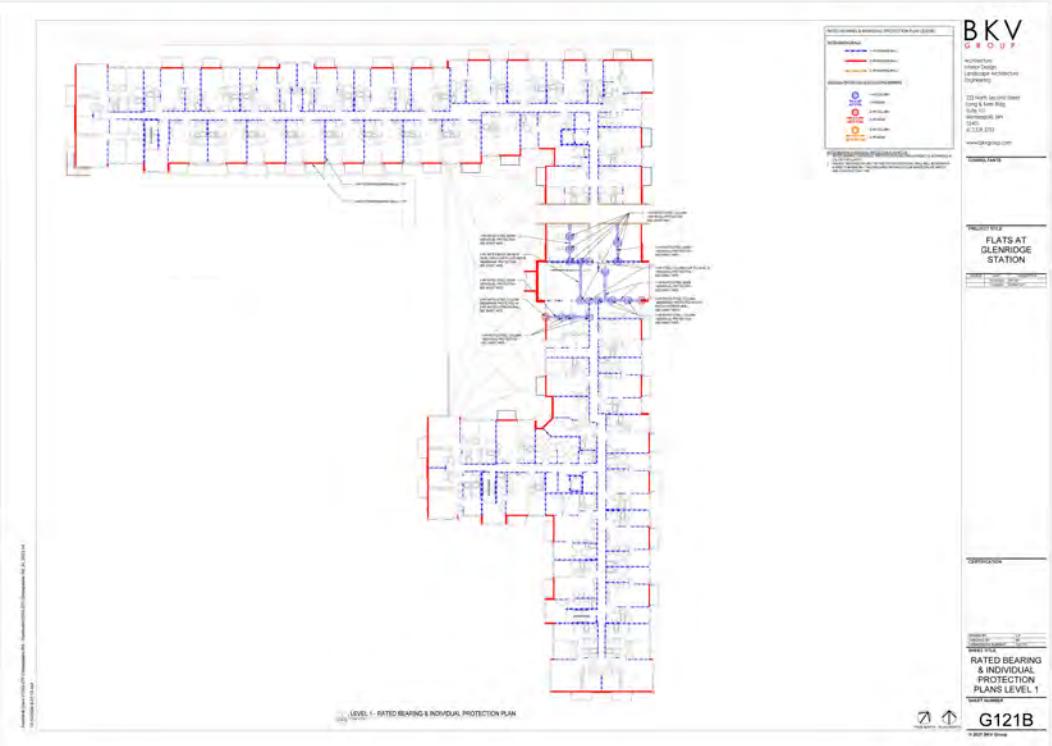
In lieu of this exercise in code compliance I am proposing we go back to the basic premise of type III construction. That is, that all exterior walls be provided with a fire resistive rating. Given the current construction practices most floor and wall assemblies in R-2 construction will have a minimum fire resistive rating of 1-hr. Yes there is an allowance to reduce it to 30 min when sprinkler system is being provided, but in practical terms the assemblies still meet the 1-hr rating.

Type III construction should as a requirement of the construction type have all exterior walls with a minimum 1-hr fire resistive rating. This may be increased based on FSD and is so noted in the footnote. This universal minimum 1-hr rating is more consistent with the historic type III construction and provides a better justification for the increased allowable floor area and height of type III vs type V construction. Further it makes more logical sense to have rated floor and roof assemblies supported by rated wall assemblies then non-rated assemblies which is currently permitted.

Attached example 1 shows a typical large scale type III apartment building. The exterior 2-hr rated walls are shown in red. Note that the entire north wall is non-rated construction. Note that in the middle of the north wall there are two 4 foot long walls perpendicular to the lot line that are 2- hr rated. The east and west walls have 2-hr rated assemblies for approx. 46% of the exterior wall and those rated assemblies are located at the extreme ends of the walls. The building walls facing the courtyard are also exterior walls and therefore include some 2-hr ratings.



Attached example 2 shows another typical type III apartment building. This one has balconies. Because of the definition of bearing walls these balconies create a series of exterior walls that qualify as bearing walls. The entire exterior wall design is a running pattern of non rated wall next to 2-hr rated wall next to non-rated wall next to 2-hr rated wall and on and on.



The point of these two examples is to show that, while it is possible to meet the letter of the code, it does not meet the original intent of the code sections. This alternating protected / non-protected pattern does not provide any realized protection of the structure, occupants, or first responders.

This proposed change at least restores the intent of type III construction in that it provides a minimum fire resistive rating for all exterior walls.

Bibliography: 1997 UBC

2000 IBC

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The reduction in detailing 2-hr rated combustible construction should ultimately balance any increase in construction cost to provide 1-hr construction in the non-bearing walls.

G124-25

G125-25

IBC: 602.1

Proponents: Ardel Jala, representing Seattle Department of Construction & Inspections (ardel.jala@seattle.gov); Jenifer Gilliland, representing Seattle Department of Construction & Inspections (jenifer.gilliland@seattle.gov)

2024 International Building Code

Revise as follows:

602.1 General. *Buildings* and *structures* erected or to be erected, altered or extended in height or area shall be classified in one of the five *construction types* defined in Sections 602.2 through 602.5. The *building elements* shall have a *fire-resistance rating* not less than that specified in Table 601 and *exterior walls* shall have a *fire-resistance rating* not less than that specified in Table 705.5. Where required to have a *fire-resistance rating* by Table 601, *building elements* shall comply with the applicable provisions of Section 703.2. The protection of penetrations, openings, ducts and air transfer openings in *building elements* shall not be required unless required by other provisions of this code.

Reason: This code change proposal adds penetrations to the list of elements not required to be protected unless required by other provisions of the code. Where an opening is permitted without protection in fire-resistance rated building elements as per this provision, a through penetration or membrane penetration should also be permitted without protection.

Approval of this code change is consistent with the Fire Safety Committee approval of FS18-24 at the ICC Group A Committee Action Hearings #1 in Orlando, Florida. FS18-24 clarifies that exterior walls permitted to have unprotected openings based on Section 705.9 are not required to have penetration protection. FS18-24 did not receive comment at CAH #2 and has moved onto the consent agenda for 2026.

Approval of this code change is also consistent Fire Safety Committee disapproval of FS45-24 at the ICC Group A Committee Action Hearings #1 in Orlando, Florida. The FS45-24 proposal added penetration protection at fire-resistance rated bearings walls required to be rated based on construction type.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There is not cost impact because there is no requirement for protection.

G125-25

G126-25

IBC: 602.1

Proponents: Larry Sherwood, Sustainable Energy Action Committee, representing IREC (larry@irecusa.org); Philip Oakes, representing NASFM; Dara Yung, representing California Solar & Storage Association (CALSSA) (dara@calssa.org); Joseph H. Cain, P.E., representing Solar Energy Industries Association (SEIA) (joecainpe@gmail.com)

2024 International Building Code

Revise as follows:

602.1 General. *Buildings* and *structures* erected or to be erected, altered or extended in height or area shall be classified in one of the five *construction types* defined in Sections 602.2 through 602.5. The *building elements* shall have a *fire-resistance rating* not less than that specified in Table 601 and *exterior walls* shall have a *fire-resistance rating* not less than that specified in Table 705.5. Where required to have a *fire-resistance rating* by Table 601, *building elements* shall comply with the applicable provisions of Section 703.2. The protection of openings, ducts and air transfer openings in *building elements* shall not be required unless required by other provisions of this code.

Exception: Noncombustible structural members supporting *photovoltaic panels* are not required to meet the fire resistance rating for any of the following conditions:

1. Rooftop-mounted *photovoltaic (PV) panel systems* supported by a structure and having no use underneath.
2. *Elevated photovoltaic (PV) support structures* with noncombustible framing that have sufficient uniformly distributed and unobstructed openings throughout the top of the array to allow heat and gases to escape, as determined by the *building official*.
3. *Elevated photovoltaic (PV) support structures* installed on the roof of an open parking structure where all the following conditions are met (see Figure 503.1):
   - 3.1. *Elevated photovoltaic (PV) support structures* installed on the roof of an open parking structure where all the following conditions are met (see Figure 503.1):
   - 3.2. The area within the perimeter of PV support structures has maximum rectangular dimension of 40 feet by 150 feet (12 195 mm by 45 720 mm).
   - 3.3. The driveway aisle separating PV support structures has a minimum width of 25 feet (7620 mm) clear.
   - 3.4. *Elevated PV support structures* are used only for parking purposes with no storage.
   - 3.5. *Elevated PV support structures* are completely open on all sides, other than necessary structural supports, with no interior partitions.
   - 3.6. *Elevated PV support structures* comply with Section 3111.3.5.2.

Reason: This proposal addresses the concern as to whether the structural elements supporting a rooftop mounted PV panel system or an elevated PV support structure is required to be protected with the same fire-resistive construction as the building below.

The proposal provides clarity for exceptions to fire-resistance for those structural elements.

These new exceptions to IBC Section 602.1 correlate with exceptions found in California Building Code Section 602.1 for several cycles. Although this language is not identical to language found in the California Building Code, the technical requirements are the same. The exceptions are edited to use IBC defined terms and to be appropriate for a nationwide use, rather than just in California.

This proposal maintains fire safety for the building as well as for firefighters.

This proposal was prepared by the Sustainable Energy Action Committee (SEAC), a forum for all stakeholders (including, but not limited to, AHJs, designers, engineers, contractors, first responders, manufacturers, suppliers, utilities, and testing labs) to collaboratively identify and find solutions for issues that affect the installation and use of solar energy systems, energy storage systems, demand response, and

energy efficiency. The purpose is to facilitate the deployment and use of affordable, clean and renewable energy in a safe, efficient, and sustainable manner.

All recommendations from SEAC are approved by diverse stakeholders through a consensus process. For more information, please visit www.sustainableenergyaction.org

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

It encourages solar energy without adversely impacting safety.

G126-25

G127-25

IBC: 602.4

Proponents: David Bueche, representing Hoover Treated Wood Products (dbueche@frtw.com)

2024 International Building Code

Revise as follows:

602.4 Type IV. Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the *noncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.*Cross-laminated timber* shall be *labeled* as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

Exception: Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT Construction in accordance with Section 602.4.4. The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

~~**Exception**~~ **Exceptions:**

1. Interior *building elements* and *nonload-bearing walls* and partitions of Type IV-HT construction in accordance with Section 602.4.4.
2. *Fire-retardant-treated wood* complying with Section 2303.2 shall be permitted for interior *nonload-bearing walls* and partitions for Types IV-A, IV-B and IV-C construction.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

Reason: In Table 601, the hourly fire-resistance ratings for interior nonbearing walls and partitions in Types IV-A, IV-B, and IV-C, are the same for the other construction types where fire-retardant-treated wood (FRTW) is permitted (ex. Type IA and IIA are also 0 hour.) 603.1.1 recognizes that FRTW can be used for nonload-bearing partitions in Type I and II construction where the required fire-resistance rating is 2 hours or less. By allowing this exception, there will be no decrease in the minimum hourly fire-resistance rating by including FRTW for Types IV-A, IV-B, and IV-C construction for interior nonbearing walls and partitions, nor will there be any adverse impact to building or life safety.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0. This provides another option by adding Type III construction to this section of the code which may decrease the cost of construction.

Estimated Immediate Cost Impact Justification (methodology and variables):

Fire-retardant-treated wood is generally less expensive than mass timber or noncombustible materials. Because FRTW is used as an alternative to these materials in this application, the cost may be less.

G128-25

IBC: 602.4.2.2.2, 602.4.2.2.4

Proponents: Shamim Rashid-Sumar, representing National Ready Mixed Concrete Association (ssumar@nrmca.org); Tim Earl, GBH International, representing the Gypsum Association (tearl@gbhint.com); Stephen Skalko, Stephen V. Skalko, P.E. & Associates LLC, representing Masonry Alliance for Codes and Standards (svskalko@svskalko-pe.com)

2024 International Building Code

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

Revise as follows:

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber walls* and *mass timber roofs*, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:
   1.1. Unprotected portions of *mass timber* ceilings, including attached beams, limited to an area less than or equal to ~~100~~ 20 percent of the floor area in any *dwelling unit* within a *story* or fire area within a *story* .
   1.2. Unprotected portions of *mass timber* walls, including attached columns, limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a *story* or fire area within a *story* .
   1.3. Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or fire area and in compliance with Section 602.4.2.2.3.
2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area* , where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/U_{ac}) + (U_{tw}/U_{aw}) \le 1 \qquad \textbf{(Equation 6-1)}$$

where:
U_{tc} = Total unprotected *mass timber* ceiling areas.
U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.
U_{tw} = Total unprotected *mass timber* wall areas.
U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls and ceilings shall be not less than 15 feet (4572 mm) from unprotected portions of other walls and ceilings, measured horizontally along the ceiling and from other unprotected portions of walls measured horizontally along the floor.

Reason: This code change proposal reinstates the provisions of IBC 602.4.2.2.2 (Protected area) and 602.4.2.2.4 (Separation distance between unprotected mass timber elements) back to the original 2021 IBC provisions recommended by the Ad-Hoc Committee on Tall Wood Buildings.

The Ad-Hoc Committee on Tall Wood Buildings (TWB) developed provisions for Type IVA, B, and C construction in the 2021 edition of

the IBC. These provisions were based on the ATF fire test program.

In the 2024 edition of the International Building Code, the provisions established by TWB were relaxed to allow fully exposed mass timber ceilings for Type IVB (partially encapsulated) mass timber construction.

The 2024 changes to the TWB recommended provisions were based on a series of fire tests conducted at the Research Institute of Sweden (RISE). The experiments were limited to a compartment size of 23 ft x 22.5 ft x 9 ft, representative of residential units or an office for about 8 persons. The tests were considered by the code change proponents to perform satisfactorily, based on no significant fire re-growth being observed and temperatures within the compartment decreasing continuously from the time of the fully-developed phase until the end of the fire test.

However, tests on compartments of this size do not capture the fire dynamics of large compartments. Exposed timber alters the fire dynamics within a compartment, resulting in more intense temperatures, longer fire durations, and a slower decay phase of the fire when compared to rooms without exposed timber (Rackauskaite et al., 2021).

In 2021 a new series of tests, the “Code Red” tests, were conducted by Arup and Imperial College London at the CERIB facility in France. The main driver of these tests was to investigate how fires form and develop in larger CLT spaces, such as those more typical to office buildings and occupancies other than residential apartments. The tests were carried out in a large open-plan compartment with a floor area of 352 m^2 (approximately 3800 ft^2) with a fully exposed, unloaded, cross-laminated timber (CLT) ceiling and glue laminated timber (glulam) columns.

In the first of this series of experiments, significant external flaming was observed through the openings. Analysis of the experimental results showed the presence of the timber structure approximately doubled the heat released compared to the value expected from the fuel source alone. Smoldering combustion of the timber elements continued for hours following the extinction of visible flaming, burning in several hotspots, resulting in holes through the CLT slab (Kotsovinos et al. 4 November 2021). These results are not considered satisfactory or consistent with the performance criteria outlined by TWB in the original provisions for tall wood buildings in the IBC.

The fourth experiment in the series was identical to the first experiment, however 50% of the CLT at the ceiling was encapsulated. The results of this experiment showed that partial encapsulation resulted in delay of ignition of the CLT ceilings. Based on delayed CLT ignition, the fire initially spread more slowly, and resulted in a less severe fire when compared to the first experiment with no encapsulation (100% exposed CLT ceiling). Lower peak temperatures were also measured in the compartment with the partially encapsulated ceiling as compared to the fully exposed CLT ceiling. Flames outside the door opening in the compartment with the partially encapsulated ceiling were also smaller in extent and height compared to those observed in the fully exposed ceiling experiment. The CLT encapsulation was described as effectively protecting the majority of the CLT from fire ignition as well as “a multi-layer system providing better resilience” (Kotsovinos et al. 7 October 2022).

The results of the Code Red tests are consistent with concurrent research at other institutions. A case study was conducted by Ni and Gernay to investigate the impact of exposed timber surface on the severity of a mass timber compartment fire and its corresponding demand on fire suppression. When timber elements are not protected from the fire by encapsulation, these timber elements contribute to the fuel load of the fire, altering the fire dynamics by increasing the duration and intensity of the fire. This is noted as particularly significant for compartment surface areas such as CLT ceilings, floors and walls (Ni and Gernay, 2002). Ni and Gernay quantified the additional heat contributed by exposed timber in a fire. Part of the heat will remain in the compartment, increasing the severity of thermal exposure conditions for the structure, while part of the heat will be released outside the building, which may put adjacent structures at a greater risk of ignition. In the case study, the duration and severity of compartment fire increased with increasing proportion of exposed CLT surfaces. This is consistent with what was observed in the results of the Code Red experiments.

Based on current and ongoing research, the changes to the 2024 IBC to permit 100% exposed mass timber ceilings in Type IVB construction is not justified in other than small compartments limited to 84 m^2 or roughly 900 square feet (Rackauskaite et al., 2021). The approaches to fully exposed mass timber ceilings cannot be considered accurate when applied to large open plan or well- ventilated compartments where fuel controlled fires may be more likely. The controls for these conditions currently do not exist in the 2024 IBC code provisions. Reinstatement of the 2021 IBC code provisions will ensure a level of fire safety consistent with that intended by the TWB.

Bibliography: Cary Kopczynski & Company. 2018. Cross laminated timber feasibility study—A comparison between cross laminated timber and cast-in-place concrete framing for mid-rise urban buildings. Cary Kopczynski & Company, Seattle. http://buildingstudies.org/pdf/related_studies/Cross_Laminated_Timber_Feasibility_Study_Feb-2018.pdf

Gu, Hongmei & Liang, Shaobo & Bergman, Richard. (2020). Comparison of Building Construction and Life-Cycle Cost for a High-Rise

Mass Timber Building with its Concrete Alternative. Forest Products Journal (2020)70 (4): 482-492. https://doi.org/10.13073/FPJ-D-20-00052

Kotsovinos P, Rackauskaite E, Christensen E, et al. Fire dynamics inside a large and open-plan compartment with exposed timber ceiling and columns: *CodeRed #01*. *Fire and Materials*. 2023; 47(4): 542-568. http://doi/10.1002/fam.3049

Kotsovinos P, Christensen EG, Glew A, et al. Impact of partial encapsulation on the fire dynamics of an open-plan compartment with exposed timber ceiling and columns: *CodeRed #04*. *Fire and Materials*. 2023; 47(4): 597-626. doi:10.1002/fam.3112

Ni, S., Gernay, T. On the Effect of Exposed Timber on the Severity of Structural Fires in a Compartment and Required Firefighting Resources. *Fire Technol* **58**, 2691–2725 (2022). https://doi.org/10.1007/s10694-022-01254-x

Rackauskaite E, Kotsovinos P, Barber D (2021) Letter to the editor : design fires for open-plan buildings with exposed mass-timber. Fire Technol 57:487–495. https://doi.org/10.1007/s10694-020-01047-0

Cost Impact: Increase

- **fpl_2020_gu001.pdf**
  https://www.cdpaccess.com/proposal/9811/30380/documentation/145436/attachments/download/4257/
- **Cross_Laminated_Timber_Feasibility_Study_Feb-2018.pdf**
  https://www.cdpaccess.com/proposal/9811/30380/documentation/145436/attachments/download/4256/

Estimated Immediate Cost Impact:

Acoustical and fire protection costs for cross laminated timber are expected to range from $2 to $6 per square foot (Cary Kopczynski & Company 2018). Addition costs for acoustical dampening in comparable structures of other than CLT construction are anticipated to be $1 to $2 per square foot (Gu et al. 2020). The cost increase for initial construction cost would therefore be expected to range from $1 to $4 per square foot.

Estimated Immediate Cost Impact Justification (methodology and variables):

Data regarding immediate cost impact is based on feasibility (Cary Kopczynski & Company 2018) and cost impact (Gu et al. 2020) studies, which are noted and attached.

Estimated Life Cycle Cost Impact:

The code change proposal will decrease Life Cycle Cost Impact. A major component of life cycle cost is associated with fire suppression costs, in particular required fire flow and water supply.

In addition to quantifying the additional heat contributed by exposed timber in a fire, Ni and Gernay considered the increased requirements for fire flow and water supply for fire suppression by fire service personnel based on the increased energy released in the compartment by burning of exposed timber. In the case study, as the exposed timber surface increases from 0% to 100%, the required fire flow increases by 47% and the required water supply increases by 91% to balance the heat contributed by the burning timber (Ni and Gernay 2022). This will translate to an increased life cycle cost for buildings with exposed timber ceilings.

Estimated Life Cycle Cost Impact Justification (methodology and variables):

The case study developed by Ni and Gernay is referenced and attached.

G128-25

G129-25

IBC: 602.4.1.1, 602.4.2.1, 602.4.3.1

Proponents: David Tyree, representing American Wood Council (dtyree@awc.org); Shane Nilles, representing American Wood Council (snilles@awc.org); Jason Smart, representing American Wood Council (jsmart@awc.org)

2024 International Building Code

Revise as follows:

602.4.1.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes in accordance with Section 722.7.1~~, as specified in Table 722.7.1(1)~~. Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes in accordance with Section 722.7.1~~, as specified in Table 722.7.1(1)~~. Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes in accordance with Section 722.7.1~~, as determined in Table 722.7.1(1)~~. Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

Reason: Sections 602.4.1.1, 602.4.2.1, and 602.4.3.1 require 40 minutes of noncombustible protection for the outside face of exterior walls constructed of mass timber. Those sections directly reference Table 722.7.1(1) which is incorrect as it specifies the general noncombustible protection ratings for mass timber based on the fire resistance rating requirements of Table 601 and Table 705.5, but does not contain the provisions for how to achieve the required level of protection. This code change corrects that issue by referencing Section 722.7.1 instead, which allows for a calculated rating in accordance with Section 703.6, or prescriptive compliance per Table 722.7.1(2) and Section 722.7.2.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There are no technical changes proposed in this code change. This code change is a clarification only.

G130-25

IBC: 602.4.4.3

Proponents: David Tyree, representing American Wood Council (dtyree@awc.org); Shane Nilles, representing American Wood Council (snilles@awc.org)

2024 International Building Code

Revise as follows:

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *International Mechanical Code*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces with combustible *building elements* shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than $^{5}/_{8}$-inch *Type X gypsum board* or covered with concrete or gypsum concrete topping not less than 3/4 inch (19.1 mm) in thickness.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

Reason: This proposal has two changes. 1) The proposal adds “with combustible building elements” as a corollary to the first sentence to clarify applicability of the three enumerated requirements to concealed spaces with combustible building elements (e.g., the building element surfaces that enclose the concealed space). Without the addition of “with combustible building elements” it could be interpreted that the three enumerated requirements apply to concealed spaces that do not have any combustible surfaces. 2) The proposal expands item 3 to provide an option for floor plenums in Type IV-HT construction where the concealed space may be above the mass timber in a raised floor assembly. Materials commonly used on heavy timber floor surfaces include concrete and gypsum concrete toppings. The minimum ¾-inch thickness requirement is taken from ANSI/AWC *2024 Fire Design Specification (FDS) for Wood Construction* for heavy timber construction. The use of 3/4" thickness for concrete or gypsum concrete is specific to Type IV-HT construction and does not have impact on the 1-inch thick non-combustible material requirement for Type IV-A (Section 602.4.1.3) or Type IV-B (Section 602.4.2.3) construction for floors.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0

Estimated Immediate Cost Impact Justification (methodology and variables):

This proposal adds an additional option for protection of combustible building elements in concealed spaces. It cannot increase the cost of construction because the existing compliance options are still available. However, this proposal is not considered editorial. Therefore, the only option available is to say it will decrease construction costs. This proposal could potentially decrease costs if this option is used, but will have no effect on construction costs if it is not used.

G131-25

IBC: 602.5

Proponents: Scot Harris, Preston Wood & Associates, LLC. Jack Preston Wood AIBD/NCBDC, representing self (scot@jackprestonwood.com)

2024 International Building Code

Revise as follows:

602.5 Type V. Type V construction is that type of construction in which the structural elements, *exterior walls* and interior walls are of any materials permitted by this code.Type V-A is a construction type that is protected throughout with 5/8-inch (15.875 mm) Type X gypsum board or an equivalent prescriptive method. Type V-B is a construction type that is unprotected.

Reason: No wording is present which defines the meanings of “-A” and “-B” for Type V.
If there is, then please replicate or redirect to this section.

When we design a building that will exceed the maximum parameters established in the IRC publication, we must make reference the IBC for our product and that product may have a construction type of “protected combustible” where we might be able to avoid employing a NFPA sprinkler system.

It would appear as if this section 602.5 shall also contain subsections as shown in the previous “Type” sections.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a definition that shall be added to the publication that will minimize misinterpretation.

G131-25

G132-25

IBC: SECTION 202 (New), 602.3, 603.1, SECTION 2515 (New), 2515.1 (New), 2515.2 (New), 2515.3 (New), 2515.4 (New), ICC Chapter 35 (New)

Proponents: Keith P Nelson, representing DuPont (keith.nelson@dupont.com)

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

2024 International Building Code

Add new definition as follows:

MAGNESIUM-OXIDE-CEMENT PANEL PRODUCT. The general name for a family of panel, board, and sheet products having a core consisting essentially of magnesium-oxide-cement and reinforced with organic or inorganic fibers.

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise as follows:

602.3 Type III. Type III construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of any material permitted by this code. ~~*Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2~~ The following materials shall be permitted within *exterior wall* assemblies of a 2-hour rating or less~~:~~.

1. *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2.
2. *Magnesium-oxide-cement panel product* complying with Section 2515.

SECTION 603
COMBUSTIBLE MATERIAL IN TYPES I AND II CONSTRUCTION

603.1 Allowable materials. Combustible materials shall be permitted in *buildings* of Type I or II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1. *Fire-retardant-treated wood* complying with Section 2303.2 shall be permitted in:
   - 1.1. Nonbearing partitions where the required *fire-resistance rating* is 2 hours or less except in *shaft enclosures* within Group I-2 occupancies and *ambulatory care facilities.*
   - 1.2. Nonbearing *exterior walls* where fire-resistance-rated construction is not required.
   - 1.3. Roof construction, including girders, trusses, framing and decking.

     Exceptions:

     1. In *buildings* of Type IA construction exceeding two stories above grade plane, *fire-retardant-treated wood* is not permitted in roof construction where the vertical distance from the upper floor to the roof is less than 20 feet (6096 mm).
     2. Group I-2, roof construction containing *fire-retardant-treated wood* shall be covered by not less than a Class A *roof covering* or roof assembly, and the roof assembly shall have a *fire-resistance rating* where required by the construction type.

   - 1.4. Balconies, porches, decks and exterior *stairways* not used as required exits on *buildings* three *stories* or less above *grade plane*.

2. Thermal and acoustical insulation, other than foam plastics, having a *flame spread index* of not more than 25.

   Exceptions:

   1. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a *flame spread index* of not more than 100.
   2. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a *flame spread index* of not more than 200.

3. Foam plastics in accordance with Chapter 26.
4. *Roof coverings* that have an A, B or C classification.
5. *Interior floor finish* and floor covering materials installed in accordance with Section 804.
6. Millwork such as doors, door frames, window sashes and frames.
7. *Interior wall and ceiling finishes* installed in accordance with Section 803.
8. *Trim* installed in accordance with Section 806.6.
9. Where not installed greater than 15 feet (4572 mm) above grade, show windows, nailing or furring strips and wooden bulkheads below show windows, including their frames, aprons and show cases.
10. Finish flooring installed in accordance with Section 805.
11. Partitions dividing portions of stores, offices or similar places occupied by one tenant only and that do not establish a *corridor* serving an *occupant load* of 30 or more shall be permitted to be constructed of *fire-retardant-treated* wood complying with Section 2303.2, 1-hour fire-resistance-rated construction or of wood panels or similar light construction up to 6 feet (1829 mm) in height.
12. *Stages* and *platforms* constructed in accordance with Sections 410.2 and 410.3, respectively.
13. Combustible *exterior wall coverings*, balconies and similar projections and bay or oriel windows in accordance with Chapter 14 and Section 705.2.3.1.
14. Blocking such as for handrails, millwork, cabinets and window and door frames.
15. Light-transmitting plastics as permitted by Chapter 26.
16. Mastics and caulking materials applied to provide flexible seals between components of *exterior wall* construction.
17. Exterior plastic *veneer* installed in accordance with Section 2605.2.
18. Nailing or furring strips as permitted by Section 803.15.
19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.4.4 and 705.2.3.1.
20. Aggregates, component materials and admixtures as permitted by Section 703.2.1.2.
21. Sprayed fire-resistive materials and intumescent fire-resistive materials, determined on the basis of *fire resistance* tests in accordance with Section 703.2 and installed in accordance with Sections 1705.15 and 1705.16, respectively.
22. Materials used to protect penetrations in fire-resistance-rated assemblies in accordance with Section 714.
23. Materials used to protect *joints* in fire-resistance-rated assemblies in accordance with Section 715.
24. Materials allowed in the concealed spaces of *buildings* of Types I and II construction in accordance with Section 718.5.
25. Materials exposed within plenums complying with Section 602 of the *International Mechanical Code*.
26. Wall construction of freezers and coolers of less than 1,000 square feet (92.9 m^2), in size, lined on both sides with noncombustible materials and the *building* is protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
27. Wood nailers for parapet flashing and roof cants.

28. Vapor retarders as required by Section 1404.3.

29. *Magnesium-oxide-cement panel products* complying with Section 2515.

Add new text as follows:

SECTION 2515
MAGNESIUM-OXIDE-CEMENT PANEL PRODUCT

2515.1 General. *Magnesium-oxide-cement panel products* shall comply with Section 2515.2 through 2515.4.

2515.2 Listing and labeling. The *magnesium-oxide-cement panel products* shall be *listed* and *labeled* for compliance with ICC 1125 and an End Use Severity Rating of 1, 2, or 3.

2515.3 Installation. The *magnesium-oxide-cement panel products* shall be designed and installed in accordance with the listing and manufacturer's installation instructions, or an approved design.

2515.4 Testing. The *magnesium-oxide-cement panel products* shall comply with either of the following:

1. Where tested in accordance with ASTM E84 or UL 723, panels shall have a *listed* and *labeled flame spread index* of not more than 10 and a *smoke-developed index* of not more than 25. The ASTM E84 or UL 723 test shall be continued for an additional 20-minute period and the flame front shall not progress more than 10.5 feet (3200 mm) beyond the centerline of the burners at any time during the test.Enter text
2. When tested in accordance with ASTM E2768, panels shall have a *listed* and *labeled flame spread index* of not more than 10 and a *smoke-developed index* of not more than 25and where the flame front does not progress more than 10.5 feet (3200 mm) beyond the centerline of the burners at any time during the test.

Add new standard(s) as follows:

ICC

International Code Council, Inc.
200 Massachusetts Avenue, NW, Suite 250
Washington, DC 20001

1125-XXXX Standard for Specification of Magnesium Oxide Board and Construction (IS-MGOB)

Reason:
The code change recognizes the use of magnesium-oxide panels in Type I, II & III exterior wall construction as qualified through compliance with the ICC-1125 performance standard under development. The MgO industry desires to add these requirements to the IBC given the import of offshore materials, the scaling of North American production capacity, and the use of all these materials in commercial construction. The surface burning characteristics limitation is more stringent than the existing exterior sheathing material in Section 2303.2. Applicable code requirements such as assembly fire performance tests still apply. Installation is to be in accordance with the manufacturer's instructions or an approved design.

The product is currently evaluated under ICC-ES Acceptance Criteria AC-386 for Fiber-Reinforced Magnesium-Oxide-Based Sheets and AC-530 for Fiber-Reinforced Magnesium-Oxide-Based Sheets with a Factory-Bonded Water-Resistive Overlay Membrane. The requirements of ICC 1125 are based upon the contents of AC386.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposal provides another sheathing product alternative and as such does not raise or decrease the cost of construction. The designer is free to choose which sheathing product is most effective for the application. The cost to the manufacturer is neutral as the testing requirements are similar for ICC-1125 and the ICC-ES Acceptance Criteria.

Staff Analysis: A review of the standard proposed for inclusion in the code, ICC 1125-XXXX Standard for Specification of Magnesium Oxide Board and Construction (IS-MGOB), with regard to some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025.

G132-25

G133-25

IBC: 603.1

Proponents: John Mengedoht, representing NBBJ

2024 International Building Code

SECTION 603
COMBUSTIBLE MATERIAL IN TYPES I AND II CONSTRUCTION

Revise as follows:

603.1 Allowable materials. Combustible materials shall be permitted in *buildings* of Type I or II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1. *Fire-retardant-treated wood* complying with Section 2303.2 shall be permitted in:
   1.1. Nonbearing partitions where the required *fire-resistance rating* is 2 hours or less except in *shaft enclosures* within Group I-2 occupancies and *ambulatory care facilities.*
   1.2. Nonbearing *exterior walls* where fire-resistance-rated construction is not required.
   1.3. Roof construction, including girders, trusses, framing and decking.

      Exceptions:

      1. In *buildings* of Type IA construction exceeding two stories above grade plane, *fire-retardant-treated wood* is not permitted in roof construction where the vertical distance from the upper floor to the roof is less than 20 feet (6096 mm).
      2. Group I-2, roof construction containing *fire-retardant-treated wood* shall be covered by not less than a Class A *roof covering* or roof assembly, and the roof assembly shall have a *fire-resistance rating* where required by the construction type.

   1.4. Balconies, porches, decks and exterior *stairways* not used as required exits on *buildings* three *stories* or less above *grade plane*.

2. Thermal and acoustical insulation, other than foam plastics, having a *flame spread index* of not more than 25.

   Exceptions:

   1. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a *flame spread index* of not more than 100.
   2. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a *flame spread index* of not more than 200.

3. Foam plastics in accordance with Chapter 26.
4. *Roof coverings* that have an A, B or C classification.
5. *Interior floor finish* and floor covering materials installed in accordance with Section 804.
6. Millwork such as doors, door frames, window sashes and frames.
7. *Interior wall and ceiling finishes* installed in accordance with Section 803.
8. *Trim* installed in accordance with Section 806.6.

9. Where not installed greater than 15 feet (4572 mm) above grade, show windows, nailing or furring strips and wooden bulkheads below show windows, including their frames, aprons and show cases.
10. Finish flooring installed in accordance with Section 805.
11. Partitions dividing portions of stores, offices or similar places occupied by one tenant only and that do not establish a *corridor* serving an *occupant load* of 30 or more shall be permitted to be constructed of *fire-retardant-treated* wood complying with Section 2303.2 , 1-hour fire-resistance-rated construction or of wood panels or similar light construction up to 6 feet (1829 mm) in height.
12. *Stages* and *platforms* constructed in accordance with Sections 410.2 and 410.3, respectively.
13. Combustible *exterior wall coverings*, balconies and similar projections and bay or oriel windows in accordance with Chapter 14 and Section 705.2.3.1.
14. Blocking such as for handrails, millwork, cabinets and window and door frames.
15. Light-transmitting plastics as permitted by Chapter 26.
16. Mastics and caulking materials applied to provide flexible seals between components of *exterior wall* construction.
17. Exterior plastic *veneer* installed in accordance with Section 2605.2.
18. Nailing or furring strips as permitted by Section 803.15.
19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.4.4 and 705.2.3.1.
20. Aggregates, component materials and admixtures as permitted by Section 703.2.1.2.
21. Sprayed fire-resistive materials and intumescent fire-resistive materials, determined on the basis of *fire resistance* tests in accordance with Section 703.2 and installed in accordance with Sections 1705.15 and 1705.16, respectively.
22. Materials used to protect penetrations in fire-resistance-rated assemblies in accordance with Section 714.
23. Materials used to protect *joints* in fire-resistance-rated assemblies in accordance with Section 715.
24. Materials allowed in the concealed spaces of *buildings* of Types I and II construction in accordance with Section 718.5.
25. Materials exposed within plenums complying with Section 602 of the *International Mechanical Code*.
26. Wall construction of freezers and coolers of less than 1,000 square feet (92.9 m^2), in size, lined on both sides with noncombustible materials and the *building* is protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
27. Wood nailers for parapet flashing and roof cants.
28. Vapor retarders as required by Section 1404.3.
29. <u>Exterior soffit materials with a flame spread index of 25 or less and a smoke-developed index of 450 or less when tested in the maximum thickness intended for use in accordance with ASTM E84 or UL 723.</u>

Reason: The IBC does not directly address exterior soffit materials other than at roof overhangs in combustible construction (Section 1412). This proposal would allow combustible materials at exterior soffits in Type I and II construction that meet Class A criteria for flame spread and smoke development. This is the same criteria as the most restrictive applications for interior ceiling finishes in all occupancy groups.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Many code officials permit Class A materials at exterior soffits in Type I and II construction, perhaps due to the similarity to interior ceiling finishes. This proposal will not change that, nor will it have any impact on other construction types.

G133-25

G134-25

IBC: 603.1

Proponents: David Bueche, representing Hoover Treated Wood Products (dbueche@frtw.com)

2024 International Building Code

Revise as follows:

603.1 Allowable materials. Combustible materials shall be permitted in *buildings* of Type I or II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1. *Fire-retardant-treated wood* complying with Section 2303.2 shall be permitted in:
   1.1. Nonbearing partitions where the required *fire-resistance rating* is 2 hours or less except in *shaft enclosures* within Group I-2 occupancies and *ambulatory care facilities.*
   1.2. Nonbearing *exterior walls* where fire-resistance-rated construction is not required.
   1.3. Roof construction, including girders, trusses, framing and decking.

   Exceptions:

   1. In *buildings* of Type IA construction exceeding two stories above grade plane, *fire-retardant-treated wood* is not permitted in roof construction where the vertical distance from the upper floor to the roof is less than 20 feet (6096 mm).
   2. Group I-2, roof construction containing *fire-retardant-treated wood* shall be covered by not less than a Class A *roof covering* or roof assembly, and the roof assembly shall have a *fire-resistance rating* where required by the construction type.

   1.4. Balconies, porches, decks and exterior *stairways* not used as required exits on *buildings* three *stories* or less above *grade plane*.

   1.5 Floors, including trusses, framing and sheathing, of Type IIB construction where fire-resistance-rated construction is not required.

2. Thermal and acoustical insulation, other than foam plastics, having a *flame spread index* of not more than 25.

   Exceptions:

   1. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a *flame spread index* of not more than 100.
   2. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a *flame spread index* of not more than 200.

3. Foam plastics in accordance with Chapter 26.
4. *Roof coverings* that have an A, B or C classification.
5. *Interior floor finish* and floor covering materials installed in accordance with Section 804.
6. Millwork such as doors, door frames, window sashes and frames.
7. *Interior wall and ceiling finishes* installed in accordance with Section 803.
8. *Trim* installed in accordance with Section 806.6.
9. Where not installed greater than 15 feet (4572 mm) above grade, show windows, nailing or furring strips and wooden bulkheads below show windows, including their frames, aprons and show cases.

10. Finish flooring installed in accordance with Section 805.
11. Partitions dividing portions of stores, offices or similar places occupied by one tenant only and that do not establish a *corridor* serving an *occupant load* of 30 or more shall be permitted to be constructed of *fire-retardant-treated* wood complying with Section 2303.2 , 1-hour fire-resistance-rated construction or of wood panels or similar light construction up to 6 feet (1829 mm) in height.
12. *Stages* and *platforms* constructed in accordance with Sections 410.2 and 410.3, respectively.
13. Combustible *exterior wall coverings*, balconies and similar projections and bay or oriel windows in accordance with Chapter 14 and Section 705.2.3.1.
14. Blocking such as for handrails, millwork, cabinets and window and door frames.
15. Light-transmitting plastics as permitted by Chapter 26.
16. Mastics and caulking materials applied to provide flexible seals between components of *exterior wall* construction.
17. Exterior plastic *veneer* installed in accordance with Section 2605.2.
18. Nailing or furring strips as permitted by Section 803.15.
19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.4.4 and 705.2.3.1.
20. Aggregates, component materials and admixtures as permitted by Section 703.2.1.2.
21. Sprayed fire-resistive materials and intumescent fire-resistive materials, determined on the basis of *fire resistance* tests in accordance with Section 703.2 and installed in accordance with Sections 1705.15 and 1705.16, respectively.
22. Materials used to protect penetrations in fire-resistance-rated assemblies in accordance with Section 714.
23. Materials used to protect *joints* in fire-resistance-rated assemblies in accordance with Section 715.
24. Materials allowed in the concealed spaces of *buildings* of Types I and II construction in accordance with Section 718.5.
25. Materials exposed within plenums complying with Section 602 of the International Mechanical Code.
26. Wall construction of freezers and coolers of less than 1,000 square feet (92.9 m^2), in size, lined on both sides with noncombustible materials and the *building* is protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
27. Wood nailers for parapet flashing and roof cants.
28. Vapor retarders as required by Section 1404.3.

Reason: In Table 601, Type IIB floors have a “0” fire resistance rating. Fire-retardant-treated wood is allowed in Section 603 in several areas. The height limitations for many sprinklered occupancy groups for Type IIB are the same as IIIB, where untreated wood floors are allowed. Many floor systems are designed for diaphragm action, and fire-retardant-treated floor joists, fire-retardant-treated floor trusses, and fire-retardant-treated plywood is used for this application but requires approval as an alternate by the AHJ. This code provision will provide design professionals with an additional option.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0 immediate impact. The addition of another use of fire-retardant-treated wood is simply option to this section of the code that may decrease the cost of construction.

Estimated Immediate Cost Impact Justification (methodology and variables):

Fire-retardant-treated wood is generally less expensive than noncombustible materials. Because FRTW may be used as an alternate to these materials, the cost may be less.

G134-25

G135-25

IBC: 603.1

Proponents: David Bueche, representing Hoover Treated Wood Products (dbueche@frtw.com)

2024 International Building Code

Revise as follows:

603.1 Allowable materials. Combustible materials shall be permitted in *buildings* of Type I or II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1. *Fire-retardant-treated wood* complying with Section 2303.2 shall be permitted in:
   1.1. Nonbearing partitions where the required *fire-resistance rating* is 2 hours or less except in *shaft enclosures* within Group I-2 occupancies and *ambulatory care facilities.*
   1.2. Nonbearing *exterior walls* where fire-resistance-rated construction is not required.
   1.3. Roof construction, including girders, trusses, framing and decking.

   Exceptions:

   1. In *buildings* of Type IA construction exceeding two stories above grade plane, *fire-retardant-treated wood* is not permitted in roof construction where the vertical distance from the upper floor to the roof is less than 20 feet (6096 mm).
   2. Group I-2, roof construction containing *fire-retardant-treated wood* shall be covered by not less than a Class A *roof covering* or roof assembly, and the roof assembly shall have a *fire-resistance rating* where required by the construction type.

   1.4. Balconies, porches, decks and exterior *stairways* not used as required exits on *buildings* three *stories* or less above *grade plane*.

   1.5 Mezzanine floor construction and associated secondary members where the fire-resistance-rated floor assembly has the fire resistance of that required by the type of construction and is solidly filled with insulation or is constructed with *fireblocking* of *fire-retardant-treated wood*.

2. Thermal and acoustical insulation, other than foam plastics, having a *flame spread index* of not more than 25.

   Exceptions:

   1. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a *flame spread index* of not more than 100.
   2. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a *flame spread index* of not more than 200.

3. Foam plastics in accordance with Chapter 26.
4. *Roof coverings* that have an A, B or C classification.
5. *Interior floor finish* and floor covering materials installed in accordance with Section 804.
6. Millwork such as doors, door frames, window sashes and frames.
7. *Interior wall and ceiling finishes* installed in accordance with Section 803.
8. *Trim* installed in accordance with Section 806.6.

9. Where not installed greater than 15 feet (4572 mm) above grade, show windows, nailing or furring strips and wooden bulkheads below show windows, including their frames, aprons and show cases.
10. Finish flooring installed in accordance with Section 805.
11. Partitions dividing portions of stores, offices or similar places occupied by one tenant only and that do not establish a *corridor* serving an *occupant load* of 30 or more shall be permitted to be constructed of *fire-retardant-treated* wood complying with Section 2303.2 , 1-hour fire-resistance-rated construction or of wood panels or similar light construction up to 6 feet (1829 mm) in height.
12. *Stages* and *platforms* constructed in accordance with Sections 410.2 and 410.3, respectively.
13. Combustible *exterior wall coverings*, balconies and similar projections and bay or oriel windows in accordance with Chapter 14 and Section 705.2.3.1.
14. Blocking such as for handrails, millwork, cabinets and window and door frames.
15. Light-transmitting plastics as permitted by Chapter 26.
16. Mastics and caulking materials applied to provide flexible seals between components of *exterior wall* construction.
17. Exterior plastic *veneer* installed in accordance with Section 2605.2.
18. Nailing or furring strips as permitted by Section 803.15.
19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.4.4 and 705.2.3.1.
20. Aggregates, component materials and admixtures as permitted by Section 703.2.1.2.
21. Sprayed fire-resistive materials and intumescent fire-resistive materials, determined on the basis of *fire resistance* tests in accordance with Section 703.2 and installed in accordance with Sections 1705.15 and 1705.16, respectively.
22. Materials used to protect penetrations in fire-resistance-rated assemblies in accordance with Section 714.
23. Materials used to protect *joints* in fire-resistance-rated assemblies in accordance with Section 715.
24. Materials allowed in the concealed spaces of *buildings* of Types I and II construction in accordance with Section 718.5.
25. Materials exposed within plenums complying with Section 602 of the International Mechanical Code.
26. Wall construction of freezers and coolers of less than 1,000 square feet (92.9 m^2), in size, lined on both sides with noncombustible materials and the *building* is protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
27. Wood nailers for parapet flashing and roof cants.
28. Vapor retarders as required by Section 1404.3.

Reason: Many mezzanine floors are designed to carry heavy loads and as diaphragms to resist lateral forces. Plywood is ideally suited for these applications, and designers frequently want to use plywood in their mezzanine floor designs. Currently, in Types I and II construction, design professionals must seek approval from the AHJ through Section 104.2.3 and the alternative materials process.

Mezzanine floors do not contribute to either the building area or number of stories as regulated by Section 503.1. This is also the case for kiosks. Kiosks are allowed to be constructed of fire-retardant-treated wood in malls of any type of construction (see Section 402.6.2). By logical extension, mezzanine floors should be allowed to be constructed of fire-retardant-treated wood in Types I and II construction.

This code proposal does not alter any of the requirements in Section 505.2 for Mezzanines or the fire-resistance requirements for floor construction per Table 601. For example, in addition to being constructed of fire-retardant-treated wood elements (lumber framing, plywood sheathing, and fireblocking), a mezzanine floor in a Type IIA building would be required to have a 1-hour fire-resistance rating.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0. The addition of fire-retardant-treated wood as an option to this section of the code may decrease the cost of construction.

Estimated Immediate Cost Impact Justification (methodology and variables):

Fire-retardant-treated wood is generally less expensive than noncombustible materials. Because FRTW may be used as an alternate to these materials, the cost may be less.

G135-25

G136-25

IBC: 1202.2.1

Proponents: Aaron Phillips, representing Asphalt Roofing Manufacturers Association (aphillips@asphaltroofing.org)

2024 International Building Code

SECTION 1202
VENTILATION

Revise as follows:

1202.2.1 Ventilated attics and rafter spaces. Enclosed *attics* and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof framing members shall have cross ventilation for each separate space by ventilation openings protected against the entrance of rain and snow. Blocking, ~~and~~ bridging, and insulation shall be arranged so as not to interfere with the movement of air. An airspace of not less than 1 inch (25 mm) shall be provided between the insulation and the roof sheathing. The net free ventilating area shall be not less than $^{1}/_{150}$ of the area of the space ventilated. Ventilators shall be installed in accordance with manufacturer's installation instructions.

Exception: The net free cross-ventilation area shall be permitted to be reduced to $^{1}/_{300}$ provided both of the following conditions are met:

1. In Climate Zones 6, 7 and 8, a Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling.
2. At least 40 percent and not more than 50 percent of the required venting area is provided by ventilators located in the upper portion of the *attic* or rafter space. Upper ventilators shall be located not more than 3 feet (914 mm) below the ridge or highest point of the space, measured vertically, with the balance of the *ventilation* provided by eave or cornice vents. Where the location of wall or roof framing members conflicts with the installation of upper ventilators, installation more than 3 feet (914 mm) below the ridge or highest point of the space shall be permitted.

Reason: This proposal makes a small but important addition to the ventilated attic section. The code correctly recognizes that ventilation openings are to permit free movement of air. Current language addresses blocking and bridging but fails to acknowledge insulation as another element which can interfere with air flow. This proposal addresses that oversight.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The additional requirement that insulation not block ventilation openings should not have a significant impact on cost in most instances. In cases where attic baffles are needed and were not included in the project specifications, there may be an increase related to the cost of the baffles.

G137-25

IBC: 1202.2.1

Proponents: Aaron Phillips, representing Asphalt Roofing Manufacturers Association (aphillips@asphaltroofing.org)

2024 International Building Code

Revise as follows:

1202.2.1 Ventilated attics and rafter spaces. Enclosed *attics* and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof framing members shall have cross ventilation for each separate space by ventilation openings protected against the entrance of rain and snow. Blocking and bridging shall be arranged so as not to interfere with the movement of air. An airspace of not less than 1 inch (25 mm) shall be provided between the insulation and the roof sheathing. The net free ventilating area shall be not less than $^{1}/_{150}$ of the area of the space ventilated. Ventilators shall be installed in accordance with manufacturer's installation instructions.

Exception: The net free cross-ventilation area shall be permitted to be reduced to $^{1}/_{300}$ provided both of the following conditions are met:

1. In Climate Zones 6, 7 and 8, a Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling.
2. At least 40 percent and not more than 50 percent of the required venting area is provided by ventilators located in the upper portion of the *attic* or rafter space. Upper ventilators shall be located not more than 3 feet (914 mm) below the ridge or highest point of the space, measured vertically, with the balance of the required *ventilation* provided in the bottom one-third of the attic space. ~~by eave or cornice vents.~~ Where the location of wall or roof framing members conflicts with the installation of upper ventilators, installation more than 3 feet (914 mm) below the ridge or highest point of the space shall be permitted.

Reason: As presently written, the location of inlet vent openings is restricted to eaves and cornices when taking the 1/300 reduction in net free ventilation area. The proposed change removes this unnecessary limitation and permits intake vents to be placed in the bottom one-third of the attic space. This aligns with existing language in the IRC, making the provisions consistent between the two codes.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0, but this proposal is expected to provide an opportunity for lower construction costs by providing additional options.

Estimated Immediate Cost Impact Justification (methodology and variables):

The methodology used to support an expectation of lower costs is logic. As available options increase, the opportunity to optimize cost and function improves.

G138-25

IBC: 1202.3

Proponents: Benyamin Madani, representing self (benyamin@poisearch.com)

2024 International Building Code

Revise as follows:

1202.3 Unvented attic and unvented enclosed rafter assemblies. Unvented *attics* and unvented enclosed roof framing assemblies created by ceilings applied directly to the underside of the roof framing members/rafters and the structural roof sheathing at the top of the roof framing members shall be permitted where all of the following conditions are met:

1. The unvented *attic* space is completely within the *building thermal envelope*.
2. No interior Class I vapor retarders are installed on the ceiling side (*attic* floor) of the unvented *attic* assembly or on the ceiling side of the unvented enclosed roof framing assembly.
3. Where wood shingles or shakes are used, not less than a $^{1}/_{4}$-inch (6.4 mm) vented airspace separates the shingles or shakes and the roofing *underlayment* above the structural sheathing.
4. In Climate Zones 5, 6, 7 and 8, any *air-impermeable insulation* shall be a Class II vapor retarder or shall have a Class II vapor retarder coating or covering in direct contact with the underside of the insulation.
5. Insulation shall comply with either Item 5.1 or 5.2, and additionally Item 5.3.

5.1. Item 5.1.1, 5.1.2, 5.1.3 or 5.1.4 shall be met, depending on the air permeability of the insulation directly under the structural roof sheathing.

5.1.1. Where only *air-impermeable insulation* is provided, it shall be applied in direct contact with the underside of the structural roof sheathing.

5.1.2. Where air-permeable insulation is provided inside the *building* thermal envelope, it shall be installed in accordance with Item 5.1.1. In addition to the air-permeable insulation installed directly below the structural sheathing, rigid board or sheet insulation shall be installed directly above the structural roof sheathing in accordance with the *R*-value percentages in Table 1202.3 for condensation control.

5.1.3. Where both air-impermeable and air-permeable insulation are provided, the *air-impermeable insulation* shall be applied in direct contact with the underside of the structural roof sheathing in accordance with Item 5.1.1 and shall be in accordance with the *R*-value percentages in Table 1202.3 for condensation control. The *air-permeable insulation* shall be installed directly under the *air-impermeable insulation*.

5.1.4. Alternatively, sufficient rigid board or sheet insulation shall be installed directly above the structural roof sheathing to maintain the monthly average temperature of the underside of the structural roof sheathing above 45°F (7°C). For calculation purposes, an interior air temperature of 68°F (20°C) is assumed and the exterior air temperature is assumed to be the monthly average outside air temperature of the three coldest months. The average temperature of sheathing shall be determined in accordance with Equation 12-1:

$$ATS = T_i - ((T_i - T_o) \times (A_p / (A_i + A_p))) \quad \textbf{(Equation 12-1)}$$

where:

ATS = Average temperature of sheathing

T_i = Indoor air temperature

T_o = Outdoor air temperature (the monthly average outside air temperature of the three coldest months)

A_p = Air permeable insulation

A_i = Air impermeable insulation

5.2. In Climate Zones 1, 2 and 3, air-permeable insulation installed in unvented *attics* shall meet the following requirements:

5.2.1. A *vapor diffusion port* shall be installed not more than 12 inches (305 mm) from the highest point of the roof, measured vertically from the highest point of the roof to the lower edge of the port.

5.2.2. The port area shall be greater than or equal to $^{1}/_{150}$ of the ceiling area. Where there are multiple ports in the *attic*, the sum of the port areas shall be greater than or equal to the area requirement.

5.2.3. The *vapor permeable* membrane in the *vapor diffusion port* shall have a vapor permeance rating of greater than or equal to 20 perms when tested in accordance with Procedure A of ASTM E96.

5.2.4. The *vapor diffusion port* shall serve as an air barrier between the *attic* and the exterior of the building.

5.2.5. The *vapor diffusion port* shall protect the *attic* against the entrance of rain and snow.

5.2.6. Framing members and blocking shall not block the free flow of water vapor to the port. Not less than a 2-inch (50 mm) space shall be provided between any blocking and the roof sheathing. Air-permeable insulation shall be permitted within that space.

5.2.7. The roof slope shall be greater than or equal to 3 units vertical in 12 units horizontal (3:12).

5.2.8. Where only air-permeable insulation is used, it shall be installed directly below the structural roof sheathing, on top the attic floor, or on top of the ceiling.

5.2.9. Where only air-permeable insulation is used and is installed directly below the structural roof sheathing, air shall be supplied at a flow rate greater than or equal to 50 cubic feet per minute (23.6 L/s) per 1,000 square feet (93 m^2) of ceiling.

5.3. The air shall be supplied from ductwork providing supply air to the *occupiable space* when the conditioning system is operating. Alternatively, the air shall be supplied by a supply fan when the conditioning system is operating. Where prefurred insulation board is used as the *air-impermeable insulation* layer, it shall be sealed at the perimeter of each individual sheet interior surface to form a continuous layer.

Exceptions:

1. Section 1202.3 does not apply to special use *structures* or enclosures such as swimming pool enclosures, data processing centers, *hospitals* or art galleries.
2. Section 1202.3 does not apply to enclosures in Climate Zones 5 through 8 that are humidified beyond 35 percent during the three coldest months.

Reason: Most third party plan checkers and inspectors are asking to prove the proposed roof insulation will meet this code section as city inspectors have no measuring tools to calculate that, so that I am proposing this equation to be added to the code section.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposed equation provides clarity on how to measure *average temperature* at roof sheathing

G138-25

G139-25

IBC: 1202.5 (New), 1202.5.1 (New), 1202.5.2 (New), 1202.5, 1202.5.1, 1202.5.1.1, 1202.5.1.2, ASHRAE Chapter 35 (New); IMC®: 402.1 (New), 402.2 (New), [BG] 402.1, [BG] 402.2, [BG] 402.3, [BG] 402.4

Proponents: Andrew Bevis, Chair, representing Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org); Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

2024 International Building Code

Add new text as follows:

1202.5 Natural ventilation for all occupancy groups. Natural ventilation for all occupancy groups shall be in accordance with Sections 1202.5.1 through 1202.5.2.4.

1202.5.1 Natural ventilation for occupancy groups other than Group R . Natural ventilation for occupancy groups other than Group R shall comply with the natural ventilation procedure provisions of ASHRAE 62.1.

1202.5.2 Natural Ventilation for use in Group R . Natural ventilation for Group R shall comply with Sections 1205.5.2.1 through 1205.5.2.4

Revise as follows:

~~**1202.5**~~ **1202.5.2.1 Natural ventilation.** Natural *ventilation* of an occupied space shall be through windows, doors, louvers or other openings to the outdoors. The operating mechanism for such openings shall be provided with ready access so that the openings are readily controllable by the *building* occupants.

~~**1202.5.1**~~ **1202.5.2.2 Ventilation area required.** The openable area of the openings to the outdoors shall be not less than 4 percent of the floor area being ventilated.

~~**1202.5.1.1**~~ **1202.5.2.3 Adjoining spaces.** Where rooms and spaces without openings to the outdoors are ventilated through an adjoining room, the opening to the adjoining room shall be unobstructed and shall have an area of not less than 8 percent of the floor area of the interior room or space, but not less than 25 square feet (2.3 m^2). The openable area of the openings to the outdoors shall be based on the total floor area being ventilated.

Exception: Exterior openings required for *ventilation* shall be allowed to open into a *sunroom* with *thermal isolation* or a patio cover provided that the openable area between the sunroom *addition* or patio cover and the interior room shall have an area of not less than 8 percent of the floor area of the interior room or space, but not less than 20 square feet (1.86 m^2). The openable area of the openings to the outdoors shall be based on the total floor area being ventilated.

~~**1202.5.1.2**~~ **1202.5.2.4 Openings below grade.** Where openings below grade provide required natural *ventilation*, the outside horizontal clear space measured perpendicular to the opening shall be one and one-half times the depth of the opening. The depth of the opening shall be measured from the average adjoining ground level to the bottom of the opening.

Add new standard(s) as follows:

ASHRAE

ASHRAE
180 Technology Parkway
Peachtree Corners, GA 30092

62.1-2022 Ventilation for Acceptable Indoor Air Quality

2024 International Mechanical Code

Add new text as follows:

402.1 Natural ventilation for occupancy groups other than Group R. Natural ventilation for occupancy groups other than Group R shall comply with the natural ventilation procedure provisions of ASHRAE 62.1.

402.2 Natural ventilation for use in Group R . Natural ventilation for Group R shall comply with Sections 402.2.1 through 402.2.4

Revise as follows:

[BG] ~~402.1~~ 402.2.1 Natural ventilation. *Natural ventilation* of an occupied space shall be through windows, doors, louvers or other openings to the outdoors. The operating mechanism for such openings shall be provided with *ready access* so that the openings are readily controllable by the *building* occupants.

[BG] ~~402.2~~ 402.2.2 Ventilation area required. The minimum openable area to the outdoors shall be 4 percent of the floor area being ventilated.

[BG] ~~402.3~~ 402.2.3 Adjoining spaces. Where rooms and spaces without openings to the outdoors are ventilated through an adjoining room, the opening to the adjoining rooms shall be unobstructed and shall have an area not less than 8 percent of the floor area of the interior room or space, but not less than 25 square feet (2.3 m^2). The minimum openable area to the outdoors shall be based on the total floor area being ventilated.

Exception: Exterior openings required for ventilation shall be permitted to open into a thermally isolated sunroom addition or patio cover, provided that the openable area between the sunroom addition or patio cover and the interior room has an area of not less than 8 percent of the floor area of the interior room or space, but not less than 20 square feet (1.86 m^2). The minimum openable area to the outdoors shall be based on the total floor area being ventilated.

[BG] ~~402.4~~ 402.2.4 Openings below grade. Where openings below grade provide required *natural ventilation*, the outdoor horizontal clear space measured perpendicular to the opening shall be one and one-half times the depth of the opening. The depth of the opening shall be measured from the average adjoining ground level to the bottom of the opening.

Reason: In climate zones with outdoor ambient temperature extremes, where the design professional has elected to employ natural ventilation, although in compliance with existing code language in theory, practical application and utilization of openable doors and windows as the sole source of ventilation air, is not consistently employed in practice, during months when either a heating or cooling system is conditioning an occupied space. ASHRAE 62.1, Section 6.4.1 Prescriptive Compliance Path, requires a mechanical ventilation system in conjunction with the natural ventilation. This mechanical ventilation system must comply with either section 6.2 Ventilation Rate Procedure and/or section 6.3 Indoor Air Quality Procedure of ASHRAE 62.1-2022. Under the exceptions provided to 6.4.1, IF a design professional wanted to delete the redundant mechanical system required, they must provide controls that ensure the openings are either open during times of occupancy OR are fixed as permanently open.

Consequently, 62.1-2022 section 6.4 (Natural Ventilation Procedure) provides both engineered (6.4.2) and prescriptive (6.4.1) options for compliance, which ensures proper natural ventilation despite outdoor ambient temperature and without sole reliance on openable doors and windows, absent extensive design calculations employed in the engineered method.

With the challenges faced in terms of indoor air quality, highlighted during the COVID pandemic, deficiencies in both existing and new HVAC systems became apparent. These challenges created a conflict between HVAC systems and the organic need to ventilate areas, leading to inconsistent temperature control and the decreased energy efficiency of HVAC systems. ASHRAE 62.1-2022 provides clear methods for the utilization of natural ventilation, accounting for the challenges faced during this crisis.

The PMGCAC and the BCAC recommends that the Code Correlation Committee assign a [BG] scoping to new IMC Sections 402.1 and 402.2.

PMGCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 and 2024 the BCAC has held numerous virtual meetings open to any interested party. Related documents and reports are posted on the PMGCAC website at PMGCAC webpage.

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the

committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Bibliography: For reference, the IBC definitions for various Group R occupancies are:

Group R-1 is multifamily (transient) such as hotels and motels.

Group R-2 is multifamily (nontransient) such as apartment buildings.

Group R-3 is for one- and two-family homes and townhouses outside the scope of the IRC, for example 4-story townhouses.

Group R-4 are assisted living facilities, group homes, etc.

Cost Impact: Increase

Estimated Immediate Cost Impact:

$200 to $10,000

Estimated Immediate Cost Impact Justification (methodology and variables):

Due to the unlimited variations in building design, placing a predetermined dollar amount on the net cost increase of this proposal is impossible. The increase in the cost of construction is due to additional openings for the conveyance of outdoor air, meant for ventilation, required to comply with ASHRAE 62.1 2022. Smaller buildings may only need a simple mechanical ventilation system for bringing in outdoor air. As part of a planned HVAC system, the cost should be minimal. Much larger buildings would require more complex systems for bringing in outdoor air and as such the cost would be be much greater.

Estimated Life Cycle Cost Impact:

When considering the annual financial impact of Sick Building Syndrome, the COVID pandemic, annual influenza infections and other airborne illnesses which directly impacts individuals, municipalities, and corporations alike, though undefinable, the financial savings would exponentially outweigh the initial cost increase for construction.
Example 1: According to the World Economic Forum the COVID pandemic alone cost the world 11 trillion dollars for the pandemic response with an additional 10 trillion in lost earnings.

Example 2: According to the Elsevier publication *Building and Environment Journal Vol. 188* dated 1-15-21 in the US alone, the annual cost attributed to sick building syndrome in commercial workplaces is estimated at between 10 and 70 billion dollars. On average workers spend 90 percent of their time indoors while on the job.

Example 3: According to the Elsevier article dated June 22, 2018, and titled: *Economic Burden of seasonal influenza in the United States;* the total annual cost burden of seasonal influenza in the US stands at 11.2 billion dollars.

Staff Analysis: The proposed referenced standard, ASHRAE 62.1-2022 Ventilation for Acceptable Indoor Air Quality, is currently referenced in the IMC.

G139-25

G140-25

IBC: 1203.1, 1203.2 (New)

Proponents: Clayton Trevillyan, representing City of Tucson (clayton.trevillyan@tucsonaz.gov); Jane Gilbert, Miami Dade County, representing Miami-Dade County (jane.gilbert@miamidade.gov); Mary Wright, Office of Heat Response and Mitigation, City of Phoenix, representing self (mary.wright@phoenix.gov); Ali Frazzini, representing Los Angeles County Chief Sustainability Office (afrazzini@cso.lacounty.gov); Pedro Quintela, Miami Dade County, representing RER (pq2@miamidade.gov)

2024 International Building Code

Revise as follows:

1203.1 ~~Equipment and systems~~ Heating systems. Interior spaces intended for human occupancy shall be provided with active or passive space heating systems capable of maintaining an indoor temperature of not less than 68°F (20°C) at a point 3 feet (914 mm) above the floor on the design heating day.

Exceptions: Space heating systems are not required for:

1. Interior spaces where the primary purpose of the space is not associated with human comfort.
2. Group F, H, S or U occupancies.

Add new text as follows:

1203.2 Cooling systems. Dwelling units and sleeping units located in Climate Zones 0, 1, 2, 3, 4, 5A, and 5B, shall be provided with cooling systems capable of maintaining an indoor temperature at or below 80°F (26.7°C) in the habitable space. Where permanently installed fans are capable of generating 120 fpm (0.6 m/s) air speed inside the habitable space, the required cooling system shall be capable of maintaining an indoor temperature at or below 85°F (29.4°C). The installation of one or more portable systems shall not be used to achieve compliance with this section.

Exceptions:

1. Cooling systems are not required for interior spaces where the primary purpose of the space is not associated with human comfort.
2. In Climate Zone 5A or 5B, where site-specific climate conditions warrant, as *approved* by the *building official.*

Reason: The building code requires minimum heating of spaces for the safety of the occupants. The code is silent on requirements for cooling, despite the negative impacts of elevated exterior thermal conditions on humans. The built environment is a safe haven from the effects of weather and climatic conditions, heat not being an exception for people to seek shelter from the elements. Media attention to heat-related health emergencies on the elderly and people in underserved communities demonstrates the need for improvements in the built environment[1]. As a result of increased summer temperatures, nearly half of heat-related deaths happen inside a person's home[3] and some jurisdictions have already mandated cooling be provided in new buildings while many others are considering extreme heat related ordinances. A coordinated application of the codes that can be consistently applied to new construction is warranted due to the trend in local agencies with differing requirements throughout the country.

This proposal is a performance specification to ensure life safety in the built environment due to higher expected summer thermal conditions. The solution can either be active or passive systems, or a combination of these systems to provide relief from elevated thermal conditions. The active systems may include traditional central mechanical air conditioning systems that are provided in most modern homes and do not represent a significant change to how most buildings are constructed. Passive cooling systems utilize unique design features of the building that prevent heat from entering the building and/or removing heat from the building. Passive design applications include building orientation, insulation, solar control (shading and landscaping), ventilation and other methods that naturally, and without input energy, would provide and maintain thermal comfort. Passive systems could be more cost effective in both the short term and the long term as compared to active mechanical systems for circumstances where a few design changes could comply

with specified interior temperature. The interior temperature of 80°F was selected as the maximum temperature for the thermal comfort of the interior environment based on ANSI/ASHRAE Standard 55-2023[2] and generally at, or above the temperature in most local ordinances.

The second sentence recognizes that air movement provides a cooling effect as experienced by the occupants of the building. ASHRAE Standard 55-2023[3] states that air movement of only 120 feet per minute results in a 5°F cooling effect on the occupants within this temperature range. Where permanent fans are installed, the resulting interior maximum temperature can be increased 5°F above the baseline temperature of 80°F that would be required for either the active or passive systems installed in accordance with the first sentence of the code change proposal. This is an additional cost-effective method to provide the minimum cooling effect on human bodies where thermal comfort and safety is provided in the built environment. Permanently installed fans can include ceiling fans, wall-mounted fans, bladeless ceiling fans, or any permanently installed fan that can be verified at the time of final inspection that the equipment is installed.

The third sentence is a carryover from the heating requirement in 1203.1, where the expectation for compliance is permanently installed equipment that can be utilized by the occupant as needed for thermal comfort and lifesaving opportunities from dangerous heat related health considerations.

Bibliography:

1. Kenny, Glen P., Jane Yardley, Candice Brown, Ronald J. Sigal, and Ollie Jay. “Heat Stress in Older Individuals and Patients with Common Chronic Diseases.” CMAJ 182, no. 10 (July 13, 2010): 1053–60. https://doi.org/10.1503/cmaj.081050
2. ANSI/ASHRAE 55-2023: Thermal Environmental Conditions for Human Occupancy. Atlanta, GA, US: ASHRAE, 2023
3. Kim, Elizabeth B. (June 19, 2024). Heat waves in the US kill more people in their homes than anywhere else. Cincinnati Enquirer. https://www.cincinnati.com/story/news/2024/06/19/heat-advisory-risk-dying-at-home-or-in-cars/74130082007/

Cost Impact: Increase

Estimated Immediate Cost Impact:

$0 - $31+ per square foot of new or renovated habitable buildings.

The immediate cost impact to construction is for newly constructed or renovated buildings. There is no immediate cost to existing buildings. This value ranges greatly depending on variables that include but are not limited to:

- If the proposed construction would include cooling regardless of this code change. Zero cost impact will apply to many regions and project scopes for new permits.
- If the project includes a system that can be further supplemented at relatively low cost due to other air handling equipment that would have otherwise been included in the project scope.
- The method of proposed cooling and quality of equipment.
- Level of efficiency and sustainability of system design.
- The climate zone of project area.

Estimated Immediate Cost Impact Justification (methodology and variables):

1. Estimation from major HVAC contractor (Watsco)

“There are a lot of variables (i.e. size of the building, type of system, region, needs, installation costs). Below are some rough estimates"

- For commercial buildings the average cost can range from $15 to $30 per sq ft for a basic system but can go up to $40+ for more complex or high efficiency systems.
- For multi-family buildings the average cost can range from $2,500-$5,000 per unit for a basic system increasing in price for high efficiency units. ($40 pf @ 2 units for 4000 sf)

Comparison necessary to isolate cost of heating systems alone (e.g. furnace/boiler systems) to identify cost differential.

2. RSMeans Data (remeansonline.com)

$8-30 per sf

https://www.businesshue.com/commercial-hvac-cost-per-square-foot/

3. AC cost report (page 28)

https://www.energytrust.org/wp-content/uploads/2018/06/AC-Research_PhaseII_9MAR2018_Final.pdf

4. Report from IEA, claiming that fans are the best affordable and available active cooling technology.

https://www.iea.org/reports/sustainable-affordable-cooling-can-save-tens-of-thousands-of-lives-each-year

G140-25

G141-25

IBC: 1203.1

Proponents: Bryan Toepfer, representing NY DOS (bryan.toepfer@dos.ny.gov); Chad Sievers, NYS, representing NYS Dept of State (chad.sievers@dos.ny.gov); Jeanne Rice, representing NYSDOS (jeanne.rice@dos.ny.gov); China Clarke, representing New York State Dept of State (china.clarke@dos.ny.gov); Larissa DeLango, representing NYSDOS (larissa.delango@dos.ny.gov); Daniel Carroll, New York State Department of State, representing Division of Building Standards and Codes (daniel.carroll@dos.ny.gov); Bryant Arms, representing NYS DOS (bryant.arms@dos.ny.gov)

2024 International Building Code

Revise as follows:

1203.1 Equipment and systems. Interior spaces intended for human occupancy shall be provided with active or passive space heating systems capable of maintaining an indoor temperature of not less than 68°F (20°C) at a point 3 feet (914 mm) above the floor on the design heating day. The installation of portable space heaters shall not be used to achieve compliance with this section.

Exceptions: Space heating systems are not required for:

1. Interior spaces where the primary purpose of the space is not associated with human comfort.
2. Group F, H, S or U occupancies.

Reason: ICC provision regarding internal temperature limits does not specifically prohibit use of portable space heaters, which some could misconstrue as being allowed to be used in lieu of HVAC equipment, or at the very least undersized or incorrect HVAC equipment. Reliance on portable space heaters presents fire safety, energy efficiency, internal comfort, and thermal environment issues.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There is no cost impact as this proposal was only adding language for cooling systems, as well as clarifying that portable equipment cannot be used to achieve temperature limits. The intent of the building code was already requiring the use of built in heating and cooling systems to achieve temperature limits, making clarification to prohibit use of portable equipment irrelevant to cost of construction.

G141-25

G142-25

IBC: 1204.1

Proponents: Michele Mihelic, American Institute of Architects, representing American Institute of Architects (AIA) (michelemihelic@aia.org); Dee Leclair, SSOE Group, representing AIA National Codes & Standards Committee (dleclair@ssoe.com); Robert Margarella, Mason and Hanger, representing AIA - American Institute of Architects (jonah.margarella@masonandhanger.com)

2024 International Building Code

Revise as follows:

1204.1 General. Every space intended for human occupancy shall be provided with natural light by means of exterior glazed openings in accordance with Section 1204.2 or shall be provided with artificial light in accordance with Section 1204.3. Exterior glazed openings shall open directly onto a *public way* or onto a *yard* or *court* in accordance with Section 1205.

Exception: The lighting requirements for sleeping units and sleeping rooms within dormitories shall be limited to natural light in accordance with Section 1204.2.

Attached Files

- **AIA_Proposal_IBC-Lighting-Windowless_Attach.pdf**
  https://www.cdpaccess.com/proposal/12008/35439/files/download/9250/

Reason: The proposed changes aim to ensure that all spaces intended for human occupancy, including sleeping units and dormitories, are provided with natural light. Natural light has numerous benefits, including improving occupants' health and well-being, reducing energy consumption, and enhancing the overall quality of indoor environments. By specifying the requirements for natural light and exterior glazed openings, the proposal ensures consistency and clarity in the code.

Justification: The justification for this proposal is based on the following key points:

1. **Health and Well-being:**
   - **Mental Health and Well-being:** Access to natural light has been shown to improve mental health, boost mood, and regulate circadian rhythms. This is particularly crucial in sleeping units and dormitories, where individuals spend extended periods.
   - **Physical Health:** Natural light exposure supports vitamin D synthesis, which is essential for bone health and immune function.
2. **Safety**:
   - **Enhanced Visibility:** Natural light enhances visibility in indoor spaces, reducing the risk of accidents and injuries caused by inadequate lighting.
   - **Emergency Situations:** In case of power outages or emergencies, natural light provides a reliable source of illumination, aiding in safe evacuation and reducing panic.
3. **Welfare**:
   - **Quality of Life:** Natural light contributes to a more pleasant and inviting environment, improving the overall quality of life for occupants.
   - **Productivity and Comfort:** Adequate natural lighting has been linked to increased productivity and comfort, benefiting both residential and commercial spaces.
4. **Energy Efficiency:** Natural light reduces the reliance on artificial lighting, leading to lower energy consumption and reduced carbon footprint. This aligns with sustainability goals and supports energy-efficient building practices.
5. **Code Consistency:** The proposal clarifies and standardizes the requirements for natural light in various types of spaces, ensuring that the code is easy to understand and apply. This reduces ambiguity and helps designers and builders comply with the code more effectively.

Cost Impact: Increase

Estimated Immediate Cost Impact:

The cost impact of the proposed changes is anticipated to be minimal to moderate. While there may be initial costs associated with

incorporating larger glazed areas or additional windows in new constructions or renovations, these costs are offset by the long-term benefits of improved occupant health and reduced energy consumption. Additionally, the proposal does not mandate specific types of glazing or construction methods, allowing for flexibility in achieving compliance in a cost-effective manner. About $1400, see justification below.

Estimated Immediate Cost Impact Justification (methodology and variables):

Estimated cost: 2. X 4 1/2" YES 45 TU with 1" Low E glass runs about $80.00 per sq ft installed, preliminary pricing.

Estimated sleeping unit within dormitories (larger), 250 SF, code requires min. 8% of the floor area = 20 SF x $80/SF = $1,600

Estimated sleeping unit within dormitories (smaller), 180 SF, code requires min. 8% of the floor area = 14.4 SF x $80/SF = $1,152

G142-25

G143-25

IBC: 1204.1, 1204.2 (New), 1204.2, 1204.2.1, 1204.2.3 (New), 1204.2.4 (New), 1204.2.2 (New), 1204.2.6 (New)

Proponents: Juan Miro, Miro Rivera Architects, representing Self (admin@mirorivera.com)

2024 International Building Code

SECTION 1204
LIGHTING

Revise as follows:

1204.1 General. Every space intended for human occupancy shall be provided with natural light by means of exterior glazed openings in accordance with Section 1204.2 or shall be provided with artificial light in accordance with Section 1204.3. ~~Exterior glazed openings shall open directly onto a *public way* or onto a *yard* or *court* in accordance with Section 1205.~~

Exceptions:

1. In dwelling units and sleeping units in Group R, I-1, I-2 occupancies, all living, dining, and sleeping rooms with a floor area of 70 square feet (6.5 m^2) or more shall be provided with natural light in accordance with Section 1204.2 and artificial light in accordance with Section 1204.3.
2. In Group I-4 occupancies all living and sleeping rooms for persons receiving custodial care shall be provided with natural light in accordance with Section 1204.2 and artificial light in accordance with Section 1204.3.
3. In Group E occupancies, all regular classrooms shall be provided with natural light in accordance with Section 1204.2 and artificial light in accordance with Section 1204.3.

Add new text as follows:

1204.2 Natural Light . Where required, natural light shall be provided in accordance with Section 1204.2.1, 1204.2.2, 1204.2.3, 1204.2.4, 1204.2.5 or 1204.2.6. Openings shall comply with Sections 1204.2.5 and 1204.2.6.

Revise as follows:

1204.2.1~~1204.2~~ Direct Natural light. The room shall be provided with exterior openings with a ~~minimum~~ net glazed area ~~shall be~~ of not less than 8 percent of the floor area of the room ~~served~~.

1204.2.2~~1204.2.1~~ Adjoining spaces. For the purpose of natural lighting, any room is permitted to be considered as a portion of an adjoining room where one-half of the area of the common wall is open and unobstructed and provides an opening of not less than one-tenth of the floor area of the interior room or 25 square feet (2.32 m^2), whichever is greater. The net glazed area of exterior openings shall be at least 8 percent of the aggregate floor area.

Exception: Openings required for natural light shall be permitted to open into a *sunroom* with *thermal isolation* or a patio cover where the common wall provides a glazed area of not less than one-tenth of the floor area of the interior room or 20 square feet (1.86 m^2), whichever is greater.

Add new text as follows:

1204.2.3 Remote rooms. A room without sufficient exterior openings is permitted to borrow natural lighting from an adjoining room that meets the requirements of Section 1204.2.1 if the remote room, adjoining room and exterior openings meet all of the following criteria:

1. The ceiling height in both the remote room and adjoining room shall be no less than 9 feet 4 inches (2844 mm) at the lowest point.

2. The top of the exterior glazing shall be no less than 9 feet (2743 mm) above the finished floor.

3. The opening between the remote room and the adjoining room shall be parallel to the plane of the exterior glazed openings, as near as possible to the ceiling and either:

   3.1. If open and unobstructed, shall have an area at least 8 percent of the floor area of the remote room or 25 square feet (2.32 m^2), whichever is greater.

   3.2 If equipped with transparent or translucent glazing, shall have a net glazed area at least 10 percent of the floor area of the remote room or 30 square feet (2.8 m^2), whichever is greater.

4. The remote room shall be immediately adjacent to the adjoining room.

5. The net glazed area of exterior openings shall be at least 8 percent of the aggregate floor area of the adjoining room and remote room.

1204.2.4 Residential basements. Where at least 40 percent of the net floor area of a Group R *dwelling unit*, not used as *congregate living facilities*, is located entirely above grade and provided with natural light in accordance with Section 1204.2.1 or 1204.2.2, *basement* spaces shall be provided with natural light as follows:

1. Bedrooms shall have exterior openings with a net glazed area of at least 6 percent of the floor area of the room.

2. For *habitable* spaces other than bedrooms, the *basement* level, as a whole, shall be provided with exterior openings with a net glazed area of at least 4 percent of the aggregate floor area of all *habitable* spaces in the basement.

1204.2.5 Exterior openings. Exterior openings required by Section 1204.2 for natural light shall open directly onto a *public way*, *yard* or *court*, as set forth in Section 1205.

Exceptions:

1. Required exterior openings are permitted to open into a roofed porch or exterior balcony where the roofed porch or exterior balcony meets all of the following criteria:

   1.1. Abuts a *public way*, *yard* or *court* complying with Section 1205.

   1.2. Has a ceiling height of not less than 7 feet (2134 mm).

   1.3. Has a longer side, parallel to the plane of the openings, at least 65 percent open and unobstructed from finished floor to underside of surface above.

2. Skylights are not required to open directly onto a *public way*, *yard* or *court*.

1204.2.6 Openings below grade. Where openings below grade are used to provide required natural light, the outside horizontal clear space measured perpendicular to the opening shall be one and one-half times the depth of the opening. The depth of the opening shall be measured from the average adjoining ground level to the bottom of the opening.

1204.3 Artificial light. Artificial light shall be provided that is adequate to provide an average illumination of 10 footcandles (107 lux) over the area of the room at a height of 30 inches (762 mm) above the floor level.

1204.4 Stairway illumination. *Stairways* within *dwelling units* and *exterior stairways* serving a *dwelling unit* shall have an illumination level on tread runs of not less than 1 footcandle (11 lux). *Stairways* in other occupancies shall be governed by Chapter 10.

Attached Files

- **Appendix D- Testimonials.pdf**
  https://www.cdpaccess.com/proposal/11447/35152/files/download/9120/
- **Appendix C- Images Samples of Windowless Rooms.pdf**
  https://www.cdpaccess.com/proposal/11447/35152/files/download/9118/
- **Appendix B - City Codes vs current IBC Code.pdf**
  https://www.cdpaccess.com/proposal/11447/35152/files/download/9117/
- **06 UT Professors City Council letter.pdf**
  https://www.cdpaccess.com/proposal/11447/35152/files/download/9116/
- **05 Student letter to council_Windowless Housing Initiative.pdf**
  https://www.cdpaccess.com/proposal/11447/35152/files/download/9115/
- **04 TxA statement.pdf**
  https://www.cdpaccess.com/proposal/11447/35152/files/download/9113/
- **03 AIAAustin_20230718_WindowlessBedroomsLetter[1].pdf**
  https://www.cdpaccess.com/proposal/11447/35152/files/download/9112/
- **02B_Windowless Rooms articles and citations.pdf**
  https://www.cdpaccess.com/proposal/11447/35152/files/download/9015/
- **02A_Cited research publications links.pdf**
  https://www.cdpaccess.com/proposal/11447/35152/files/download/8826/
- **01_122724_Miro-Kafrawi_The case against windowless rooms_Updated.pdf**
  https://www.cdpaccess.com/proposal/11447/35152/files/download/8825/

Reason: The surprising allowance of windowless rooms in the IBC (International Building Code) is indefensible, considering the decades of informative empirical and scientific studies by medical, neuroscience and psychology experts that prove the importance of windows for daylight and outside views for occupants, particularly in small, confined spaces.

Lisa Heschong, a renowned specialist and author on the importance of daylight in our lives, emphasizes "that access to natural light, outdoor or indoor, should be a human right." As a result of the surmounting supporting evidence, she is advocating for the World Health Organization (WHO) to include daylight as a key component of human health along with *clean air, clean water, nutritious food and safe shelter.*

Whether it is the effect of daylight throughout the day, long term observation or casual occasional glances to nature, the sky, the urban environment, or simply the sense of spatial extension from confined rooms, the application of a window has sufficient scientific support to confirm that it provides essential ingredients for mental, physical health, social and economic benefits for occupants.

The reasons to advocate for the redefinition of the code are based on empirical and scientific evidence gathered over several decades. The reasons are summarized as follows:

1. Health and Wellbeing:

- **Physical Health**: Daylight assists in regulating circadian rhythms, developing better sleep patterns and overall health. It also aids in Vitamin D synthesis, which is crucial for immune function, bone health, and preventing diseases such as cardiovascular issues and certain cancers.
- **Mental Health**: Exposure to natural light reduces the risk of depression, anxiety, and Seasonal Affective Disorder (SAD). It enhances the mood and provides a strong sense of well-being.

2. Psychological Benefits:

- **Restorative Effects**: Views of nature and daylight have been proven to reduce stress and mental fatigue. The psychological

benefits show dramatic increases in alertness, mood and perception of quality of life.

- **Connection to Nature**: Windows that provide views of the outside world allow for a connection with nature, which in turn creates a sense of escape and minimizes feelings of confinement and claustrophobia. “It's not what comes in the window, it’s what goes out the window. Windows provides access to external reality, but they also provide escape from the inescapable reality of confinement. Inhabitants of enclosed spaces need that opportunity.”[1]

3. Cognitive and Productivity Benefits:

- **Enhanced Performance**: Natural light boosts cognitive function and productivity. It improves concentration, decision-making, and overall performance in work and study environments.
- **Improved Sleep Quality**: Proper exposure to daylight helps regulate sleep cycles, leading to better sleep quality and morning alertness, which in turn enhances daytime productivity and cognitive functions.

4. Economic Benefits:

- **Increased Productivity**: Occupants in well-lit environments, especially when accompanied by natural views reveal higher levels of productivity, positivity and engagement, hence improving overall performance.

5. Sustainability Benefits:

- **Energy Savings**: Utilizing natural light reduces the need for artificial lighting, resulting in significant energy savings and accumulatively reduces burden on the national power grids.
- **Reduction of the carbon footprint**: On a national level, the accumulative effect of reducing energy consumption across all these windowless bedrooms will have a profound effect in the fight against climate change.

6. Social and Community Impact:

- **Urban Sustainability**: Implementing a compact city model should not come at any cost. Sustainable compact and energy efficient development will create a new set of social and health related problems if minimum standards for quality of life in our buildings and neighborhoods are not upheld. Incorporating daylight into building designs promotes urban sustainability by enhancing the quality of life and supporting energy-efficient practices.
- **Inclusive Design**: Generally, windowless bedrooms affect lower income citizens due to the cost saving, low-rent and high profit benefits for developers. Ensuring access to natural light in bedroom spaces supports social inclusivity, contributing to healthier, more equitable communities.

7. Relevant Precedents:

- **Existing US Precedents:** Chicago, Washington DC and Austin have amended the IBC in their jurisdiction to prevent the construction of windowless rooms. New York City, the densest city in the country, has its own code that does not allow windowless rooms based on historical empirical evidence. This requested change will change the base code nationally, so other cities will not need to do it individually.
- **Existing International Precedent:** Windowless rooms are banned in city codes from dense cities like Madrid, Barcelona, Mumbai, and Mexico City and in codes that regulate the construction industry in entire countries as diverse as China to Paraguay. The requested change will align the IBC with codes worldwide on this requirement.

Please refer to Appendix A attached to this statement to review all articles authored by Juan Miro and additionally citations of the articles in other publications.

Please refer to Appendix B attached to this statement to see the impact of the minimum glazed area requirements between cities that have banned windowless rooms in comparison to the current IBC code.

Please refer to Appendix C attached to this statement to observe few selected samples of existing windowless rooms for privately developed student housing near the University of Texas in Austin, TX.

Please refer to Appendix D attached to this statement for reference to testimonials from various students and citizens who have discovered the existence of windowless rooms.

Please refer to Appendix E attached to this statement for reference to letters from organizations, students and professors addressing the issue of windowless rooms.

The submitted code change for IBC is for Chapter 12- Interior Environment, Section 1204 – Lighting. The proposed language for the code change matches the code change text used in the '*2019 Chicago Building Code with revised April 2022 Supplement*'. This Chicago version of the amendments applies to the following occupancies that is recommended to be applied to the IBC:

- Group R occupancies: includes sub-groups R-1, R-2, R-3
- Group I-1 occupancies
- Group I-2 occupancies
- Group I-4 occupancies
- Group E occupancies

We have an opportunity to correct disastrous loopholes in our building codes to provide healthy living conditions for everyone of all classes and age groups. It is at the core of our responsibilities as architects to consider and provide the minimum essential quality of space for individuals and families to have the opportunity to have a dignified quality of life in their living and working environments.

[1] Dr. Sandra Häuplik-Meusburger et al, *Windows as an Integral Element in Space Architecture*, (73rd International Astronautical Congress (IAC), Paris, France, 18-22 September 2022, pg.9)

- **Appendix Final.pdf**
  https://www.cdpaccess.com/proposal/11447/35152/documentation/181302/attachments/download/9107/

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CITED RESEARCH PUBLICATIONS:

Note: Compiled cited papers in attached files are organized in the order listed below.

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11. Ulrich, Roger et al, Stress *Recovery During Exposure to Natural and Urban Environments*, (Journal of environmental psychology, 1991
12. Dr. Sandra Häuplik-Meusburger et al, *Windows as an Integral Element in Space Architecture*, (73rd International Astronautical Congress (IAC), Paris, France, 18-22 September 2022)

PART 02B:

Windowless Rooms – Links to Articles

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Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Changing building codes to cancel windowless bedrooms would have several varied tangible and intangible cost impacts in construction, real estate development and socio-economic factors as outlined below:

Economic and Social Impacts:

1. **Improved Health and Wellbeing**: Access to natural light is scientifically proven to improve mental and physical health, potentially reducing healthcare costs as per the many supporting empirical and scientific evidence.

   The case study of the most recent code change in Austin to end the application of windowless rooms for student housing is the latest example of a city trying to protect it citizens. There are several supporting documentations included in this change request that highlight the importance of this issue in Austin.

2. **Enhanced Productivity**: Better-lit living and working spaces will enhance productivity and quality of life, that will have an indirect yet sizeable improvement to economic growth.

3. **Sustainability Benefits**: Increased use of natural light reduces reliance on artificial lighting, which will reduce energy savings, enhance environmental sustainability (reduce carbon footprint) via the building life cycle, and overall assist in fight against climate change.

4. **Social benefit of protection**: Protection of the most vulnerable citizens of society who are most likely to endure windowless rooms: low-income citizens, single mothers, students in dorms of higher education, children in schools, senior citizens, refugees and people with mental health issues.

Real Estate Development Costs:

1. **Higher Development Costs**: A bulky building with rooms without windows costs less that a building where all living spaces have windows. The reason is that with interior rooms away from the facade, a building can capture more interior space with a smaller ratio of exterior walls, which are more expensive to build than interior walls. So, when given the chance, developers have been quietly building bulky buildings for student's housing in Austin for as long as they have been able to because student housing is very profitable. Developers are cutting corners to save money where it should not be permitted in the first place. In the case of Austin, these construction cost savings have not resulted in rent reductions for students compared to buildings outside West Campus.

   In Austin's council meetings where the issue of windowless rooms has been discussed, no developer has defended the construction of windowless rooms. They simply have quietly taken advantage of building these types of rooms for as long as the code has allowed. The reason there is minimal support in favor of such in-humane conditions is that having windows in all living spaces is common sense.

2. **Market Value Impact:** Home and apartments with natural light and views are more desirable, increasing market value.

3. **Long-Term Savings**: While bulky buildings with windowless rooms may be cheaper to build than 'normal' buildings with windows, the occupant's health benefits will lead to more desirable buildings and therefore, long-term value for tenants and/or homeowners.

G144-25

IBC: 1204.1.1 (New), 1204.3

Proponents: Nicholas Resetar, representing Glazing Industry Code Committee (nresetar@ralaw.com); Thom Zaremba, Roetzel & Andress, representing National Glass Association (tzaremba@ralaw.com); Thomas Culp, Birch Point Consulting LLC, representing Aluminum Extruders Council (culp@birchpointconsulting.com)

2024 International Building Code

1204.1 General. Every space intended for human occupancy shall be provided with natural light by means of exterior glazed openings in accordance with Section 1204.2 or shall be provided with artificial light in accordance with Section 1204.3. Exterior glazed openings shall open directly onto a *public way* or onto a *yard* or *court* in accordance with Section 1205.

Add new text as follows:

1204.1.1 Classrooms. In Group E occupancies, not less than 50 percent of all classrooms shall be provided with both natural light in accordance with Section 1204.2 and artificial light in accordance with Section 1204.3.

Exceptions:

1. Day care facilities within a different primary occupancy are not required to comply with this section.
2. Existing buildings undergoing *alterations* or a change of occupancy are not required to comply with this section.

Revise as follows:

1204.3 Artificial light. Artificial light shall be provided that is adequate to provide an average illumination of not less than 10 footcandles (107 lux) over the area of the room at a height of 30 inches (762 mm) above the floor level.

Reason: The lighting requirements of Section 1204.1 are acceptable for most occupancies. However, classrooms in Group E-Occupancies are different from any other Occupancy type. Classrooms in E-Occupancies are used primarily for teaching children. During the long hours they spend in classrooms, children are not only learning, but their brains and psychological makeups are developing. To maximize their learning and growth potentials, children need natural daylight in classrooms where they are growing and being taught. For example, one study conducted over a one year period found that both testing and behavioral outcomes are markedly improved when classrooms use natural light. It found that children in classrooms with natural daylighting progressed 20% faster on math testing and 26% faster on reading testing. The research also found that classrooms that provided students with greater amounts of natural light correlated to a 15% to 23% overall improvement in academic outcomes.
Research clearly shows that children in classrooms need natural daylight for optimal development and performance. The adoption of this proposal will ensure that children attending class in our schools will have the best possible opportunity to grow and develop in classrooms lit by the natural light of the sun.

In the 2019 Group A and 2022 Group B development cycles, similar proposals was brought forward. While the committees and governmental vote were supportive of the concept, the proposals
were ultimately unsuccessful. This proposal is different from these proposals. First and foremost, since it is unlikely that all classrooms can be located on exterior walls where natural daylight is easily accessed, this proposal limits its natural daylighting mandate to 50% of
classrooms. Second, this proposal does not include I-4 Occupancies. Third, this proposal clarifies that this proposal only applies to newly constructed educational buildings and does not seek and/or intend to displace
the use of artificial light.

Finally, the modified code language clarifies that it does not apply to daycare facilities within other building types such an office building, and that it
would not apply to existing buildings or reconfigured spaces. As shown in the table below, the intended application is for new stand-alone
educational buildings. Furthermore, only requiring compliance for 50% of classrooms provides the necessary flexibility for spaces such as music rooms, shops, and gyms.

Example - **Covered?**

New stand-alone school building - Yes
New stand-alone daycare building - Yes
Existing buildings and reconfigurations - No
Training center / tutoring center in an office building or strip mall (classified as Group B) - No
Classroom in church (classified as Group A-3) - No
Daycare in church (classified as Group A-3) - No
Daycare in office building (primary occupancy is Group B) - No
Daycare in home or apartment complex (primary occupancy is Group R) - No

Bibliography: Green Building Consultants - (The Benefits of Daylighting in Your Building) https://sigearth.com/the-benefits-of-daylighting-in-yourbuilding/

National Renewable Energy Laboratory - "Daylighting in Schools: Improving Student Performance and Health at a Price Schools Can Afford" -
https://digital.library.unt.edu/ark:/67531/metade712249/

Journal of Educational and Instructional Studies in the World - "Impact of Daylighting on Student and Teacher Performance" -
https://www.researchgate.net/publication/301284909_The_impact_of_daylighting_in_classrooms_on_students'_performance

International Journal of Advances in Chemical Engineering & Biological Sciences - Natural Light and Productivity: Analyzing the Impacts of Daylighting on Students' and Workers' Health and Alertness"

https://www.iicbe.org/upload/4635AE0416104.pdf

National Renewable Energy Laboratory - "A Literature of the Effects of Natural Light on Building Occupants"
- https://www.nrel.gov/docs/fy02osti/30769.pdf

Miassar Mohammed Bakri - University of Nottingham - "Daylighting Strategies in Educational Spaces" -
https://www.researchgate.net/publication/288181980_DAYLIGHTING_STRATEGIES_IN_EDUCATIONAL_SPACES

Angela Read - Rochester Institute of Technology - "Integration of Daylighting into Educational (School) Building Design for Energy Efficiency, Health
Benefit, and Mercury Emissions Reduction Using Heliodon for Physical Modeling" - https://repository.rit.edu/theses/9699/

Cost Impact: Increase

Estimated Immediate Cost Impact:

The net effect of the public comment and code change proposal will increase the cost of construction. Classrooms already in compliance would cost $0.00. To add one window in order to bring to compliance would cost approximately $500.00 per unit.

Estimated Immediate Cost Impact Justification (methodology and variables):

The code change proposal will nominally increase the cost of construction in the event glazing and/or glass construction materials are more costly than the alternative.

Estimated Life Cycle Cost Impact:

School operating costs will decrease with decreased teacher and employee absenteeism, decreased employee health care costs, and increased teacher retention. Societal and community costs will decrease with increased student performance and outcomes.

G144-25

G145-25

IBC: 1206.1

Proponents: Jeff O'Neill, Chair, representing Committee on Healthcare (ahc@iccsafe.org)

2024 International Building Code

SECTION 1206
SOUND TRANSMISSION

1206.1 Scope. This section shall apply to common interior walls, partitions and floor/ceiling assemblies between adjacent *dwelling units* and *sleeping units* or between *dwelling units* and *sleeping units* and adjacent public areas.

Exception: *Sleeping units* in Group I-2 are not required to comply with this section.

Reason: For Group R and I-1, there are separation requirements in Section 420 that have the walls extend to the roof deck above. Group I-2, nursing homes and hospitals do not have rated corridors or unit separations. So asking them to extend the separate wall to the ceiling for sound transmission would be additional costs.

There are FGI and privacy concerns that will address sound transmission/masking in patient care area, including the sleeping units, in hospitals and nursing homes. To avoid conflicts, these facilities should not be held to the same criteria as apartment buildings.

FGI provides a higher standard for sound isolation between 35 and 60 STC, and is adopted in over 44 states (ranging from 1996 to 2022 editions). https://fgiguidelines.org/guidelines/adoption-map/#:~:text=The%20data%20on%20state%20adoption,adopted%20only%20the%20HVAC%20requirements.

However, this standard is not in mandatory language or developed through the ANSI process, so it cannot be referenced in the codes as a requirement.

This proposal is submitted by the ICC Committee for Healthcare (CHC).

The Committee on Healthcare (CHC) was established by the ICC Board of Directors in 2011 to pursue opportunities to study and develop effective and efficient provisions for Hospital, Nursing Homes, Assisted Living and Ambulatory Care Facilities. This committee was formed in cooperation with the American Society for Healthcare Engineering (ASHE). In July of 2017, the ICC Board made CHC a standing committee. In 2023 and 2024 the CHC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the CHC website at CHC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This change is to avoid conflicts. Since this is already required for licensure, there will be no increase in the cost of construction.

G146-25

IBC: SECTION 1206, 1206.1, 1206.2, 1206.2.1 (New), 1206.2.2 (New)

Proponents: Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

2024 International Building Code

SECTION 1206
SOUND TRANSMISSION

1206.1 Scope. This section shall apply to common interior walls, partitions and floor/ceiling assemblies between adjacent *dwelling units* and *sleeping units* or between *dwelling units* and *sleeping units* and adjacent public areas.

Revise as follows:

1206.2 Airborne sound. Walls, partitions and floor-ceiling assemblies separating *dwelling units* and *sleeping units* from each other or from public or service areas shall have a sound transmission class of not less than 50 where tested in accordance with ASTM E90, or have a Normalized Noise Isolation Class (NNIC) rating of not less than 45 if field tested, in accordance with ASTM E336 for airborne noise. ~~Alternatively, the sound transmission class of walls, partitions and floor-ceiling assemblies shall be established by engineering analysis based on a comparison of walls, partitions and floor-ceiling assemblies having sound transmission class ratings as determined by the test procedures set forth in ASTM E90. Engineering analysis shall be performed by a *registered design professional*. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings. This requirement shall not apply to entrance doors; however, such doors shall be tight fitting to the frame and sill.~~

Exception: Entrance doors that are tight fitting to the frame and sill are not required to comply with this section.

Add new text as follows:

1206.2.1 Engineering basis. Alternatively, the sound transmission class of walls, partitions and floor-ceiling assemblies shall be established by engineering analysis based on a comparison of walls, partitions and floor-ceiling assemblies having sound transmission class ratings as determined by the test procedures set forth in ASTM E90. Engineering analysis shall be performed by a *registered design professional*.

1206.2.2 Penetrations. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings.

Reason: There are no technical change. The current text has too much information in one section. This proposal separates the requirements. The last sentence is an exception, so it is stated as such.

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is editorial. There are no changes in requirements.

G147-25

IBC: 1206.3 (New)

Proponents: Oleg Bulshteyn, representing a resident of a multifamily building with poor sound insulation (olegbulshteyn@hotmail.com)

2021 International Building Code

SECTION 1206
SOUND TRANSMISSION

1206.1 Scope. This section shall apply to common interior walls, partitions and floor/ceiling assemblies between adjacent *dwelling units* and *sleeping units* or between *dwelling units* and *sleeping units* and adjacent public areas.

1206.2 Airborne sound. Walls, partitions and floor-ceiling assemblies separating *dwelling units* and *sleeping units* from each other or from public or service areas shall have a sound transmission class of not less than 50 where tested in accordance with ASTM E90, or have a Normalized Noise Isolation Class (NNIC) rating of not less than 45 if field tested, in accordance with ASTM E336 for airborne noise. Alternatively, the sound transmission class of walls, partitions and floor-ceiling assemblies shall be established by engineering analysis based on a comparison of walls, partitions and floor-ceiling assemblies having sound transmission class ratings as determined by the test procedures set forth in ASTM E90. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings. This requirement shall not apply to entrance doors; however, such doors shall be tight fitting to the frame and sill.

Add new text as follows:

1206.3 Structure-borne sound. The impact insulation class of floor-ceiling assemblies shall be field tested after the building is constructed to make sure that the building meets the code impact sound insulation requirement.

Reason: According to National Multifamily Housing Council (www.nmhc.org), noise has been identified as a major issue by residents of multifamily residential buildings. In addition, according to Alexandria, VA Office of Housing, noise transmission is one of the biggest issues for renters in multifamily buildings. The problem is worst in buildings constructed of wood above concrete podiums, and better in steel and concrete high rises. Finally, thousands of resident reviews are available on the internet citing poor sound insulation of multifamily residential buildings including those recently constructed. Some of these reviews have been included as the attachments.It might increase cost in the form of testing somewhat, but we are talking about the quality of life issue here. The existing building codes/construction techniques do not seem to result in the adequate level of the sound insulation in multifamily buildings, which is evident by the thousands of noise-related complaints.

Bibliography: 9_2_2 Rawlings_S_Magee_J.pdf (veneklasenresearchfoundation.org)
Soundproofing Techniques (nhcsi.org)
NMHC | Innovation Challenge Finalists Selected
How to Complain About Apartment Noise Successfully - Noise Free America: A Coalition to Promote Quiet
Microsoft Word - Noise and Sound Control at Your Home.docx (inceusa.org)

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The field testing will have no impact directly on the cost of construction since the test is after construction is completed.

G148-25

IBC: 1208.2

Proponents: Charles Moore, representing Framery (charles.moore@frameryacoustics.com)

2024 International Building Code

Revise as follows:

1208.2 Minimum ceiling heights. *Occupiable spaces*, *habitable spaces* and corridors shall have a ceiling height of not less than 7 feet 6 inches (2286 mm) above the finished floor. Bathrooms, toilet rooms, kitchens, storage rooms and laundry rooms shall have a ceiling height of not less than 7 feet (2134 mm) above the finished floor.

Exceptions:

1. In one- and two-family *dwellings*, beams or girders spaced not less than 4 feet (1219 mm) on center shall be permitted to project not more than 6 inches (152 mm) below the required ceiling height.
2. If any room in a *building* has a sloped ceiling, the prescribed ceiling height for the room is required in one-half the area thereof. Any portion of the room measuring less than 5 feet (1524 mm) from the finished floor to the ceiling shall not be included in any computation of the minimum area thereof.
3. The height of *mezzanines* and spaces below *mezzanines* shall be in accordance with Section 505.2.
4. Corridors contained within a *dwelling unit* or *sleeping unit* in a Group R occupancy shall have a ceiling height of not less than 7 feet (2134 mm) above the finished floor.
5. Modular rooms, acoustic pods, enclosed furniture, lactation rooms and other temporarily occupied spaces used in Group B Occupancy.

Reason:

Modular Rooms, Acoustic Pods, Enclosed Furniture, Location Rooms and other temporarily occupied spaces used in Group B Occupancy should be exempt from the Interior Heights of 1208.2.

With the rise of open-office environments and the growing popularity of phone and video conferences, it becomes increasingly important to provide acoustically isolated spaces for employees to use. These can be part of the built environment as small rooms, but most often these have very problematic HVAC and ventilation issues and the sound isolation is very poor. Modular pre-built structures can be purpose built to address these issues and offer a much better working environment with improved lighting and ventilation over the Interior Space that it is located within.

The current IBC doesn't have an ideal way to handle these modular pre-built temporarily occupied spaces. When you try to apply the building code to these unique spaces, there are conflicting requirements. These should not extend to the ceiling, and the tops of these must be 18in below sprinklers to allow for proper sprinkler deployment. While at the same time if they must meet interior height requirements, you now must have a very tall interior space in order to satisfy both requirements.

I believe that these meet the intent of the code by providing a quiet and comfortable space for a defined function. The spaces are also completely voluntary, meaning that if anyone would be uncomfortable using this space, they can simply exit the "temporarily occupied space" This is quite different from a bathroom or kitchen or other Occupiable space which is necessary and required in the office environment.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This would have no impact on the cost of construction. This would allow the use of Acoustic Pods and other modular pre-built "utility spaces" or "temporarily occupied spaces" to be used without being restricted by the interior height requirements of 1208.2 which is not applicable to these voluntarily used spaces.

G149-25

IBC: 1211.1

Proponents: Jonathan Roberts, representing UL Solutions (jonathan.roberts@ul.com)

2024 International Building Code

SECTION 1211
UV GERMICIDAL IRRADIATION SYSTEMS

Revise as follows:

1211.1 General. ~~Where ultraviolet~~ Ultraviolet (UV) germicidal irradiation systems and equipment shall comply with one of the following:

1. ~~are~~ Where provided in rooms, they shall be *listed* and *labeled* in accordance with UL 8802 and installed in accordance with their listing and the manufacturer's instructions.
2. Where installed in air ducts, plenums, or within the enclosures of heating and cooling equipment, they shall be installed in accordance with the *International Mechanical Code*.

Reason: The product standards and installation requirements are different for HVAC-related UV germicidal systems and equipment. UL 8802 is for both systems and equipment which are within an occupiable space where there is the potential for exposure to occupants. Germicidal systems and equipment that are part of the HVAC system or HVAC equipment are not within the scope of UL 8802 and are installed in mechanical spaces and have requirements focused on exposure during servicing or maintenance, thus users are directed to the IMC for the appropriate standard (UL 60335-2-40) and other requirements.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposal does not introduce new requirements, but merely clarifies the requirements that are applicable to both types of ultraviolet (UV) germicidal irradiation systems.

G149-25

G150-25

IBC: 2703.1, 2703.2.1, 2703.2.2 (New)

Proponents: Bryan Holland, representing National Electrical Manufacturers Association (NEMA) (bryan.holland@nema.org)

2024 International Building Code

SECTION 2703
LIGHTNING PROTECTION SYSTEMS

Revise as follows:

2703.1 General. ~~Where provided, lightning~~ Lightning protection systems shall comply with Sections 2703.2 through 2703.3.

2703.2 Installation. Lightning protection systems shall be installed in accordance with NFPA 780 or UL 96A. UL 96A shall not be utilized for *buildings* used for the production, handling or storage of ammunition, *explosives*, *flammable liquids, flammable gases* or other *explosive* ingredients including dust.

2703.2.1 Surge protection. Where lightning protection systems are installed, surge protection ~~protective devices~~ shall also be installed in accordance with NFPA 70 and either NFPA 780 or UL 96A, as applicable.

Add new text as follows:

2703.2.2 Where required. Lightning protection systems shall be installed on each building and structure assigned a risk category III or IV in accordance with Table 1604.5.

Exception: Lightning protection systems shall not be required for any building or structure where determined to be unnecessary by evaluation using the Lightning Risk Assessment in NFPA 780 or an *approved* alternative method.

2703.3 Interconnection of systems. All lightning protection systems on a *building* or *structure* shall be interconnected in accordance with NFPA 780 or UL 96A, as applicable.

Reason: This proposal has two objectives. The first is to make two editorial revisions to the existing language for clarity and technical accuracy. The qualifier “where provided” in 2703.1 is unnecessary. In 2703.2, “surge protective device” is changed to just “surge protection” as both NFPA 70 and NFPA 780 require or permit surge protection in the form of surge arrestors, surge-protective devices, and surge protectors. All three may be required depending on the voltage classes present at the building or structure being protected:

- Type 1 or Type 2 listed surge-protective devices (SPDs) are required to be permanently installed on premises wiring systems operating at 1,000 volts or less
- Surge arresters are required to be permanently installed on circuits, equipment, or systems operating over 1,000 volts
- Listed surge protectors are required to be permanently installed for signal, data, and communication systems

The second objective, in a new 2703.2.2, is to mandate the installation of lightning and surge protection systems on buildings or structures that:

1. represent a substantial hazard to human life in the event of failure
2. have been designated as essential facilities and buildings where loss of function represents a substantial hazard to occupants or users

Lightning is one the largest contributors to building fire in the US and abroad. During the five-year-period of 2007-2011, NFPA estimates that U.S. local fire departments responded to an estimated average of 22,600 fires started by lightning per year. These fires caused an estimated average of nine civilian deaths, 53 civilian injuries and $451 million in direct property damage per year. These estimates are based on data from the U.S. Fire Administration (USFA) National Fire Incident Reporting System (NFIRS) and the National Fire Protection Association (NFPA) annual fire department experience survey. Lightning-caused fires, structural damage, and other losses are one of the most common troubles faced by American business today. A Carnegie-Mellon study showed that 33% of U.S. businesses are affected by lightning and that more businesses are negatively impacted by lightning storms than by floods, fires, explosions, hurricanes,

earthquakes, and violence. Insured losses on property in the U.S. can exceed $5 billion dollars annually from lightning alone. According to the Insurance Information Institute, lightning fires in non-residential properties caused an average of $108 million in direct property damage each year from 2007 to 2011. The average annual damage in non-residential properties includes: $28 million in storage facilities, $22 million in places of assembly, such as houses of worship and restaurants, $19 million in nonhome residential properties such as hotels and motels, $15 million in mercantile and business properties such as offices, specialty shops and department stores, $15 million in industrial and manufacturing facilities, $3 million in outside properties, $3 million in educational and healthcare facilities, and $3 million in miscellaneous properties. These stats only take into account the insured losses reported and do not include uninsured losses, lost productivity, lost sales, lost inventory, and other considerable factors.

Bibliography: 1. “Lightning fires and lightning strikes”, Marty Ahrens, National Fire Protection Association, June 2013

2. "Securing the Supply of Electrical Services," by Jay Apt, Carnegie Mellon University, presented at the Carnegie Mellon Conference on Crisis Readiness, "Before the Next Crisis: Steps to Secure America's Essential Systems," February 28, 2006.

3. Hartford Insurance Group, Sept 14, 2006
4. “Facts + Statistics: Lightning”, Insurance Information Group

Cost Impact: Increase

Estimated Immediate Cost Impact:

The code change proposal will increase the cost of construction for risk category III and IV buildings and structures where the NFPA 780 lightning risk assessment recommends protection. The average cost of a complete lightning protection system, including design, materials, installation, and maintenance is less than 1% up to 3% of total construction cost of a building, whereas the average cost to renovate a building with lightning protection after completion of construction is approximately 10 times that of a new building under construction. The cost of the lightning protection system can be off set as much as 80% by insurance premium rate deductions and rebates. Lightning risk assessment calculations are readily available online, for free, and takes approximately 15-25 minutes to complete.

Based on the installation cost study link below, the national average 2015 costs for lightning protection on a low rise building would be $0.65/sf of roof area using aluminum, and a 5 story building would be $1.44/sf of roof area (slightly higher cost for copper)

Estimated Immediate Cost Impact Justification (methodology and variables):

A comprehensive lightning protection installation cost study can be reviewed here: https://ecle.biz/coststudy/.

Estimated Life Cycle Cost Impact:

G150-25

G151-25

IBC: 2703.2, 2703.2.1, 2703.3, AFNOR (New)

Proponents: Jennifer Hatfield, J. Hatfield & Associates, representing National Lightning Protection (jen@jhatfieldandassociates.com)

2024 International Building Code

SECTION 2703
LIGHTNING PROTECTION SYSTEMS

2703.1 General. Where provided, lightning protection systems shall comply with Sections 2703.2 through 2703.3.

Revise as follows:

2703.2 Installation. Lightning protection systems shall be installed by one of the following methods:

1. In ~~in~~ accordance with NFPA 780 or UL 96A. UL 96A shall not be utilized for *buildings* used for the production, handling or storage of ammunition, *explosives*, *flammable liquids, flammable gases* or other *explosive* ingredients including dust.
2. Listed and labeled in accordance with NF C 17-102 and the manufacturers installation instructions.

2703.2.1 Surge protection. Where lightning protection systems are installed, surge protective devices shall also be installed in accordance with NFPA 70, or ~~and~~ either NFPA 780 or UL 96A, as applicable.

2703.3 Interconnection of systems. All lightning protection systems on a *building* or *structure* shall be interconnected in accordance with NFPA 70, or either NFPA 780 or UL 96A, as applicable.

Add new standard(s) as follows:

AFNOR French Standardization Association (AFNOR Group)

11 rue Francis de Pressense

Saint-Denis, 93210
France

NF C 17-102 - 2011 (Reaffirmed 2016) Early Streamer Emission Lightning Protection Systems Standard

Reason: Last code cycle, a new section on lightning protection systems were added to the IBC. There was a proposal (G175-21) to require said systems that was disapproved whereas a proposal (G176-21) to not require them, but to provide criteria if one wants to add a lightning system was approved. In the committee reasoning for the disapproval of G175-21, "the committee felt that this system should be applied by choice, and not as a building requirement". Whereas the committees reasoning for the approval of G176-21 stated that they "felt that this provided direction and criteria if you wanted to add a lightning protection system."

Unfortunately, what the committee did not hear was that there are different types of lightning protection systems and the language adopted in Section 2703 could be inferred as only allowing certain types of systems. There are different types of lightning protection systems available, each with their own standards, and a consumer should be able to choose which type they want installed. That occurs today, where both a Franklin Rod system and an Early Streamer Emission (ESE) system can be installed.

These two lightning protection systems are not totally different. Both use the same specifications for conductors, earthing terminations, equipotential bonding and surge protection devices. Where they differ is the type of rods used. It is also not unusual to mix both systems on a site or large building.

ESE systems have been installed in the United States and around the world for over forty years, with more than a million installed worldwide, including thousands in the United States with high profile projects. ESE systems are installed on hotels, college and professional sports venues, manufacturing facilities and office buildings, among other types of buildings and facilities, across the country

and worldwide.

Each lightning protection system method provides solutions for unique applications around the world. One or the other may be more suitable for a specific project. For example, ESE rods might be more suitable for large premises whereas some highly electromagnetic sensitive premises may require a Franklin Rod system to provide a maximum number of conductors and earthing terminations.

In many countries it is up to the engineers and installers to choose the lighting protection system technology that is appropriate for the project. The type chosen, leads the engineer/installer to the appropriate standard that must be followed. For example, in many countries the Franklin Rod Systems must follow the IEC 62 305 series 1 to 4 (identical to NFPA 780) and Early Streamer Emission Systems must follow the NF C 17-102 standard.

The IBC should also allow engineers and installers to determine which system is more suitable for their projects, depending on its specification. Then, based on what type of system is installed, the code should require it to follow the appropriate standard. This proposal aims to make it clear that a choice remains, and like proposal G176-21, is intended to ensure whichever system is installed, it must follow installation guidelines.

Specifically, this proposal provides for the use of the NF C 17-102 Standard that provides guidelines for the design and installation of early streamer emission lightning protection systems. This standard was developed by AFNOR, which is the French Standards Development Organization similar to ANSI here in the United States. Like ANSI, AFNOR has various technical committees that develop standards with a consensus based approach. NF C 17-102 was first published in 1995 and then updated and replaced by the 2011 edition. AFNOR reaffirmed the NF C 17-102 Standard in 2016.

Many of the ESE systems installed in the United States and that use the NF C 17-102 standard have also been certified by a nationally recognized testing laboratory. This proposal ensures that all systems that use the NF C 17-102 be listed and labeled so to ensure certification occurs.

The proposal also provides clarity that when addressing surge protection and interconnection of systems, one can use NFPA 70, NFPA 780 or UL96A, as all three provide proper installation guidelines.

In summary, the proposal ensures all types of lightning systems can be used if they follow a set of guidelines; thereby clarifying and improving the language as it was originally adopted in the IBC. This will ensure the I-codes do not box out a type of lightning protection system that has been in the marketplace for decades. The original intent of the language, to not require lightning protection systems, but when one is installed, ensure it meets certain requirements, remains intact.

Bibliography: NF C 17-102-2011, Early Streamer Emission Lightning Protection Standard, AFNOR Group

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal simply clarifies all the methods available if installing a lightning protection system.

Staff Analysis: A review of the standard proposed for inclusion in the code, NFC 17-102:2011 Early Streamer Emission Lightning Protection Systems, with regard to some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025.

G151-25

G152-25

IBC: 2703.4 (New)

Proponents: Jonathan Roberts, representing UL Solutions (jonathan.roberts@ul.com)

2024 International Building Code

SECTION 2703
LIGHTNING PROTECTION SYSTEMS

Add new text as follows:

2703.4 Inspection of system. Where required by the building official, compliance of the completed installation with NFPA 780 or UL 96A shall be documented by a certificate of inspection furnished by an approved agency based on a physical on-site inspection.

Reason: This proposal is consistent with NFPA 780, 1.5.3 which requires the completed lightning protection system to be certified through a physical on-site inspection by a qualified and impartial organization acceptable to the authority having jurisdiction. The phrase “certificate of inspection furnished by an approved agency” is used in several other locations in the IBC.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

These inspections are already taking place at the request of building officials this proposal provides verification of the inspection process and compliance with the standards.

G153-25

IBC: SECTION 2703 (New), 2703.1 (New), 2703.2 (New)

Proponents: Michael Anthony, Standards Michigan, LLC, representing IEEE Education & Healthcare Facilities Committee (maanthon@umich.edu)

2024 International Building Code

Add new text as follows:

SECTION 2703
PERFORMANCE-BASED BUILDING PREMISE WIRING DESIGN FOR NON-EMERGENCY FEEDER CIRCUITS.

2703.1 Genaral. Feeder circuits identified in the NFPA 70 shall be permitted to be sized based on demonstrated load provided that sizing calculations are performed by a qualified person, as determined by the regulatory authority having jurisdiction.

2703.2 Demonstrated load. The demonstrated load shall be the historical maximum demand watt information recorded over at least a 24-month period for the same type of facility as the one in question, equated to watts per m^2.

Reason: We present this concept to the ICC community fully aware that it may be perceived as 'outside ICC jurisdiction' and will receive a smart rejection.. Our intent is to raise awareness of an ongoing discussion that began at the University of Michigan as far back as 1999. Electrical professionals there observed that at least half of our building's interior distribution transformers (numbering in the thousands across nearly 50 million square feet) were seldom loaded above 20 percent of their kVA rating throughout their lifecycle. The application of LED illumination and variable speed drives accelerated the downward trend.

We have authored multiple IEEE technical papers on this subject. We maintain collaboration with fellow design engineers (experts at NFPA and in the consulting industry) to narrow the gap between design load and observed load. More detail is found in the link below:

[Additional information: https://standardsmichigan.com/ibc-chapter-27-proposal/]

The proposed text is intended to be a placeholder. It closely mirrors the Canadian Electrical Code, which allows performance-based design discretion in sizing building interior power chains. By contrast, NEC wiring design is prescriptive, aligning with NFPA's primary mission of advancing fire safety.

Oversized power chains contribute to waste in customer-owned transformers, service panels, enclosure metal, architectural space for service rooms and switchgear, ventilation systems, sheet metal in ceiling plenums, air flow motors, illumination, egress entrance design, and more.

NFPA's own electrical experts acknowledge this issue. Despite research projects sponsored by its Research Foundation to inform technical committee members, proposals to reduce material and energy waste are routinely rejected by 'vertical incumbents'—manufacturers, testing labs, insurance, inspection entities— who benefit economically from oversized building power chains.

In summary, while NFPA has been supportive and respectful of user interests (building owners), the link provided presents more significant technical substantiation, and is respectful of the balance NFPA must maintain with other constituencies .

This proposal, at the very least, aims to broaden awareness of this obvious cost-saving opportunity. We want to find a home for it in any of the dominant standards catalogs that inform safe and sustainable building construction (e,g, ICC, NFPA, ASHRAE, IEEE, NECA, NEMA, etc.)

Cost Impact: Decrease

Estimated Immediate Cost Impact:

Since the electrical power chain typically accounts for about 20% of a building's initial cost, this proposal enables the electrical engineer to design a power chain that has the practical effect of reducing those costs by an additional 20%. It also provides energy savings through reduced material usage and heat losses over the building's entire lifecycle. For billion dollar projects, this could be a potential

cost savings of $900,000 to $1,750,000.

Estimated Immediate Cost Impact Justification (methodology and variables):

This proposal will reduce immediate cost and life cycle cost of a building by permitting designers to specify electrical closets, wires, conduit, transformers, cooling networks and related power chain elements between **load** side of the electric service and the receptacle and lighting branch circuit networks according to historical, observed and projected electrical demand profile of nearly every occupancy class typically found on an educational settlement.

G153-25

G154-25 Part I

IBC: 3001.2, TABLE 3001.3, 3001.5, 3002.5, [F] 3003.2, 3007.1, 3008.7.1, EN Chapter 35 (New), ISO Chapter 35 (New)

Proponents: Stephen Smith, representing Center for Building in North America (stephen@centerforbuilding.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE STRUCTURAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Revise as follows:

3001.2 Elevator emergency communication systems. An elevator emergency two-way communication system that includes both visual and audible communication modes complying with the requirements in ASME A17.1/CSA B44 or ISO 8100-1 shall be provided in each elevator car. The system shall provide a means to enable authorized personnel to verify:

1. The presence of someone in the car.
2. That the person(s) is trapped.

Once an entrapment is verified, the system shall enable authorized personnel to:

1. Determine if assistance is needed.
2. Communicate when help is on the way.
3. Communicate when help arrives on site.

Exception: If the elevator standard used does not include a requirement for two-way visual communication, then the interior of the elevator cabin shall include a sign with a phone number that can accept text messages, along with a unique identifier for occupants to identify their elevator car.

TABLE 3001.3 ELEVATORS AND CONVEYING SYSTEMS AND COMPONENTS

TYPE	STANDARD
Automotive lifts	ALI ALCTV
Belt manlifts	ASME A90.1
Conveyors and related equipment	ASME B20.1
Elevators, escalators, dumbwaiters, moving walks, material lifts	ASME A17.1/CSA B44, ASME A17.7/CSA B44.7; or ISO 8100-1, ISO 8100-2
Industrial scissor lifts	ANSI MH29.1
Platform lifts, stairway chairlifts, wheelchair lifts	ASME A18.1

3001.5 Change in use. A change in use of an elevator from freight to passenger, passenger to freight, or from one freight class to another freight class shall comply with Section 8.7 of ASME A17.1/CSA B44 or both ISO 8100-1: Annex C and ISO 8100-1: 7.3.2 (b).

3002.5 Emergency doors. Where an elevator is installed in a single blind hoistway or on the outside of a *building*, there shall be installed in the blind portion of the hoistway or blank face of the *building*, an emergency door in accordance with ASME A17.1/CSA B44 or ISO 8100-1.

[F] 3003.2 Fire fighters' emergency operation. Elevators shall be provided with Phase I emergency recall operation and Phase II emergency in-car operation in accordance with ASME A17.1/CSA B44 or EN81-72.

3007.1 General. Where required by Section 403.6.1, every floor above and including the lowest level of fire department vehicle access of the *building* shall be served by fire service access elevators complying with Sections 3007.1 through 3007.9. Except as modified in this section, fire service access elevators shall be installed in accordance with this chapter and ASME A17.1/CSA B44 or EN81-72.

Exceptions:

1. Elevators that only service an open or enclosed parking garage and the lobby of the *building* shall not be required to serve as fire service access elevators.

2. The elevator shall not be required to serve the top floor of a *building* where that floor is utilized only for equipment for *building* systems.

3008.7.1 Elevator recall. The *fire command center* or an alternate location *approved* by the fire department shall be provided with the means to manually initiate a Phase I Emergency Recall of the occupant evacuation elevators in accordance with ASME A17.1/CSA B44 or EN81-72.

Add new standard(s) as follows:

EN

European Committee for Standardization
Rue de la Science 23 B
Brussels, Belgium 1040
Belgium

EN81-72:2020	Firefighters lifts
ISO 8100-1:2019	Safety rules for the construction and installation of passenger and goods passenger lifts
ISO 8100-2:2019	Design rules, calculations, examinations and tests of lift components

G154-25 Part I

G154-25 Part II

IBC: 1607.12.1, 1613.5, EN Chapter 35 (New), ISO Chapter 35 (New)

Proponents: Stephen Smith, representing Center for Building in North America (stephen@centerforbuilding.org)

2024 International Building Code

Revise as follows:

1607.12.1 Elevators. Members, elements and components subject to dynamic *loads* from elevators shall be designed for *impact loads* and deflection limits prescribed by ASME A17.1/CSA B44 or both ISO 8100-1 and ISO 8100-2.

1613.5 Elevators, escalators and other conveying systems. Elevators, escalators and other conveying systems and their components shall satisfy the seismic requirements of ASCE 7, ~~and~~ ASME A17.1/CSA B44 and EN81-77, as applicable.

Add new standard(s) as follows:

EN

European Committee for Standardization
Rue de la Science 23 B
Brussels, Belgium 1040
Belgium

EN81-77:2022	Lifts subject to seismic condition
ISO 8100-1:2019	Safety rules for the construction and installation of passenger and goods passenge
ISO 8100-2:2019	Design rules, calculations, examinations and tests of lift components

Reason: In 1957, elevator regulators, inspectors, and manufacturers from around Europe met in Milan to discuss harmonizing safety standards. “It was learned,” wrote Finland's longtime representative to the European elevator standard's technical committee, “that differing opinions concerning safety existed, though risks connected to elevators should be the same in all countries.” Each country in Europe at the time had its own elevator safety standard, but as part of a project of European unification, their rules were gradually consolidated into what would become Europe’s EN 81 family of elevator standards.[1] In North America, a similar process took place a few decades later as the United States and Canada harmonized their standards into a unified ASME/CSA set of standards, with A17.1/B44 as the flagship text.[2] A battle between the European and North American standards played out around the world, and Europe won. Virtually every country in the world now either accepts or is working towards convergence with European elevator standards, which were inscribed as global standards standards in the form of ISO 8100-1 and ISO 8100-2, as China – which now has far and away the world’s largest fleet of elevators, and the majority of new installations globally – finally sided with the Europeans.[3]

The global harmonization of elevator rules around the ISO 8100 standards and related EN 81 family of standards has marooned the United States and Canada on a technological and market island. Americans have access to a narrower range of models built by a small and shrinking pool of manufacturers. We are left to pick through slimmer catalogs of components than our counterparts outside of North America, who can buy parts conforming to the global standard on the more competitive global market. For a few concrete examples, compare the number of landing and car doors and lift machines that Wittur is able to sell in North America compared to their offerings in Europe, or the number of elevator door detectors that WECO – the world’s largest manufacturer of the devices – has available in the two markets.[4]

We lag behind the rest of the world in practices – the machine room less elevator came late to America, and hydraulic models that have mostly fallen out of fashion abroad still make up a significant share of new installations in the U.S. We have the world’s highest elevator costs, with devices in similarly sized buildings costing three to four times what they do in high-income countries in Western Europe, even after adjusting for cost-of-living differences. New walk-up apartment buildings are commonplace across the United States, up to three stories in garden apartments throughout the country and up to six stories in places that have made small-lot multifamily buildings easier to build through amendments to Section 1006. In Western Europe, on the other hand, with its much more affordable elevators, walk-ups are nearly extinct in even low-rise new construction.[5]

The primary goal of referenced elevator standards is safety, but there is no solid evidence that the ASME standards provide more safety for workers within the elevator industry (who are disproportionately at risk from elevators) than global standards. What limited evidence there is hints at the opposite. Beyond risks to elevator workers from installed devices, the walk-up buildings that continue to proliferate in America pose significant risk to residents and other construction workers. Over 1 million Americans are treated in emergency rooms each year for injuries incurred while using stairs, and thousands lose their lives.[6]

Referencing the ISO and EN global standards in addition to ASME’s North American ones would be a big shift for the elevator industry and regulators, but

it is a well-trod path that hundreds of other countries around the world have already gone down. The A17.1 standard is more prescriptive than the ISO standards, but even ASME has recognized the benefits of performance-based design, with its A17.7 performance-based elevator standard, as has the ICC with its own Performance Code for Buildings and Facilities. Lawmakers' rising interest in affordability and infill urban development may push the industry to accept the global elevator standards outside of the model code process, with bills introduced in the 2025 legislative session in Washington State to force adoption of the ISO's elevator standards, with the support of the state AARP chapter.[7]

My proposal takes a step towards opening the North American market up to global standards by offering owners the option of choosing elevators that conform to the status quo ASME standard, or the global ISO and related EN standards. The ISO 8100-1 and ISO 8100-2 standards contain the bulk of what is addressed in the ASME A17.1 standard, but there remain a few items referenced in the IBC that are outside of their scope. For these items, I have found the relevant EN standards (EN standards, written by CEN-CENELEC, form the basis of the ISO 8100 standards as well). I believe these European standards are the most appropriate to reference, since Europe is the home of most global elevator manufacturers and of the global regulatory system for elevators, and is by far the largest high-income market for elevators in the world, with many times as many installed devices as in North America.

EN 81-72 contains Phase I emergency recall operation and Phase II emergency in-car operation instructions (in 5.8, "Control systems") that are similar to those in ASME A17.1. EN 81-73 contains rules for the behavior of elevators during fires. Seismic requirements found in ASME 17.1 have parallels in EN 81-77, written to address the many seismically active places in Europe (like Turkey or Italy) where this standard is adopted.

There are two IBC sections where I was not able to find a clean parallel to an ISO or EN standard: behavior during floods, and two-way visual communications.

For the latter, the reference to ASME A17.1 in IBC 1612, "Flood Loads," is simply left in place – building owners in flood hazard areas would need to either demonstrate an equivalence to the AHJ if they wanted to use devices not certified to ASME A17.1, or use equipment fully conforming to ASME A17.1.

The two-way visual communication requirement is trickier, since it applies to all devices, not just in special areas. Leaving the requirement in place as-is would therefore render the allowance in other sections for ISO/EN-conforming devices unusable. There is no ISO or EN equivalent to this new requirement, so my proposed solution is that equipment meeting ISO standards would, unless or until the standard is rewritten to include a visual communication requirement, require a sign with a phone number to text for people who cannot otherwise use the audio equipment provided. This is in line with common practice abroad, where most elevator cabs are provided with phone numbers. This would have the ancillary benefit of giving trapped riders another means to reach the proper authorities (that is, the elevator service company) rather than calling 911, which often leads firefighters to damage equipment while trying to disentrap riders, leaving elevators out of service while they wait for repairs and often leaving building inaccessible in the meantime. While a visual communication system that relies on the user to have a charged cell phone and cell service is not foolproof (no system is – even the current code requirements may leave the 8 percent of the U.S. population unable to speak English very well unserved), the anecdote provided by the proponent of EB 94-15 in support of one of the original proposals leading to this code section involved trapped riders with access to working phones with cell service.[8] I realize that the exception I have inserted into this section may not meet the intent of prior cycles' committees, and I am open to other solutions here (such as requiring that communications devices meet the standards laid out in a specific ASME A17.1 section).

Elevator standards are referenced in multiple chapters of the IBC, making any proposal to add an additional referenced standard option challenging. While the main references are in Chapter 30 with some additional references in Chapter 16, both heard during Group B this year, there are some ancillary references in chapters 9 and 10, which were heard last year during Group A. While these references are more important than what is usually considered correlative, the elevator standard is referenced in so many different places that it would not otherwise be possible to introduce a new set of referenced standards in a single year, and any proposal adhering strictly to the separation of groups would end up disjointed and confusing. Given that the heart of the matter belongs in Chapter 30, I believe this proposal is best addressed during Group B.

If this proposal is successful, the following will be proposed in Group A.

1009.4.1 Standby power. The elevator shall meet the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1/CSA B44 or ISO 8100-1. Standby power shall be provided in accordance with Chapter 27 and Section 3003.

[F] 907.3.3 Elevator emergency operation. *Automatic fire detectors* installed for elevator emergency operation shall be installed in accordance with the provisions of ASME A17.1/CSA B44 or both EN81-72 and EN81-73 and NFPA 72.

[F] 911.1.6 Required features. The *fire command center* shall comply with NFPA 72 and shall contain all of the following features: (portions not shown remain unchanged)17. Elevator fire recall switch in accordance with ASME A17.1/CSA B44 or both EN81-72 and EN81-73

Bibliography:

1. Ilkka Mäntyvaara, “40 Years of Elevator-Code Standardization,” *Elevator World*, May 1, 2012, https://elevatorworld.com/article/40-years-of-elevator-code-standardization/.
2. *The A17.1 Code: A Century of Progress for Safety, 1921-2021* (Elevator World, 2021).
3. “IAEC Position Paper: Should ASME A17.1/CSA B44 ‘Converge’ with ISO 8100?” (International Association of Elevator Consultants, October 22, 2018), https://www.elevatoru.org/resources/Documents/IAEC-Convergence-Paper-Final.pdf; Christian de Mas Latrie, “Lift Associations ELA and CEA Align on Interpretation of Standards,” *Elevator World*, February 1, 2022, https://elevatorworld.com/article/closing-the-distance-between-europe-and-china/.
4. “Wittur,” accessed February 2, 2024, https://www.wittur.com/; “WECO Elevator Products Ltd.: Products,” accessed February 7, 2025, https://wecocanada.com/products/; “WECO Elevator Products,” accessed February 7, 2025, https://www.wecoeurope.com/products/door-detectors/.
5. Stephen Jacob Smith, “Elevators” (Center for Building in North America, May 2024), https://bit.ly/3XRH4lj.
6. Smith, 40–42.
7. Washington State Legislature, “SB 5156 - 2025-26: Concerning Elevator Standards in Smaller Apartment Buildings,” accessed February 7, 2025, https://app.leg.wa.gov/billsummary?BillNumber=5156&Year=2025; Washington State Legislature, “HB 1183 - 2025-26: Concerning Building Code and Development Regulation Reform,” accessed February 7, 2025, https://app.leg.wa.gov/billsummary?BillNumber=1183&Year=2025&Initiative=False.
8. United States Census Bureau, “People That Speak English Less Than ‘Very Well’ in the United States,” April 8, 2020, https://www.census.gov/library/visualizations/interactive/people-that-speak-english-less-than-very-well.html; “2015 Group A Proposed Changes to the I-Codes Memphis Committee Action Hearings” (Memphis: International Code Council, April 19, 2015), EB 94-15, https://www.iccsafe.org/wp-content/uploads/IEBC4.pdf.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

It is difficult to quantify exactly the cost decrease. Based on a review of dozens of proposals across the two continents, elevators in high-income countries in Western Europe are roughly a third the cost of those in the U.S., however some of this cost decrease comes from small cabin sizes, some comes from labor inefficiencies that may or may not change with the a new standard, and some comes from factors external to codes and standards (like America's more difficult product liability environment, or its stricter immigration policies). My rough estimate based on dozens of interviews and overall evaluation of the market is that harmonizing with global standards will decrease the cost of an elevator for a mid-rise building by the low to mid-five figures. Very roughly, one-quarter of the $150,000 cost for a mid-rise multifamily elevator.

Estimated Immediate Cost Impact Justification (methodology and variables):

See above.

Estimated Life Cycle Cost Impact:

I expect lower costs due to increased availability of parts and testing procedures (for example, lower-cost alternative electronic testing). The magnitude is difficult to estimate, but I would guess that the percentage decrease in costs would be at least in the low double digits. In general, annual operating costs for mid-rise elevators in the U.S. are in the range of $7,500, compared to a third or quarter of that in Western Europe after adjustment for purchasing power parity in Western Europe (see pgs. 37-39 of my report for more details). However, like the immediate cost differential, this gap has more contributing factors beyond ASME vs. ISO/EN standards.

Estimated Life Cycle Cost Impact Justification (methodology and variables):

See above.

Staff Analysis: A review of the following standards proposed for inclusion in the code regarding some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025:

EN 81-72:2020 Firefighters lifts
ISO 8100-1:2019 Safety rules for the construction and installation of passenger and goods passenger lifts
ISO 8100-2:2019 Design rules, calculations, examinations and tests of lift components

G155-25

IBC: 3002.1.1, 3006.2, 3006.2.1

Proponents: Stephen Smith, representing Center for Building in North America (stephen@centerforbuilding.org)

2024 International Building Code

CHAPTER 30
ELEVATORS AND CONVEYING SYSTEMS

SECTION 3002
HOISTWAY ENCLOSURES

Revise as follows:

3002.1.1 Opening protectives. Openings in fire-resistance-rated hoistway enclosures shall be protected as required in Chapter 7.

~~**Exception**~~ **Exceptions:**

1. The elevator car doors and the associated hoistway doors at the floor level designated for recall in accordance with Section 3003.2 shall be permitted to remain open during Phase I Emergency Recall Operation.
2. Elevator hoistway door located in the wall of a *corridor* required to be fire-resistance rated in accordance with Section 1020.1 is not required to be smoke protected in accordance with Section 716.2.2.1.1.

SECTION 3006
ELEVATOR LOBBIES AND HOISTWAY OPENING PROTECTION

3006.2 Elevator hoistway door protection required. Elevator hoistway doors shall be protected in accordance with Section 3006.3 where an elevatorserves an occupied floor more than 120 feet (36 576 mm) above the lowest level of fire department vehicle access and ~~hoistway connects more than three *stories*,~~ is required to be enclosed within a *shaft enclosure* in accordance with Section 712.1.1; and any of the following conditions apply:

1. The *building* is not protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 ~~or 903.3.1.2~~.
2. The *building* contains a Group I-1, Condition 2 occupancy.
3. The *building* contains a Group I-2 occupancy.
4. The *building* contains a Group I-3 occupancy.
5. ~~The elevator hoistway door is located in the wall of a *corridor* required to be fire-resistance rated in accordance with Section 1020.1.~~

Exceptions:

1. Protection of elevator hoistway doors is not required where the elevator serves only *open parking garages* in accordance with Section 406.5.
2. Protection of elevator hoistway doors is not required at the levels of exit discharge, provided that the levels of exit discharge is equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. Protection of elevator hoistway doors is not required on levels where the elevator hoistway doors open to the exterior.

Delete without substitution:

~~**3006.2.1 Rated corridors.** Where *corridors* are required to be fire-resistance rated in accordance with Section 1020.2, elevator hoistway openings shall be protected in accordance with Section 3006.3.~~

Reason: Elevator hoistway opening protection was the topic of a number of earlier proposals and changes. Now that those have had time to take effect, we can see the cost impact of the ultimate changes, allowing us to weigh the costs and benefits more clearly. The costs appear to be very high, while the benefits are low to nonexistent. In addition to clarity on costs, an update to the IBC removing the hoistway ventilation requirement has eliminated a major source of the stack effect.

Quotes obtained in two U.S. cities show significant costs to these requirements, which were not documented in the 2015 code change proposal that was ultimately adopted – $5,700 per landing in a Pacific Northwest city in 2023, and $10,400 per landing in New York City (to put this into perspective, the *full cost* of an installed elevator in Western Europe lies somewhere within this range). On top of these base prices, there are additional charges for many types of elevators and for contractor markup. Maintenance and repair costs are also likely to be significant given the monopolistic nature of the market for such specialized devices not used in other countries. The extremely high cost and low availability of elevators in the United States has come under scrutiny recently. As of this writing on Jan. 10, 2025, legislators have already introduced bills to change codes and standards related to elevators, and it is likely that hoistway protection requirements will attract their attention as well, given their high costs and questionable benefits. The ICC has a chance to get in front of this issue.

Generations of real-world experience has shown us that the benefits of these requirements are low to nonexistent. Earlier versions of building codes were interpreted to require elevator hoistway opening protection in some jurisdictions in the wake of the MGM Grand fire in 1980, but interviews suggest that most jurisdictions (especially those in the Northeast with many high-rises) either did not contain these provisions or were not interpreted in such a way as to require the protection. As the ICC Code Technology Committee (CTC) noted in 2012, the generations of experience without the protection were good – "code officials participating in the study group stated that lobbies have traditionally not been required in these type buildings in their jurisdictions and their experience has been good." The MGM Grand fire was multifactorial, and if the same fire had broken out in a building built to today's code but without elevator hoistway opening protection, nobody would have died or been seriously injured, especially above the ground floor, due to revised elevator recall operations, modified HVAC design, requirements for protecting building joints, and increased sprinkler requirements in today's codes.

New York City property data allows us to quantify the experience with multistory elevator buildings without hoistway opening protection. City property data suggests that there are nearly 31,000 elevator buildings of at least four stories in the city (roughly the current threshold for required hoistway opening protection in the IBC), which contain a total of 1.75 million apartments and roughly half of New York City's population. Together, these multifamily buildings have 275 million life-years of experience (that is, the number of occupants times the age of the building). The CTC in 2012 was not able to identify any fatalities due to a lack of hoistway opening protection in these buildings, and I have not been able to either.

Elevator hoistway opening protection has, since the IBC was updated to explicitly require it, not been adopted by all jurisdictions. New York City, with by far the largest stock of high-rise elevator buildings in the country, continues to not require it on floors with R-2 occupancies (NYC BC 3006.1.1, exception 5). Chicago has stricken Section 3006 from its IBC adoption entirely (Chicago BC 3006).

Updates to the ASME A17.1 standard and then later to the IBC to eliminate the required ventilation opening at the top of the shaft have also lessened the stack effect that might occur, drawing smoke upwards through the shaft and creating a need for opening protection.

Regarding the international nature of the IBC, I was unable to find a single jurisdiction outside of the United States that requires elevator hoistway protection (lobbies, smoke curtains, pressurization, or hold-open doors) for ordinary multistory buildings. Even Canada, which often adopts U.S. building code requirements and which has been experiencing a high-rise apartment boom across the country in recent years, has not adopted these requirements.

Elevator hoistway protection opening requirements in the IBC have become an example of what Margaret Law and Paula Beever described in their seminal 1994 lecture "Magic Numbers and Golden Rules", where major fires lead to an exhaustive enumeration of layered failures, all of which are then addressed in prescriptive codes, leading to overkill:

> *The outcome of [studies of major fires] is generally to identify the major contributory factors which led to the incident becoming as serious as it did. The investigation is likely to be conducted on several levels concerned with details...The results of all of these studies are likely to emerge as a set of recommendations for improvements in an attempt to ensure that such an incident could not be repeated. The problem is that the results are unlikely to be formulated as a series of alternatives, the implementation of any of one of which would have avoided the tragedy, but rather as a set of measures which must be adopted as a whole. This approach, whilst very well intentioned, leads to new sets of golden rules because of a failure of rational analysis.*

In 2012, the CTC recommended limiting elevator hoistway protection requirements to buildings exceeding 420 ft. in height, based on "the many fire safety features required by the building code, including automatic sprinklers, that mitigate the hazard of the spread of smoke via elevator hoistways." Since that proposal was disapproved, my proposal compromises with a much more conservative height limit: 120 ft. This threshold aligns elevator hoistway protection requirements with other requirements in the code, such as fire service access elevators (IBC 403.6.1).

If this committee indicates an openness, however, I do believe that the CTC's 2012 recommendation to eliminate the requirement for buildings up to 420 ft. in height was sound, and I would be happy to return in the fall with an updated proposal in line with their 420-ft. recommendation, or somewhere in between my proposal and theirs.

Bibliography: Baldassarra, Carl. "CTC Elevator Lobbies Study Group Report for CTC Meeting June 28-29, 2012." International Code Council: 2012. https://bit.ly/3PwOj2Q.

Smith, Stephen. *Elevators*. Center for Building in North America: 2024. https://bit.ly/3XRH4lj.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

Two quotes for smoke curtains (a commonly used form of elevator hoistway opening protection for low- and mid-rise buildings) obtained in the Pacific Northwest and New York City, respectively, show that the devices cost cost $5,700 to $10,400 per car, per landing. The devices are required on every story above the ground floor. Eliminating the requirement would save this amount of money per car per landing above the ground floor, plus contractor markup, markup applied for special devices (for example, one manufacturer charged more for common brands of elevators), ongoing maintenance and repair costs, and replacement costs.

Estimated Immediate Cost Impact Justification (methodology and variables):

See above.

G155-25

G156-25

IBC: 3002.3

Proponents: Sagiv Weiss-Ishai, San Francisco Fire Department, representing SFFD (sagiv.weiss-ishai@sfgov.org); Joseph Cervantes, Self, representing Space Age Electronics (joseph.cervantes@1sae.com)

2024 International Building Code

3002.3 Emergency signs. A pictorial sign of a standardized design shall be posted adjacent to each elevator call station on all floors instructing occupants to use the exit stairways and not to use the elevators in case of fire. Where elevators are not a component of the *accessible means of egress*, the sign shall read: IN CASE OF FIRE, ~~ELEVATORS ARE OUT OF SERVICE. USE EXIT~~. DO NOT USE ELEVATOR. USE EXIT STAIRS. Where the elevator is a component of the *accessible means of egress*, a sign complying with Section 1009.11 shall be provided.

Exception: The emergency sign shall not be required for elevators that are used for occupant self-evacuation in accordance with Section 3008.

Reason: The purpose of this proposal is to change the Elevator sign language to indicate: USE EXIT STAIRS" instead of "USE EXIT". This is an additional proposal to the proposal ID # 11305 to change the sign verbiage to indicate: "DO NOT USE ELEVATOR" instead of "ELEVATORS ARE OUT OF SERVICE". The reasons for this proposed change are:

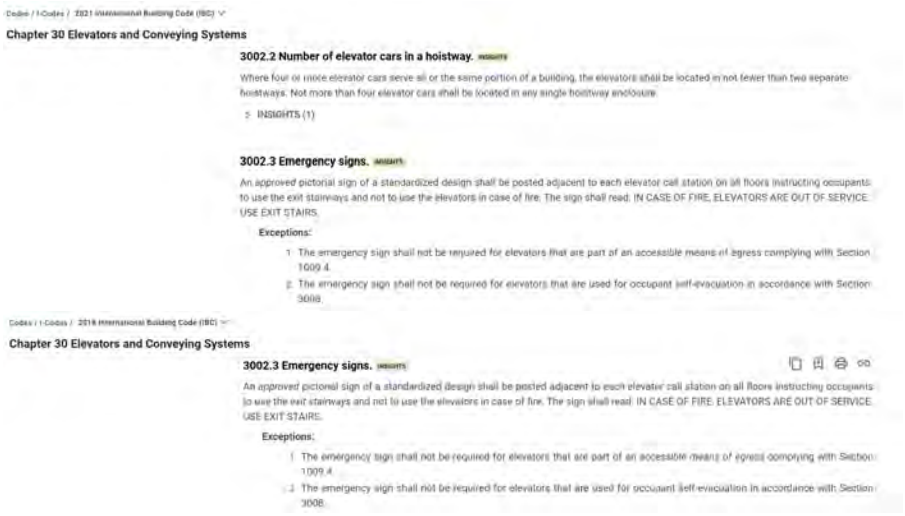
1. Most of the current signs posted in buildings today are not conforming to IBC Section 3002.3 (See attached 7 examples from different buildings in different states and cities) - Instead of indicating "Elevators are out of Service" as required by 3002.3, Most actual signs posted in buildings, indicate "In Case of Fire - Do Not Use Elevator" - In my opinion, the main reason for this other (and very common) sign language is that the code required language is confusing and is not clear and does not provide clear guidance and instructions to occupants compared to the actual posted signs clearly instructing buildings' occupants: "Do Not Use Elevator" in case of Fire emergencies regardless if the elevators are still operational and running (which is considered as Normal Service Operation). In many fires, as long as the fire/smoke is remote from elevator spaces (lobbies, landings, machine/control rooms) - The elevator/s are still operating in Normal Service and they are not recalled upon smoke or fire detection activation (Phase I Emergency Recall Operation) and they are not taken out of service. This means that potentially, occupants of the building can use the running/operational elevator/s during a fire emergency and this situation can result in entrapment and a life safety risk to the passengers using the elevator/s.

2. This proposal is intended to revert the 2024 language "USE EXIT" to the previous IBC language: "USE EXIT STAIRS". I have provided reference attachments from the 2018 and 2021 IBC same section 3002.3 showing the sign verbiage: "USE EXIT STAIRS" - in my opinion, this verbiage should not change to only indicate: "USE EXIT" since the intent of this sign is for elevators on all floors of the building. Only on the Egress/ground level - there is an EXIT to the outside of the building which does not require the use of EXIT STAIRS. In all other floors/levels served by Elevator/s - Occupants should be instructed to specifically use the "EXIT STAIRS" since they are instructed to NOT use the elevators.

3. The main reason that it is unsafe to use elevator/s anywhere in the building during a fire emergency is loss of building power, which can cause the elevator/s to stop inside the hoistway with potential passengers entrapped inside the elevator car while there is a fire in the building which may cause harm to the entrapped passengers. The building power system can be lost due to the fire hazard itself (high heat, sprinklers activation and water conditions, etc.) which can harm the building electrical service and/or electrical power cables, electrical rooms, power panels, etc. which are feeding the elevator controls and driving machines. This could happen even if the elevator/s are remote from the fire and are not affected by smoke and are not yet recalled and taken out of Normal Service operation. Therefore, the sign per Section 3002.3 indicating "Elevators are out of Service" can be confusing and misleading for building occupants who are instructed to EXIT the building by using the exit stairways. This sign can also create confusion with voice Fire Alarm systems generating pre-recorded messages instructing building occupants to evacuate the building using the stairways and to not use the elevators. "IN CASE OF FIRE, DO NOT USE ELEVATOR. USE EXIT STAIRS" is the safest verbiage with the specific clear instructions to occupants.

4. The intent of the sign as indicated in Section 3002.3 is: "....**INSTRUCTING** occupants to use the exit stairways and **NOT TO USE THE ELEVATORS IN CASE OF FIRE**" - However, the specific required sign verbiage indicating "Elevators are Out of Service" is not consistent with the intent of this section which is "INSTRUCTING OCCUPANTS". When the sign indicates: "Elevators are out of Service" - It does not provide clear instruction to occupants what to do as intended by this section. Occupants may wonder: What does it mean "Elevators are Out of Service" ? Does it mean that we should NOT use the elevators even if they are still operational in Normal Service ? Or maybe, we should use the elevator/s since they are NOT out of service and they are still running. This may create confusion since the required code verbiage does not provide clear instructions to occupants what they should do or should not do in case of fire. 5. The actual reality situation in many buildings is that there are many actual posted signs for elevators which are currently in

violation of the building code section 3002.3 - These non-compliant signs indicate clear instruction to occupants but they do not comply with the specific code language which creates code violation. This violation can potentially cause building inspectors and/or other AHJs who are enforcing the building code to require the removal of the non-compliant signs and to require them to be replaced with code compliant signs which may trigger high cost for building owners (if correction to this code violation is enforced) . Therefore - Changing the wording per this proposal may provide a retroactive acceptance for existing signs indicating "Do Not Use Elevator" to remain as-is and to not be replaced on a code-violation basis. 6. The Elevator code ASME A17.1 (current 2022 edition) and also in many previous ASME A17.1 code cycles includes an "Elevator Corridor Call Station Pictograph" based on Section and Figure 2.27.9 (See attachment). However, since this pictograph/sign is NOT considered as an elevator equipment - The elevator code refers to the building code in section 2.27.9 indicating: "**When the building code requires a sign be posted** .....**instructing occupants not to use the elevator in case of fire**". This means that the governing code for the sign is the **building code** and not the elevator code. If the wording of the sign will be changed in the building code based on this proposal, it will not create a conflict with the elevator code since the elevator code recognizes the building code as the governing code for this sign with the intent of SAFE Egress for occupants of the building by "Instructing Occupants" to use stairs during fire and to not use the elevators. The elevator code has other safety requirements for PASSENGERS using elevators during normal elevator operation but NOT during fire emergencies. Therefore, the elevator code clearly refers to the building code addressing the building's **OCCUPANTS** during fire emergencies who should be **instructed** not to use the elevators. Therefore, If the building code is changed per this proposal, only the pictograph in the elevator code figure 2.27.9 will have to be changed but nothing will need to be changed in section 2.27.9 itself.



Codes / I-Codes / 2021 International Building Code (IBC)

Chapter 30 Elevators and Conveying Systems

3002.2 Number of elevator cars in a hoistway.

Where four or more elevator cars serve all or the same portion of a building, the elevators shall be located in not fewer than two separate hoistways. Not more than four elevator cars shall be located in any single hoistway enclosure.

INSIGHTS (1)

3002.3 Emergency signs.

An approved pictorial sign of a standardized design shall be posted adjacent to each elevator call station on all floors instructing occupants to use the exit stairways and not to use the elevators in case of fire. The sign shall read: IN CASE OF FIRE, ELEVATORS ARE OUT OF SERVICE. USE EXIT STAIRS.

Exceptions:

1. The emergency sign shall not be required for elevators that are part of an accessible means of egress complying with Section 1009.4.
2. The emergency sign shall not be required for elevators that are used for occupant self-evacuation in accordance with Section 3008.

Codes / I-Codes / 2018 International Building Code (IBC)

Chapter 30 Elevators and Conveying Systems

3002.3 Emergency signs.

An approved pictorial sign of a standardized design shall be posted adjacent to each elevator call station on all floors instructing occupants to use the exit stairways and not to use the elevators in case of fire. The sign shall read: IN CASE OF FIRE, ELEVATORS ARE OUT OF SERVICE. USE EXIT STAIRS.

Exceptions:

1. The emergency sign shall not be required for elevators that are part of an accessible means of egress complying with Section 1009.4.
2. The emergency sign shall not be required for elevators that are used for occupant self-evacuation in accordance with Section 3008.

❖ Elevators may be unsafe during a fire because:

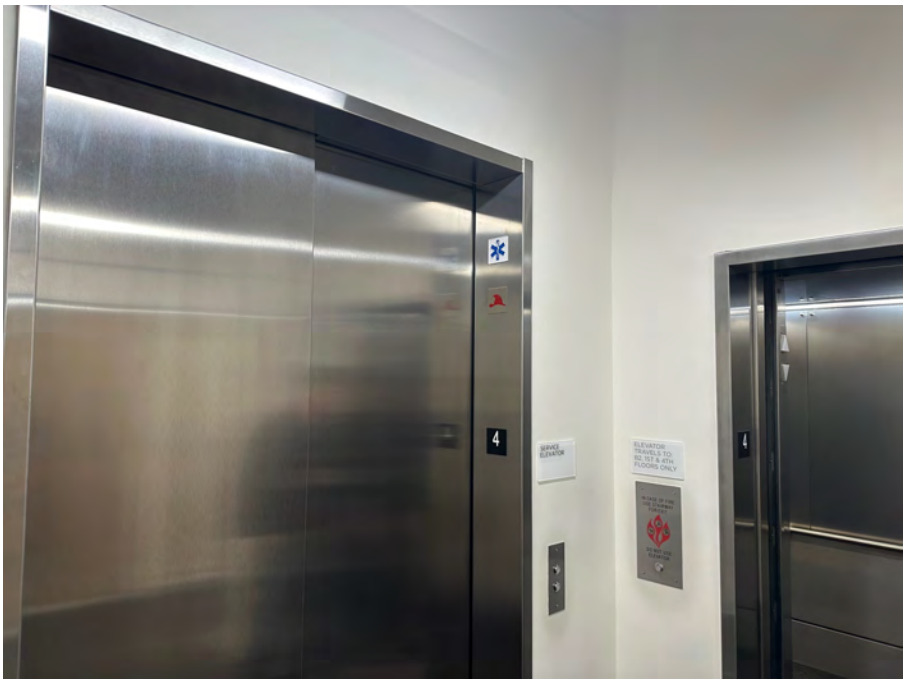
- Persons may push a corridor button and then wait for an elevator that may never respond. Note that the button will not illuminate if the elevator is in fire fighter emergency operation. Valuable time in which to leave the building safely is lost.
- Elevators cannot start until the car and hoistway doors are closed. A panic could lead to over-crowding of an elevator and blockage of the doors, thus preventing closing.
- Power failure during a fire can happen at any time and thus lead to entrapment.
- Elevators respond to car and corridor calls. One of these calls may be at the fire floor.

Dangerous delivery of the elevator to the fire floor can be caused by:

- An elevator passenger pressing the car button for the fire floor.
- One or both of the corridor call buttons being pushed on the fire floor.
- Heat melting or deforming the corridor push button or its wiring at the fire floor.

49 SOUTH VAN NESS, LEVEL 5
SOUTH VAN NESS
MISSION STREET
N
You Are Here
Alarm Pull Station
Exit Path
Fire Extinguisher
Elevator
Exit Stair
Two-Way Communication
CALL 911 FIRE/POLICE/MEDICAL
IN FIRE EMERGENCY,
DO NOT USE ELEVATOR.
USE EXIT STAIRS.
In the event of an emergency, alarm will sound with a pulsing tone and strobe lights will flash followed by a recorded message with instructions. The Public Address system will be used for announcements. Listen for instructions.
PERSONS WITH DISABILITIES
Shall call 911, report their location, proceed to nearest exit or stairwell, and await assistance.


IN FIRE
EMERGENCY,
DO NOT USE
ELEVATOR.
USE EXIT
STAIRS.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4


☆1
IN CASE
OF FIRE
USE STAIRS
FOR EXIT
DO NOT USE
ELEVATORS


IN CASE OF FIRE
USE STAIRWAY
FOR EXIT
DO NOT USE ELEVATOR


ELEVATOR
TRAVELS TO:
B2, 1ST & 4TH
FLOORS ONLY
B2
B2

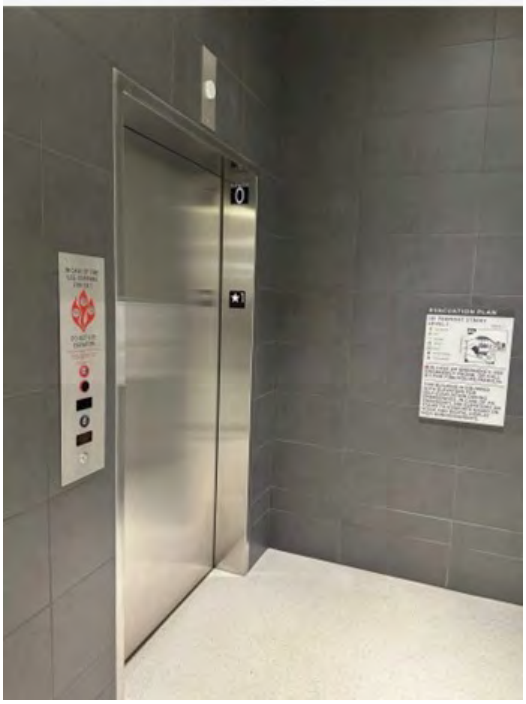
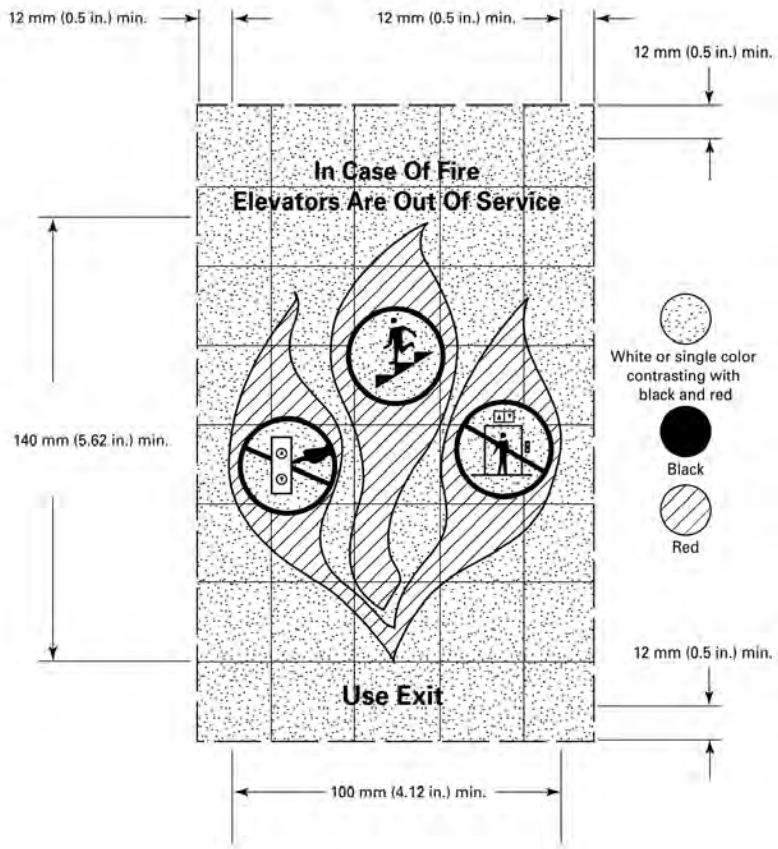


Figure 2.27.9
Elevator Corridor Call Station Pictograph



Lettering: 6 mm (0.25 in.) high min., black filled

GENERAL NOTES:
(a) Grid lines shown for scaling purposes only.
(b) Aspect ratio shall be maintained as shown.
(c) The color of the circle interior is permitted to be a different color than the background.

Bibliography: none.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

No cost impact. Changing sign verbiage only.

G156-25

G157-25

IBC: 3002.4

Proponents: Daniel Nichols, representing MTA Construction and Development (dnichols@mnr.org)

2024 International Building Code

Revise as follows:

3002.4 Elevator car to accommodate ambulance stretcher. Where elevators are provided in *buildings* four or more *stories* above grade plane, ~~or~~ four or more *stories* below~~,~~ *grade plane*, or more than 60 feet above or below grade plane, not fewer than one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate an ambulance stretcher 24 inches by 84 inches (610 mm by 2134 mm) with not less than 5-inch (127 mm) radius corners, in the horizontal, open position and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall be not less than 3 inches (76 mm) in height and shall be placed inside on both sides of the hoistway door frame.

Reason: The need for the increased elevator size is to accommodate first responders carrying patients up or down stairways. In buildings with high-bay areas or stories that are above the typical 10-15 feet story height, the code allows for increased heights for carrying without the intended baseline of stretcher accommodation for first responders. This code change aligns the intent of the requirement of four stories with an absolute measurement criteria to assure the same level of accomodation is provided.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This change reflects the intent of the original proposal and is not an increase to the cost of an elevator, but generally just a change to the door orientation in spaces with limited footprints.

G158-25

IBC: 3002.4

Proponents: Stephen Smith, representing Center for Building in North America (stephen@centerforbuilding.org)

2024 International Building Code

Revise as follows:

3002.4 Elevator car to accommodate ambulance stretcher. Where elevators are provided in *buildings* four or more *stories* above, or four or more *stories* below, *grade plane*, not fewer than one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate an ambulance stretcher 24 inches by 84 inches (610 mm by 2134 mm) with not less than 5-inch (127 mm) radius corners, in the horizontal, open position and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall be not less than 3 inches (76 mm) in height and shall be placed inside on both sides of the hoistway door frame.

Exception: Elevator cars are not required to accommodate ambulance stretchers in buildings complying with the following:

1. Only Group R-2 occupancies located above the level of exit discharge,
2. Not more than six stories in hieght above grade plane.
3. Each story above the level of exit discharge is not more than 4,000 net square feet (371.6 m^2),
4. Not a high-rise building.

Reason: The IBC currently contains a perverse incentive around elevators: there is no requirement in any part of the code to install an elevator in an R-2 building, but if one is voluntarily provided, requirements become increasingly stringent as buildings get taller, acting as a disincentive to install an elevator. This is a particular problem in the United States, as elevators cost around three times as much to install as they do in peer high-income countries, and can cost even more to maintain, even after adjusting for cost-of-living differences. There are also significantly higher opportunity costs of the floor area used, due to the significantly larger cabins that we require.The result is that the United States has fewer elevators per capita than any high-income country that I could find. The lack of elevators in America is unbecoming of our aging population and our self-conception as a country that is inclusive towards people with disabilities, whether temporary or permanent.Rules requiring two remote exits in multifamily buildings over three stories result in relatively large floor plates, making the very high cost of elevators more affordable. As a result, new four-story walk-ups in the United States are rare, but they are likely to become more common. Reforms to Chapter 1006 considered for the 2027 IBC and approved by the Egress Committee in 2024 would make single-exit four-story buildings with small floor plates more common. Evidence from New York City and Seattle, where locally adopted versions of Chapter 1006 have long allowed single-exit buildings of four to six stories, suggests that many of these buildings would be built as walk-ups. New York City is one of the few jurisdictions in America to contain a building code requirement to install an elevator starting at five stories, and developers bend over backwards to seek loopholes to it – whether it's creating bilevel apartments on the top two stories to skirt the requirement, or filing for vertical alterations of older structures under an older code that does not contain an elevator requirement. My own building in Brooklyn is five stories tall with two apartments per story, and does not have an elevator despite being built in 2015, thanks to the latter loophole. None of the above is true in America's peer high-income countries. Elevators are a standard feature of small three-story buildings in Western Europe, and are often provided even when not required, because the costs are low enough and cabin sizes are small enough that the benefits outweigh the costs.Code requirements come with costs and benefits that must be weighed against each other. A cabin that can accommodate a fully flat 84-in. stretcher has life safety benefits in certain emergency situations, but also costs. These costs come in dollars and square feet, but also in life safety and accessibility. If an elevator becomes too onerous to install, then there are much more severe life safety costs, both to occupants whose evacuation will be delayed by having to take the stairs, and to emergency responders who will have to carry them down the stairs. The building also becomes inaccessible to the 12 percent of the U.S. adult population that struggles with stairs. Occupants of walk-ups are more likely to become one of the 1 million Americans treated in emergency rooms every year for stair-related injuries. There is no data on the number of Americans who die using stairs every year, but data from the UK extrapolated to our population suggests that it is in the thousands, exceeding the number of American who die in fires.

There are countless situations where an elevator that can accommodate a wheelchair and a few people standing is useful, and many fewer situations where a patient must be evacuated in a fully flat stretcher. Cardiac arrest is the most commonly cited situation in which

evacuation in a fully flat stretcher is helpful, but the survival rate for out-of-hospital cardiac arrest is already exceedingly low (and likely even lower when it occurs in a non-public space like an apartment) – and even lower in the U.S. than in countries which do not require stretcher accommodation for mid-rise multifamily elevators. The increased availability of automated external defibrillators since this provision was put into the code has also lessened its need.

Developers can avoid installing elevators of any size by building walk-up apartment buildings, but they can also – and often do – avoid building elevators by opting out of apartment buildings entirely and instead building townhouses, which never have elevators that can accommodate stretchers (and rarely have any elevator at all).

My analysis of buildings constructed in New York City since 2000 shows that the likelihood of installing an elevator in an apartment building exceeds 50 percent only when the building exceeds 24,000 sq. ft. of floor area. In order words, buildings below this size are at high risk of not having an elevator at all, and reasonable costs (both in dollars and square feet consumed) are especially important to ensuring that one is provided. This number forms the basis of this code proposal: 24,000 sq. ft. of total floor area in a six-story building equates to roughly 20,000 sq. ft. above the ground floor. Conveniently, this assumed floor plate also aligns with the maximum floor area of a story in a single-stair building according to the modification of E24-24 that was approved in Long Beach in 2024, allowing taller single-exit apartment buildings in Chapter 1006. It also roughly aligns with limits found in other high-income countries.

Beyond the accessibility benefits of elevators themselves, the installation of an elevator in a building that would otherwise be a walk-up or a series of townhouses also triggers further accessibility within units themselves, given how the Fair Housing Amendments Act guidelines treat elevatored buildings as compared to walk-ups.

My exception applies only to multifamily buildings up to six stories (above that I have never seen a walk-up built in modern times). It also excludes high-rise buildings, to avoid applying to buildings with very tall ceilings or mezzanines.

Lawmakers are growing concerned about the large cost premium for elevators in the United States, and legislators in Washington State have introduced bills to remove the stretcher requirement for multifamily buildings of roughly the size covered by my exception, supported by the state AARP chapter. This proposal is a chance for the ICC to get ahead of legislation, and show lawmakers that it is addressing the issue without legislative intervention.

Bibliography: The support for my reason statement comes from my 122-page comparative report on elevators in North America and high-income peer countries, found here: https://bit.ly/3XRH4Ij

The issues discussed in the reason statement are addressed on the following pages:

- 15: Per-capita elevator stock by country
- 16-18: Rarity of new walk-up apartment buildings in Western Europe
- 19-23: Ubiquity of new walk-up buildings in the United States
- 35-36: Installation costs for elevators in new buildings in the U.S. vs. Western Europe
- 42: Life safety considerations in buildings without elevators
- 43-55: In-depth discussion of cabin sizes (history, U.S. and foreign practices, cost implications)

Bills introduced in Washington State and Connecticut

- 1183.pdf
- 5156.pdf
- C G A - Connecticut General Assembly

Cost Impact: Decrease

Estimated Immediate Cost Impact:

Uncertain, but substantial in instances where developers opt for a smaller elevator (at least $10,000). In other cases, an elevator will be provided where it was not previously, which will raise costs, but at the developer's discretion.

Estimated Immediate Cost Impact Justification (methodology and variables):

Interviews with those in the elevator industry and review of dozens of proposals for installation.

Estimated Life Cycle Cost Impact:

Decrease, with an uncertain magnitude (larger equipment costs more to maintain).

G158-25

G159-25

IBC: 3003.4 (New), 3003.4.1 (New), 3003.4.2 (New), 3003.4.3 (New), 3003.4.4 (New)

Proponents: Sagiv Weiss-Ishai, San Francisco Fire Department, representing SFFD (sagiv.weiss-ishai@sfgov.org)

2024 International Building Code

SECTION 3003
EMERGENCY OPERATIONS

Add new text as follows:

3003.4 Emergency hoistway venting. Elevator hoistways containing the driving machine shall be provided with a means for venting smoke and hot gases to the outer air in case of fire.

3003.4.1 Location of vents. Vents shall be located at the top of the hoistway and shall open either directly to the outer air or through noncombustible ducts to the outer air.

3003.4.2 Area of vents. Except as provided for in Section 3003.4.4, the area of the vents shall be not less than 3 $^{1}/_{2}$ percent of the area of the hoistway nor less than 3 square feet (0.28 m^2) for each elevator car.

3003.4.3 Operation of vents. Vent openings shall automatically open upon detection of smoke in the elevator hoistway and upon activation of a manual override control. The manual override control shall be capable of opening and closing the vents and shall be located in an approved location. Smoke detectors provided in elevator hoistways to activate the hoistway ventilation system, shall also be required to activate the elevator Phase I emergency recall operation function in accordance with ASME A17.1/CSA B44

3003.4.4 Reduced vent area. Where mechanical ventilation conforming to the *International Mechanical Code* is provided, a reduction in the required vent area is allowed provided that all of the following conditions are met:

1. The vent required by Section 3003.4.1 does not have outside exposure.
2. The hoistway does not extend to the top of the building.
3. The hoistway exhaust fan is automatically reactivated by thermostatic means.
4. Equivalent venting of the hoistway is accomplished.

Reason: The reason for this proposal is to make the IBC consistent with the CA Building Code Section 3003.4 regarding safety for Machine-Room-Less elevators (MRL)

1. The IBC past editions such as the 2012 and previous editions had a hoistway venting requirement (Section 3004) which was based on occupancy types (Elevators inside residential occupancies) but it was not based on the Elevator type. This section was removed from IBC in the recent editions and it did not address the specific risk associated with MRL Elevators having the driving machine located inside the hoistway.

2. Passenger MRL Elevators became very common throughout the US in the last years and there are known cases and actual data where sometimes, the driving machine within the hoistway got overheated or malfunctioned and generated large quantities of smoke within the hoistway.

3. If there is no hoistway vent allowing to vent the smoke to the exterior of the building, the smoke within the hoistway may spread within the hoistway and harm potential passengers whom may be entrapped inside the stopped elevator car/s within the hoistway (Since when typically the driving machine overheats or malfunctions, the elevator car is stopped inside the hoistway and cannot move until the driving machine in repaired)

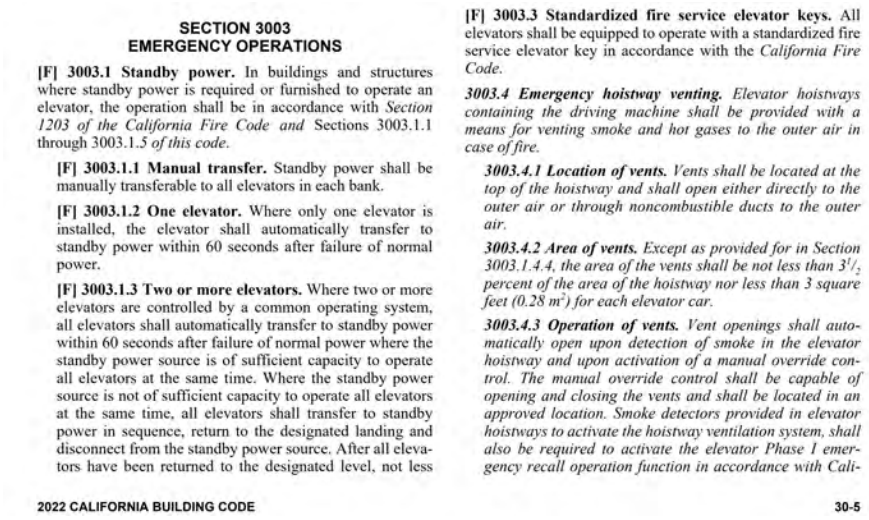
4. Since this is an actual risk (known actual cases) and it is not just a hypothetical risk - The CA state Fire Marshal had form an Elevator Task- Force after the 2018-IBC was published to make amendments to the 2019 CA Building and Fire Codes. The CSFM Elevator-Task-Force had included all stake holders and the MRL Hoistway potential smoke risk was discussed. Based on the discussion between all stake holders, there was a consensus recommendation to amend the CA Building Code by adding Section 3003.4 to increase safety for passengers using ALL MRL Elevators containing the driving machine within the hoistway, regardless the type of building occupancy. Passenger MRL Elevators are located in all types of occupancies and are frequently used by passengers while the driving machine is located within the hoistway and potentially could be the source for the risk.5. NFPA 72 has also recognized the use of MRL elevators in un sprinklered hoistways where the driving machine is located inside the hoistway: Section 21.3.6.2 indicates that if the smoke relief equipment is activated by a smoke detector located within the hoistway - The smoke detector shall also generate Phase I Emergency Recall Operation.

21.3.6.2

Smoke detectors or other automatic fire detection as permitted in **21.3.10** shall be permitted to be installed in unsprinklered elevator hoistways if required by other governing codes or standards for the actuation of the elevator hoistway smoke relief equipment.

5. Since the hoistway venting was previously required by IBC Section 3004, based on occupancy type, this proposal is only based on equipment type (MRL Elevators with driving machine within the hoistway) - which will increase life-safety for potential entrapped passengers while the hoistway is filled with smoke that could not be vented to the exterior. If this proposal is accepted, as was done in CA, the potential smoke will be vented to the exterior of the building and will not harm the entrapped passengers.

6. Many MRL elevators have their top of hoistway located above the roof level and in that case, the vent could be done by a simple louver open to the exterior of the buildings. In some other cases where the MRL Hoistway is located within the building, a mechanical ventilation for smoke relief may be provided.



SECTION 3003
EMERGENCY OPERATIONS

[F] 3003.1 Standby power. In buildings and structures where standby power is required or furnished to operate an elevator, the operation shall be in accordance with *Section 1203 of the California Fire Code and* Sections 3003.1.1 through 3003.1.*5 of this code.*

[F] 3003.1.1 Manual transfer. Standby power shall be manually transferable to all elevators in each bank.

[F] 3003.1.2 One elevator. Where only one elevator is installed, the elevator shall automatically transfer to standby power within 60 seconds after failure of normal power.

[F] 3003.1.3 Two or more elevators. Where two or more elevators are controlled by a common operating system, all elevators shall automatically transfer to standby power within 60 seconds after failure of normal power where the standby power source is of sufficient capacity to operate all elevators at the same time. Where the standby power source is not of sufficient capacity to operate all elevators at the same time, all elevators shall transfer to standby power in sequence, return to the designated landing and disconnect from the standby power source. After all elevators have been returned to the designated level, not less

[F] 3003.3 Standardized fire service elevator keys. All elevators shall be equipped to operate with a standardized fire service elevator key in accordance with the *California Fire Code.*

3003.4 Emergency hoistway venting. *Elevator hoistways containing the driving machine shall be provided with a means for venting smoke and hot gases to the outer air in case of fire.*

3003.4.1 Location of vents. *Vents shall be located at the top of the hoistway and shall open either directly to the outer air or through noncombustible ducts to the outer air.*

3003.4.2 Area of vents. *Except as provided for in Section 3003.1.4.4, the area of the vents shall be not less than $3^1/_2$ percent of the area of the hoistway nor less than 3 square feet (0.28 m^2) for each elevator car.*

3003.4.3 Operation of vents. *Vent openings shall automatically open upon detection of smoke in the elevator hoistway and upon activation of a manual override control. The manual override control shall be capable of opening and closing the vents and shall be located in an approved location. Smoke detectors provided in elevator hoistways to activate the hoistway ventilation system, shall also be required to activate the elevator Phase I emergency recall operation function in accordance with Cali-*

2022 CALIFORNIA BUILDING CODE 30-5

Cost Impact: Increase

Estimated Immediate Cost Impact:

Minimal cost where the MRL top-of-hoistway is located above the roof level - This could be done with a simple louver open to the outer air. (up to$3000 for a simple louver).

Estimated Immediate Cost Impact Justification (methodology and variables):

Only for MRL elevators having the top of the hoistway located within the building - This will require an emergency vent which could relief the smoke to the exterior of the building (estimated up to $10,000 if it is required to provide an emergency vent and duct to relief the smoke to the exterior of the building.

Estimated Life Cycle Cost Impact:

This is a one-time provision - Once the vent is provided - this will serve for the life of the MRL elevator.

G159-25

G160-25

IBC: 3004.2.3 (New), FIGURE 3004.2.3 (New)

Proponents: Kevin Brinkman, representing NEII (klbrinkman@neii.org)

2024 International Building Code

SECTION 3004
CONVEYING SYSTEMS

3004.2 Escalators and moving walks. Escalators and moving walks shall be constructed of *approved* noncombustible and fire-retardant materials. This requirement shall not apply to electrical equipment, wiring, wheels, handrails and the use of $^{1}/_{28}$-inch (0.9 mm) wood *veneers* on balustrades backed up with noncombustible materials.

3004.2.1 Enclosure. Escalator floor openings shall be enclosed with *shaft enclosures* complying with Section 713.

3004.2.2 Escalators. Where provided in below-grade transportation stations, escalators shall have a clear width of not less than 32 inches (815 mm).

Add new text as follows:

3004.2.3 Balustrades required. Where escalators or moving walks are installed with one or both sides open and the escalator step or moving walk treadway is more than 30 inches above the adjacent floor, the balustrades shall be not less than 42 inches (1067 mm) in height or the side or sides shall be guarded to comply with ASME 17.1/CSA B44, Appendix ZZ. See Figure 3004.2.3.

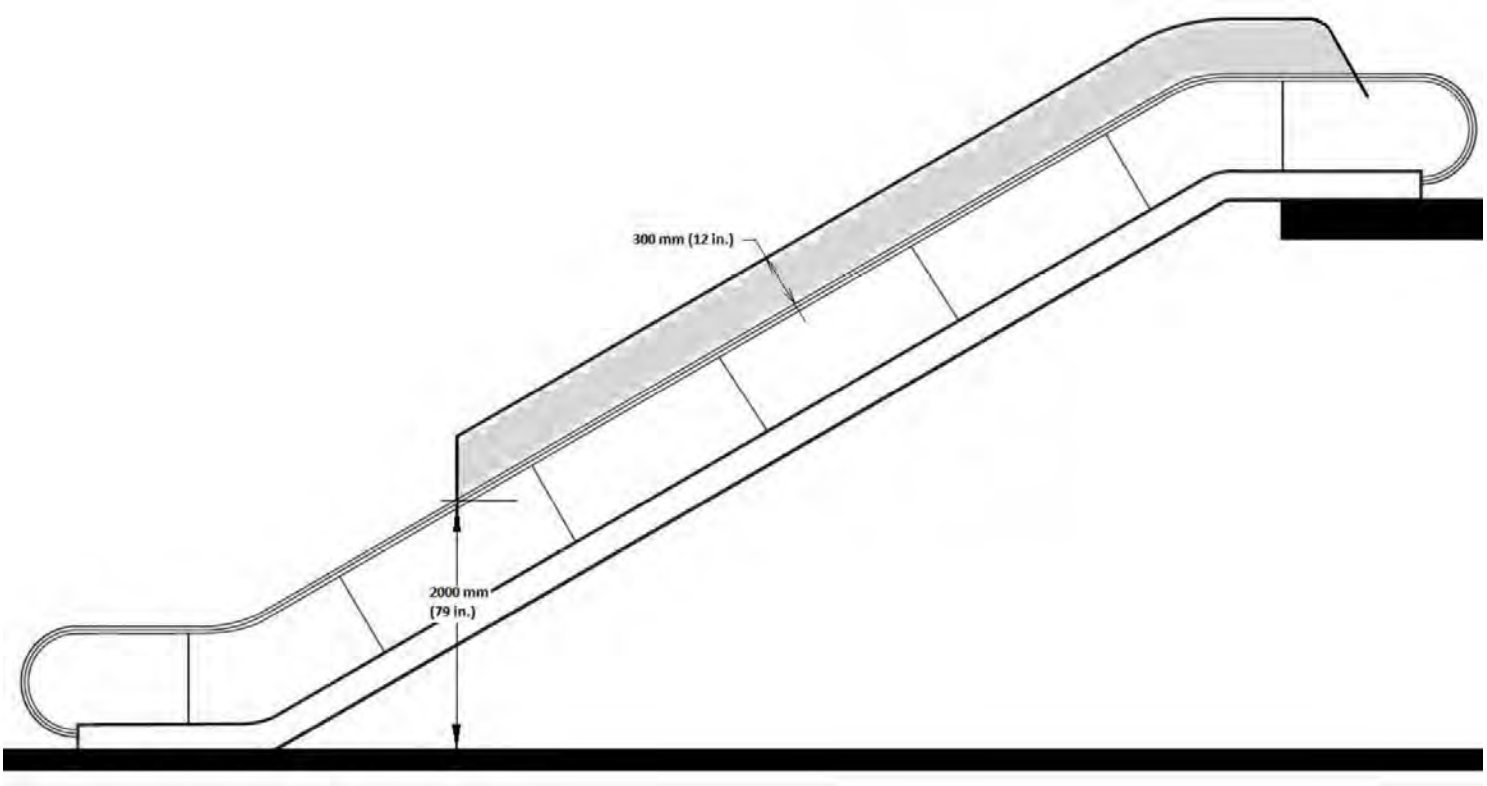


FIGURE 3004.2.3 ESCALATOR GUARD

Reason: Provide height requirements for balustrades or additional guarding for open-sided escalators and moving walks to align with guard height requirements in section 1015.3. This addresses a potential fall hazard for installations without full enclosures that are open

on either side in Atrium or Mezzanine applications. ASME A17.1/CSA B44 provides two methods to address compliance with guard height requirements in section 1015.3. The escalator or moving walk balustrade height can be not more than 1100mm (43 in) or additional guards as described within ASME A17.1/CSA B44, Appendix ZZ can be provided.

Cost Impact: Increase

Estimated Immediate Cost Impact:

Cost will vary depending on which method is chosen, length of escalator or moving walk, number of escalators or moving walks, and number of open sides. The estimated cost increase for taller balustrades would be between $500 and $750 per escalator depending on the travel length.

Estimated Immediate Cost Impact Justification (methodology and variables):

This estimate includes potential material and installation costs.

G160-25

G161-25

IBC: 3005.2

Proponents: Kevin Brinkman, representing NEII (klbrinkman@neii.org)

2024 International Building Code

Revise as follows:

3005.2 Temperature control. Elevator machine rooms, machinery spaces that contain the driving machine, and control rooms or spaces that contain the operation or motion controller for elevator operation shall be provided with an independent ~~*ventilation* or air conditioning~~ system to maintain the ambient temperature and humidity in the range established for the elevator equipment ~~protect against the overheating of the electrical equipment. The system shall be capable of maintaining temperatures within the range established for the elevator equipment.~~

Reason: The current language does not include heating of the hoistway in cold applications. The purpose is to maintain the temperature and humidity in the appropriate range (10 to 40 deg C/50 to 104 deg F as specified in CSA B44.1/ASME A17.5 Elevator and escalator electrical equipment to ensure proper operation of the elevator. If the temperature and humidity in the equipment rooms and spaces are allowed to exceed or to drop below acceptable levels, the elevator may not function properly. Therefore, the temperature control means needs to be capable of heating, cooling, and humidity control depending on the application.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There is no cost impact because this change is intended to clarify the requirements for the temperature control system.

G162-25

IBC: 3006.2

Proponents: Eirene Knott, representing BRR Architecture (eirene.knott@brrarch.com)

2024 International Building Code

Revise as follows:

3006.2 Elevator hoistway door protection required. ~~Elevator hoistway doors shall be protected in accordance with Section 3006.3 where~~ Where an elevator hoistway connects more than three *stories* or~~,~~ is required to be enclosed within a *shaft enclosure* in accordance with Section 712.1.1, the hoistway door openings shall be protected in accordance with Section 3006.3 where ~~and~~ any of the following conditions apply:

1. The *building* is not protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.
2. The *building* contains a Group I-1, Condition 2 occupancy.
3. The *building* contains a Group I-2 occupancy.
4. The *building* contains a Group I-3 occupancy.
5. The *building* is a high rise and the elevator hoistway is more than 75 feet (22 860 mm) in height. The height of the hoistway shall be measured from the *lowest floor* to the highest floor of the floors served by the hoistway.
6. The elevator hoistway door is located in the wall of a *corridor* required to be fire-resistance rated in accordance with Section 1020.1.

Exceptions:

1. Protection of elevator hoistway doors is not required where the elevator serves only *open parking garages* in accordance with Section 406.5.
2. Protection of elevator hoistway doors is not required at the levels of exit discharge, provided that the levels of exit discharge is equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. Protection of elevator hoistway doors is not required on levels where the elevator hoistway doors open to the exterior.

Reason: The proposed language is intended to be editorial in nature. It is intended to provide clarity for the requirement of the hoistway door protection by starting with the connecting more than three stories, then adding in the pointer to 712.1.1, then noting the six required applications. The current language can create confusion where this may provide more clarity.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is rearranging current language to read easier for better understanding of the code requirement.

G162-25

G163-25

IBC: SECTION 3006, 3006.2, 3006.2.1, 3006.3, 3006.4, 1020.2.1

Proponents: Steve Thomas, Shums Coda Associates, representing Colorado Chapter Code Development Committee (sthomas@coloradocode.net)

2024 International Building Code

SECTION 3006
ELEVATOR LOBBIES AND HOISTWAY OPENING PROTECTION

Revise as follows:

3006.2 Elevator hoistway door protection required. Elevator hoistway doors shall be protected in accordance with Section 3006.3 where an elevator hoistway connects more than three *stories*, is required to be enclosed within a *shaft enclosure* in accordance with Section 712.1.1 and any of the following conditions apply:

1. The *building* is not protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.
2. The *building* contains a Group I-1, Condition 2 occupancy.
3. The *building* contains a Group I-2 occupancy.
4. The *building* contains a Group I-3 occupancy.
5. The *building* is a high rise and the elevator hoistway is more than 75 feet (22 860 mm) in height. The height of the hoistway shall be measured from the *lowest floor* to the highest floor of the floors served by the hoistway.
6. ~~The elevator hoistway door is located in the wall of a *corridor* required to be fire-resistance rated in accordance with Section 1020.1.~~

Exceptions:

1. Protection of elevator hoistway doors is not required where the elevator serves only *open parking garages* in accordance with Section 406.5.
2. Protection of elevator hoistway doors is not required at the levels of exit discharge, provided that the levels of exit discharge is equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. Protection of elevator hoistway doors is not required on levels where the elevator hoistway doors open to the exterior.

~~**3006.2.1**~~ **3006.3 Rated corridors.** Where *corridors* are required to be fire-resistance rated in accordance with Section 1020.2, elevator hoistway openings that open into such corridors shall be protected in accordance with Section ~~3006.3~~ 3006.4.

~~**3006.3**~~ **3006.4 Elevator hoistway door protection.** Where Section 3006.2 requires protection of the elevator hoistway doors, the protection shall be provided by one of the following:

1. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway doors from each floor with *fire partitions* in accordance with Section 708. In addition, doors protecting openings in the fire partitions shall comply with Section 716.2.2.1. Penetrations of the fire partitions by ducts and air transfer openings shall be protected as required for *corridors* in accordance with Section 717.5.4.1.
2. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway doors from each floor by *smoke partitions* in accordance with Section 710. In addition, doors protecting openings in the *smoke partitions* shall comply with Sections 710.5.2.2, 710.5.2.3 and 716.2.6.1. Penetrations of the *smoke partitions* by ducts and air transfer openings shall be protected as required for *corridors* in accordance with Section 717.5.4.1.

3. Additional doors or other devices shall be provided at each elevator hoistway door in accordance with Section 3002.6. Such doors or other devices shall comply with the smoke and draft control door assembly requirements in Section 716.2.2.1.1 when tested in accordance with UL 1784 without an artificial bottom seal.
4. The elevator hoistway shall be pressurized in accordance with Section 909.21.
5. A *smoke-protective curtain assembly for hoistways* shall be provided at each elevator hoistway door opening in accordance with Section 3002.6. Such curtain assemblies shall comply with the smoke and draft control requirements in Section 716.2.2.1.1 when tested in accordance with UL 1784 without an artificial bottom seal. Such curtain assemblies shall be equipped with a control unit *listed* to UL 864. Such curtain assemblies shall comply with Section 2.11.6.3 of ASME A17.1/CSA B44. Installation and maintenance shall be in accordance with NFPA 105.

~~**3006.4**~~ **3006.5 Means of egress.** Elevator lobbies shall be provided with not less than one *means of egress* complying with Chapter 10 and other provisions in this code. Egress through an enclosed elevator lobby shall be permitted in accordance with Item 1 of Section 1016.2. Electrically locked exit access doors providing egress from elevator lobbies shall be permitted in accordance with Section 1010.2.14.

1020.2.1 Hoistway protection. Elevator hoistway doors in elevators hoistway enclosures required to be fire-resistance rated shall be protected in accordance with Section 716. Elevator hoistway doors shall also be protected in accordance with Section ~~3006.2~~ 3006.3.

Reason: The original proposal G182-21 deleted Section 3006.2.1 and relocated the requirement into Section 3006.2 as item 6. However, the committee modified the proposal by retaining the language in Section 3006.2.1. The committe reason stated, "This modification was presented as needed because the provisions in the FS proposals related to elevator hoistway doors have not been decided yet". However, the fire safety committee did not go back and fix the issue afterwards. So, this is an attempt to remove any conflicts between the two sections. We are proposing that Item 6 be removed from Section 3006.2. The charging language requires that the hoistway doors be protected when the hoistway connects more than three stories. Therefore, elevator hoistway openings in residential buildings that are three stories or less, for example, would not require the hoistway protection. Therefore, we are deleting that out of Section 3006.2 to eliminate the conflict. We are also renumbering Section 3006.2.1 to 3006.3 to clarify that this is a stand alone section and not a subsiderary section to Section 3006.2. We also cleaned up the language to provide better clarity. Subsequent Sections numbers have also been revised.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposal is intended to remove a conflict so the cost of constructions should not change.

G163-25

G164-25

IBC: 3006.3

Proponents: Dave Bauer, Smoke Guard, Inc., representing Smoke Guard (dave.bauer@smokeguard.com)

2024 International Building Code

Revise as follows:

3006.3 Elevator hoistway door protection. Where Section 3006.2 requires protection of the elevator hoistway doors, the protection shall be provided by one of the following:

1. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway doors from each floor with *fire partitions* in accordance with Section 708. In addition, doors protecting openings in the fire partitions shall comply with Section 716.2.2.1. Penetrations of the fire partitions by ducts and air transfer openings shall be protected as required for *corridors* in accordance with Section 717.5.4.1.
2. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway doors from each floor by *smoke partitions* in accordance with Section 710. In addition, doors protecting openings in the *smoke partitions* shall comply with Sections 710.5.2.2, 710.5.2.3 and 716.2.6.1. Penetrations of the *smoke partitions* by ducts and air transfer openings shall be protected as required for *corridors* in accordance with Section 717.5.4.1.
3. Additional doors or other devices shall be provided at each elevator hoistway door in accordance with Section 3002.6. Such doors or other devices shall comply with the smoke and draft control door assembly requirements in Section 716.2.2.1.1 when tested in accordance with UL 1784 without an artificial bottom seal.
4. ~~The~~ For occupancies other than Group I-1 Condition 2 or Group I-2, the elevator hoistway shall be pressurized in accordance with Section 909.21.
5. A *smoke-protective curtain assembly for hoistways* shall be provided at each elevator hoistway door opening in accordance with Section 3002.6. Such curtain assemblies shall comply with the smoke and draft control requirements in Section 716.2.2.1.1 when tested in accordance with UL 1784 without an artificial bottom seal. Such curtain assemblies shall be equipped with a control unit *listed* to UL 864. Such curtain assemblies shall comply with Section 2.11.6.3 of ASME A17.1/CSA B44. Installation and maintenance shall be in accordance with NFPA 105.

Reason: There is concern regarding the safety of the use of shaft pressurization system in hospitals and assisted living facilities amongst hospital risk management specialists and infection control clinicians, when those health care professionals are educated regarding the means that construction professionals may use for smoke protection at the elevator hoistway. Hospitals are designed with spaces that include both positive and negative pressure rooms, both for the safety of occupants and patients. Negative pressure rooms are those with airflow designed to flow into the room, such that infectious agents and pathogens cannot leave that designated space (example: a tuberculosis patient. Positive pressure rooms are designed such that airflow is out of a room such that it rejects infectious agents such as staff and virus' causing the common cold (example: a burn patient or other immunocompromised patient). In these instances, the balance between air pressure in those rooms and the corridor is critical. The surcharge of pressure into an elevator shaft upon activation of an elevator shaft pressurization system is inherently designed such that air flows out through the elevator doors into the corridor, which unavoidably will increase air pressure in the corridor, altering the balance of pressures between that corridor and any positive pressure rooms to some degree. The degree of severity would be dependent on the particular layout of that hospital.

Secondly, pathogens such as legionella are present in normally inaccessible spaces such as elevator shafts. The activation of an elevator shaft pressurization system will agitate any pathogens and combined with the outward flow of air from the shaft through the elevator doors, introduce those pathogens into the general population of the hospital.

Senior Living facilities in the International Building Code are divided into to subcategories, Condition 1 and Condition 2. I-1 Condition 1 occupancies are constructed much like residential occupancies and are not considered relevant to this proposed change. However, I-1 Condition 2 facilities are constructed much like I-2 occupancies. The vulnerable nature of I-1 Condition 2 building occupants is nearly analogous to those of I-2 facilities.

Last, it's important to consider that this condition would not only occur during a fire event, since testing would occur perhaps monthly, and

false alarms can happen at any time. Pressurization of an elevator shaft, arguably the dirtiest space in any building, would promote the movement of particles from the elevator shaft into the occupied building volume, greatly increasing the chance of infection. Simultaneously, the resultant increase in corridor air pressure will inherently diminish the effectiveness of positive pressure room.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This change proposal only affects one of several long established options, and the proposed restriction affects only two occupancy types: I-2 and I-1 Condition 2. It is not anticipated that this would have any cost impact.

G164-25

G165-25

IBC: 3006.3

Proponents: Jeffrey Blain, representing Edgett Williams Consulting Group (jeffrey.w.blain@gmail.com)

2024 International Building Code

Revise as follows:

3006.3 Elevator hoistway door protection. Where Section 3006.2 requires protection of the elevator hoistway doors, the protection shall be provided by one of the following:

1. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway doors from each floor with *fire partitions* in accordance with Section 708. In addition, doors protecting openings in the fire partitions shall comply with Section 716.2.2.1. Penetrations of the fire partitions by ducts and air transfer openings shall be protected as required for *corridors* in accordance with Section 717.5.4.1.
2. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway doors from each floor by *smoke partitions* in accordance with Section 710. In addition, doors protecting openings in the *smoke partitions* shall comply with Sections 710.5.2.2, 710.5.2.3 and 716.2.6.1. Penetrations of the *smoke partitions* by ducts and air transfer openings shall be protected as required for *corridors* in accordance with Section 717.5.4.1.
3. Additional doors or other devices shall be provided at each elevator hoistway door in accordance with Section 3002.6. Such doors or other devices shall comply with the smoke and draft control door assembly requirements in Section 716.2.2.1.1 when tested in accordance with UL 1784 without an artificial bottom seal.
4. The elevator hoistway shall be pressurized in accordance with Section 909.21.
5. A *smoke-protective curtain assembly for hoistways* shall be provided at each elevator hoistway door opening in accordance with Section 3002.6. Such curtain assemblies shall comply with the smoke and draft control requirements in Section 716.2.2.1.1 when tested in accordance with UL 1784 without an artificial bottom seal. Such curtain assemblies shall be equipped with a control unit *listed* to UL 864. Such curtain assemblies shall comply with Section 2.11.6.3 of ASME A17.1/CSA B44. Installation and maintenance shall be in accordance with NFPA 105.
6. Each elevator entrance assembly shall comply with the smoke and draft control door assembly requirements in Section 716.2.2.1.1 when tested in accordance with UL 1784 without an artificial bottom seal.

Reason: Provides an additional option to meet the smoke and draft control requirements which will also provide the following advantages:

1. We feel this proposal enhances safety as compared with zero-clearance doors provided at the hoistway openings by eliminating any gap between the zero clearance door and the elevator hoistway door.
2. We feel this proposal enhances reliability by having each elevator entrance assembly be UL 1784 compliant rather than one or two door assemblies at the entrance(s) to the elevator lobby. In addition, these elevator entrances are not dependent on a signal from the fire alarm system to initiate door closing.
3. Relevant safety requirements for gasketing of hoistway entrances are included in A17.1 (see requirement 2.11.19).
4. Long term reliability would be enhanced because the entrances would be regularly checked and maintained as part of the elevator maintenance program and would also be subject to the code required periodic inspections.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This change proposal provide another option for compliance and therefore does not increase nor decrease the cost of construction.

G167-25

IBC: 3007.8, 3008.8

Proponents: Kevin Brinkman, representing NEII (klbrinkman@neii.org)

2024 International Building Code

SECTION 3007
FIRE SERVICE ACCESS ELEVATOR

Revise as follows:

3007.8 Electrical power. The following features serving each fire service access elevator shall be supplied by both normal power and Type 60/Class 2/Level 1 standby power:

1. Elevator equipment.
2. Elevator hoistway lighting.
3. ~~*Ventilation* and cooling~~ Temperature control equipment for elevator machine rooms, control rooms, machine spaces and control spaces.
4. Elevator car lighting.
5. Pit sump pump

SECTION 3008
OCCUPANT EVACUATION ELEVATORS

3008.8 Electrical power. The following features serving each occupant evacuation elevator shall be supplied by both normal power and Type 60/Class 2/Level 1 standby power:

1. Elevator equipment.
2. ~~*Ventilation* and cooling~~ Temperature control equipment for elevator machine rooms, control rooms, machinery spaces and control spaces.
3. Elevator car lighting.
4. Pit sump pump

Reason: The sump pump should be included on standby power because elevators are required to continue to run on standby power and accumulation of water in the pit could shut down the elevator prematurely. The standby power should also include all temperature control equipment, including heat, to maintain temperatures in the established range to protect the equipment and ensure proper operation. This also aligns with the title of 3005.2.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This change does not impact the cost of construction because it is a clarification to align with what is already in place.

G168-25

IBC: 3008.1

Proponents: Kevin Brinkman, representing NEII (klbrinkman@neii.org)

2024 International Building Code

SECTION 3008
OCCUPANT EVACUATION ELEVATORS

Revise as follows:

3008.1 General. ~~Elevators~~ Where elevators are to be used for occupant self-evacuation during ~~fires~~ emergencies, all electric passenger elevators, including Fire Service Access Elevators in accordance with section 3007, shall comply with Sections 3008.1 through 3008.10.

Exceptions:

1. All freight and hydraulic elevators shall be prohibited from being used for occupant self-evacuation.
2. Elevators that serve three contiguous floors or less shall not be required to be used for occupant self-evacuation when approved by the authority having jurisdiction.

Reason: Adding “including FSAEs in accordance with 3007” to prevent confusion regarding whether FSAEs should or shouldn’t be used as OEEs. This language ensures that FSAEs should be used as OEEs and should comply with Section 3008 since they can help evacuate occupants during emergencies before the firefighters arrive at the building and even after firefighters arrive. The firefighters could override the OEO for the FSAEs if they choose to use them for firefighter’s emergency operation at any time. Changing the language from “during fire” to “during emergencies” will allow for non-Fire emergencies as well. Delete the term “for general public use” because it is unnecessary and confusing since even if we have a service passenger elevator that typically is not used by the general public, it should be used as OEE during emergencies since it can contribute to evacuate occupants out of the building. Delete the last sentence: “where other elevators are used for occupant self-evacuation, those elevators shall comply with these sections” because this is unnecessary and confusing language (it is unclear which potential “other elevators” could be used as OEEs) *To be consistent with the A17.1 code language section 2.27.10 for FSAEs which prohibits all freight and hydraulic elevators for use as OEEs. This is due to the construction of freight elevators and conflicts between the NFPA 13 (Sprinkler code) and the building and elevator codes regarding sprinkler protection and shunt trip for freight and hydraulic elevators. NFPA 13 requires sprinklers in hydraulic elevators machine rooms and top of freight elevators hoistways, the elevator code requires shunt trip when sprinklers are located in machine rooms and top of hoistways, however, IBC Section 3008.2.1 prohibits sprinklers in all OEEs associated locations and section 3008.4 prohibits shunt trip for all OEEs.*

To clarify that 2-3 stops passenger elevators, typically used as parking or shuttle elevators, are not required to be OEEs if they do not contribute to evacuation of occupants out of the building. This language is permissive and will need specific AHJ approval after evaluation of each specific elevator.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The change will not impact the cost of construction because use of elevators for self-evacuation is permissible but not required.

G169-25

IBC: 3008.1, 3008.1.1

Proponents: Sagiv Weiss-Ishai, San Francisco Fire Department, representing SFFD (sagiv.weiss-ishai@sfgov.org)

2024 International Building Code

Revise as follows:

3008.1 General. ~~Elevators used for occupant self-evacuation during fires~~ Where elevators are to be used for occupant self-evacuation during emergencies, all passenger elevators, including fire service access elevators in accordance with Section 3007, shall comply with Sections 3008.1 through 3008.10.

3008.1.1 ~~Number of occupant evacuation elevators~~ Elevator restrictions for occupant self-evacuation. ~~The number of elevators available for occupant evacuation shall be determined based on an egress analysis that addresses one of the following scenarios:~~ Elevators that are prohibited or not required to be used for occupant self-evacuation shall be as follows:

1. ~~Full *building* evacuation where the analysis demonstrates that the number of elevators provided for evacuation results in an evacuation time less than 1 hour.~~ Elevators with 2 or 3 stops only, shall not be required to be used for occupant self-evacuation when approved by the authority having jurisdiction.
2. ~~Evacuation of the five consecutive floors with the highest cumulative *occupant load* where the analysis demonstrates that the number of elevators provided for evacuation results in an evacuation time less than 15 minutes.~~ All freight elevators shall be prohibited to be used for occupant self-evacuation.
3. All hydraulic elevators shall be prohibited to be used for occupant self-evacuation.

~~Not less than one elevator in each bank shall be designated for occupant evacuation. Not less than two shall be provided in each occupant evacuation elevator lobby where more than one elevator opens into the lobby. Signage shall be provided to denote which elevators are available for occupant evacuation.~~

Reason: 1. The standards for the evaluation of the evacuation of building occupants are not robust enough for states and areas which are prone to earthquakes (such as California). Having all passenger elevators used as OEE provides the maximum opportunity for building occupants – especially those persons with disabilities or mobility impairment - to use elevators for evacuation during emergencies.

2.Following 9/11, the Building Code adopted provisions to allow elevators to serve as an additional form of egress and to assist emergency personnel during emergencies. It was never intended for Occupant Evacuation Elevators (OEE) to be installed in lieu of a required additional stairwell. In states and areas prone to earthquakes, which could shut down an elevator's operation, there is a concern that removing the additional stairwell and reducing the number of OEEs could increase risk to a building's occupants - especially persons with disabilities or mobility impairments – and hinder rescue personnel's efforts during emergencies. Therefore, the state of CA has modified the CA Building code section 3008 to require all passenger elevators to serve as OEEs. (See attached 2022 CA Building Code image)

Also, the egress analysis described in section 3008.1.1 is not feasible. Elevators companies refuse to provide such egress/traffic analysis due to liability issues. Other professionals such as Architects and Civil/Electrical/Fire-Protection, etc. Engineers do not have the required tools/means to provide such an analysis. Fire and Building AHJs are not qualified to review and approve egress analysis which is outside of their expertise and therefore they refuse to accept OEE/OEO design base on egress analysis not requiring all passenger elevators to serve as OEEs. Also, elevator companies refuse to provide this egress/traffic analysis since they cannot predict the behavior and occupancy changes of the building and its occupants after the construction is completed. For example: If a group A-2 occupancy (large restaurant with large occupant load) will be added to an office building (B occupancy) or a hotel (R-1) Occupancy after the building construction was completed with a specific egress analysis - the new occupancy and additional potential occupant load will change the egress analysis and may require additional OEE elevators to be provided - but at this point it will not be feasible to change the entire design of the OEE/OEO system. The potential changes of the building behavior could also be caused due to change of building use/occupancy.

In states/areas prone to earthquakes (such as CA) - elevators AHJs and inspectors refuse to allow the reduction of exit stairways if not all passenger elevators are used as OEE since an earthquake can compromise many elevators during one event. Therefore, the state of CA did not adopt the IBC Section 3008.1.1 and does not allow for egress analysis.

OEEs (Section 3008) were first included in IBC 2009 edition - the following editions 2012 and 2015 they all required all passenger elevators to serve as OEEs when the number of stairs is reduced per Section 403.5.2. The change for number of OEEs based on egress analysis was first included in the 2018 edition of IBC due to potential large generator size that is required to supply backup power to all OEEs in case the building normal power is lost and since all OEEs are required to run simultanesouly on backup generator power. However, this change in the IBC did not clarify how the OEE/OEO design will be implemented and it created major design issues and conflicts in addition to all the other issues mentioned before.

Therefore, this proposal is intended to revert the IBC language to what it was in the 2009, 2012 and 2015 editions and also be consistent with the state of CA building code. This change will increase safety for the building occupants and first responders especially in states/areas prone to earthquakes and for all other buildings where reduction in interior egress stairwell is desired.

3. Adding the language: “including FSAEs in accordance with 3007” is intended to prevent confusion regarding if FSAEs should or shouldn’t be used as OEEs. This language ensures that FSAEs (which must be passenger elevators) should be used as OEEs and should comply with Section 3008 since they can help evacuate occupants during emergencies before the firefighters arrive to the building and even after firefighters arrive. The firefighters could override the OEO for the FSAEs if they choose to use them (one or both FSAEs) for fire operation at any time. Typically, in a fire emergency operation in a high-rise building with two FSAEs - the firefighters are using only one FSAE for the emergency operation while the other FSAE could serve as an OEE to help evacuate occupants in the most efficient way.

4. Changing the language from “during fire” to “during emergencies” will allow the use of the OEEs for all types of emergencies (fire and non-fire).

5.Delete the last sentence: “where other elevators are used for occupant self-evacuation, those elevators shall comply with these sections” – this is unnecessary and confusing language (it is unclear which potential “other elevators” could be used as OEEs)

6. Rationale for the proposed change for Section 3008.1.1 (1)

3008.1.1 Elevators with 2 or 3 stops only, shall not be required to be used for occupant self-evacuation when approved by the authority having jurisdiction.

Rationale: To clarify that 2-3 stops passenger elevators, typically used as parking or shuttle elevators, are not required to be OEEs if they do not contribute to evacuate occupants out of the building – This language is permissive and will need specific AHJ approval after evaluation of each specific elevator. All other passenger elevators with 4 or more stops will contribute to the evacuation of occupants nd should serve as OEEs without the need for specific AHJ approval

7. Rationale for the proposed change for Section 3008.1.1 (2) and (3)

Rationale: To be consistent with the A17.1 code language section 2.27.10 for FSAEs which prohibits all freight and hydraulic elevators to be used as OEEs. This is due to the construction of freight elevators and conflicts between the NFPA 13 (Sprinkler code) and the building and elevator codes regarding sprinkler protection and shunt trip for freight and hydraulic elevators. NFPA 13 requires sprinklers in hydraulic elevators machine rooms, the elevator code requires shunt trip when sprinklers are located in machine rooms and top of hoistways, however, IBC Section 3008.2.1 prohibits sprinklers in all OEEs associated locations and section 3008.4 prohibits shunt trip for all OEEs. Also Section 3008.1 specifically require "Passenger" elevators to be used as OEEs and this prohibits "Freight" elevators to be used as OEEs and this proposal clarify the specific difference between passenger and freight elevators regardless if the freight elevator is hydraulic or traction (electric) type.

Bibliography: IBC 2009, 2012, 2015 Section 3008

CBC -2022 Section 3008

Cost Impact: Increase

Estimated Immediate Cost Impact:

It is not clear how to calculate the potential cost increase since it is based on an egress analysis and other design factors of the OEE/OEO

system. A rough estimate might be $100,000.

Estimated Immediate Cost Impact Justification (methodology and variables):

The cost for the potential larger generator will be increased in order to run all OEEs on backup power at the same time when the building normal power is lost

However - the increase in cost is not clear due to the complexity of the OEE/OEO design if not all the passenger elevator are used based on an egress analysis

G169-25

G170-25

IBC: 3008.6.3.1

Proponents: Kevin Brinkman, representing NEII (klbrinkman@neii.org)

2024 International Building Code

Revise as follows:

3008.6.3.1 ~~Vision panel~~ Visibility Means. ~~A vision panel~~ Visibility means shall be installed in each *fire door assembly* in the *smoke barrier*. The ~~vision panel~~ visibility means shall consist of fire-protection-rated glazing, shall comply with the requirements of Section 716 and shall be located to furnish clear vision of the occupant evacuation elevator lobby.

Reason: To assure the intent of the requirement is clear while not using a common elevator term to avoid confusion. A vision panel is defined in A17.1/B44 as part of the manually operatedor self-closing hoistway doors, using the term here in a different context creates confusion.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The change is a clarification for seeing though rated doors serving elevator lobbies therefore there is no cost impact

G171-25

IBC: 3102.1, 3103.1; IFC: 105.5.51

Proponents: Bryant Arms, representing NYS DOS (bryant.arms@dos.ny.gov); Kevin Duerr-Clark, representing NYSDOS (kevin.duerr-clark@dos.ny.gov); Jeanne Rice, representing NYSDOS (jeanne.rice@dos.ny.gov); China Clarke, representing New York State Dept of State (china.clarke@dos.ny.gov); Chad Sievers, NYS, representing NYS Dept of State (chad.sievers@dos.ny.gov); Stephen Van Hoose, representing NYS DOS (stephen.vanhoose@dos.ny.gov); Larissa DeLango, representing NYSDOS (larissa.delango@dos.ny.gov); Bryan Toepfer, representing NY DOS (bryan.toepfer@dos.ny.gov); Daniel Carroll, New York State Department of State, representing Division of Building Standards and Codes (daniel.carroll@dos.ny.gov); Gregory Benton, NYS, representing Department of State, Division of Building Standards and Codes (gregory.benton@dos.ny.gov)

2024 International Building Code

SECTION 3102
MEMBRANE STRUCTURES

Revise as follows:

3102.1 General. The provisions of Sections 3102.1 through 3102.8 shall apply to *air-supported*, *air-inflated*, *membrane-covered cable*, *membrane-covered frame* and *tensile membrane structures*, collectively known as *membrane structures*, erected for a period of 180 days or longer. Those erected for a shorter period of time shall comply with the *International Fire Code*. Membrane *structures* covering water storage *facilities*, water clarifiers, water treatment plants, sewage treatment plants, *greenhouses* and similar *facilities* not used for human occupancy are required to meet only the requirements of Sections 3102.3.1 and 3102.7. Membrane *structures* erected on a *building*, balcony, deck or other *structure* for any period of time shall comply with this section.

Exception: A temporary membrane structure exclusively used for recreational camping purposes which is erected on a detached deck that is not more than 30-inches above grade at any point shall comply with the *International Fire Code*.

3103.1 General. The provisions of Sections 3103.1 through 3103.8 shall apply to *structures* erected for a period of less than 180 days. Temporary *special event structures*, *tents*, umbrella *structures* and other membrane *structures* erected for a period of less than 180 days shall also comply with the *International Fire Code*. *Temporary structures* erected for a longer period of time and *public-occupancy temporary structures* shall comply with applicable sections of this code.

Exceptions:

1. *Public-occupancy temporary structures* complying with Section 3103.1.1 shall be permitted to remain in service for 180 days or more but not more than 1 year where *approved* by the *building official*.
2. *Public-occupancy temporary structures* within the confines of an *existing structure* are not required to comply with Section 3103.6.
3. Temporary tents used exclusively for camping purposes on the ground or on a detached platform that is not more than 30-inches above grade at any point shall comply with the *International Fire Code*.

2024 International Fire Code

SECTION 105
PERMITS

105.5.51 Temporary membrane structures, special event structures and tents. An operational permit is required to operate an air-supported temporary membrane structure, a temporary *special event structure* or a tent having an area in excess of 400 square feet (37 m^2).

Exceptions:

1. Tents used exclusively for recreational camping purposes and that are placed either on the ground or on detached platforms that are not more than 30-inches above grade at any point.
2. Tents, curtains and extensions attached thereto, when used for funeral services.
3. Tents open on all sides, which comply with all of the following:
   3.1. Individual tents having a maximum size of 700 square feet (65 m^2).
   3.2. The aggregate area of multiple tents placed side by side without a fire break clearance of not less than 12 feet (3658 mm) shall not exceed 700 square feet (65 m^2) total.
   3.3. A minimum clearance of 12 feet (3658 mm) to structures and other tents shall be provided.

Reason: Camping tents usually qualify for Exception #1 in Section 105.5.51 of the 2024 IFC, which provides relief from permitting requirements. Yet that exception doesn't apply to any camping tent that is on any structure for any length of time according to last sentence in Section 3102.1 of the 2024 IBC and Section 3103.7.4 of the 2024 IFC. They cause any camping tent on any deck to comply with Sections 105 and 3102 of the IBC. That is good when they are either inside of or on top of buildings. But that isn't necessary for camping tents that are placed on low detached decks.

Elevated camping platforms provide a convenient way for campgrounds to eliminate a camper's need to cut roots and disturb soil as they try to find a flat dry surface within their campsite on which to pitch their tent. Those platforms are often slightly raised detached wooden decks especially at more remote camping locations where dumping loads of imported fill isn't practical. For compliance with the 2024 International Codes, a new building permit is required each time a camping tent is set up on one of those elevated detached camping platforms and they must comply with the 2024 IBC's provisions for permanent structures. That's regardless of their size, so even 1-person puptents need to be permitted and comply with Section 3102 of the 2024 IBC.

This proposal provides a safe way to for temporary camping tents on small, slightly elevated, detached decks to access Exception #1 of Section 105.5.51 of the 2024 IFC. It limits the height of elevated camping platforms for tents to avoid the need for guards and to minimize the consequences of deck failure.

The elevated camping platforms, like other free-standing decks, are not affected by this proposal. Their compliance with the International Code's construction and other applicable provisions would continue to be required including the permitting requirements.

Note: This proposal for the IBC needs to be coordinated with Section 3103.7.4 of the IFC, perhaps as follows:

3103.7.4 Membrane structures on buildings. *Membrane structures* that are erected on buildings, balconies, decks or other structures shall be regulated as permanent *membrane structures* in accordance with Section 3102 of the *International Building Code*.
Exception: A temporary *membrane structure* exclusively used for recreational camping purposes which is erected on a detached deck that is not more than 30-inches above grade at any point shall comply with the provisions in this code for recreational camping tents.
Here are photographs representing the camping tents on elevated platforms for which this proposal intends to provide relief:

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0. This does not affect construction cost. Relief is provided from the costs that are associated with the permitting process without affecting the safety and sustainability that the permitting process offers for more significant construction.

Estimated Immediate Cost Impact Justification (methodology and variables):

The removal of the administrative requirement includes the costs associated with that requirement. The benefit of the permitting process is negligible for camping tents being erected temporarily on detached camping platforms that are not more than 30-inches above grade at any point. The costs that are associated with the permitting process are comparatively much greater than the benefit of that process for this particular situation.

Estimated Life Cycle Cost Impact:

The life cycle cost impact, which is for the period of time that a temporary camping tent would be erected on a detached low deck, is permanent in regards to the costs of the permitting process and negligible for the costs to safety and sustainiblitiy.

Estimated Life Cycle Cost Impact Justification (methodology and variables):

The costs savings from the permitting process is permanent while any costs that may be associated with the lack of oversight that happens without the permitting process are temporary.

G171-25

G172-25

IBC: 3102.1, 3102.7

Proponents: Jonathan Siu, Jon Siu Consulting, LLC, representing Washington Association of Building Officials Technical Code Development Committee; Julius Carreon, City of Bellevue, representing Washington Association of Building Officials Technical Code Development Committee (jcarreon@bellevuewa.gov); Micah Chappell, Seattle Dept. of Construction and Inspections (SDCI), representing Washington Association of Building Officials Technical Code Development Committee (WABO TCD) (micah.chappell@seattle.gov)

2024 International Building Code

Revise as follows:

3102.1 General. The provisions of Sections 3102.1 through 3102.8 shall apply to *air-supported*, *air-inflated*, *membrane-covered cable*, *membrane-covered frame* and *tensile membrane structures*, collectively known as *membrane structures*, erected for a period of longer than 180 days~~ or longer~~. Those erected for a shorter period of time shall comply with the *International Fire Code*. Membrane *structures* covering water storage *facilities*, water clarifiers, water treatment plants, sewage treatment plants, *greenhouses* and similar *facilities* not used for human occupancy are required to meet only the requirements of Sections 3102.3.1 and 3102.7. Membrane *structures* erected on a *building*, balcony, deck or other *structure* for any period of time shall comply with this section.

3102.7 Engineering design. The *structure* shall be designed and constructed to sustain~~ *dead loads*~~, *loads* due to tension or inflation~~, *live loads* including wind, snow or *flood* and seismic loads~~ and *loads* in accordance with Chapter 16.

Reason: This proposal is intended to align the timeframe and design loads for membrane structures with other parts of the code. Section 3102 is intended to apply to permanent membrane structures, since it points to the IFC for temporary membrane structures. However, in the IFC and in most parts of the IBC (including the definitions), a temporary structure is a structure that is in place for 180 days or less. The current language in 3102.1 says membrane structures must comply with provisions for permanent structures when the timeframe is exactly 180 days, which conflicts with the rest of the code. This proposal eliminates the overlap at 180 days, consistent with the definitions and other provisions. (Note that there is a separate proposal to align timeframes for temporary structures in IBC 108 and 3103.)

Regarding design loads, the current language in Section 3102.7 requires membrane structures to be designed for dead loads, tension/inflation loads, and "*live loads* **including** wind, snow, flood, and seismic loads [emphasis added]." Aside from erroneously identifying wind, snow, flood, and seismic loads as live loads, Chapter 16 contains loading criteria for soil/hydrostatic, rain, ice, and tsunami conditions that should be considered in the design of these structures, similar to all other permanent structures. Rather than naming all the load cases, this proposal reduces the list to a pointer to Chapter 16. Note that the requirement to design for membrane tension/inflation loads is retained here, as that loading condition is not explicitly covered in Chapter 16.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal is a clarification that eliminates a conflict and aligns the provisions for permanent membrane structures with other sections in the code pertinent to permanent structures.

G173-25

IFC: SECTION 107, [A] 107.1; IBC: SECTION 108, [A] 108.1, SECTION 202, SECTION 3103, 3103.1, 3103.1.1, 3103.6, 3103.6.1, 3103.6.1.1, TABLE 3103.6.1.1, 3103.6.1.2, TABLE 3103.6.1.2, 3103.6.1.3, 3103.6.1.4, 3103.6.1.5, 3103.6.1.6, 3103.6.2, 3103.6.4, 3103.7

Proponents: Jennifer Goupil, American Society of Civil Engineers and Structural Engineering Institute, representing American Society of Civil Engineers (jgoupil@asce.org); Emily Guglielmo, representing NCSEA (eguglielmo@martinmartin.com)

2024 International Fire Code

SECTION 107
TEMPORARY STRUCTURES, USES, EQUIPMENT AND SYSTEMS

Revise as follows:

[A] 107.1 General. The *fire code official* is authorized to issue a permit for temporary structures, uses, equipment or systems as required in Sections 105.5 and 105.6. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. *Public-occupancy temporary structures* shall be permitted for a period not to exceed one year. The *fire code official* is authorized to grant extensions for demonstrated cause.

2024 International Building Code

SECTION 108
TEMPORARY STRUCTURES, EQUIPMENT AND SYSTEMS

Revise as follows:

[A] 108.1 General. The *building official* is authorized to issue a *permit* for temporary *structures* , equipment or systems. Such *permits* shall be limited as to time of service, but shall not be permitted for more than 180 days. *Public-occupancy temporary structures* shall be permitted for a period not to exceed one year. The *building official* is authorized to grant extensions for demonstrated cause or in accordance with Section 3103. ~~Structures designed to comply with Section 3103.6 shall not be in service for a period of more than 1 year unless an extension of time is granted.~~
Detached *tents* and other *membrane structures* erected for a period of 180 days or less shall comply with the International Fire Code.

SERVICE LIFE. The period of time that a *structure* serves its intended purpose. For *temporary structures*, this shall be the cumulative time of service for sequential *temporary events* that may occur in multiple locations. ~~For *public-occupancy temporary structures* , this is assumed to be a minimum of 10 years.~~
TEMPORARY EVENT. A single use during the *service life* of a ~~*public-occupancy*~~ *temporary structure* at a given location that includes its installation, inspection, use and occupancy, and dismantling.

SECTION 3103
TEMPORARY STRUCTURES

3103.1 General. The provisions of ~~Sections 3103.1 through 3103.8~~ this section shall apply to *structures* erected for a period of ~~less than~~ 180 days or less. Temporary *special event structures*, *tents*, umbrella *structures* and other membrane *structures* erected for a period of ~~less than~~ 180 days or less shall also comply with the *International Fire Code*. *Temporary structures* erected for a longer period of time ~~and *public-occupancy temporary structures*~~ shall comply with applicable sections of this code for permanent structures.

Exceptions~~:~~

~~1. *Public-occupancy temporary structures* complying with Section 3103.1.1 shall be permitted to remain in service for 180 days or more but not more than 1 year where *approved* by the *building official*.~~

~~2.~~ *Public-occupancy temporary structures* within the confines of an enclosed *existing structure* are not required to comply with Section 3103.6.

3103.1.1 Extended period of service time. ~~Public-occupancy temporary~~ *Temporary structures* shall be permitted to remain in service for 180 days or more without complying with requirements in this code for new *building* or structures where extensions for up to 1 year are granted by the *Building* Official in accordance with Section 108.1 and where the following conditions are satisfied:

1. Additional inspections as determined by the building official shall be performed by a qualified *person* to verify that site conditions and the *approved* installation comply with the conditions of approval at the time of final inspection.
2. A qualified *person* shall perform follow-up inspections after initial occupancy at intervals not exceeding 180 days to verify the site conditions and the installation conform to the *approved* site conditions and installation requirements. Inspection records shall be kept and shall be made available for verification by the *building official*.
3. An examination shall be performed by a *registered design professional* to determine the adequacy of the temporary structure to resist the structural loads required in Section 3103.6.
4. Relocation of the ~~*public-occupancy*~~*temporary structure* shall require a new *permit* application.
5. The use or occupancy *approved* at the time of final inspection shall remain unchanged.
6. A request for an extension is submitted to the *building official*. The request shall include records of the inspections and examination in Items 1 and 3.

3103.6 Structural requirements. *Temporary structures* ~~shall comply with the structural requirements of this code. *Public-occupancy temporary structures*~~ shall be designed and erected to comply with the structural requirements of this code and Sections 3103.6.1 through 3103.6.4. For the purposes of this section, the *service life* of *public-occupancy temporary structures* shall be assumed to be 10 years.

Exception: Where *approved*, *live loads* less than those prescribed by Table 1607.1 shall be permitted provided that a *registered design professional* demonstrates that a rational approach has been used and that such reductions are warranted.

Temporary non-*building structures* ancillary to public assemblies or temporary *special event structures* whose structural failure or collapse would endanger assembled public shall be assigned a *risk category* corresponding to the ~~*risk category* of the~~ public assembly occupant load in accordance with Section 1604.5. For the purposes of establishing an *occupant load* for the assembled public endangered by structural failure or collapse, the applicable *occupant load* determination in Section 1004.5 or 1004.6 shall be applied over the assembly area within a radius equal to 1.5 times the height of the temporary non-*building structure*

3103.6.1 Structural loads. ~~*Public-occupancy temporary*~~ *Temporary structures* shall be designed in accordance with Chapter 16, except as modified by Sections 3103.6.1.1 through 3103.6.1.6.

3103.6.1.1 Snow loads. Snow loads on ~~public-occupancy~~ *temporary structures* shall be determined in accordance with Section 1608. The ground snow loads, p_g, in Section 1608 shall be permitted to be modified according to Table 3103.6.1.1.

Exception: Ground snow loads, p_g, for *public-occupancy temporary structures* that employ controlled-occupancy procedures per Section 3103.8 shall be permitted to be modified using a ground snow load reduction factor of 0.65 instead of the ground snow load reduction factors in Table 3103.6.1.1.

Where the ~~*public-occupancy*~~ *temporary structure* is not subject to snow loads or not constructed and occupied during times when snow is to be expected, snow loads need not be considered, provided that where the period of time when the ~~*public-occupancy*~~ *temporary structure* is in service shifts to include times when snow is to be expected, one of the following conditions is met:

1. The design is reviewed and modified, as appropriate, to account for snow loads.
2. ~~Controlled~~ For a *public-occupancy temporary structure*, controlled occupancy procedures in accordance with Section 3103.8 are implemented.

TABLE 3103.6.1.1 REDUCTION FACTORS FOR GROUND SNOW LOADS FOR ~~PUBLIC-OCCUPANCY~~ TEMPORARY STRUCTURES

RISK CATEGORY	SERVICE LIFE	
	≤ 10 yr	>10 yr
II	0.7	1.0
III	0.8	1.0
IV	1.0	1.0

3103.6.1.2 Wind loads. The design wind load on ~~*public-occupancy*~~ *temporary structures* shall be permitted to be modified in accordance with the wind load reduction factors in Table 3103.6.1.2.

Exceptions:

1. Design wind loads for *public-occupancy temporary structures* that implement controlled occupancy procedures per Section 3103.8 shall be permitted to be modified using a wind load reduction factor of 0.65.
2. For ~~*public-occupancy*~~ *temporary structures* erected in a *hurricane-prone region* outside of hurricane season, the *basic wind speed*, *V*, shall be permitted to be set as follows, depending on *risk category*:

   2.1. *Risk Category* II: 115 mph.

   2.2. Risk Category III: 120 mph.

   2.3. Risk Category IV: 125 mph.

TABLE 3103.6.1.2 REDUCTION FACTORS FOR WIND LOADS FOR ~~PUBLIC-OCCUPANCY~~ TEMPORARY STRUCTURES

RISK CATEGORY	SERVICE LIFE	
	≤ 10 yr	>10 yr
II	0.8	1.0
III	0.9	1.0
IV	1.0	1.0

3103.6.1.3 Flood loads. ~~*Public-occupancy temporary*~~ *Temporary structures* need not be designed for flood loads specified in Section 1612. Controlled occupancy procedures in accordance with Section 3103.8 shall be implemented for *public-occupancy temporary structures* located in areas prone to flooding as defined on a flood hazard map.

3103.6.1.4 Seismic loads. Seismic loads on ~~*public-occupancy*~~ *temporary structures* assigned to *Seismic Design Categories* C through F shall be permitted to be taken as 75 percent of those determined by Section 1613. ~~*Public-occupancy temporary*~~ *Temporary structures* assigned to *Seismic Design Categories* A and B are not required to be designed for seismic loads.

3103.6.1.5 Ice loads. Ice loads on ~~public-occupancy~~ *temporary structures* shall be permitted to be determined with a maximum nominal thickness of 0.5 inch (13 mm), for all risk categories. Where the ~~*public-occupancy*~~ *temporary structure* is not subject to ice loads or not constructed and occupied during times when ice is to be expected, ice loads need not be considered, provided that where the period of time when the ~~*public-occupancy*~~ *temporary structure* is in service shifts to include times when ice is to be expected, one of the following conditions is met:

1. The design is reviewed and modified, as appropriate, to account for ice loads.
2. ~~Controlled~~ For a *public-occupancy temporary structure*, controlled occupancy procedures in accordance with Section 3103.8 are implemented.

3103.6.1.6 Tsunami loads. *Public-occupancy temporary structures* in a *tsunami design zone* are not required to be designed for tsunami loads specified in Section 1615. Controlled occupancy procedures in accordance with Section 3103.8 shall be implemented for *public-occupancy temporary structures* located in a tsunami design zone.

3103.6.2 Foundations. ~~Public-occupancy temporary~~ *Temporary structures* shall be permitted to be supported on the ground with temporary foundations where *approved* by the *building official*. Consideration shall be given for the impacts of differential settlement

where foundations do not extend below the ground or where foundations are supported on compressible materials. The presumptive load-bearing value for ~~*public occupancy*~~ *temporary structures* supported on a pavement, slab on grade or on other collapsible or controlled low-strength substrate soils such as beach sand or grass shall be assumed not to exceed 1,000 pounds per square foot (47.88 kPa) unless determined through testing and evaluation by a *registered design professional*. The presumptive load-bearing values listed in Table 1806.2 shall be permitted to be used for other supporting soil conditions.

3103.6.4 Durability. Reusable components used in the erection and the installation of ~~*public occupancy*~~ *temporary structures* shall be manufactured of durable materials necessary to withstand environmental conditions at the service location. Components damaged during transportation or installation or due to the effects of weathering shall be replaced or repaired.

3103.7 Serviceability. The effects of structural loads or conditions shall not adversely affect the serviceability or performance of the ~~*public occupancy*~~ *temporary structure*.

Reason: This proposal is being submitted to correct errors in the code, correlate the IBC and the IFC, make other clarifications, and addresses what appears to be a logical inconsistency in the 2024 IBC provisions for loads on temporary structures versus public-occupancy temporary structures, as described below. The change to IFC 107.1 is to coordinate the permit timeframe for public-occupancy temporary structures with the change to IBC 108.1. Although "public-occupancy temporary structures" is not used anywhere in the IFC, the IBC definition would govern (see IFC 201.3) and this would prevent any conflicts with what is allowed in the IBC.

BACKGROUND:

Prior to the 2024 IBC, there was confusion in the design and enforcement communities regarding the structural design of temporary structures--what loads should be required? Technically, the IBC required temporary structures to be designed for the same loads as permanent structures, but this seemed unreasonable. Lacking guidance in the IBC and ASCE 7, many design professionals and jurisdictions turned to ASCE 37, which contains load provisions for buildings under construction. Past attempts to codify ASCE 37 for temporary structures were defeated because ASCE 37 is not appropriate for buildings that are occupied by the public. In the last cycle, ASCE/SEI organized an ad-hoc committee of experts to develop code change proposal S116-22, which defined loads and special procedures, mostly focused on public-occupancy temporary structures. Ultimately, S116-22 was revised in the Public Comment Hearing and approved through the Online Governmental Consensus Vote process, and its provisions are in Section 3103 of the 2024 IBC.

As part of the effort to develop the next version of ASCE 7 (ASCE 7-28), a new chapter dealing with loads on temporary structures is currently under development. The subcommittee responsible for developing the new chapter used 2024 IBC Section 3103 as a starting point and is making improvements to the provisions. Also, recognizing that the changes to the 2024 IBC necessitated correlating changes to the IFC, the ASCE/SEI ad hoc committee was tasked with developing code change proposals for Group A. In the process of all this development, some errors and inconsistencies in the current 2024 IBC and 2024 IFC were identified. In Group A last year, the IFC Committee approved code change proposals F198-24 and F199-24 which correct some of the errors and aligns the IFC with the new IBC requirements. (Note that with the new ICC code development process, we will not know if public comments have been submitted on these Group A proposals until March, 2026.)

ERRORS AND INCONSISTENCIES:

- Section 108.1 (temporary structures).
  - S116-22 inserted an allowance for public-occupancy temporary structures to be permitted for up to 1 year and allows other extensions in Section 3103. However, Section 108.1 limits permits for temporary structures to 180 days. This proposal inserts the 1-year allowance for public-occupancy temporary structures and adds a pointer to Section 3103 for consistency.
  - As currently written, the IBC regulates temporary detached tents and other membrane structures, since they are not exempted from compliance. However, IFC Section 3103.1 also clearly regulates them. In Group A, F199-24 attempted to change the IFC to require these tents and membrane structures to comply with both the IFC and IBC. However, the IFC Committee and other testifiers clearly indicated that they wanted <u>only</u> the IFC to govern, and that requirement was removed for CAH 2. This proposal adds a pointer to the IFC for consistency.
- Temporary Event (definition). S116-22 inserted new definitions for Temporary Structure, Temporary Event, and Public-Occupancy Temporary Structure (hereinafter referred to as a POTS). A Temporary Structure is there to support a Temporary Event. POTSs are a subset of temporary structures that are there to serve assembly occupancies or other public uses. However, the current definition of Temporary Event is a "single use...of a <u>public-occupancy</u> temporary structure at a given location..." [emphasis added]. Putting everything together, by these definitions, only POTSs meet the definition of Temporary Structure. This is clearly a mistake made in

the drafting of S116-22, since it would exclude all temporary structures that are not POTSs, such as a temporary air-supported membrane structure used as an aircraft hangar. This proposal addresses the issue by revising the definition of Temporary Event such that it applies to all temporary structures.

- Section 3103.1 (general/scoping).
  - By definition, a Temporary Structure is one that is erected for 180 days or less. However, Section 3103.1 conflicts with that definition, stating that this section applies to structures erected for a "period of less than 180 days," and that certain structures erected for "less than 180 days" must comply with the IFC. Comparing this to other references to the 180 days in the IBC and IFC Section 3103, temporary structures are allowed up to and including the 180 days, so this proposal changes IBC 3103.1 to match.
  - The last sentence requires temporary structures that are erected for more than 180 days and POTSs to comply with "this code." The intent is that structures that are not temporary should comply with the code for new construction (see also "Clarifications" below). However, as written, all POTSs would need to comply with new construction code. This proposal removes POTSs to deal with this inconsistency, as well as to deal with the substantive change described below.
- Section 3103.6.1.1 (snow loads). As currently written, snow loads must be reduced using the factors in Table 3103.6.1.1. This was an error in the drafting of S116-22, in that there should be no issue if the design professional wants to design for full snow loads, without the reductions. This proposal modifies the second sentence of Section 3103.6.1.1 to make the reduction factors an option.
- Sections 3103.6.3 (flood) and 3103.6.1.6 (tsunami). As currently written, controlled occupancy procedures per Section 3103.8 are required to address both flood and tsunami hazards, whether or not the structure is located in a flood or tsunami hazard areas. This was an oversight in the drafting of S116-22, and this proposal addresses the issue by triggering the controlled occupancy procedures only if the structure is located in the associated hazard area.

CLARIFICATIONS:

- Service Life (definition) and Section 3103.6 (structural requirements). The definition of Service Life states that 10 years is to be assumed for the service life of a POTS. This was felt to be a requirement contained in the definition, so this proposal moves that requirement to 3103.6.
- Section 3103.1 (general/scoping). This proposal clarifies that the intent is that compliance with "this code" is intended to mean that structures that are erected for periods longer than the temporary structure limits are required to be designed as permanent structures, which would include full structural loads.
- Section 3103.1, exceptions.
  - Exception 1 is deleted because it is covered in Section 108.1.
  - Exception 2 has been revised to apply only where the POTS is erected within an enclosed structure. The original thinking behind this exception was that if the temporary structure is inside a building, it is not subject to environmental loading (snow, wind, etc.) However, there was concern that a temporary structure located underneath a roof structure with open sides could interpreted as being "within the confines of an existing structure," which would then expose these structures to those loads.
- Section 3103.6 (structural requirements--risk category). Concerns have been raised that the risk category language regarding ancillary non-building structures (etc.) is unclear when it refers to the "risk category of the public assembly." The requirement has been modified to refer to the "public assembly occupant load" instead, as a clarification.

LOADS ON TEMPORARY STRUCTURES vs POTSs:

The remaining changes in this proposal address what is seen as a logical inconsistency in the current 2024 IBC Section 3103.6. That is, why are POTSs allowed to be designed for lower structural loads than other temporary structures, such as a temporary shelter for cement bags? If a POTS (which involves a public assembly) is allowed to have reduced loading, it seems logical that the same load reductions should also be allowed for other temporary structures. This is the approach that is being taken with this proposal and is consistent with the approach being taken by the subcommittee that is developing the new chapter for ASCE 7-28.

S116-22 focused on reducing loads for POTSs. This proposal extends the load reductions to all temporary structures, with some exceptions. Because controlled occupancy procedures are not enforceable on temporary structures that are not POTSs, additional load reductions that are dependent on those controlled occupancy procedures are only allowed for POTSs (see the exceptions for snow and wind loads). In addition, for load conditions where the structure is erected outside of the season for those loads (hurricane, ice, snow), only POTSs are allowed to use controlled occupancy procedures in lieu of redesigning/strengthening the structure for those loads if the structure remains during the hazard season.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposed code change will reduce the loads for temporary structures other than public-occupancy temporary structures, since it proposes to extend the load reductions now only applicable to POTSs to all temporary structures. There will be no change in the cost of construction for POTSs.

Staff Analysis: F199-24 added references to IBC for tempoaray structures.

G173-25

G174-25

IBC: 3103.8, 3103.6.1.3, 3103.6.1.6, 3103.6.1.1, 3103.6.1.2, 3103.6.1.5, ANSI Chapter 35

Proponents: Henry Kosarzycki, representing Self (hkosarzycki@flad.com)

2024 International Building Code

Revise as follows:

3103.8 ~~Controlled occupancy procedures~~ Operations management plan. ~~Where controlled occupancy procedures are required to be implemented for~~ For *public-occupancy temporary structures* ~~in Section 3103.6.1, the procedures shall comply with this section and ANSI ES1.7. An~~ an operations management plan ~~in accordance with ANSI E1.21~~ shall be submitted to the *building official* for approval as a part of the *permit* documents. ~~In addition, the operations management plan shall include an emergency action plan that documents the following information, where applicable:~~

1. ~~Surfaces on which snow or ice accumulates shall be monitored before and during occupancy of the *public occupancy temporary structure*. Any loads in excess of the design snow or ice load shall be removed prior to its occupancy, or the *public occupancy temporary structure* shall be vacated in the event that either the design snow or ice load is exceeded during its occupancy.~~
2. ~~Wind speeds associated with the design wind loads shall be monitored before and during occupancy of the *public occupancy temporary structure*. The *public occupancy temporary structure* shall be vacated in the event that the design wind speed is expected to be exceeded during its occupancy.~~
3. ~~Criteria for initiating occupant evacuation procedures for *flood* and tsunami events.~~
4. ~~Occupant evacuation procedures shall be specified for each environmental hazard where the occupant management plan specifies the *public occupancy temporary structure* is to be evacuated.~~
5. ~~Procedures for anchoring or removal of the *public occupancy temporary structure*, or other additional measures or procedures to be implemented to mitigate hazards in snow, wind, *flood*, ice or tsunami events.~~

3103.6.1.3 Flood loads. *Public-occupancy temporary structures* need not be designed for flood loads specified in Section 1612. ~~Controlled occupancy procedures~~ Operation management plans in accordance with Section 3103.8 shall be implemented.

3103.6.1.6 Tsunami loads. *Public-occupancy temporary structures* in a *tsunami design zone* are not required to be designed for tsunami loads specified in Section 1615. ~~Controlled occupancy procedures~~ Operation management plans in accordance with Section 3103.8 shall be implemented.

3103.6.1.1 Snow loads. Snow loads on public-occupancy temporary structures shall be determined in accordance with Section 1608. The ground snow loads, p_g, in Section 1608 shall be modified according to Table 3103.6.1.1.

Exception: Ground snow loads, p_g, for *public-occupancy temporary structures* that employ ~~controlled occupancy procedures~~ operation management plans per Section 3103.8 shall be permitted to be modified using a ground snow load reduction factor of 0.65 instead of the ground snow load reduction factors in Table 3103.6.1.1.

Where the *public-occupancy temporary structure* is not subject to snow loads or not constructed and occupied during times when snow is to be expected, snow loads need not be considered, provided that where the period of time when the *public-occupancy temporary structure* is in service shifts to include times when snow is to be expected, one of the following conditions is met:

1. The design is reviewed and modified, as appropriate, to account for snow loads.
2. ~~Controlled occupancy procedures~~ Operation management plans in accordance with Section 3103.8 are implemented.

3103.6.1.2 Wind loads. The design wind load on *public-occupancy temporary structures* shall be permitted to be modified in accordance with the wind load reduction factors in Table 3103.6.1.2.

Exceptions:

1. Design wind loads for *public-occupancy temporary structures* that implement ~~controlled occupancy procedures~~ operation management plans per Section 3103.8 shall be permitted to be modified using a wind load reduction factor of 0.65.
2. For *public-occupancy temporary structures* erected in a *hurricane-prone region* outside of hurricane season, the *basic wind speed*, *V*, shall be permitted to be set as follows, depending on *risk category*:

   2.1. *Risk Category* II: 115 mph.

   2.2. Risk Category III: 120 mph.

   2.3. Risk Category IV: 125 mph.

3103.6.1.5 Ice loads. Ice loads on public-occupancy temporary structures shall be permitted to be determined with a maximum nominal thickness of 0.5 inch (13 mm), for all risk categories. Where the *public-occupancy temporary structure* is not subject to ice loads or not constructed and occupied during times when ice is to be expected, ice loads need not be considered, provided that where the period of time when the *public-occupancy temporary structure* is in service shifts to include times when ice is to be expected, one of the following conditions is met:

1. The design is reviewed and modified, as appropriate, to account for ice loads.
2. ~~Controlled occupancy procedures~~ Operation management plans in accordance with Section 3103.8 are implemented.

Delete without substitution:

ANSI

American National Standards Institute
25 West 43rd Street, Fourth Floor
New York, NY 10036

~~ES1.7—2021~~ ~~Event Safety Requirements—Weather Preparedness~~

Reason: This removes reference to a standard that is not appropriate scope and allows for the operational plan to be developed where it is appropriate in the IFC, then the code official can approve what is shown.
"Operations maintenance plan" will be used in this section and ANSI E1.21. While this is not the applicable standard (it is for special event structures') the commonly recognized term should be used rather than introducing a new term and potentially different regulatory action. Fire and safety evacuation plans and lock down plans are addressed in the IFC and worked out with the emergency responders and should be the same for this operations plan. Items 1 and 2 require weather monitoring by someone at the temporary structure, that is not described or addressed. Many times a temporary structure is erected and left empty between performances. Is this monitoring required to be continuous? Item 3 is redundant with Item 4. Item 5 - is a regulatory challenge based on climate conditions and the ability to respond in a timely manner. The occurrence of any weather related events may not happen allowing enough time to secure or dismantle a structure. The criteria for permitting is subject to performance standards in accordance with the environment.

ANSI ES1.7 purpose is to provide guidance on identifying weather-related hazards, monitoring technologies, and the basic requirements necessary to develop and implement risk mitigation actions associated with weather. This should be referenced in the IFC and not here.

The changes to the other sections are just to change the name of the plan to match what is in 3103.8.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is an operational requirement, not a construction requirement.

G174-25

G175-25

IBC: 3103.6.4, 3103.7

Proponents: Henry Kosarzycki, representing Self (hkosarzycki@flad.com)

2024 International Building Code

Revise as follows:

3103.6.4 ~~Durability~~ Maintenance and repair. ~~Reusable components used in the erection and the installation of *public occupancy temporary structures* shall be manufactured of durable materials necessary to withstand environmental conditions at the service location. Components damaged during transportation or installation or due to the effects of weathering~~ Damaged components shall be replaced or repaired.

Delete without substitution:

~~3103.7 Serviceability.~~ ~~The effects of structural loads or conditions shall not adversely affect the serviceability or performance of the *public occupancy temporary structure*.~~

Reason: 3103.6.4 Durability
The public occupancy structure is designed and permitted based on the loads expected. Durable materials are not defined or described resulting in an individual judgement call on acceptable or unacceptable components that may not be called to question until injury or loss of life. Determination of acceptable material durability is not further defined to meet a minimum consistent standard. The expectation of performance necessary to withstand environmental conditions at the service location is directly tied to the structural criteria. Where components are damaged they should be replaced and not only dependent on weather, installation or transportation. S166-22 did not explain this in their reason. The revised text provides direct language regarding maintenance and repair.

3103.7 - Serviceability
Public-occupancy temporary structures are expected to meet all performance criteria at the time of permitting through the duration of use. The statement regarding structural loads not adversely affecting the serviceability or performance is unnecessary. Any potential failure or defect in a public-occupancy temporary structure is not compliant with the applicable regulatory sections. This section is redundant This section needs to be deleted.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a repair requirement. There are not changes for construction.

G176-25

IBC: 3103.1

Proponents: Henry Kosarzycki, representing Self (hkosarzycki@flad.com)

2024 International Building Code

Revise as follows:

3103.1 General. The provisions of Sections 3103.1 through 3103.8 shall apply to *structures* erected for a period of less than 180 days. Temporary *special event structures*, *tents*, umbrella *structures* and other membrane *structures* erected for a period of less than 180 days shall also comply with the *International Fire Code*. *Temporary structures* erected for a longer period of time and *public-occupancy temporary structures* shall comply with applicable sections of this code.

Exceptions:

1. *Public-occupancy temporary structures* complying with Section 3103.1.1 shall be permitted to remain in service for 180 days or more but not more than 1 year where *approved* by the *building official*.
2. *Public-occupancy temporary structures* within the confines of an *existing structure* are not required to comply with Section 3103.6.
3. Temporary structures associated with health care providers or declared emergencies shall be permitted to remain in service for 180 days or more where approved by the building official.

Reason: The exception specific to temporary structures associated with health care providers or declared emergencies recognizes the unique and regulated conditions associated with specific emergency related conditions and response. Unlike public-occupancy temporary structures and special event structures, temporary structures associated with response to health or physical emergency operations are coupled with inherent health, safety and performance expectations. Temporary structures associated with response to health or physical emergency operations may exceed the 180 day or even a 1 year timeline. This was realized during the recent pandemic. In contract to public-occupancy temporary structures or special event structures, temporary structures associated with response to health or physical emergency operations are used and scrutinized daily based on health, safety and performance expectations.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The temporary structure would have the same requirements regardless of how long it needs to be erected to address the needs of the emergency.

G177-25

IBC: SECTION 108, [A] 108.1, SECTION 3103, 3103.1, 3103.1.1; IFC: SECTION 107, [A] 107.1

Proponents: Henry Kosarzycki, representing Self (hkosarzycki@flad.com)

2024 International Building Code

SECTION 108
TEMPORARY STRUCTURES, EQUIPMENT AND SYSTEMS

Revise as follows:

[A] 108.1 General. The *building official* is authorized to issue a *permit* for temporary *structures* , equipment or systems. Such *permits* shall be limited as to time of service, but shall not be permitted for more than 180 days. The *building official* is authorized to grant extensions for demonstrated cause.

Exception: Permits for structures ~~Structures~~ designed to comply with Section 3103.6 shall ~~not~~ be limited to a time of ~~in~~ service, but shall not be permitted for a ~~period of~~ more than 1 year ~~unless an extension of time is granted~~.

SECTION 3103
TEMPORARY STRUCTURES

3103.1 General. The provisions of Sections 3103.1 through ~~3103.8~~ 3103.5 shall apply to *structures* erected for a period of less than 180 days. Temporary *special event structures*, *tents*, umbrella *structures* and other membrane *structures* erected for a period of less than 180 days shall also comply with the *International Fire Code*. *Temporary structures* erected for ~~a longer period of time~~ longer than 180 days and *public-occupancy temporary structures* erected for any period of time shall also comply with ~~applicable sections of this code~~ Section 3103.6 through 3103.8.

Exceptions:

1. *Public-occupancy temporary structures* complying with Section 3103.1.1 shall be permitted to be erected for a period of ~~remain in service for 180 days or more but not more~~ less than 1 year ~~where *approved* by the *building official*~~.
2. *Public-occupancy temporary structures* within the confines of an *existing structure* are not required to comply with Section 3103.6.

3103.1.1 Extended period of service time. Public-occupancy temporary structures in service ~~shall be permitted to remain in service for~~ 180 days or more ~~without complying with requirements in this code for new *building* or structures where extensions for up to 1 year are granted by the *Building* Official in accordance with Section 108.1 and where the following conditions are satisfied~~ shall comply with the following:

1. Additional inspections as determined by the building official shall be performed by a qualified *person* to verify that site conditions and the *approved* installation comply with the conditions of approval at the time of final inspection.
2. A qualified *person* shall perform follow-up inspections after initial occupancy at intervals not exceeding 180 days to verify the site conditions and the installation conform to the *approved* site conditions and installation requirements. Inspection records shall be kept and shall be made available for verification by the *building official*.
3. An examination shall be performed by a *registered design professional* to determine the adequacy of the temporary structure to resist the structural loads required in Section 3103.6.
4. Relocation of the public-occupancy *temporary structure* shall require a new *permit* application.
5. The use or occupancy *approved* at the time of final inspection shall remain unchanged.

6. A request for an extension is submitted to the *building official*. The request shall include records of the inspections and examination in Items 1 and 3.

2024 International Fire Code

SECTION 107
TEMPORARY STRUCTURES, USES, EQUIPMENT AND SYSTEMS

Revise as follows:

[A] 107.1 General. The *fire code official* is authorized to issue a permit for temporary structures, uses, equipment or systems as required in Sections 105.5 and 105.6. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The *fire code official* is authorized to grant extensions for demonstrated cause.

Exception: Permits for structures designed to comply with Section 3103.6 of the *International Building Code* shall be limited to a time of service, but shall not be permitted for more than 1 year.

Reason: The intent of this proposal is for clarification, consistency and removal of redudant language.

The languge for the period of time of less than 180 days and less than 1 year is inconsistent and confusing. The rewording just makes them consistent and match.

108.1 - This section is only about permits. The revision to the text limits this the permit,. By putting this in an exception, 108.1 is consistent with 3103.1.

3103.1 - Sections added last cycle by S116-22 - 3103.6 through 3103.8 - deal with the new requirements for temporary structures staying up more than 180 days and public-occupancy temporary structures all the time. Therefore, 3103.6 through 3103.8 should not be applied to temporary structures that are up for very short periods of time. This revision makes that clear.

3103.1.1 - The deleted language is a repeat of the language in 3103.1.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarification only. There are no changes to construction.

G177-25

G178-25

IBC: 3103.1.1

Proponents: Henry Kosarzycki, representing Self (hkosarzycki@flad.com)

2024 International Building Code

Revise as follows:

3103.1.1 Extended period of service time. Public-occupancy temporary structures shall be permitted to remain in service for 180 days or more ~~without complying with requirements in this code for new *building* or structures where extensions for~~ and up to 1 year where the extension is *approved* and ~~are granted by the *Building* Official in accordance with Section 108.1 and~~ where the following conditions are satisfied:

1. ~~6.~~ A request for an extension is submitted to the *building official*. ~~The request shall include records of the inspections and examination in Items 1 and 3.~~
2. ~~1.~~ ~~Additional inspections as determined by the building official~~ At the time of the request of the permit extension, an inspection shall be performed by a qualified *person* to verify that site conditions and the *approved* installation comply with the conditions of approval at the time of ~~final inspection~~ the first permit.
3. ~~2.~~ ~~A qualified *person* shall perform follow-up inspections after initial occupancy at intervals not exceeding 180 days to verify the site conditions and the installation conform to the *approved* site conditions and installation requirements.~~ Inspection records shall be kept and shall be made available for verification by the *building official*.
4. ~~3.~~ ~~An examination shall be performed by a *registered design professional* to determine the adequacy of the temporary structure to resist the structural loads required in Section 3103.6.~~
5. ~~4.~~ ~~Relocation of the public-occupancy *temporary structure* shall require a new *permit* application.~~
6. ~~5.~~ The use or occupancy ~~*approved* at the time of final inspection~~ shall remain unchanged.

Reason: The intent of this proposal is to remove redundant language and requirements.

Main paragraph - Section 108.1 addresses permiting. This section is specific to the approval of the extension, so this revision simplifies this without going back to Chapter 1. Section 3103 and all the exceptions in the load sections (1608.1, 1609.1.1, 1612.2, 1613.1, 1615.1) already state that the loads can be reduced below new construction. The request for the extension should come first. The extension should include an inspection to make sure the structure is currently complaint. There would be no "Additional inspections" if the temporary structure is only allowed for 1 year, there would only be one additional inspection.

The public-occupancy structures have to be designed for the additional loading, so this information was provided before the structure was erected.

Relocation of a temporary strucuture is required to have a new permit in accordance with 108.

Which inspection is the final inspection? This implies that the use and occupancy can change, if that happens, a change of occupancy would require another permit.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a clarification of requirements in a request for an extension. This does not change construction requirements.

G179-25

IBC: SECTION 202, TABLE 3103.6.1.1, TABLE 3103.6.1.2

Proponents: Henry Kosarzycki, representing Self (hkosarzycki@flad.com)

2024 International Building Code

Revise as follows:

~~**SERVICE LIFE.** The period of time that a *structure* serves its intended purpose. For *temporary structures*, this shall be the cumulative time of service for sequential *temporary events* that may occur in multiple locations. For *public occupancy temporary structures* , this is assumed to be a minimum of 10 years.~~

TEMPORARY EVENT. A single use ~~during the *service life* of~~ a *public-occupancy temporary structure* at a given location that includes ~~its~~ the amount of time for the installation, inspection, use and occupancy, and dismantling.

SECTION 3103
TEMPORARY STRUCTURES

3103.6.1.1 Snow loads. Snow loads on public-occupancy temporary structures shall be determined in accordance with Section 1608. The ground snow loads, p_g, in Section 1608 shall be modified according to Table 3103.6.1.1.

Exception: Ground snow loads, p_g, for *public-occupancy temporary structures* that employ controlled-occupancy procedures per Section 3103.8 shall be permitted to be modified using a ground snow load reduction factor of 0.65 instead of the ground snow load reduction factors in Table 3103.6.1.1.

Where the *public-occupancy temporary structure* is not subject to snow loads or not constructed and occupied during times when snow is to be expected, snow loads need not be considered, provided that where the period of time when the *public-occupancy temporary structure* is in service shifts to include times when snow is to be expected, one of the following conditions is met:

1. The design is reviewed and modified, as appropriate, to account for snow loads.
2. Controlled occupancy procedures in accordance with Section 3103.8 are implemented.

TABLE 3103.6.1.1 REDUCTION FACTORS FOR GROUND SNOW LOADS FOR PUBLIC-OCCUPANCY TEMPORARY STRUCTURES

RISK CATEGORY	~~SERVICE LIFE~~ REDUCTION FACTOR	
	~~≤ 10 yr~~	~~>10 yr~~
II	0.7	~~1.0~~
III	0.8	~~1.0~~
IV	1.0	~~1.0~~

3103.6.1.2 Wind loads. The design wind load on *public-occupancy temporary structures* shall be permitted to be modified in accordance with the wind load reduction factors in Table 3103.6.1.2.

Exceptions:

1. Design wind loads for *public-occupancy temporary structures* that implement controlled occupancy procedures per Section 3103.8 shall be permitted to be modified using a wind load reduction factor of 0.65.
2. For *public-occupancy temporary structures* erected in a *hurricane-prone region* outside of hurricane season, the *basic wind speed*, *V*, shall be permitted to be set as follows, depending on *risk category*:

   2.1. *Risk Category* II: 115 mph.

   2.2. Risk Category III: 120 mph.

   2.3. Risk Category IV: 125 mph.

TABLE 3103.6.1.2 REDUCTION FACTORS FOR WIND LOADS FOR PUBLIC-OCCUPANCY TEMPORARY STRUCTURES

RISK CATEGORY	~~SERVICE LIFE~~ REDUCTION FACTOR	
	~~≤ 10 yr~~	~~> 10 yr~~
II	0.8	~~1.0~~
III	0.9	~~1.0~~
IV	1.0	~~1.0~~

Reason: The proposed language specific to "service life" creates a regulatory challenge where a code official is not able to verify or determine service life. Service life as currently proposed is based on a running clock with regards to time in use. Failure of any temporary structure or component is based on any number of factors more significant than service life. Manufactured flaws, environmental conditions will in use, erection methods and storage are all factors that can contribute to any collapse. Investigations associated with any injury or loss of life associated with a temporary structure failure will address all associated factors. This section would incorrectly place the burden of performance on the permitting authority without full understanding of the temporary structure condition. Even if the permitting authority knew when it was manufactured, the process would not be definitive in determining how many times and under what conditions the temporary structure was used. A temporary shelter for emergency operations may have only been deployed at practice drills for a couple of day a year. The charging language does not address how to record or document the use of the structure? Assuming the public-occupancy temporary structure service life is a minimum of 10 years and those days are cumulative; a tent used for temporary events in the summer could by 40 years old.
The concept of service life should be removed from these options as unenforceable.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This will allow for the reduced loads related to the time the structure will be erected.

G179-25

G180-25

IBC: 3103.6.1.1, 3103.6.1.2, 3103.6.1.5

Proponents: Henry Kosarzycki, representing Self (hkosarzycki@flad.com)

2024 International Building Code

Revise as follows:

3103.6.1.1 Snow loads. Snow loads on public-occupancy temporary structures shall be determined in accordance with Section 1608. The ground snow loads, p_g, in Section 1608 shall be modified according to Table 3103.6.1.1.

Exception: Ground snow loads, p_g, for *public-occupancy temporary structures* that employ controlled-occupancy procedures per Section 3103.8 shall be permitted to be modified using a ground snow load reduction factor of 0.65 instead of the ground snow load reduction factors in Table 3103.6.1.1.

Where the *public-occupancy temporary structure* is not subject to snow loads ~~or not constructed and occupied during times when snow is to be expected~~, snow loads need not be considered, ~~provided that where the period of time when the *public-occupancy temporary structure* is in service shifts to include times when snow is to be expected, one of the following conditions is met:~~

1. ~~The design is reviewed and modified, as appropriate, to account for snow loads.~~
2. ~~Controlled occupancy procedures in accordance with Section 3103.8 are implemented.~~

3103.6.1.2 Wind loads. The design wind load on *public-occupancy temporary structures* shall be permitted to be modified in accordance with the wind load reduction factors in Table 3103.6.1.2.

Exceptions:

1. Design wind loads for *public-occupancy temporary structures* that implement controlled occupancy procedures per Section 3103.8 shall be permitted to be modified using a wind load reduction factor of 0.65.
2. For *public-occupancy temporary structures* erected in a *hurricane-prone region* ~~outside of hurricane season,~~ the *basic wind speed*, *V*, shall be permitted to be set as follows, depending on *risk category*:
   2.1. *Risk Category* II: 115 mph.
   2.2. Risk Category III: 120 mph.
   2.3. Risk Category IV: 125 mph.

3103.6.1.5 Ice loads. Ice loads on public-occupancy temporary structures shall be permitted to be determined with a maximum nominal thickness of 0.5 inch (13 mm), for all risk categories. Where the *public-occupancy temporary structure* is not subject to ice loads ~~or not constructed and occupied during times when ice is to be expected~~, ice loads need not be considered.~~, provided that where the period of time when the *public-occupancy temporary structure* is in service shifts to include times when ice is to be expected, one of the following conditions is met:~~

1. ~~The design is reviewed and modified, as appropriate, to account for ice loads.~~
2. ~~Controlled occupancy procedures in accordance with Section 3103.8 are implemented.~~

Reason: We are well aware that the climate is changing in many ways from timeline to types of weather events. To allow a temporary structure in Florida to not consider snow and ice is one thing, but there is no way for someone to predict a early or late snow or ice storm. Early or late snowstorms can happen at any time, a code official or designer can not predict the weather over the time. Therefore, the 2nd paragraph is not universally enforceable.

The hurricane season is extending, so not designing for hurricanes should only be for locations not subject to hurricanes. We can not base temporary structure performance expectations on calendar dates. An owner or designer will not know ahead of time when the structure is

installed to design for an unknown weather event.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is removing unenforaceable language. There are no changes to construction requirements.

G180-25

G181-25

IBC: 3103.6.3

Proponents: Henry Kosarzycki, representing Self (hkosarzycki@flad.com)

2024 International Building Code

Revise as follows:

3103.6.3 ~~Installation and maintenance inspections~~ Temporary special event structures. ~~A qualified *person* shall inspect *public-occupancy temporary structures* that are assembled using transportable and reusable materials. Components shall be inspected when purchased or acquired and at least once per year. The inspection shall evaluate individual components, and the fully assembled *structure*, to determine suitability for use based on the requirements in~~ Temporary *special event structures* associated with *public-occupancy temporary structures* shall comply with the *International Fire Code* and ESTA ANSI E1.21. ~~Inspection records shall be kept and shall be made available for verification by the *building official*. Additionally, *public-occupancy temporary structures* shall be inspected at regular intervals when in service to ensure that the structure continues to perform as designed and initially erected.~~

Reason: This section is applying a standard for temporary special event structures to a temporary public-occupancy structure. ANSI E1.21 standard is limited to technical production structures. Those structures are addressed in the IFC and limited to 6 weeks erection time. This section creates a regulatory administrative and legal challenge for an adopting and enforcing agency. This section will be central to any legal action following a event resulting in injury or loss of life. The first challenge is the definitive understanding of a qualified person. What credential, certification or professional background will determine an acceptable qualified person. The requirment for inspection at the time of purchase and subsequently once per year may result in shifting liability from the manufacturer to the owner. The requirement for the inspection to evaluate individual components without further direction results in significant materials analysis. Beyond the visual recognition of potentially worn or damaged components the charging language may include a higher level of fatigue, stress and strain testing that is tied to specific ASTM standards. Only the owner would know when a piece was 'purchased or acquired'; how would a code official enforce this? Verification of inspection records by the regulatory agency would be an action preceding permitting. Regarding inspection at regular intervals the charging language does not address who is responsible to conduct the inspection, what is the acceptable interval and the subsequent enforcement action. Inspections is addressed under the IFC. Maintenance should be addressed under the IEBC and not under the IBC.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is an operational requirement. There is no change in construction.

G181-25

G182-25

IBC: 3105.1, 3105.1.1 (New), 3105.1.2 (New), 3105.1.3 (New), 3105.2, 3105.4 (New), 3105.4.1 (New), 3105.4.2 (New), 3105.4.3 (New), 3105.5 (New), 3105.6 (New), 3102.1

Proponents: Ronald Geren, RLGA Technical Services, LLC, representing Self (ron@specsandcodes.com)

2024 International Building Code

Revise as follows:

3105.1 General. *Awnings* and *canopies* shall comply with the requirements of Sections 3105.2 through 3105.6. *Canopies* constructed as *tensile membrane structures* shall comply with Section 3102. *Awnings* and *canopies* with membrane coverings that do not comply with the requirements of this Section shall comply with the requirements of *membrane-covered frame structures* in accordance with Section 3102.~~and 3105.3 and other applicable sections of this code.~~

Add new text as follows:

3105.1.1 Carports. Canopies used for covered parking shall also comply with the requirements for carports in Section 406.2.

3105.1.2 Motor fuel dispensing canopies. Canopies under which fuels are dispensed shall also comply with Section 406.7.2.

3105.1.3 Pedestrian walkways. Canopies used for *pedestrian walkways* shall also comply with the requirements in Section 3104.

Revise as follows:

3105.2 Design and construction. *Awnings* and *canopies* shall be designed and constructed to withstand wind or other lateral *loads* and *live loads* as required by Chapter 16 with due allowance for shape, open construction and similar features that relieve the pressures or loads. Structural members shall be protected to prevent deterioration. *Awnings* shall have frames of noncombustible material, *fire-retardant-treated wood*, heavy timber complying with Section 2304.11 or 1-hour construction, and shall be fixed, retractable, folding or collapsible. *Canopies* shall have frame materials consistent with the required type of construction of the *building*.

Add new text as follows:

3105.4 Allowable area. *Awnings* and *canopies* shall not contribute to *building area*. The aggregate area of canopies shall comply with Section 3105.4.1 through 3105.4.3.

3105.4.1 Canopies above the level of exit discharge. The aggregate allowable area of *canopies* located above *the level of exit discharge* shall be limited to 10 percent of the floor area of the *story* and occupied roof area on which they are located and shall not exceed 25 percent of the tabular values for nonsprinklered buildings in Table 506.2 for each occupancy covered by *canopies*.

3105.4.2 Canopies at the level of exit discharge or at grade. The aggregate allowable area of *canopies* at the *level of exit discharge* or at grade, attached to or less than 30 feet (9144 mm) from the *building*, shall not exceed the tabular values for nonsprinklered buildings in Table 506.2 for each occupancy covered by the *canopies*, and the allowable area of any single canopy shall not exceed 10 percent of the aggregate allowable area.

3105.4.3 Canopies away from the building. The aggregate area of *canopies* located 30 feet (9144 mm) or more from the *building* shall not be limited, and the area of a single *canopy* shall not exceed the tabular values for nonsprinklered buildings in Table 506.2 for each occupancy covered by the *canopies*.

3105.5 Allowable height in stories. *Canopies* shall be permitted on stories and occupied roofs as specified for the type of construction and occupancy of the *building* in accordance with Sections 503 and 504.

3105.6 Separation distance. Individual *canopies* or groups of *canopies* not exceeding 10 percent of the allowable aggregate area shall be separated by a minimum distance of 10 feet (3048 mm). Canopies shall have a *fire separation distance* of 10 feet (3048 mm) measured at right angles from the canopy to adjacent lot lines.

Revise as follows:

3102.1 General. The provisions of Sections 3102.1 through 3102.8 shall apply to *air-supported*, *air-inflated*, *membrane-covered cable*, *membrane-covered frame* and *tensile membrane structures*, collectively known as *membrane structures*, erected for a period of 180 days or longer. Those erected for a shorter period of time shall comply with the *International Fire Code* . Membrane *structures* covering water storage *facilities*, water clarifiers, water treatment plants, sewage treatment plants, *greenhouses* and similar *facilities* not used for human occupancy are required to meet only the requirements of Sections 3102.3.1 and 3102.7. Membrane *structures* erected on a *building*, balcony, deck or other *structure* for any period of time shall comply with this section.

Exception: Membrane *structures* complying with the requirements for *awnings* or *canopies* in accordance with Section 3105.

Reason: Schools, hotels, motels, businesses, restaurants, fuel stations, and many other building types provide awnings and canopies to protect occupants, equipment, vehicles, and materials from the sun or inclement weather. Awnings are attached to a building by definition. Canopies, on the other hand, can be attached or structurally independent. Many times, plans examiners try to include canopies within the allowable area of the building or as a separate structure (when structurally independent), forcing the designer to conform to fire-separation distances and opening protection for both the building and canopy. The proposed changes presented here are intended to minimize the gray area inherent in the current provisions.

The final statement of Section 3105.1 is very open-ended with no indication as to which sections are applicable. Thus, any section that is remotely applicable to awnings or canopies could be enforced. Thus, this proposal intends to eliminate the open-ended aspect and provide some prescriptive requirements specifically targeted for these types of building features.

In Section 3105.1, the open-ended statement is deleted and replaced with references to subsequent sections. Further, a distinction is made between some membrane structures, covered in Section 3102, and awnings and canopies covered in this section. First, this proposal requires all tensile membrane structures to comply with Section 3102, mainly because tensile structures do not meet the definitions for awnings and canopies. Second, awnings and canopies could be considered "membrane-covered frame structures" by definition; thus, enforcement of either requirements set could be applied. Thus, this proposal places a threshold by requiring compliance with the requirements of Section 3102 if an awning or canopy cannot conform to the requirements of Section 3105. To address this from the other direction, an exception is proposed for Section 3102.1 that allows membrane structures complying with Section 3105 to be exempted from the requirements for membrane structures.

The two subparagraphs of Section 3105.1 identify additional requirements applicable to canopies used for specific applications.

Section 3105.2 has limitations on the frame construction for awnings, but nothing for canopies. The proposed change for this section adds the requirement that frame materials for canopies be consistent with the type of construction for the building.

According to the definition of building area, the area of awnings and canopies should not be included in determining building area since they are not "within the horizontal projection of the roof or floor above." However, awnings and canopies are mistakenly added to building area either because designers do not know the definition or consider the canopy or awning covering a "roof" extension. Thus, the first sentence of Section 3105.4 clearly states that awnings and canopies do not contribute to building area, similar to that stipulated for mezzanines in Section 505.2.1.

Section 3105.4 further intends to place limitations on the size of canopies. This requirement is divided into two types of canopy applications: those on stories above the level of exit discharge and those at the level of exit discharge or at grade within 30 feet of the building. If the canopies exceed the allowable limits, the requirements for membrane structures come into play per the proposed text of 3105.1, and the membrane structure must be included in the building area per Section 3102.6.1.

For canopies located above the level of exist discharge, such as patios, terraces, decks, or occupied roofs, Section 3105.4.1 limits the aggregate area to 10% of the story and occupied roof area on which the canopy is located. For example, if a story has 3,000 square feet and an occupied roof area of 2,000 square feet on that same level, then the canopy can have an area of 500 square feet (0.10 x 5,000 sq. ft.). As another example, if a 5,000 square foot roof only has 3,000 square feet of occupied area, then a canopy of 300 square feet is permitted (0.10 x 3,000 sq. ft.). More than one canopy can be provided as long as the aggregate area of all canopies do not exceed the area limitations. Although the aggregate area of all canopies is limited to the stipulated 10%, if the 10% exceeds 25% of the nonsprinklered allowable area permitted by Table 506.2 for the building's type of construction and occupancy under the canopy, then the

area of the canopies is limited by Table 506.2. For example, if a restaurant located on the second story of a Type VB building has a floor area of 12,000 square feet and an outdoor terrace area of 5,000 square feet, 10% of the area would be 1,700 square feet (0.10 x 17,000 sq. ft.). However, 25% of the allowable area for a nonsprinklered Group A-2 in a Type VB building is 1,500 square feet (0.25 x 6,000 sq. ft.). Thus, the canopy would be limited to the smaller area.

For canopies located at the level of exit discharge or at grade within 30 feet of the building, Section 3105.4.2 limits the aggregate area to the nonsprinklered values in Table 506.2 for the construction type of the building, but no single canopy can exceed 10% of the aggregate area. For example, a 20,000 square foot office building of Type IIB construction is permitted up to 23,000 square feet of canopies; however, no single canopy can exceed 10% of the aggregate allowable area, or 2,300 square feet (this would allow a parking canopy for up to 12 cars). This minimizes the potential fire risk from large areas of canopies that attached to, or within close proximity of, the building.

The exception to Section 3105.4.2 recognizes that canopies located a distance away from the building would pose little threat of exposure to the building. Since most canopies would likely be considered Type IIB or VB construction, a fire-separation distance of 10 feet is permitted. However, buildings could be constructed of a type that would require at least a 30-foot fire separation distance, or a minimum 40-foot distance between the building and canopy. Since canopies have limited fire loads, this distance is reduced to 30 feet.

Per Section 3105.5, canopies would be permitted on any story provided the construction type of the building and occupancy for the canopy is permitted at that story height. For example, a three-story Type VA office building (Group B) has a restaurant on the second story (Group A-2) and is separated from the third-story Group B. The restaurant would not be permitted to have a rooftop dining area with a canopy since a Group A-2 occupancy is limited to two stories and the A-2 occupancy on the roof would not comply with Section 503.1.4.

Section 3105.6 is added to minimize the large continuous canopies even if they are constructed as a series of independent canopies, which would defeat the purpose of regulating the size of an individual canopy.

The exception to Section 3102.1 is added to show that an alternate path of compliance is available for membrane-covered awnings and canopies that is not as restrictive as the requirements for membrane structures.

Fire sprinkler requirements are intentionally not provided in this section for a couple of reasons:

1. Section 3102 for membrane structures does not include any sprinkler provisions.
2. NFPA 13 and the IFC address sprinkler requirements for canopies.

Cost Impact: Increase

Estimated Immediate Cost Impact:

Due to the many variables involved (size, design, complexity, and materials), the cost increase would likely be based on the materials. For buildings of noncombustible construction, designers would be required to construct canopy frames of noncombustible materials, which may increase the cost. For custom-constructed canopies, a typical wood-framed canopy may cost between $20 and $40 per square foot. Similar canopies constructed of steel framing may cost between $30 and $50 per square foot. The cost of a premium grade 4x4 wood post is approximately $21 per 12-foot length. A 4x4x0.125 steel tube is approximately $120 per 12-foot length; however, one benefit of steel is longer spans requiring fewer supports. The cost of roof coverings would remain the same since roof covering materials are not restricted by this section.

Estimated Immediate Cost Impact Justification (methodology and variables):

There are too many variables involved to provide explicit cost information. Variables include the size, number, and materials used. Almost all awnings and most canopies are of a limited size to begin with, so exceeding the areas stipulated would require an extensive number of individual canopies.

G182-25

G183-25 Part I

IBC: SECTION 105, [A] 105.2, SECTION 3110, 3110.1, 3110.2 (New), 3110.3 (New), 3110.2, 3110.3, ASTM Chapter 35 (New)

Proponents: Catherine Mills-Reynolds, American Fence Association, representing AFA (catherine@americanfenceassociation.com); Dave Monsour, THOMAS ASSOCIATES, INC. (DASMA), representing DASMA (Door & Access Systems Manufacturers Assoc.) (dmonsour@thomasamc.com); Ben Shirley, Ameristar Perimeter Security, representing ASTM F14 (ben.shirley@assaabloy.com); Don Jeppson, representing City of San Rafael (don.jeppson@cityofsanrafael.org); Richard Sedivy, DoorKing, Inc., representing DASMA (rsedivy@doorking.com); Kevin Ward, Miller Edge Inc, representing American Fence Association (kward@milleredge.com); Scott Kinney, D&D Technologies, representing ASTM F14.15 Gates (skinney@ddtechusa.com); Eric Quanbeck, representing The Hummingbird Alliance (eric.m.quanbeck@gmail.com); Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

THIS IS A 3 PART CODE CHANGE.

PART I WILL BE HEARD BY THE IBC GENERAL CODE COMMITTEE.

PART II WILL BE HEARD BY THE RESIDENTIAL BUILDING CODE COMMITTEE.

PART III WILL BE HEARD BY THE EXISTING BUILDING CODE COMMITTEE.

SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

SECTION 105
PERMITS

Revise as follows:

[A] 105.2 Work exempt from permit. Exemptions from *permit* requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this *jurisdiction*. *Permits* shall not be required for the following:

Building:

1. One-story detached accessory *structures* used as tool and storage sheds, playhouses and similar uses, provided that the floor area is not greater than 120 square feet (11 m^2).

2. Fences, other than swimming pool barriers, ~~not over~~ less than ~~7 feet~~ 84 inches (2134 mm) high.

3. Gates, other than swimming pool barriers or components in the *means of egress*, installed in a n opening 48 inches (1219 mm) or less measured horizontally or less than 84 inches (2134 mm) measured vertically.

~~3~~ 4. Oil derricks.

~~4~~ 5. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II or IIIA liquids.

~~5~~ 6. Water tanks supported directly on grade if the capacity is not greater than 5,000 gallons (18 925 L) and the ratio of height to diameter or width is not greater than 2:1.

~~6~~ 7. Sidewalks and driveways not more than 30 inches (762 mm) above adjacent grade, and not over any *basement* or *story* below and are not part of an *accessible route*.

~~7~~ 8. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.

~~8~~ 9. Temporary motion picture, television and theater stage sets and scenery.

~~9~~ 10. Prefabricated *swimming pools* accessory to a Group R-3 occupancy that are less than 24 inches (610 mm) deep, are not greater than 5,000 gallons (18 925 L) and are installed entirely above ground.

~~10~~ 11. Shade cloth *structures* constructed for nursery or agricultural purposes, not including service systems.

~~11~~ 12. Swings and other playground equipment accessory to detached one- and two-family *dwellings*.

~~12~~ 13. Window *awnings* in Group R-3 and U occupancies, supported by an *exterior wall* that do not project more than 54 inches (1372 mm) from the *exterior wall* and do not require additional support.

~~13~~ 14. Nonfixed and movable fixtures, cases, racks, counters and partitions not over 5 feet 9 inches (1753 mm) in height.

Electrical:

1. ***Repairs* and maintenance:** Minor *repair* work, including the replacement of lamps or the connection of *approved* portable electrical equipment to *approved* permanently installed receptacles.

2. **Radio and television transmitting stations:** The provisions of this code shall not apply to electrical equipment used for radio and television transmissions, but do apply to equipment and wiring for a power supply and the installations of towers and antennas.

3. **Temporary testing systems:** A *permit* shall not be required for the installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.

Gas:

1. Portable heating appliance.

2. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.

Mechanical:

1. Portable heating appliance.
2. Portable ventilation equipment.
3. Portable cooling unit.
4. Steam, hot or chilled water piping within any heating or cooling equipment regulated by this code.
5. Replacement of any part that does not alter its approval or make it unsafe.
6. Portable evaporative cooler.
7. Self-contained refrigeration system containing 10 pounds (4.54 kg) or less of refrigerant and actuated by motors of 1 horsepower (0.75 kW) or less.

Plumbing:

1. The stopping of leaks in drains, water, soil, waste or vent pipe, provided, however, that if any concealed trap, drain pipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work and a *permit* shall be obtained and inspection made as provided in this code.
2. The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures and the removal and reinstallation of water closets, provided that such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.

SECTION 3110
HORIZONTAL SLIDE, SWING AND ~~AUTOMATIC~~ VEHICULAR GATES

3110.1 General. A horizontal slide gate or a swing gate installed in an opening more than 48 inches (1219 mm) measured horizontally or 84 inches (2134 mm) or greater measured vertically shall comply with this section and other applicable sections of this code. ~~*Automatic*~~ Vehicular gates of any size shall also comply with the requirements of Sections ~~3110.2 and 3110.3~~ 3110.4 and 3110.5 and other applicable sections of this code.

Add new text as follows:

3110.2 Slide gates. A gate that slides in the plane of the gate shall be designed, constructed, and installed in accordance with ASTM F1184.

3110.3 Swing gates. A hinged or swing gate shall be designed, constructed, and installed in accordance with ASTM F900.

Revise as follows:

3110.4 ~~3110.2~~ Vehicular gates intended for automation. *Vehicular gates* intended for automation shall be designed, constructed and installed to comply with the requirements of ASTM F2200.

3110.5 ~~3110.3~~ Vehicular gate openers. *Vehicular gate* openers, where provided, shall be *listed* in accordance with UL 325.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428

F900-24	Standard Specification for Industrial and Commercial Swing Gates
F1184-23	Standard Specification for Industrial and Commerical Horizontal Slide Gates

Reason: Gates are used, and depended on for our safety and security, throughout our society. Be it for residential use, at a sports arena,

on schoolgrounds, a public park, in a parking garage, at a factory, in a multi-family dwelling or countless other applications, people are potentially in contact with a gate every day. Gates are so commonplace that most people don't think twice about their ability to operate safely until something goes wrong. This is why it is of paramount importance that gates are designed and installed to the highest safety standard.

The need for safe, functioning gates has been underscored in recent years with stories like that of, Alex Quanbeck, the 7-year-old child who was killed by a poorly maintained gate in his school yard at recess in San Rafael, California. Under deeper review, it has been discovered that numerous fatalities and life-altering injuries have occurred in the United States because of these gate issues. A map of known gate fatalities and serious injuries from gates is provided from the Hummingbird Alliance (www.thehummingbirdalliance.com).

Having knowledge of the scope of this problem, ASTM International's F14 Committee on Fences, (which also holds jurisdiction for gate standards) updated their manual gate standards to reflect new safety requirements on slide gates (ASTM F1184) and swing gates (ASTM F900). ASTM had already updated its electric gate standard (ASTM F2200) to meet new requirements in 2002.

Cal/OSHA is currently reviewing these standards as well, to potentially include them in their own rules. While they do have a rule on gates, (Title 8 section 3324) it does not currently contain the provisions laid out in our proposal. In assessing these potential new standards, they reviewed some of their own accident data and found that their data from 1990 through 2005, showed that 15 out of 31 incidents (48%) involved failed or missing end stops/positive stops of gates. They then compared this data from data collected from 2014 through 2024 and found that 13 out of 16 incidents (81%) involved failed or missing end-stops/positive-stops of gates.

Because of these factors, they determined that, "The relatively low decrease in serious injuries and fatalities per year of only 8.2 percent after the promulgation of section 3324 in 2007 illustrates the need to amend and improve section 3324 to better protect California workers" (DOSH Evaluation, 2024).

The standards we are requesting be adopted would in no way impede first responders in accessing a property, in fact ensuring a gate is functioning properly would only provide them with safer and easier ingress and/or egress. It is when these gates go without the proper safety requirements, they are likely to fail to operate as intended or run the risk of injuring those who use them.

The ICC/AFA Gate Safety Code Development Work Group consists of a wide range of gate and security experts, consumers and code enforcement officials, who have diligently reviewed ASTM standards, current safety standards and the I-Codes to confirm that this addition to the I-Codes is needed and non-duplicative. The work group decided to alter the existing section 3110 to include all gates as well as maintaining the provision currently in place for automatic vehicular gates. The new provision would only apply to gates that are 7' (84 inches) in height or greater OR 4' (48") in length or greater. The code change references industry approved national standards for gate design and construction ASTM F900 for Swing Gates and ASTM F1184 for Slide Gates. The code also includes two new standards to be referenced in Chapter 35 that are necessary for the code change. The group also looked at where gates are required for permitting and inspection and discovered that gates are not specifically referenced in the permit exemption list in Section 105. The group decided to clarify that fences and gates are unique in their own application and as such both need specific permit exceptions.

The general requirements for Swing Gates require a keeper in accordance with ASTM F900. The gate keeper is a mechanical device for securing the free end of the gate when in the fully open position. The compliance for swing gates could be a chain connected to both the gate frame and the end post (or column/structure to which the gate is attached), see the pictures below.

The general requirements for slide gates in accordance with ASTM F1184 include:

A performance statement that gates that are installed shall not fall over more than 45 degrees from the vertical plane;

Positive stops to limit travel;

Weight bearing rollers are covered;

Gap no greater then 2-1/4”;

Gates designed for lateral stability; and

Gates design that will not move under the force of gravity.

Please see pictures below of ASTM 1184 compatible gates. Two options for fall post are shown. The first is the standard post cemented in the ground; it is the post with the yellow cap. The second is of an upside-down J bracket that has been welded on.

(Receiver Guide/ Gate Stop Below)

These standards and the code change proposal only address swing and slide gates. Overhead roll down (or up) doors, roll down security type doors (like those at the tenant space and the mall circulation areas), and parking garage entry, exit or point of sale barrier arms are not within the scope of the proposed code change or within the scope of the two reference standards. In addition, we believe that these requirements in no way negatively impact building egress required by Chapter 10 of this code. Any swing or slide gate installed within the means of egress should be in compliance with chapter 10, as well as any other technical provision of the code and compliance with any other code application is referenced in 3110.1, as proposed. Compliance with the ASTM standards will greatly improve safety in and around the built environment by incorporating these simple changes, (like adding fall over protection and gate stops) lives like Alex's, can be saved. Alex's father, Eric Quanbeck was an active participant in this work group, as well as the local building official from the city where the tragedy occurred, along with representatives from the American Fence Association, ASTM International, DASMA and UL. After thorough review, we see a need to incorporate these standards through adoption into the I-Codes.

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

- **Reason Statement_Final_PDF.pdf**
  https://www.cdpaccess.com/proposal/11332/35401/documentation/183044/attachments/download/9024/

Cost Impact: Increase

Estimated Immediate Cost Impact:

Compared to the overall cost of these large gates, which can run anywhere from a couple thousand dollars to tens of thousands of dollars, depending on the size, material used, and whether they have an electric operator, the safety requirement costs are negligible. The material costs for the safety parts mentioned average $50.00, with many being less than that amount. For instance, a metal gate stop can be just a few dollars. Items like a Gate Keeper and the safety chain for swing gates can be found at several retailers, including on

Amazon, both for under $50.00. Labor would depend on geographical area, but overall, it would average somewhere between $150.00 to $250.00.

Estimated Immediate Cost Impact Justification (methodology and variables):

Posts for this type of application typically run $50.00 a piece or less.

Example of some product costs on Amazon.

Amazon.com: OKG Heavy Duty Security Chain, 3.9ft x 5/16" Thick Outdoor Gate Chain, Cut Proof Chain Made of Hardened Alloy Steel Chain, Ideal for Fence Gates, Bicycles, Moped, Trailers, Generator, etc : Sports & Outdoors

Amazon.com: Chain Link Fence GATE HOLD BACK: Duck Bill Gate Holdback (1-5/8" to 2-3/8"). Holds The gate open for You while You work! : Tools & Home Improvement

G183-25 Part I

G183-25 Part II

IRC: R105.2, SECTION 202 (New), SECTION R329 (New), R329.1 (New), R329.2 (New), R329.3 (New), R329.4 (New), R329.5 (New), ASTM Chapter 44 (New), APPENDIX BH, SECTION BH101, BH101.1, SECTION 202, SECTION BH102, BH102.1, SECTION BH103, BH103.1, BH103.2, SECTION BH104, BH104.1, TABLE BH104.1

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2024 International Residential Code

Revise as follows:

R105.2 Work exempt from permit. Exemption from *permit* requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this *jurisdiction.Permits* shall not be required for the following:

Building:

1. Other than *storm shelters*, one-*story* detached *accessory structures,* provided that the floor area does not exceed 200 square feet (18.58 m^2).
2. Fences, other than swimming pool barriers, ~~not over~~ less than 84 inches ~~7 feet~~ (2134 mm) high.
3. Gates, other than swimming pool barriers, installed in an opening less than 48 inches (1219 mm) measured horizontally, or less than 84 inches (2134 mm) measured vertically.
3. *Retaining walls* that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge
4. Water tanks supported directly upon *grade* if the capacity does not exceed 5,000 gallons (18 927 L) and the ratio of height to diameter or width does not exceed 2 to 1.
5. Sidewalks and driveways.
6. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
7. Prefabricated swimming pools that are less than 24 inches (610 mm) deep.
8. Swings and other playground equipment.
9. Window awnings supported by an exterior wall that do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support.
10. Decks not exceeding 200 square feet (18.58 m^2) in area, that are not more than 30 inches (762 mm) above *grade* at any point, are not attached to a *dwelling* or *townhouse* and do not serve the exit door required by Section R318.4.

Electrical:

1. *Listed* cord-and-plug connected temporary decorative lighting.
2. Reinstallation of attachment plug receptacles but not the outlets therefor.
3. Replacement of branch circuit overcurrent devices of the required capacity in the same location.
4. Electrical wiring, devices, *appliances,* apparatus or *equipment* operating at less than 25 volts and not capable of supplying more than 50 watts of energy.
5. Minor *repair* work, including the replacement of lamps or the connection of *approved* portable electrical equipment to *approved* permanently installed receptacles.

Gas:

1. Portable heating, cooking or clothes drying *appliances*.
2. Replacement of any minor part that does not alter approval of *equipment* or make such *equipment* unsafe.
3. Portable-fuel-cell *appliances* that are not connected to a fixed piping system and are not interconnected to a power grid.

Mechanical:

1. Portable heating *appliances*.
2. Portable ventilation *appliances*.
3. Portable cooling units.
4. Steam, hot- or chilled-water piping within any heating or cooling *equipment* regulated by this code.
5. Replacement of any minor part that does not alter approval of *equipment* or make such *equipment* unsafe.
6. Portable evaporative coolers.
7. Self-contained refrigeration systems containing 10 pounds (4.54 kg) or less of refrigerant or that are actuated by motors of 1 horsepower (746 W) or less.
8. Portable-fuel-cell *appliances* that are not connected to a fixed piping system and are not interconnected to a power grid.

Plumbing:

1. The stopping of leaks in drains, water, soil, waste or vent pipe; provided, however, that if any concealed trap, drainpipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work and a *permit* shall be obtained and inspection made as provided in this code.
2. The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures, and the removal and reinstallation of water closets, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.

Add new definition as follows:

VEHICULAR GATE. A gate that is intended for use at a vehicular entrance or exit to the *lot* of a one- or two-family dwelling, and that is not intended for use by pedestrian traffic.

Add new text as follows:

SECTION R329
GATES

R329.1 General. The design, installation, and construction of horizontal slide and swing gates, and automatic vehicular gates installed on the lot of a one- or two-family dwelling or a *townhouse* shall comply with this section. Gates installed on community property associated with one- or two-family dwellings or *townhouses* shall comply with the *International Building Code*. A horizontal slide or a

swing gate installed in an opening more than 48 inches (1219 mm) measured horizontally or 84 inches (2134 mm) or greater measured vertically shall comply with this section and other applicable sections of this code. *Vehicular gates* of any size shall also comply with the requirements of this section.

R329.2 Slide Gates. A gate that slides in the plane of the gate shall be designed, constructed, and installed in accordance with ASTM F1184.

R329.3 Swing gates. A hinged or swing gate shall be designed, constructed, and installed in accordance with ASTM F900.

R329.4 Vehicular gates intended for automation. *Vehicular gates* intended for automation shall be designed, constructed and installed to comply with the requirements of ASTM F2200.

R329.5 Vehicular gate openers. *Vehicular gate* openers, where provided, shall be *listed* in accordance with UL 325.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428

F900-24	Standard Specification for Industrial and Commercial Swing Gates
F1184-23	Standard Specification for Industrial and Commercial Horizontal Slide Gates
F2200-20	Standard Specification for Automated Vehicular Gate Construction

Delete without substitution:

~~APPENDIX BH~~
~~AUTOMATIC VEHICULAR GATES~~

~~SECTION BH101~~
~~GENERAL~~

~~**BH101.1 General.** The provisions of this appendix shall control the design and construction of automatic *vehicular gates* installed on the *lot* of a one- or two-family dwelling.~~

~~**VEHICULAR GATE.** A gate that is intended for use at a vehicular entrance or exit to the *lot* of a one- or two-family dwelling, and that is not intended for use by pedestrian traffic.~~

~~SECTION BH102~~
~~DEFINITION~~

~~**BH102.1 General.** The following term shall, for the purposes of this appendix, have the meaning shown herein.~~

~~SECTION BH103~~
~~AUTOMATIC VEHICULAR GATES~~

~~**BH103.1 Vehicular gates intended for automation.** *Vehicular gates* intended for automation shall be designed, constructed and installed to comply with the requirements of ASTM F2200.~~

~~**BH103.2 Vehicular gate openers.** *Vehicular gate* openers, where provided, shall be *listed* in accordance with UL 325.~~

~~SECTION BH104~~
~~REFERENCED STANDARDS~~

~~**BH104.1 General.** See Table BH104.1 for standards that are referenced in various sections of this appendix. Standards are listed by the standard identification with the effective date, the standard title, and the section or sections of this appendix that reference the standard.~~

~~**TABLE BH104.1 REFERENCED STANDARDS**~~

~~STANDARD ACRONYM~~	~~STANDARD NAME~~	~~SECTIONS HEREIN REFERENCED~~
~~ASTM F2200 – 20~~	~~*Standard Specification for Automated Vehicular Gate Construction*~~	~~BH103.1~~
~~UL 325 – 2017~~	~~*Door, Drapery, Gate, Louver and Window Operators and Systems – with Revisions through February 2020*~~	~~BH103.2~~

Reason: Gates are used, and depended on for our safety and security, throughout our society. Be it for residential use, at a sports arena, on schoolgrounds, a public park, in a parking garage, at a factory, in a multi-family dwelling or countless other applications, people are potentially in contact with a gate every day. Gates are so commonplace that most people don't think twice about their ability to operate safely until something goes wrong. This is why it is of paramount importance that gates are designed and installed to the highest safety standard.

The need for safe, functioning gates has been underscored in recent years with stories like that of, Alex Quanbeck, the 7-year-old child who was killed by a poorly maintained gate in his school yard at recess in San Rafael, California. Under deeper review, it has been discovered that numerous fatalities and life-altering injuries have occurred in the United States because of these gate issues. A map of known gate fatalities and serious injuries from gates is provided from the Hummingbird Alliance (www.thehummingbirdalliance.com).

Having knowledge of the scope of this problem, ASTM International's F14 Committee on Fences, (which also holds jurisdiction for gate standards) updated their manual gate standards to reflect new safety requirements on slide gates (ASTM F1184) and swing gates (ASTM F900). ASTM had already updated its electric gate standard (ASTM F2200) to meet new requirements in 2002.

Cal/OSHA is currently reviewing these standards as well, to potentially include them in their own rules. While they do have a rule on gates, (Title 8 section 3324) it does not currently contain the provisions laid out in our proposal. In assessing these potential new standards, they reviewed some of their own accident data and found that their data from 1990 through 2005, showed that 15 out of 31 incidents (48%) involved failed or missing end stops/positive stops of gates. They then compared this data from data collected from 2014 through 2024 and found that 13 out of 16 incidents (81%) involved failed or missing end-stops/positive-stops of gates.

Because of these factors, they determined that, "The relatively low decrease in serious injuries and fatalities per year of only 8.2 percent after the promulgation of section 3324 in 2007 illustrates the need to amend and improve section 3324 to better protect California workers" (DOSH Evaluation, 2024).

The standards we are requesting be adopted would in no way impede first responders in accessing a property, in fact ensuring a gate is

functioning properly would only provide them with safer and easier ingress and/or egress. It is when these gates go without the proper safety requirements, they are likely to fail to operate as intended or run the risk of injuring those who use them.

The ICC/AFA Gate Safety Code Development Work Group consists of a wide range of gate and security experts, consumers and code enforcement officials, who have diligently reviewed ASTM standards, current safety standards and the I-Codes to confirm that this addition to the I-Codes is needed and non-duplicative. The work group decided to alter the existing section 3110 to include all gates as well as maintaining the provision currently in place for automatic vehicular gates. The new provision would only apply to gates that are 7' (84 inches) in height or greater OR 4' (48") in length or greater. The code change references industry approved national standards for gate design and construction ASTM F900 for Swing Gates and ASTM F1184 for Slide Gates. The code also includes two new standards to be referenced in Chapter 35 that are necessary for the code change. The group also looked at where gates are required for permitting and inspection and discovered that gates are not specifically referenced in the permit exemption list in Section 105. The group decided to clarify that fences and gates are unique in their own application and as such both need specific permit exceptions. This proposal moves the exiting vehicular gate requirements from the appendix to the body of the code, without substantive modification.

The general requirements for Swing Gates require a keeper in accordance with ASTM F900. The gate keeper is a mechanical device for securing the free end of the gate when in the fully open position. The compliance for swing gates could be a chain connected to both the gate frame and the end post (or column/structure to which the gate is attached), see the pictures below.

The general requirements for slide gates in accordance with ASTM F1184 include:

A performance statement that gates that are installed shall not fall over more than 45 degrees from the vertical plane;

Positive stops to limit travel;

Weight bearing rollers are covered;

Gap no greater then 2-1/4";

Gates designed for lateral stability; and

Gates design that will not move under the force of gravity.

Please see pictures below of ASTM 1184 compatible gates. Two options for fall post are shown. The first is the standard post cemented in the ground; it is the post with the yellow cap. The second is of an upside-down J bracket that has been welded on.

(Receiver Guide/ Gate Stop Below)

These standards and the code change proposal only address swing and slide gates. Overhead roll down (or up) doors, roll down security type doors (like those at the tenant space and the mall circulation areas), and parking garage entry, exit or point of sale barrier arms are not within the scope of the proposed code change or within the scope of the two reference standards. In addition, we believe that these requirements in no way negatively impact building egress required by Chapter 10 of this code. Any swing or slide gate

installed within the means of egress should be in compliance with chapter 10, as well as any other technical provision of the code and compliance with any other code application is referenced in 3110.1, as proposed. Compliance with the ASTM standards will greatly improve safety in and around the built environment by incorporating these simple changes, (like adding fall over protection and gate stops) lives like Alex's, can be saved. Alex's father, Eric Quanbeck was an active participant in this work group, as well as the local building official from the city where the tragedy occurred, along with representatives from the American Fence Association, ASTM International, DASMA and UL. After thorough review, we see a need to incorporate these standards through adoption into the I-Codes.

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: Increase

Estimated Immediate Cost Impact:

Compared to the overall cost of these large gates, which can run anywhere from a couple thousand dollars to tens of thousands of dollars, depending on the size, material used, and whether they have an electric operator, the safety requirement costs are negligible. The material costs for the safety parts mentioned average $50.00, with many being less than that amount. For instance, a metal gate stop can be just a few dollars. Items like a Gate Keeper and the safety chain for swing gates can be found at several retailers, including on Amazon, both for under $50.00. Labor would depend on geographical area, but overall, it would average somewhere between $150.00 to $250.00.

Estimated Immediate Cost Impact Justification (methodology and variables):

Posts for this type of application typically run $50.00 a piece or less.
Example of some product costs on Amazon:

Amazon.com: OKG Heavy Duty Security Chain, 3.9ft x 5/16" Thick Outdoor Gate Chain, Cut Proof Chain Made of Hardened Alloy Steel Chain, Ideal for Fence Gates, Bicycles, Moped, Trailers, Generator, etc : Sports & Outdoors

Amazon.com: Chain Link Fence GATE HOLD BACK: Duck Bill Gate Holdback (1-5/8" to 2-3/8"). Holds The gate open for You while You work! : Tools & Home Improvement

G183-25 Part II

G183-25 Part III

IEBC: SECTION 310 (New), 310.1 (New)

Proponents: Catherine Mills-Reynolds, American Fence Association, representing AFA (catherine@americanfenceassociation.com); Ben Shirley, Ameristar Perimeter Security, representing ASTM F14 (ben.shirley@assaabloy.com); Dave Monsour, THOMAS ASSOCIATES, INC. (DASMA), representing DASMA (Door & Access Systems Manufacturers Assoc.) (dmonsour@thomasamc.com); Richard Sedivy, DoorKing, Inc., representing DASMA (rsedivy@doorking.com); Kevin Ward, Miller Edge Inc, representing American Fence Association (kward@milleredge.com); Don Jeppson, representing City of San Rafael (don.jeppson@cityofsanrafael.org); Scott Kinney, D&D Technologies, representing ASTM F14.15 Gates (skinney@ddtechusa.com); Eric Quanbeck, representing The Hummingbird Alliance (eric.m.quanbeck@gmail.com); Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

2024 International Existing Building Code

Add new text as follows:

SECTION 310
ALTERATION, REPAIR, AND REPLACEMENT OF GATES

310.1 General. Gates installed in an opening more than 48 inches (1219 mm) measured horizontally or 84 inches (2134 mm) or greater measured vertically,shall be in accordance with *International Building Code* or the *International Residential Code*, as applicable, where an *alteration*, *repair*, or replacement of the gate, gate operator, or gate hardware occurs.

Reason: This is a complimentary proposal to the ones we are proposing in the IRC and IBC, to require gates to comply with industry standards ASTM F1184-23, ASTM F900-24, and ASTM F2200-20 and UL325, where gate operators or gate hardware are being modified, altered, repaired or replaced.

The need for safe, functioning gates has been underscored in recent years with stories like that of, Alex Quanbeck, the 7-year-old child who was killed by a poorly maintained gate in his school yard at recess in San Rafael, California. Under deeper review, it has been discovered that numerous fatalities and life-altering injuries have occurred in the United States because of these gate issues. These updates will alleviate those life threatening issues.

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: Increase

Estimated Immediate Cost Impact:

Compared to the overall cost of these large gates, which can run anywhere from a couple thousand dollars to tens of thousands of dollars, depending on the size, material used, and whether they have an electric operator, the safety requirement costs are negligible. The material costs for the safety parts mentioned average $50.00, with many being less than that amount. For instance, a metal gate stop can be just a few dollars. Items like a Gate Keeper and the safety chain for swing gates can be found at several retailers, including on Amazon, both for under $50.00. Labor would depend on geographical area, but overall, it would average somewhere between $150.00 to $250.00.

Estimated Immediate Cost Impact Justification (methodology and variables):

Posts for this type of application typically run $50.00 a piece or less.

Example of some product costs on Amazon.

Amazon.com: OKG Heavy Duty Security Chain, 3.9ft x 5/16" Thick Outdoor Gate Chain, Cut Proof Chain Made of Hardened Alloy Steel Chain, Ideal for Fence Gates, Bicycles, Moped, Trailers, Generator, etc : Sports & Outdoors

Amazon.com: Chain Link Fence GATE HOLD BACK: Duck Bill Gate Holdback (1-5/8" to 2-3/8"). Holds The gate open for You while You

work! : Tools & Home Improvement

Staff Analysis: Part I: A review of the following standards proposed for inclusion in the code regarding some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025.
ASTM F900-24 Standard Specification for Industrial and Commercial Swing Gates
ASTM F1184-23 Standard Specification for Industrial and Commerical Horizontal Slide Gates

Part II: A review of the following standards proposed for inclusion in the code regarding some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025.
ASTM F900-24 Standard Specification for Industrial and Commercial Swing Gates
ASTM F1184-23 Standard Specification for Industrial and Commercial Horizontal Slide Gates
ASTM F2200-20 Standard Specification for Automated Vehicular Gate Construction

G183-25 Part III

G184-25

IBC: 3111.1.1

Proponents: Larry Sherwood, Sustainable Energy Action Committee, representing IREC (larry@irecusa.org); Dara Yung, representing California Solar & Storage Association (CALSSA) (dara@calssa.org); Joseph H. Cain, P.E., representing Solar Energy Industries Association (SEIA) (joecainpe@gmail.com); Philip Oakes, representing NASFM (phil@browning.red)

2024 International Building Code

Revise as follows:

3111.1.1 Wind resistance. ~~Rooftop-mounted photovoltaic~~ Photovoltaic (PV) panel systems, elevated PV support structures, and solar thermal collectors shall be designed in accordance with Section 1609.

Reason: Any PV system, including elevated PV support structures, rooftop mounted PV panel systems, and ground-mounted PV should also be designed in accordance with Section 1609, because they will also be subject to wind loads. By removing “rooftop-mounted”, these requirements will apply to any installation of PV systems, wherever they are installed.

This proposal was prepared by the Sustainable Energy Action Committee (SEAC), a forum for all stakeholders (including, but not limited to, AHJs, designers, engineers, contractors, first responders, manufacturers, suppliers, utilities, and testing labs) to collaboratively identify and find solutions for issues that affect the installation and use of solar energy systems, energy storage systems, demand response, and energy efficiency. The purpose is to facilitate the deployment and use of affordable, clean and renewable energy in a safe, efficient, and sustainable manner.

All recommendations from SEAC are approved by diverse stakeholders through a consensus process. For more information, please visit www.sustainableenergyaction.org

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal simply includes the defined term "elevated PV support structure" that was newly defined in the 2024 IBC last cycle. It does not change the requirement for wind design in IBC Chapter 16 or ASCE 7.

G185-25

IBC: 3111.1.1, 3111.1.2, 3111.3.6

Proponents: Gwenyth Searer, Wiss, Janney, Elstner Associates, Inc., representing myself (gsearer@wje.com)

2024 International Building Code

SECTION 3111
SOLAR ENERGY SYSTEMS

Revise as follows:

3111.1.1 ~~Wind resistance~~ Structural design. ~~Rooftop-mounted photovoltaic~~ Photovoltaic (PV) panel systems and solar thermal collectors shall be designed and installed in accordance with ~~Section 1609~~ Chapter 16.

3111.1.2 ~~Roof live load~~Support structures. ~~Roof structures~~ Structures that provide support for solar energy systems shall be designed in accordance with Chapter 16~~Section 1607.15~~.

3111.3.6 Ground-mounted photovoltaic (PV) panel systems. *Ground-mounted photovoltaic panel systems* shall be designed and installed in accordance with ~~Chapter 16 and~~ the *International Fire Code*.

Reason: The provisions in Section 3111 are inconsistent with respect to solar systems and the applicability of Chapter 16 as follows:

- Section 3111.1.1 talks only about wind resistance of rooftop-mounted photovoltaic panel systems and solar thermal collectors. But dead load, snow load, and seismic loads are not mentioned. Similarly, this provision only covers "rooftop-mounted" systems, but Section 3111.3.5, which covers elevated photovoltaic (PV) support structures (which are presumably different than "rooftop-mounted systems", does not mention any structural loads, so there appears to be a hole in Section 3111.3.5.
- Section 3111.1.2 only talks about roof live load that must be applied to "roof structures" that support solar energy systems. Dead load, snow load, and seismic load are not mentioned, and this provision also does not appear to apply to elevated photovoltaic support structures because elevated PV support structures are arguably not roof structures. In addition, the specific reference to Section 1607.15 does not make sense, because that section covers crane loads not roof live loads.
- Section 3111.3.6 is the only provision that currently mentions Chapter 16 (i.e., "*designed and installed in accordance with Chapter 16*"), but if we require compliance with Chapter 16 in 3111.1.1 (which is just under Section 3111.1, General), we no longer need the reference here.

If all of these changes are made, Section 3111 will be more coordinated with Chapter 16 and several weaknesses in the current wording will be eliminated.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

I have not seen evidence that designers are relying on various provisions in Section 3111 to avoid designing for dead load, snow load, or seismic loads. Consequently, this change is editorial and only intended to clarify that the provisions in Chapter 16 apply to all PV panel systems and solar thermal collectors as well as the structures that support these systems. In the unlikely event that designers have been relying on various provisions in Section 3111 to avoid designing for dead load, snow load, or seismic loads, then that was never the intent of these provisions, and the provisions need to be modified, even if the changes result in an increase in cost.

G186-25

IBC: 3111.3.3

Proponents: Larry Sherwood, Sustainable Energy Action Committee, representing IREC (larry@irecusa.org); Philip Oakes, representing NASFM; Dara Yung, representing California Solar & Storage Association (CALSSA) (dara@calssa.org); Joseph H. Cain, P.E., representing Solar Energy Industries Association (SEIA) (joecainpe@gmail.com)

2024 International Building Code

3111.3.3 Building-integrated photovoltaic (BIPV) systems. BIPV systems installed as *roof coverings* shall be designed and installed in accordance with Section 1507. BIPV systems installed as *exterior wall coverings* or fenestration shall be designed and installed in accordance with Section 1411.

Reason: Requirements for BIPV systems used as exterior wall coverings or fenestration were added into the IBC last cycle. Because IBC Section 3111 provides a road map for all the requirements that apply to a solar energy system, this proposal simply adds a pointer to those new requirements.

This proposal was prepared by the Sustainable Energy Action Committee (SEAC), a forum for all stakeholders (including, but not limited to, AHJs, designers, engineers, contractors, first responders, manufacturers, suppliers, utilities, and testing labs) to collaboratively identify and find solutions for issues that affect the installation and use of solar energy systems, energy storage systems, demand response, and energy efficiency. The purpose is to facilitate the deployment and use of affordable, clean and renewable energy in a safe, efficient, and sustainable manner.

All recommendations from SEAC are approved by diverse stakeholders through a consensus process. For more information, please visit www.sustainableenergyaction.org

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is providing a pointer to assist the code user in finding all the applicable requirements for solar energy installations.

G187-25

IBC: 3111.3.5

Proponents: Jenifer Gilliland, Seattle Department of Construction and Inspections, representing Washington Association of Building Officials Technical Code Development Committee (jenifer.gilliland@seattle.gov); Micah Chappell, Seattle Dept. of Construction and Inspections (SDCI), representing Washington Association of Building Officials Technical Code Development Committee (WABO TCD) (micah.chappell@seattle.gov); C Ray Allshouse, City of Shoreline, representing Washington Association of Building Officials Technical Code Development Committee (rallshouse@shorelinewa.gov)

2024 International Building Code

SECTION 3111
SOLAR ENERGY SYSTEMS

Revise as follows:

3111.3.5 Elevated photovoltaic (PV) support structures. *Elevated PV support structures* shall comply with either Section 3111.3.5.1 or 3111.3.5.2. *Elevated PV support structures* shall be considered a roof for the purposes of establishing the number of stories and *fire separation distances.*

Exception: *Elevated PV support structures* that are installed over agricultural uses.

Reason: This proposed change addresses two issues: an elevated PV structure on top of a building that creates another story and the condition created by PV structures that are close to the lot line, similar to roof eaves that extend close to the lot line. This proposal aligns with similar changes made by RB150-22 in Section R329.7 of the 2024 IRC.

Since an accessory structure is not necessarily detached from a building, Section 3111.3.5 can be read to allow an elevated PV to be mounted on the roof of a building. This begs the question of once it is there, does it or does it not create a story? WABO members have encountered projects submitted for permit with large, elevated PV systems "shading" occupied roofs on mid-rise residential buildings. Some designers contend that these aren't a roof, and therefore, don't create an additional story or fire separation distance issues. No technical justification has been presented to demonstrate these should be treated differently than a roof, from a fire spread standpoint. Adoption of this proposed code change to the definition of elevated PV-support structures would settle the issue.

An *elevated PV support structure*, with a minimum of 7' 6 clearance below, creates a roof-like structure, as far as fire is concerned. It will contain heat and smoke just as much as a roof eave or a roof providing shade over an occupied roof. This is especially true given there are no requirements or criteria for openness of an elevated PV structure.

Once you have a usable space with a roof-like structure overhead, you clearly have created a story. If this does not create a story, then why would any other roof structure such as a 500 square foot hard roof over an occupiable roof create a story?

Where there is occupiable space below the elevated PV, and where the PV extends close to the lot line, you should be considering spread of fire to and from the adjacent property, which is the purpose of establishing fire separation distances. Because of the difficulty in trying to address all the variables of where this would be allowed, this proposal says if you put elevated PV on a roof, treat it as you would any other roof structure.

We want to emphasize that this proposal states the elevated PV gets treated as a roof for story count and fire separation distance purposes. It does not say the PV is a roof--it's just treated as such for those two issues, and those two issues only. For example, elevated PV would not be allowed by Table 504.4 on top of a Type V-A, R-2 4-story building, because that would create a 5th story. The building official can then apply their normal policies regarding roofs near the lot line, for fire separation/adjacent property protection purposes.

Elevated PV was the subject of two ICC proposals, RB150-22 and G123-21, in the 2024 code cycle. WABO submitted a public comment to disapprove G193 because it contained a definition that implies the space below the elevated PV can be used for any occupancy, which could create confusion regarding story count and fire separation distances. However, under heavy pressure from several proponents of G193 (some of whom recognized the issues we were raising), we decided to support the proposal as submitted rather than oppose the whole proposal because it dealt with some other important fire safety issues.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There has been a disagreement between building officials about whether the addition of elevated PV to a roof constitutes another story. This code proposal is meant to settle the issue and provide uniformity in enforcement across the country. It could be an increase in some parts of the country, but not in others.

G187-25

G188-25

IBC: SECTION 3113, 3113.1

Proponents: Andrew Klein, A S Klein Engineering, PLLC, representing Self Storage Association (andrew@asklein.com)

2024 International Building Code

SECTION 3113
RELOCATABLE BUILDINGS

Revise as follows:

3113.1 General. The provisions of this section shall apply to *relocatable buildings*. *Relocatable buildings* manufactured after the effective date of this code shall comply with the applicable provisions of this code.

~~**Exception**~~ **Exceptions:** This section shall not apply to:

1. ~~manufactured~~ Manufactured housing used as *dwellings.*
2. Pre-fabricated buildings that otherwise meet the provisions of this code.

Reason: Storage and utility/misc. buildings often make use of pre-fabricated buildings. It does not seem to be the intent of this section to apply to pre-fabricated buildings, but this additional exception ensures it will not be applied to such pre-fabricated buildings.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

It is not the intent of this section to apply to pre-fabricated buildings, which are being explicitly exempted in this code change proposal.

G188-25

G189-25

IBC: 3114.1

Proponents: David Bonowitz, representing David Bonowitz, S.E. (dbonowitz@att.net); Robert Bachman, RE Bachman Consulting Structural Engineer, representing Myself (rebachmanse@aol.com); Chris Kimball, Building Code Solutions, representing Self (chris@bcscodegroup.com)

2024 International Building Code

Revise as follows:

3114.1 General. The provisions of Section 3114and other applicable sections of this code shall apply to *intermodal shipping containers* that are repurposed for use as *buildings* or *structures*, or as a part of *buildings* or *structures*.

Exceptions:

1. *Intermodal shipping containers* previously *approved* as existing *relocatable buildings* complying with Chapter 14 of the *International Existing Building Code*.
2. Stationary storage battery arrays located in *intermodal shipping containers* complying with Chapter 12 of the *International Fire Code*and not assigned to Risk Category IV for reasons unrelated to hazardous materials.
3. *Intermodal shipping containers* that are *listed* as equipment complying with the standard for equipment, such as air chillers, engine generators, modular *data centers*, and other similar equipment, considering the risk category and occupancy-specific requirements.
4. *Intermodal shipping containers* housing or supporting experimental equipment are exempt from the requirements of Section 3114, provided that they comply with all of the following:
   4.1. Such units shall be single stand-alone units supported at grade level and used only for occupancies as specified under *Risk Category* I in Table 1604.5.
   4.2. Such units are located a minimum of 8 feet (2438 mm) from adjacent *structures*, and are not connected to a fuel gas system or fuel gas utility.
   4.3. In *hurricane-prone regions* and *flood hazard areas*, such units are designed in accordance with the applicable provisions of Chapter 16.

Reason: This proposal corrects two overly permissive exceptions regarding the design of repurposed shipping containers.

IBC Section 3114.8, new since the 2021 edition, generally requires repurposed shipping containers to be designed as non-building structures in accordance with Chapter 16. However, Exceptions 2 and 3 to Section 3114.1 acknowledge that some repurposed shipping containers already meet the requirements of standards associated with the contents they contain, so they should not need to be specially designed.

This allowance is reasonable for most uses, but it should not apply where the contents of the container represent an essential use and are therefore assigned to Risk Category IV. Exception 2 relies on provisions in the IFC, which are great for fire safety and hazmat containment but do not address post-event functionality expected of RC IV uses. Similarly, Exception 3 relies on existing standards for the contained equipment, but those standards might or might not have considered project-specific conditions such as environmental loads, which vary by site, or occupancy-specific requirements in IBC Chapter 4.

California's Division of the State Architect makes a similar distinction. There, shipping containers are sometimes converted to school classrooms, but because of the special design expectations for schools, DSA does not adopt the exceptions in Sec 3114.1. (Ref: 2022 California Building Code Section 3115.1 and DSA IR 31-2, "Intermodal shipping container conversion to school building: 2022 CBC," available at https://www.dgs.ca.gov/dsa/publications#special_construction)

Where the use is assigned to RC IV, the container's foundation and anchorage must be designed for higher wind, seismic, and even tornado forces, and in areas of moderate or high seismicity, the contents must be anchored to the container with higher design forces and must also be certified as designated seismic systems. **If the equipment inside the container has to be designed for RC IV, and the**

container's anchorage and foundation have to be designed for RC IV, it makes no sense that the container itself should be exempt from design. The container is an obvious and essential piece of the seismic load path and is largely responsible for protecting the RC IV equipment from other environmental loads. Surely, the container's adequacy should be confirmed as part of the design.

This proposal was motivated by thinking about battery energy storage systems (BESS), which often involve battery racks and associated equipment installed within metal containers similar to standard intermodal shipping containers. Most BESS installations involve customized containers, so it's not clear that Section 3114, which applies to "repurposed" intermodal containers, is even appropriate for BESS components. Even so, the logic above – that the container itself merits design when its contents are assigned to RC IV – applies for BESS or any other use of the equipment otherwise covered by Exceptions 2 and 3.

Cost Impact: Increase

Estimated Immediate Cost Impact:

Any cost increase should be small, probably at most a one-time manufacturer cost for pre-approval, but only a small, possibly zero, cost for construction. If the equipment standard referenced in Exception 3 already accounts for different risk categories and project-specific conditions, the proposal imposes no additional cost.

I defer to manufacturer's estimates. Note, however, that the cost increase, if any, will affect the container only. It **will not affect the cost of any contents or any foundation, anchorage, or interconnection to other structures**, which would already have to be designed as RC IV elements.

Estimated Immediate Cost Impact Justification (methodology and variables):

The cost of designing or modifying a container for RC IV is almost impossible to estimate, since containers vary in size, and each application can include the cutting and reinforcing of different openings in different locations. That said, we know that many containers used for battery installations are already designed/approved for RC III as stand-alone non-building structures, and unless substantial openings are cut during customization, they are already significantly over-designed just to work for shipping, so the increase in physical material cost should be small. Even when shipping containers are blown over in high winds or shift off foundations in earthquakes, the container itself is basically unharmed.

Further, some containers have already been designed and installed for RC IV applications, so we know the proposal is feasible. With respect to seismic certification per ASCE 7 Sec 13.2.3, containers are "nonactive" components eligible for certification by analysis, so there will be no testing costs. My expectation is that if the container is not already confirmed as RC IV-ready, manufacturers will do a one-time design to confirm that typical containers already work for RC IV, and perhaps to set limits on modifications for the rare cases where they might not. This will be a **one-time manufacturer cost**, with likely no impact on actual construction cost.

Finally, Section 3114 covers only "repurposed" containers, so it's unclear whether this section and its current exceptions apply to specialty uses like those containing batteries or other life safety system equipment that might be assigned to RC IV.

Therefore, I defer to container manufacturers' estimates. That said, the question raised by this proposal is: If a shipping container would need to be significantly redesigned or rebuilt in order to satisfy typical design calcs with RC IV loads, should we really be exempting them from any design for essential facilities or critical RC IV uses, based on a blanket waiver?

G189-25

G190-25

IBC: 3114.8.4.1

Proponents: Mark DePasquale, National Portable Storage Association, representing Portable Storage Industry (mark@npsa.org)

2024 International Building Code

Revise as follows:

3114.8.4.1 Material properties. Structural material properties for existing *intermodal shipping container* steel components shall be ~~established by Section 2202~~confirmed by factory specifications and classification society factory inspection reports applicable to the intermodal shipping container proposed for use in a building or as a building component. If such reports are not available, the shipping container steel components must be established through material testing in order to identify the steel grade and composition.

Reason: This is a relatively new area in the building code and our Association felt the need to be more specific with regard to what is acceptable. The change will bring clarity to what is actually necessary to establish acceptance of a shipping container proposed for use in a building or as a building component.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Just seeking more clarity in the statement

G191-25

IBC: SECTION 202 (New), SECTION 3115 (New), 3115.1 (New), 3115.2 (New), 3115.3 (New), 3115.4 (New), 3115.5 (New), 3115.6 (New), 3115.7 (New), 3115.8 (New), ACP (New), AWEA (New), IEC (New); IEBC: FAA (New)

Proponents: Michael Bergey, Bergey Windpower Co. LLC, representing Distributed Wind Energy Association (mbergey@bergey.com)

2024 International Building Code

Add new definition as follows:

DISTRIBUTED WIND ENERGY SYSTEM. A distributed wind energy system is a wind energy system that is connected behind-the-meter to provide energy to a structure.

Add new text as follows:

SECTION 3115
DISTRIBUTED WIND ENERGY SYSTEMS

3115.1 General. Ground-mounted distributed wind energy systems connected to an electrical service providing power to a structure shall comply with the requirements of this section.

3115.2 Certification required. Distributed wind energy system turbines shall be certified to AWEA 9.1 or ACP-101-1 by an accredited certification body or be IECRE type certified. Alternatively, systems shall be certified to IEC 61400-1 or -2, in addition too IEC 61400-11 and IEC 61400-12 by an accredited certification body.

3115.3 Electrical code. Distributed wind energy systems shall meet the requirements of the NFPA 70.

3115.4 Tower structure and foundation. Distributed wind energy system towers and foundations shall meet the requirements of TIA-222, except Section 17.12 for fatigue evaluation. The manufacturers dry PE-stamped structural analyses for conditions equal to or exceeding those of the local site shall be sufficient when the wind turbine tower is set back more than its total height from inhabited structures.

3115.5 System height. The distributed wind energy system shall comply with applicable FAA requirements in 14 CFR Part 77.

3115.6 Setback from property line. No part of the distributed wind energy system structure, including guy wire anchors, shall extend within ten (10) feet of the property boundaries of the installation site.

3115.7 Setback from inhabited structures. Distributed wind energy systems shall be set back at least a distance equal to the tower height of the wind turbine from existing inhabited structures and public roads.

3115.8 Inverters. Inverters shall be listed and labeled in accordance with UL 1741. Systems connected to the utility grid shall use inverters listed for utility interaction.

Add new standard(s) as follows:

ACP

American Clean Power Association
1299 Pennsylvania Avenue NW, Suite 1300
Washington, DC 20004

ANSI/ACP 101-1-2021	The Small Wind Turbine Standard

AWEA

American Wind Energy Association
1501 M Street NW, Suite 1000
Washington, DC 20005

AWEA 9.1 - 2009	Small Wind Turbine Performance and Safety Standard

IEC

International Electrotechnical Commission
3 rue de Varembé
PO Box 131
CH-1211 Geneva 20,
Switzerland

IEC 61400-1:2019	Wind Energy Generation Systems - Part 1: Design Requirements
IEC 61400-2:2013	Wind Turbines - Part 2: Small Wind Turbines
IEC 61400-11:2012	Wind Turbines - Part 11: Acoustic Noise Measurement Techniques
IEC 61400-12:2022	Wind Energy Generation Systems - Part 12-1: Power Performance Measurements of Electricity Producing Wind Turbines

2024 International Existing Building Code

Add new standard(s) as follows:

FAA

Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591

14 CFR Part 77	SAFE, EFFICIENT USE, AND PRESERVATION OF THE NAVIGABLE AIRSPACE

Reason: The current IBC code includes specific sections on Solar Energy Systems (Section 3111) and Telecommunication and Broadcast Towers (Section 3108), but it does not have a specific section on wind energy systems. In fact, there is no mention of wind energy in the current code.

Distributed wind energy systems are typically installed adjacent to existing structures and connected electrically such that their energy production supplies the structure and a complement to the electrical supply from the serving electrical utility. Distributed wind energy systems are not windfarms, they primarily serve to reduce the owners consumption of utility electricity. The National Renewable Energy Laboratory (NREL) has determined that distributed wind energy systems could be installed at over 49 million locations in the U.S., and they have a technical potential, at greater than 8 TW, exceeding that of offshore wind energy systems.

Distributed wind energy systems complement solar energy systems in that they supply power at night and have their best performance (Winter and during storms) when solar energy is at its weakest. They take up substantially less space than solar and the leading products are made in America. The cost of distributed wind energy systems is coming down with more advanced technology and higher manufacturing volumes. Federal clean energy incentives apply equally to wind and solar investments and domestic manufacturing.

DWEA believes that adding a specific Distributed Wind Energy Systems section to the IBC, in Chapter 31 Special Constructions, will assist Authorities Having Jurisdiction (AHJ's) in determining appropriate requirements for ensuring the safe and effective use of this nascent emerging clean energy technology. The proposed subsections cover the requirements typically considered or imposed. Wind energy system requirements are quite rare in local and state codes so the proposed new section of the IBC will help fill a gap and result in a uniform minimum level of safety.

Substantiation:

3115.1 - The scope of the section is limited to "behind-the-meter" wind energy systems. Windfarms and roof-mounted wind energy systems are excluded. Roof-mounted wind turbines are not recommended due to structural, vibration, noise and wind sheltering and turbulence, and are therefore excluded.

3115.2 - The scope of the section is limited to "behind-the-meter" wind energy systems. There is no size limitation.

3115.3 - Historically, many smaller distributed wind energy system products have been offered for sale that have not been properly engineered or tested. Many have been sold with highly exaggerated performance claims, sometimes at high multiples of the total kinetic energy in the wind. These immature products, some of which were outright scams, have cheated consumers and posed unacceptable safety risks. In response to this phenomenon, consensus, ANSI-recognized, turbine certification standards were developed in 2009 and have been updated several times. The primary certification body for small and medium wind turbines is the Small Wind Certification Council, which is a service of ICC-ES.

Wind turbine certification is required by the Internal Revenue Service (IRS) to qualify for Section 48 Investment Tax Credits and Section 45X Advanced Manufacturing Tax Credits. The U.S. national and international standards listed are those used for the IRS for

qualification. IECRE is an emerging pan-national certification program that has the goal of reducing the need to obtain separate certification for each country. Given the three year latency of the IBC, DWEA believes that including a reference to IECRE in the 2027 edition is prudent.

3115.4 - The NEC Section 694 covers electrical safety of small wind systems and requires that the wind turbine be listed. The standard to which they can be listed is UL 6142.

3115.5 - In the absence of a national structural safety standard for wind turbine towers AHJ's typically request a structural analysis demonstrating compliance with structural standard for telecommunications towers, TIA-222. This is accepted practice in the distributed wind industry but there are two issues we would like to address in the IBC.

First, TIA-222 Section 17 requires an elaborate evaluation of the wind turbine tower structure for fatigue. But DWEA is unaware of any fatigue related failures of towers for certified wind turbines so this requirement in the standard, developed by the telecom industry, is an expense without a public benefit. It has limited the number of professional engineering firms offering evaluation services due to the learning curve of this section of the code and the fact that they will seldom use it. In addition, distributed wind energy systems are seldom placed close to inhabited structures so the risk of injury from a tower collapse is extremely remote. Therefore, DWEA recommends an exemption from Section 17 so long as the tower is beyond the fall zone of the distributed wind energy system.

Second, the towers for certified wind turbines are typically designed for the structural loads determined in the turbine safety standard used for certification, IEC 61400-1 or IEC 61400-2. For a IEC Class II certification (the most common) those loads are determined for a 60 m/s (132 mph) 3-second gust and then safety factors of 1.35 – 1.5 are applied. So, when a manufacturer creates a PE-stamped analysis with those loads and wind speed, and accounting for additional ice and seismic loads, for a standard tower DWEA believes that the resulting evaluation should be accepted for that or lesser site conditions. We understand that state or local regulations may require a unique evaluation bearing an in-state PE wet stamp and supersede this section.

3115.6 - Hazards to aviation are regulated by the Federal Aviation Administration and distributed wind energy systems are subject to those regulations.

3115.7 - This provides a buffer from neighboring properties.

3115.8 - This is a safety setback that provides near absolute assurance that the distributed wind energy structure provides no risk to people.

3115.9 - This parallels language provided for solar energy systems.

Bibliography:

1. NREL, "Assessing the Future of Distributed Wind: Opportunities for Behind-the-Meter Projects", Lantz, Sigrin, et al, NREL Technical Report NREL/TP-6A20-67337, November 2016

2. NREL, "Distributed Wind Energy Futures Study", McCabe, Prasanna, et al, NREL Technical Report NREL/TP-7A40-82519, May 2022

3. AWEA-9.1-2009, AWEA Small Wind Turbine Performance and Safety Standard, American Wind Energy Association (now ACP), 2009

4. ANSI/ACP-101-1-2021, The Small Wind Turbine Standard, American Clean Power Association, December 2021

5. IEC 61400-2, Wind Turbines – Part 2: Small Wind Turbines, International Electrotechnical Commission

6. IEC 61400-1, Wind Energy Generation Systems, Part 1: Design Requirements, International Electrotechnical Commission

7. IEC 61400-11, Wind turbines - Part 11: Acoustic Noise Measurement Techniques, International Electrotechnical Commission

8. IEC 61400-12, Wind energy generation systems - Part 12: Power performance measurements of electricity producing wind turbines, International Electrotechnical Commission

9. NFPA 70, National Electrical Code, National Fire Prevention Association

10. 14 CFR Part 77, Code of Federal Regulations

11. ANSI/TIA-222, Structural Standard for Antenna Supporting Structures, Antennas and Small Wind Turbine Support Structures, Tower Industries Association

Cost Impact: Decrease

Estimated Immediate Cost Impact:

Estimated to save $500-2,000 per installation. More if dry-stamp structural analyses are allowed.

Estimated Immediate Cost Impact Justification (methodology and variables):

The code change request will decrease the costs of construction for certified distributed wind energy systems and will increase the costs of construction for non-certified distributed wind energy systems. For certified distributed wind energy systems, the costs will be reduced through the exemption from Section 17 of TIA-222 and by more uniform and predictable requirements. For non-certified distributed wind energy systems, the cost will be increased by the costs of certification.

Staff Analysis: A review of the following standards proposed for inclusion in the code regarding some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025:

AWEA 9.1 - 2009 Small Wind Turbine Performance and Safety Standard
ANSI/ACP 101-1-2021 The Small Wind Turbine Standard
IEC 61400-1:2019 Wind Energy Generation Systems - Part 1: Design Requirements
IEC 61400-2:2013 Wind Turbines - Part 2: Small Wind Turbines
IEC 61400-11:2012 Wind Turbines - Part 11: Acoustic Noise Measurement Techniques
IEC 61400-12:2022 Wind Energy Generation Systems - Part 12-1: Power Performance Measurements of Electricity Producing Wind Turbines
14 CFR Part 77 SAFE, EFFICIENT USE, AND PRESERVATION OF THE NAVIGABLE AIRSPACE

G191-25

G192-25

IBC: SECTION 202 (New), SECTION 3115 (New), 3115.1 (New)

Proponents: Jonathan Roberts, representing UL Solutions (jonathan.roberts@ul.com)

2024 International Building Code

Add new definition as follows:

MODULAR ROOM. A prefabricated structure intended for indoor use to provide privacy that has walls, a ceiling, with or without an integrated floor, and that can include integral electrical wiring, ventilation, and furniture.

Add new text as follows:

SECTION 3115
MODULAR ROOMS

3115.1 General. Where provided, m*odular rooms* shall comply with Section 323 of the *International Fire Code*.

Reason: Modular rooms are becoming increasingly popular and are showing up in a variety of different occupancies. During the Code Action Hearings held April 7-14th, 2024 The International Fire Code Committee voted 14-0 to approve F62-24 as modified. F62-24 creates a new Section 323 for Modular Rooms in Chapter 3 of the International Fire Code. The new Section 323 contains requirements for permitting, listing, locations, occupant notification and automatic fire sprinkler systems as well as requirements for modular rooms used for sleeping. This proposal will place a pointer to the applicable requirements for modular rooms where they are installed under the scope of the International Building Code.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

No cost increase as this proposal only points to the requirements in the 2027 IFC.

G192-25

G193-25

IBC: SECTION 202 (New), SECTION 312, 312.1, SECTION 3115 (New), 3115.1 (New), 3115.2 (New), 3115.3 (New), 3115.3.1 (New), 3115.4 (New), 3115.5 (New), 3115.6 (New), NFPA Chapter 35 (New); IFC: SECTION 202 (New), [BG] 203.11

Proponents: Kota Wharton, representing City of Grove City (kwharton@grovecityohio.gov); Chad Sievers, NYS, representing NYS Dept of State (chad.sievers@dos.ny.gov); Kevin Duerr-Clark, representing NYSDOS (kevin.duerr-clark@dos.ny.gov); Daniel Carroll, New York State Department of State, representing Division of Building Standards and Codes (daniel.carroll@dos.ny.gov); Brian Tollisen, representing NYS Department of State, Division of Building Standards and Codes (brian.tollisen@dos.ny.gov); Jeanne Rice, representing NYSDOS (jeanne.rice@dos.ny.gov); Stephen Van Hoose, representing NYS DOS (stephen.vanhoose@dos.ny.gov)

2024 International Building Code

Add new definition as follows:

LIVE FIRE TRAINING STRUCTURES. A structure utilized by the fire department for conducting live fire training on a repetitive basis.

SECTION 312
UTILITY AND MISCELLANEOUS GROUP U

Revise as follows:

312.1 General. *Buildings* and *structures* of an accessory character and miscellaneous *structures* not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

Agricultural buildings

Aircraft hangars, accessory to a one- or two-family residence (see Section 412.4)

Barns

Carports

Communication equipment *structures* with a *gross floor area* of less than 1,500 square feet (139 m^2)

Fences more than 7 feet (2134 mm) in height

Grain silos, accessory to a residential occupancy

Livestock shelters

Live fire training facilities

Private garages

Retaining walls

Sheds

Stables

Tanks

Towers

Add new text as follows:

SECTION 3115
LIVE FIRE TRAINING STRUCTURES

3115.1 General. Where approved by the *building official* and the *fire code official*, *live fire training facilities* designed in accordance with Chapter 7 of NFPA 1402, or Chapters 6, 7, or 8 of NFPA 1403, and the provisions of Section 3115 shall be deemed to satisfy the requirements of this code.

3115.2 Posting. Temporary and permanent *live fire training structures* shall be provided with signs that state **"DANGER - FIREFIGHTER ACCESS ONLY. DANGEROUS BUILDING CONDITIONS WITHIN."**. Signs shall be readily visible and located near every entrance to the structure or, where the temporary or permanent *live fire training structure* is entirely surrounded by fencing, at every fence entrance.

3115.3 Structural. Temporary and permanent *live fire training structures* shall be designed in accordance with Chapter 16 and this section and supported on foundations or other supporting *structures* designed and constructed in accordance with Chapter 16 through 23.

3115.3.1 Intermodal shipping containers. Where temporary or permanent *live fire training structures* are comprised of *intermodal shipping containers* such *intermodal shipping containers* shall comply with Section 3114.2 through 3114.4 and 3114.8 through 3114.8.5.3.

3115.4 Building heights and area. *Live fire training structures* shall comply with Chapter 5.

Exception: Where *approved* by the building official and *fire code official*, *live fire training structures* shall be exempt from the *building height*, number of stories and *building area limitations specified in Sections 504 through 506.*

3115.5 Fire separation distance. Temporary and permanent *live fire training structures* shall have a *fire separation distance* not less than 30 feet.

Exception: Where multiple temporary and permanent *live fire training structures* exist on the same site, such structures shall shall not be required have a *fire separation distance* between them.

3115.6 Responder safety features. Temporary and permanent *live fire training structures* shall comply with Section 914 and 918.

Add new standard(s) as follows:

NFPA

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169-7471

1402-2019	Standard on Facilities for Fire Training and Associated Props
1403-2018	Standard on Live Fire Training Evolutions

2024 International Fire Code

Add new definition as follows:

LIVE FIRE TRAINING STRUCTURES. A structure utilized by the fire department for conducting live fire training on a repetitive basis.

Revise as follows:

[BG] 203.11 Miscellaneous Group U. Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

Agricultural buildings

Aircraft hangar, accessory to a one- or two-family residence (see Section 412.4 of the *International Building Code*)

Barns

Carports

Communication equipment structures with a gross floor area of less than 1,500 square feet (139 m^3)

Fences more than 7 feet (2134 mm) in height

Grain silos, accessory to a residential occupancy

Livestock shelters

Live fire training facilities

Private garages

Retaining walls

Sheds

Stables

Tanks

Towers

Reason: The IBC currently lacks clear guidelines for live fire training facilities. Previous attempts to address this have been unsuccessful, but this proposal builds on those lessons, offering building code officials a prescriptive path that ensures structural integrity while balancing life-safety with the need for realistic training scenarios.

With increased demands for these structures, and little code guidance, the path for a building code official to approve the structures becomes increasingly difficult.

This code change:

- Classifies live fire training structures within Group U Occupancies.
- Mandates signage for safety awareness and public warning.
- Ensures compliance with IBC structural standards, with specific guidance for structures made from intermodal shipping containers.
- Establishes a 30-foot minimum fire separation distance, based on T705.5.
- Requires basic responder safety features like shaftway and equipment room identification, and radio coverage.

Of note, this proposal is designed for relatively easy understanding and adoption by leveraging existing sections for structural design or integrates with current safety feature requirements, making the code more cohesive rather than adding complexity.

Bibliography: NPFA 1402-2019 may be viewed online here (https://www.nfpa.org/codes-and-standards/nfpa-1402-standard-development/1402).
NFPA 1403-2018 may be viewed online here (https://www.nfpa.org/codes-and-standards/nfpa-1403-standard-development/1403).

Cost Impact: Decrease

Estimated Immediate Cost Impact:

$0, however, this code change could lead to a decrease in immediate construction costs by providing clearer guidelines for live fire training facilities.

Estimated Immediate Cost Impact Justification (methodology and variables):

By offering specific standards, it reduces the need for custom solutions, simplifies compliance, and optimizes resource use in design and construction.

Estimated Life Cycle Cost Impact:

The lifecycle costs of these facilities might be reduced due to the strategic selection of materials and placement of required signs and systems.

Estimated Life Cycle Cost Impact Justification (methodology and variables):

Choosing durable materials for signage, locating systems like radio responder coverage externally, and selecting cost-effective products could lower maintenance and operational costs.

Staff Analysis:

- A review of the following standards proposed for inclusion in the code regarding some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025:
    - NFPA 1402-2019 Standard on Facilities for Fire Training and Associated Props
    - NFPA 1403-2018 Standard on Live Fire Training Evolutions

G193-25

G194-25

IBC: SECTION 3115 (New), 3115.1 (New), SECTION 202 (New), ICC Chapter 35 (New)

Proponents: Bora Gencturk, University of Southern California, representing ICC Committee 1150 (gencturk@usc.edu)

2024 International Building Code

Add new text as follows:

SECTION 3115
AUTOMATED CONSTRUCTION TECHNOLOGY FOR 3D PRINTING WALLS

3115.1 General. 3D printing materials and 3D printing walls shall be designed and constructed in accordance with ICC 1150.

Add new definition as follows:

3D AUTOMATED CONSTRCUCTION TECHNOLOGY (3D-ACT). Construction-scale 3D printing technology, also known as additive manufacturing or layer-by-layer automated construction technology, used in the construction of buildings, or building components, consisting of a computer program, *3D printer software*, and computer-controlled equipment, *3D printer*, to create three-dimensional shapes with 3D printing material.

3D PRINTING MATERIALS. A proprietary or non-proprietary cementitious material, concrete or mortar, that consists of cement, *fibers*, *supplementary cementitious materials*, fine or coarse aggregate, and *admixtures*, if applicable. *3D printing material* is extruded in layers during construction.

3D PRINTING WALLS. Walls constructed with the use of *3D automated construction technology* using 3D printing material. Walls may be printed in various configurations, including but not limited to, printing 3D printing material in layers to create two outer face shells with a *core fill grout* between the shells to form a solid wall. If applicable, structural steel reinforcing shall be placed within the *core fill grout*, or within the shell layers.

Add new standard(s) as follows:

ICC

International Code Council, Inc.
200 Massachusetts Avenue, NW, Suite 250
Washington, DC 20001

1150-2026 Standard for Automated Construction Technology for 3D Printing Walls

Reason: There is growing interest for 3D printing construction. 3D printing construction is being increasingly used across the United States. Currently there is no code available for this construction approach. The purpose of this proposed code change is to establish design provisions for *3D printed walls* and their connections where the walls are built using 3D *automated construction technology* (3D-ACT) with proprietary or non-proprietary *3D printing materials*, that are in compliance with the intent of the model building codes.The proposed changes improve upon the technical requirements to reflect current industry practices related to materials testing and structural design. The proposed changes aim to eliminate any conflicts with codes and establish common terms and rigor. The resulting changes provide appropriate protections for health, safety and welfare while avoiding unnecessary restrictions on the use of new materials, technologies or designs. The referenced standard was developed following the rigorous ANSI standard development process.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is a new construction methodology. It is not anticipated to increase cost of construction approach.

Staff Analysis: A review of the standard proposed for inclusion in the code, ICC 1150-2026 Standard for Automated Construction Technology for 3D Printing Walls, with regard to some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025.

G195-25 Part I

IBC: SECTION 202 (New), SECTION 3115 (New), 3115.1 (New), 3115.2 (New), 3115.3 (New), ICC Chapter 35 (New)

Proponents: Jon Hannah-Spacagna, representing Modular Building Institute; Jay Richards, State of Ohio, representing Board of Building Standards (jay.richards@com.ohio.gov); Jonathon Paradine, State of Michigan, representing LARA/ Bureau of Construction Codes (paradinej@michigan.gov); Shane Nilles, representing American Wood Council (snilles@awc.org); Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org); Kelly Kelly, Texas Department of Licensing and Regulation, representing self (kelly.kelly@tdlr.texas.gov); Crisi Cooper, Texas Dept of Licensing and Regulation, representing Industrialized Housing and Building (crisi.cooper@tdlr.texas.gov)

THIS IS AN 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC-GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Building Code

Add new definition as follows:

MODULAR COMPONENT. A subassembly, subsystem or combination of elements for use as a part of a building that is not structurally independent and is a part of structural, plumbing, mechanical, electrical, fire protection or other systems affecting life safety.
MODULE. A three-dimensional, volumetric section of a building designed and constructed to be transported as a single section to a site for on-site installation with or without other sections and/or on-site construction.

Add new text as follows:

SECTION 3115
MODULES AND MODULAR COMPONENTS

3115.1 General. Planning, design, fabrication, transportation, assembly, inspection and regulatory compliance of *modules* or *modular components* shall comply with this section.

Exceptions:

1. *Modules or Modular components* not containing plumbing, mechanical, electrical, or fire protection systems that comply with the requirements of Section 1704.2.5 for *fabricated items*.
2. *Modules or Modular components*, rooms, suites, or pods manufactured, *listed, labeled* and installed in accordance with *approved* standards.

3115.2 Construction. In additionto other applicable requirements in this code, *modules or modular components* shall be constructed in accordance with ICC/MBI 1200

3115.3 Regulatory Compliance. In additionto other applicable requirements in this code, *modules or modular components* constructed off-site shall be inspected and regulated in accordance with ICC/MBI 1205 and ICC/MBI 1210.

Exceptions:

1. Jurisdictions where requirements for *modules or modular components* constructed off-site are established and regulated in accordance with the laws of the state or jurisdiction in which the site of the completed building will be located.
2. Inspection of *modules or modular components* manufactured in such a manner that all portions can be inspected, in accordance with this code, without disassembly, damage or destruction thereof.

Add new standard(s) as follows:

International Code Council, Inc.
200 Massachusetts Avenue, NW, Suite 250
Washington, DC 20001

ICC/MBI 1200-2021	Standard for Off-Site Construction: Planning, Design, Fabrication and Assembly
ICC/MBI 1205-2021	Standard for Off-Site Construction: Inspection and Regulatory Compliance
ICC/MBI 1210-2023	Standard for Mechanical, Electrical, Plumbing Systems, Energy Efficiency and Water Conservation in Off-site Construction.

Reason: Many segments of the building industry including code officials, building owners, designers and contractors are often unfamiliar with the offsite construction processes. In some cases, the code officials have no direction or guidance on how to regulate certain construction activities that do not occur on the project site. In other cases, manufacturers are forced to deal with a myriad of regulations from local agencies where state entities are not empowered to regulate the built environment when constructed offsite.

The MBI/ICC 1200 and 1205 provides direction and guidance for offsite construction that is not covered by traditional methods and code applications. To facilitate understanding of the off-site construction process, assure off-site projects meet the requirements of construction codes; the International Code Council (ICC) and the Modular Building Institute (MBI) initiated a joint project to develop standards for the planning, design, fabrication, assembly, inspection, and regulatory compliance of off-site and modular construction in February 2019. The result of the collaboration is the MBI/ICC 1200 *Standard for Off-Site Construction: Planning, Design, Fabrication, and Assembly* and MBI/ICC1205 *Standard for Offsite Construction: Inspection and Regulatory Compliance.*

These standards include requirements for a controlled manufacturing environment, supply chain integration, structural modular vs non-structural modular, the fabrication process and on-site assembly such as: staging area for construction materials, foundations, placing modules, structural connections, utilities (PMG), weather considerations, finishing mate lines, inspections, approval and regulatory compliance of off-site construction components and their assembly. The standards also include the completion of the building at the final site such as: permitting; in-plant and on-site final inspections; third party inspections; the role of Industrialized Building Departments, state modular programs and the local Authority Having Jurisdiction.

This proposal recognizes there are different pathways to demonstrate code compliance for offsite construction. This proposal is not intended to remove or replace any existing traditional method as noted in the exceptions, but also provide the necessary guidance for code users and officials can rely on. These methods referenced in the codes and standards have been:

- Items fabricated in accordance with IBC Section 1704.2.5., including those assembled under the approved fabricator program (1704.2.5.1).
- Products, assemblies, and equipment manufactured, listed, and installed in accordance with an approved standard.
- State Industrialized or Manufactured Building programs.

A similar proposal (G102-21) was submitted and was not approved for the 2024 IBC. This proposal specifically looked at the opposing testimony in an attempt to not cast too large of a compliance net. The proposal addresses existing approval methodologies: approved structural fabrication, panelized systems, listed self-contained rooms or pods, elements that can be inspected on-site; but also allows for the recognition and coordination of state-wide programs. Furthermore, the location appears to be better suited in Chapter 33 - Special Construction vs Chapter 4 – Special Detailed Requirements Based on Occupancy and Use.

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal outlines off-site construction methods that may be unfamiliar to inexperienced industry participants and offers a model regulatory
process to address state and local needs.

Staff Analysis:

- A review of the following standards proposed for inclusion in the code regarding some of the key ICC criteria for referenced

standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025:

- ICC/MBI 1200-2021, Standard for Off-Site Construction: Planning, Design, Fabrication and Assembly
- ICC/MBI 1205-2021, Standard for Off-Site Construction: Inspection and Regulatory Compliance
- ICC/MBI 1210-2023, Standard for Mechanical, Electrical, Plumbing Systems, Energy Efficiency and Water Conservation in Off-site Construction

G195-25 Part I

G195-25 Part II

IRC: SECTION 202 (New), R301.1.5 (New), R301.1.5.1 (New), R301.1.5.2 (New), ICC Chapter 44 (New)

Proponents: Jon Hannah-Spacagna, representing Modular Building Institute; Jay Richards, State of Ohio, representing Board of Building Standards (jay.richards@com.ohio.gov); Jonathon Paradine, State of Michigan, representing LARA/ Bureau of Construction Codes (paradinej@michigan.gov); Shane Nilles, representing American Wood Council (snilles@awc.org); Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org); Crisi Cooper, Texas Dept of Licensing and Regulation, representing Industrialized Housing and Building (crisi.cooper@tdlr.texas.gov)

2024 International Residential Code

Add new definition as follows:

MODULAR COMPONENT. A subassembly, subsystem or combination of elements, including panelized systems, building shells or bathroom pods, for use as a part of a modular building that is not structurally independent, but is a part of structural, plumbing, mechanical, electrical, fire protection or other systems affecting life safety.
MODULE. A three-dimensional, volumetric section of a building designed and constructed to be transported as a single section to a site for on-site installation with or without other sections and/or on-site construction.

SECTION R301
DESIGN CRITERIA

Add new text as follows:

R301.1.5 Modules and Modular Components. Planning, design, fabrication, transportation, assembly, inspection and regulatory compliance of *modules* or *modular components* shall comply with this section.

Exceptions:

1. *Modules or Modular components* not containing plumbing, mechanical, electrical, or fire protection systems that comply with *approved* standards or the requirements of the International Building Code for fabricated items.
2. *Modules or Modular components*, rooms, suites, or pods manufactured, *listed, labeled,* and installed in accordance with *approved* standards.

R301.1.5.1 Construction. In addition to other applicable requirements in this code, *modules* or *modular components* constructed off-site shall be constructed in accordance with ICC/MBI 1200.

R301.1.5.2 Regulatory Compliance. In additionto other applicable requirements in this code, *modules* or *module components* constructed off-site construction shall be inspected and regulated in accordance with ICC/MBI 1205 and ICC/MBI 1210.

Exceptions:

1. Jurisdictions where requirements for *modules or modular components* constructed off-site are established and regulated in accordance with the laws of the state or jurisdiction in which the site of the completed building will be located.
2. Inspection of *modules* or *modular components* manufactured in such a manner that all portions can be inspected, in accordance with this code, without disassembly, damage or destruction thereof.

Add new standard(s) as follows:

International Code Council, Inc.
200 Massachusetts Avenue, NW, Suite 250
Washington, DC 20001

ICC/MBI 1200-2021	Standard for Off-Site Construction: Planning, Design, Fabrication and Assembly
ICC/MBI 1205-2021	Standard for Off-Site Construction: Inspection and Regulatory Compliance
ICC/MBI 1210-2023	Standard for Mechanical, Electrical, Plumbing Systems, Energy Efficiency and Water Conservation in Off-site Construction.

Reason: Many segments of the building industry including code officials, building owners, designers and contractors are often unfamiliar with the offsite construction processes. In some cases, the code officials have no direction or guidance on how to regulate certain construction activities that do not occur on the project site. In other cases, manufacturers are forced to deal with a myriad of regulations from local agencies where state entities are not empowered to regulate the built environment when constructed offsite.

The MBI/ICC 1200 and 1205 provides direction and guidance for offsite construction that is not covered by traditional methods and code applications. To facilitate understanding of the off-site construction process, assure off-site projects meet the requirements of construction codes; the International Code Council (ICC) and the Modular Building Institute (MBI) initiated a joint project to develop standards for the planning, design, fabrication, assembly, inspection, and regulatory compliance of off-site and modular construction in February 2019. The result of the collaboration is the MBI/ICC 1200 *Standard for Off-Site Construction: Planning, Design, Fabrication, and Assembly* and MBI/ICC1205 *Standard for Offsite Construction: Inspection and Regulatory Compliance.*

These standards include requirements for a controlled manufacturing environment, supply chain integration, structural modular vs non-structural modular, the fabrication process and on-site assembly such as: staging area for construction materials, foundations, placing modules, structural connections, utilities (PMG), weather considerations, finishing mate lines, inspections, approval and regulatory compliance of off-site construction components and their assembly. The standards also include the completion of the building at the final site such as: permitting; in-plant and on-site final inspections; third party inspections; the role of Industrialized Building Departments, state modular programs and the local Authority Having Jurisdiction.

This proposal recognizes there are different pathways to demonstrate code compliance for offsite construction. This proposal is not intended to remove or replace any existing traditional method as noted in the exceptions, but also provide the necessary guidance for code users and officials can rely on. These methods referenced in the codes and standards have been:

- Items fabricated in accordance with special inspection provisions of the IBC. This is addressed in Section 1704.2.5., including those assembled under the approved fabricator program (1704.2.5.1).
- Products, assemblies, and equipment manufactured, listed, and installed in accordance with an approved standard.
- State Industrialized or Manufactured Building programs.

A companion proposal has been submitted for the International Building Code that will create a new section in Chapter 33 of the IBC. Both proposals address existing approval methodologies: approved structural fabrication, panelized systems, listed self-contained rooms or pods, elements that can be inspected on-site; but also allows for the recognition and coordination of state-wide programs.

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal outlines off-site construction methods that may be unfamiliar to inexperienced industry participants and offers a model regulatory
process to address state and local needs.

Staff Analysis: A review of the following standards proposed for inclusion in the code regarding some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025.

ICC/MBI 1200-2021 Standard for Off-Site Construction: Planning, Design, Fabrication and Assembly

ICC/MBI 1205-2021 Standard for Off-Site Construction: Inspection and Regulatory Compliance

ICC/MBI 1210-2023 Standard for Mechanical, Electrical, Plumbing Systems, Energy Efficiency and Water Conservation in Off-site Construction.

G195-25 Part II

G196-25

IBC: SECTION 202 (New), SECTION 3115 (New), 3115.1 (New), 3115.2 (New), 3115.3 (New), FM Chapter 35 (New)

Proponents: David Campbell, TuffWrap, representing SmartSeam (tmdevit@gmail.com)

2024 International Building Code

Add new definition as follows:

TEMPORARY CEILING CONSTRUCTION BARRIER. A system utilizing seamed membrane sheets and attachments to supporting construction used to mitigate dust and debris from falling from a work area above the barrier to an area below the barrier.

Add new text as follows:

SECTION 3115
TEMPORARY CEILING CONSTRUCTION BARRIERS

3115.1 General. *Temporary ceiling construction barriers* shall be certified and labeled by an approved agency to comply with the requirements of Sections 3115.2 and 3115.3 and other applicable sections of this code.

3115.2 Transverse loads. *Temporary ceiling construction barriers* shall withstand 15 punds per square foot transverse loads in accordance with ASTM E330, Procedure A.

3115.3 Fire provisions. *Temporary ceiling construction barriers* shall be permitted to be installed below *automatic sprinkler systems* providing the *temporary ceiling construction barrier* complies with all of the following:

1. The ceiling finishes meets the requirements of Class A in accordance with Section 803.1.2.2 of the *International Fire Code*.
2. The ceiling meets the requirements of UL 723S, Section 3.3 and shown to comply with Section 3.4 for minimum and maximum distances beneath fire sprinklers.
3. Meets the satisfactory performance of FM4651 for melt-out or drop out in accordance with the following:
   3.1. Before sprinkler operation, within 1 min 45 seconds of flame exposure.
   3.2. After sprinkler operation, within 1 min 45 seconds of flame exposure.

Add new standard(s) as follows:

FM

FM Approvals
Headquarters Office1151 Boston-Providence TurnpikeP.O. Box 9102
Norwood, MA 02062

FM4651 Approval Standard for Plastic Suspended Ceiling Panels

Reason: The Temporary Ceiling Construction Barrier market started in 1999, and has grown significantly in the last 7-10 years as building owners, retail and commercial spaces, and manufacturers want to continue normal operations during construction/ renovation, to continue operations as normal, when such remedial or improvement work is necessary. This change is needed to include the option for temporary ceiling construction barriers in the code.
Health concerns have grown in these spaces, and protecting these spaces, while allowing activities to continue, has given rise to this product/installation to negate having to shut down an area while doing roof related work. UL and FM have test protocols designed specifically to address and evaluate these product materials and installations. These products are used as barriers, on the underside of the roof during construction and above occupied space, to help reduce dust and small debris from falling from upper areas of construction to lower occupied levels. These systems are particularly useful in ceiling construction and other applications where business operations need to continue below a roof area being worked on. The inclusion of these systems into the code is important as

addressing potential safety considerations is critical for occupant safety, including falling dust and fire-safety considerations. There is no significant loading requirements on the system, as they are not intended to protect from heavy falling debris, only for dust and smaller particles that affect cleanliness and operation of the level below. The fire safety concerns are critical to the safety of the building and its occupants, as these systems are designed to open up in the event of a fire and not affect the operation of the fire sprinkler system's ability to extinguish a fire. This is particularly important as these systems are often placed between the fire sprinklers and the occupied level below.
Please use the included link below to the FM site to acquire the FM 4651 Standard referenced in this code change, and simply enter the standard number, 4651, to view the standard.
https://www.fmapprovals.com/Resources/Approval-Standards (type 4651 in the search box).

Cost Impact: Increase

Estimated Immediate Cost Impact:

There is a cost associated with the installation of this product, but compared to the use of scaffolding or a shutdown and loss of productivity in the space under the construction area, the net cost impact is favorable and positive to the owners. Abnormally high traffic on the roof in the vicinity of the construction area shakes loose dust, insects, and any accumulated debris on open format ceilings, like bar joist or open beam construction. This installation protects the inhabited space below the construction area, allowing activities normally done in this area to continue. The health safety concerns usually mandate a temporary scaffold type protection be put in place, which disrupts or prohibits normal traffic and activity to various degrees, this product is not intrusive as it never comes in contact with the area below the construction area.

Estimated Immediate Cost Impact Justification (methodology and variables):

Typical installation cost is $1.00 - $2.00/sq ft, which includes the removal of the product at the end of the construction period or the limit of the installation timing.

Staff Analysis: A review of the following standards proposed for inclusion in the code regarding some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025.
FM4651 Approval Standard for Plastic Suspended Ceiling Panels

G196-25

G197-25

IBC: 3304.1.1

Proponents: John-Jozef Proczka, representing City of Phoenix Planning and Development Department (john-jozef.proczka@phoenix.gov)

2024 International Building Code

Revise as follows:

3304.1.1 Slope limits. Slopes for permanent fill shall be not steeper than one unit vertical in two units horizontal (50-percent slope). Cut slopes for permanent excavations shall be not steeper than one unit vertical in two units horizontal (50-percent slope). Deviation from the foregoing limitations for cut slopes shall be permitted only upon the presentation of a ~~soil~~ geotechnical investigation report acceptable to the *building official*.

Reason: Geotechnical investigation report is the term used throughout the code, especially in Section 1803.6.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Terminology change only without intent change.

G198-25

IBC: C104.1, SECTION C105 (New), C105.1 (New)

Proponents: Kota Wharton, representing City of Grove City (kwharton@grovecityohio.gov)

2024 International Building Code

APPENDIX C
GROUP U—AGRICULTURAL BUILDINGS

SECTION C104
EXITS

Revise as follows:

C104.1 Exit facilities. *Exits* shall be provided in accordance with ~~Chapters~~ Chapter 10 ~~and 11~~.

Exceptions:

1. The maximum travel distance from any point in the *building* to an *approved exit* shall not exceed 300 feet (91 440 mm).
2. One *exit* is required for each 15,000 square feet (1393.5 m^2) of area or fraction thereof.

Add new text as follows:

SECTION C105
ACCESSIBLITY

C105.1 Accessibility. Agricultural buildings shall be *accessible* in accordance with Chapter 11.

Reason: From commentary, and reaffirmed here, "typically, Group U buildings are exempt from Chapter 11's accessibility requirements for person with physical disabilities. Section 1103.2.4 only mandates that access is required to paved work areas and those areas within a building or structure that are open to the general public." The proposed langage removes an unnecessary pointer to Chapter 11 in regards to exits and provides a seperate section more appropriately point to Chapter 11.

CHAPTER 11
ACCESSIBILITY

SECTION1103
SCOPING REQUIREMENTS

1103.2.4 Utility buildings. Group U occupancies are not required to comply with this chapter other than the following:

1. In agricultural *buildings*, access is required to paved work areas and areas open to the general public.
2. *Private garages* or carports that contain required accessible parking.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The proposed langage reaffirms the the existing language.

G199-25

IBC: D102.2.8

Proponents: Marcelo Hirschler, representing GBH International (mmh@gbhint.com)

2024 International Building Code

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise as follows:

D102.2.8 Permanent canopies. Permanent *canopies* are permitted to extend over adjacent open spaces provided that all of the following are met:

1. The *canopy* and its supports shall be of noncombustible material, *fire-retardant-treated wood*, Type IV construction or of 1-hour fire-resistance-rated construction.

   Exception: Any textile covering for the *canopy* shall comply with the fire propagation performance of Test Method 1 or Test Method 2, as appropriate of ~~be flame resistant as determined by tests conducted in accordance with~~ NFPA 701 after both accelerated water leaching and accelerated weathering.

2. Any canopy covering, other than textiles or *fire-retardant-treated wood*, shall comply with either one of the following, when tested in the form intended for use:

   2.1. Have a *flame spread index* not greater than 25 when tested in accordance with ASTM E84 or UL 723 ~~in the form intended for use~~.

   2.2. Meet all of the following criteria when tested in accordance with NFPA 286:

      2.2.1. During the 40 kW exposure, flames shall not spread to the ceiling.

      2.2.2. Flashover, as defined in NFPA 286, shall not occur.

      2.2.3. The flame shall not spread to the outer extremity of the sample on any wall or ceiling.

      2.2.4. The peak heat release rate throughout the test shall not exceed 800 kW.

3. The *canopy* shall have one long side open.
4. The maximum horizontal width of the *canopy* shall be not greater than 15 feet (4572 mm).
5. The *fire resistance* of *exterior walls* shall not be reduced.

Reason: This proposal makes three changes:

1. The terminology in the section for textiles is inappropriate. Use of the term "flame resistant" is not correct and misleading. Everywhere else in ICC codes the terminology relating to NFPA 701 testing has been changed to read as follows" "meet the fire propagation performance of Test Method 1 or Test Method 2", and that language is proposed here.

2. The proposal allows for testing in accordance with NFPA 286 as an alternative to testing in accordance with ASTM E84 or UL 723. Chapter 8 of the IBC is clear that any time a Class A material (meaning a material with a flame spread index not exceeding 25 in ASTM E84 or UL 723) is required, compliance by a material with all the criteria in chapter 8 for testing to NFPA 286 is equally acceptable to a Class A material. The reason for adding this is because materials may have already been tested to NFPA 286 and it is unnecessary (and wasteful) to have them retested to ASTM E84.

3. Fire-retardant-treated wood materials are required to exhibit a listed flame spread index of no more than 25 in accordance with ASTM E84 (per section 2303.2 of the IBC) so retesting to ASTM E84 per item 2 is unnecessary.

Note that neither the existing code text nor the proposed revision addresses smoke release.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Basically just a cleanup.

G199-25

G200-25

IBC: F101.5, F101.5.1

Proponents: Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

2024 International Building Code

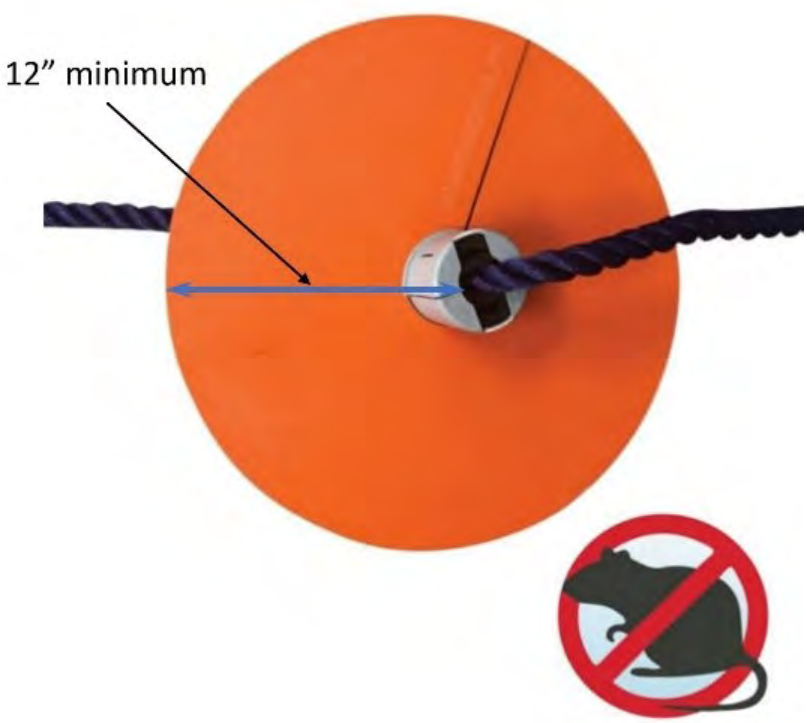
APPENDIX F
RODENTPROOFING

Revise as follows:

F101.5 Windows and other openings. Windows and other openings for the purpose of light or ventilation located in *exterior walls* and with the bottom of the opening ~~within~~ 2 feet (610 mm) or less above the ~~existing ground level immediately below such opening~~ finish grade shall be covered for their entire height and width, including frame, with hardware cloth of not less than 0.035-inch (0.89 mm) wire or heavier.

F101.5.1 Rodent-~~accessible~~ access to openings. Windows and other openings for the purpose of light ~~and~~ or ventilation in ~~the~~ *exterior walls* not otherwise covered in this section, ~~chapter, accessible to~~ which are susceptible to entry by rodents by way of exposed pipes, wires, conduits ~~and~~ or other appurtenances, shall be covered with ~~wire~~ hardware cloth of ~~at least~~ not less than 0.035-inch (0.89 mm) wire. In lieu of ~~wire~~ a hardware cloth covering, ~~said~~ such pipes, wires, conduits and other appurtenances shall ~~be blocked from~~ inhibit rodent ~~usage~~ entry by installing solid sheet metal ~~guards~~ barriers with a minimum thickness of 0.024 inch (0.61 mm) ~~thick or heavier~~. ~~Guards~~ Such barriers shall be fitted around pipes, wires, conduits or other appurtenances~~. In addition, they~~ and shall be fastened securely. ~~to and shall extend perpendicularly~~ The barriers shall be located a minimum of 12 inches (305mm) from the *exterior wall* ~~for not less than~~ and shall have a minimum radius of 12 inches (305 mm) beyond ~~and on either side of~~ the surface of the pipes, wires, conduits or other appurtenances.

Reason: This is a clarification and consistency in terminology of the existing requirements for rodentprooofing of openings. Something like the photos below is envisioned for the criteria in the last sentence.



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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is an editorial clarification of requirements.

G200-25

G201-25

IBC: H106.1.1

Proponents: Marcelo Hirschler, representing GBH International (mmh@gbhint.com)

2024 International Building Code

APPENDIX H
SIGNS

SECTION H106
ELECTRICAL

Revise as follows:

H106.1.1 Internally illuminated signs. Except as provided for in Section 2611, where internally illuminated *signs* have facings of wood or of a ~~*approved*~~ plastic material complying with the requirements of Section 2606.4, the area of such facing section shall be not more than 120 square feet (11.16 m^2) and the wiring for electric lighting shall be entirely enclosed in the *sign* cabinet with a clearance of not less than 2 inches (51 mm) from the facing material. The dimensional limitation of 120 square feet (11.16 m^2) shall not apply to *sign* facing sections made from flame-resistant-coated fabric (ordinarily known as “flexible *sign* face plastic”) that weighs less than 20 ounces per square yard (678 g/m^2) and that, when tested in accordance with NFPA 701, meets the fire propagation performance requirements of both Test 1 and Test 2 or that, when tested in accordance with an *approved* test method, exhibits an average burn time of 2 seconds or less and a burning extent of 5.9 inches (150 mm) or less for 10 specimens.

Reason: The term "approved plastic" used to be in several ICC codes, and referred to "approved light-transmitting plastic, but there is no longer a definition or an explanation of what it is. In each application, certain plastic materials may be approved for that use. In the case of this section, plastic materials complying with the requirements of section 2606.4 are approved. That is clear and the word "approved" just introduces potential confusion.
Approved light transmitting plastics were ones that met the fire property requirements of section 2606.4. The section 2606.4 (shown below) simply provides a requirement for the fire properties of the plastic material. Therefore, the change proposed simply eliminates a confusing word and clarifies.

IBC section 2606.4

2606.4 Specifications. Light-transmitting plastics, including *thermoplastic*, *thermosetting* or reinforced thermosetting plastic material, shall have a self-ignition temperature of 650°F (343°C) or greater where tested in accordance with ASTM D1929; a *smoke-developed index* not greater than 450 where tested in the manner intended for use in accordance with ASTM E84 or UL 723, or a maximum average smoke density rating not greater than 75 where tested in the thickness intended for use in accordance with ASTM D2843 and shall conform to one of the following combustibility classifications:

Class CC1: Plastic materials that have a burning extent of 1 inch (25 mm) or less where tested at a nominal thickness of 0.060 inch (1 ASTM D635.

Class CC2: Plastic materials that have a burning rate of $2^1/_2$ inches per minute (1.06 mm/s) or less where tested at a nominal thicknes accordance with ASTM D635.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal is a clarification. See reason statement.

G202-25

IBC: H110.1, H110.2 (New)

Proponents: Jeff Grove, Chair, representing BCAC (bcac@iccsafe.org)

2024 International Building Code

APPENDIX H
SIGNS

SECTION H110
ROOF SIGNS

Revise as follows:

H110.1 General. *Roof signs* shall be constructed entirely of metal or other *approved* noncombustible material except as provided for in Sections H106.1.1 and H107.1. Provisions shall be made for electric grounding of metallic parts. Where combustible materials are permitted in letters or other ornamental features, wiring and tubing shall be kept free and insulated therefrom. ~~*Roof signs* shall be so constructed as to leave a clear space of not less than 6 feet (1829 mm) between the roof level and the lowest part of the *sign* and shall have not less than 5 feet (1524 mm) clearance between the vertical supports thereof.~~ *Roof sign structures* shall not project beyond an *exterior wall*.

~~**Exception:** *Signs* on flat roofs with every part of the roof accessible.~~

Add new text as follows:

H110.2 Clearance. Roof signs shall be so constructed as to leave a clear height of not less than 6 feet (1829 mm) between the roof surface and the lowest part of the sign and shall have not less than 5 feet (1524 mm) clearance between the vertical supports thereof.

Exception: Signs on flat roofs where there is access to the signs are not required to comply with this section.

Reason: The purpose of this change is to clarify existing requirements. The current text includes several requirements, so it is not clear which part the exception applies too. The current exception is an incomplete sentence and is too open for interpretation.

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. In 2023 and 2024 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC webpage.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This is an editorial clarification of roof sign requirements.

G203-25

IBC: APPENDIX K, SECTION K103, K103.1, K103.2

Proponents: Kota Wharton, representing City of Grove City (kwharton@grovecityohio.gov)

2024 International Building Code

APPENDIX K
ADMINISTRATIVE PROVISIONS

SECTION K103
PERMITS

K103.1 Types of permits. An *owner*, authorized agent or contractor who desires to construct, enlarge, alter, *repair*, move, demolish or change the occupancy of a *building* or *structure*, or to erect, install, enlarge, alter, *repair*, remove, convert or replace electrical systems or equipment, the installation of which is regulated by this code, or to cause such work to be done, shall first make application to the *building official* and obtain the required *permit* for the work.

Exception: Where *repair* or replacement of electrical systems or equipment must be performed in an emergency situation, the *permit* application shall be submitted within the next working business day of the department of electrical inspection.

Revise as follows:

K103.2 Work exempt from permit. Exemptions from permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction. Permits shall not be required for the following ~~The following work shall be exempt from the requirement for a *permit*~~:

1. Listed cord- and plug-connected temporary decorative lighting.
2. Reinstallation of attachment plug receptacles, but not the outlets therefor.
3. Replacement of branch circuit overcurrent devices of the required capacity in the same location.
4. Temporary wiring for experimental purposes in suitable experimental laboratories.
5. Electrical wiring, devices, appliances, apparatus or equipment operating at less than 25 volts and not capable of supplying more than 50 watts of energy.

~~Exemption from the *permit* requirements of this code shall not be deemed to grant authorization for work to be done in violation of the provisions of this code or other laws or ordinances of this *jurisdiction*.~~

Reason: The proposed language is confined to reorganization with preference to the language used in 105.2.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There is no technical change.

G204-25

IBC: P105.1

Proponents: Robert Marshall, representing FCAC (fcac@iccsafe.org)

2024 International Building Code

APPENDIX P
SLEEPING LOFTS

SECTION P105
SMOKE ALARMS

Revise as follows:

P105.1 General. ~~Listed~~ Single- ~~*single*~~ or *multiple-station smoke alarms* ~~complying~~ *listed* and *labeled* in accordance with UL 217 shall be installed in all *sleeping lofts* or within the room to which the sleeping loft is open, in the immediate vicinity of the sleeping loft..

Reason: FCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 and early 2024 the FCAC has held several virtual meetings and one in-person meeting open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the **FCAC Website**

Occupants utilizing a sleeping loft should be protected with a smoke alarm. This revised language correlates with requirements in the 2024 IRC as revised by RB153-22 (AM/AMPC 1, 2 & 3) and for corresponding revisions submitted by F-CAC for the IBC and IFC Section 907.2.11 to update the 2024 editions.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

The Appendix is only enforceable when specifically adopted by a jurisdiction. This proposal simply makes editorial revisions to correlate with smoke alarm protection requirements for sleeping lofts currently in the 2024 IRC and those proposed for the 2027 IBC and IFC.

G204-25

G205-25

IBC: P102.1, P103.6.3 (New), P105.1

Proponents: Jenifer Gilliland, Seattle Department of Construction and Inspections, representing Washington Association of Building Officials Technical Code Development Committee (jenifer.gilliland@seattle.gov); Micah Chappell, Seattle Dept. of Construction and Inspections (SDCI), representing Washington Association of Building Officials Technical Code Development Committee (WABO TCD) (micah.chappell@seattle.gov)

2024 International Building Code

APPENDIX P
SLEEPING LOFTS

SECTION P102
DEFINITIONS

Revise as follows:

P102.1 General. The following term shall, for the purposes of this appendix, have the meaning shown herein. Refer to Chapter 2 for general definitions.

SLEEPING LOFT. A space designated for sleeping on an intermediate level or levels between the floor and ceiling of a Group R occupancy dwelling or *sleeping unit*, open on one or more sides to the room in which the sleeping loft is located.

SECTION P103
MEANS OF EGRESS

Add new text as follows:

P103.6.3 Emergency escape and rescue openings. Sleeping lofts shall be permitted to be served by an EERO in the room to which the sleeping loft is open.

SECTION P105
SMOKE ALARMS

Revise as follows:

P105.1 General. Listed *single-* or *multiple-station smoke alarms* complying with UL 217 shall be installed ~~in~~ within the room to which a sleeping loft is open, in the immediate vicinity of the ~~all~~ *sleeping lofts*.

Reason: The proposal aligns IBC Appendix P Sleeping Lofts (ICC proposal G112-21) with changes made in ICC proposal RB153-22 and associated public comments 1, 2, and 3, as well as comments made by the committee and other interested parties. The proposed changes clear up ambiguity around some key provisions.

Sleeping lofts are for sleeping. To make this perfectly clear in the code, we added “designated for sleeping” to the definition of *sleeping loft*.

Smoke alarms must be located within the vicinity of the sleeping loft. If the sleeping loft is located within a sleeping room, the required smoke alarm can’t be located in the hallway outside of the sleeping room. The smoke alarm can’t be located at the far end of the room; it must be “in the vicinity of” the sleeping loft.

EERO's required for sleeping lofts can be located in the room that contains the sleeping loft. While the EERO serving the loft can be located in the sleeping loft itself, the EERO does not have to be located in the sleeping loft to provide adequate safety. It can be impractical to locate the EERO in the loft in many dwelling unit configurations because the loft would either have to abut an exterior wall or be located just below a roof. Given the presence of good early warnings for sleeping loft occupants (the sleeping loft must be open to the space with a smoke alarm in close proximity), having an EERO in the room where the sleeping loft is located should provide adequate safety. A sleeping loft can be served by an EERO in the room it opens into (a sleeping room or another room, like a family room, den, etc.) **OR** by an EERO in the sleeping loft itself.

These changes are not intended to override the requirement for an EERO in a sleeping room or to allow a single EERO located in a sleeping loft to be the only EERO serving the sleeping room that the loft opens into. If the loft is located within a bedroom, a person sleeping on the bedroom level should not have to climb up into the sleeping loft to get to an EERO. In cases where a sleeping loft opens into a space like a family room, the family room itself wouldn't be required to have an EERO, but the sleeping loft would, and the EERO could be located in the loft or the family room.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Because sleeping lofts are an option, not a requirement, this proposal has no impact on the cost of construction. When a sleeping loft is provided, this proposal provides a uniform set of requirements. The provision of an EERO most likely would occur anyway to accommodate the sleeping room or other room that the sleeping loft opens into.

G205-25

G206-25

IBC: APPENDIX Q (New), SECTION Q101 (New), Q101.1 (New), SECTION Q102 (New), Q102.1 (New), SECTION 202 (New), SECTION Q103 (New), Q103.1 (New), Q103.2 (New), Q103.3 (New), Q103.3.1 (New), TABLE Q103.3.1 (New), Q103.3.2 (New), Q103.4 (New), Q103.4.1 (New), Q103.5 (New), Q103.5.1 (New), Q103.5.2 (New), SECTION Q104 (New), Q104.1 (New), Q104.2 (New), SECTION Q105 (New), Q105.1 (New), TABLE Q105.1 (New)

Proponents: Ariel Brenner, New Buildings Institute, representing New Buildings Institute (ariel@newbuildings.org); Amie Lewis, representing New Buildings Institute

2024 International Building Code

Add new text as follows:

APPENDIX Q
EMBODIED GHG EMISSIONS REPORTING AND REDUCTION

SECTION Q101
GENERAL

Q101.1 Scope. The provisions of this appendix promote methods to measure and reduce the environmental impact of building materials and products.

SECTION Q102
DEFINITIONS

Q102.1 General. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of this code for general definitions.

Add new definition as follows:

COVERED PROJECT. A new building or structure, or an *addition* to an existing building or structure, [INSERT 50,000 OR 100,000] gross square feet or larger, or an *alteration* that impacts a *work area* of [INSERT 50,000 OR 100,000] gross square feet or larger.
EMBODIED GREENHOUSE GAS (GHG) EMISSIONS. The greenhouse gas (GHG) emissions generated by the extraction, production, transport, manufacturing, use, and end of life of a product, as measured using a life cycle assessment. These may include the lifecycle stages A, B, and C as defined by ISO 21931—1 or ISO 21930.
ENVIRONMENTAL PRODUCT DECLARATION (EPD). An environmental claim that provides quantified environmental data using predetermined parameters and, where relevant, additional environmental information. An EPD also includes additional product and company information. An EPD reports at least the product stage, covering the cradle-to-gate phase or life cycle modules A1-A3 as defined by ISO 21931—1 or 21930.
FACILITY-SPECIFIC ENVIRONMENTAL PRODUCT DECLARATION (FACILITY-SPECIFIC EPD). An environmental claim providing quantified environmental impacts based on data from one industrial facility at which a specific product that is represented by the *EPD* is manufactured.
GLOBAL WARMING POTENTIAL (GWP). The metric for tracking *embodied GHG emissions*, which is reported in kg CO_2e/unit. GWP normalizes different gases associated with a product to an equivalent mass of carbon dioxide over a period of 100 years.
PRODUCT-SPECIFIC ENVIRONMENTAL PRODUCT DECLARATION (PRODUCT-SPECIFIC EPD). An *EPD* that represents the impacts of a single product.
SALVAGED AND REUSED PRODUCT. A product reclaimed of reusable materials from the disassembly, deconstruction, or demolition of buildings or structures, sourced from within a radius of 500 mi (800 km) of the project site, and requiring minimal to no processing for reinstallation and use on a different project.
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.

Add new text as follows:

SECTION Q103
REDUCTION OF EMBODIED GHG EMISSIONS

Q103.1 Embodied GHG emissions. *Covered projects* shall document *embodied GHG emissions* on *construction documents*, which shall be submitted to the *building official*.

Q103.2 Documentation of embodied GHG emissions. Documentation of *embodied GHG emissions* for *covered projects* shall meet one of the following pathways:

1. Product compliance or building compliance pathway; for a new building or structure, or an *addition* to an existing building or structure, **[INSERT 50,000 OR 100,000]** gross square feet or larger.
2. Building reuse compliance pathway; for an *alteration* that impacts a *work area* of **[INSERT 50,000 OR 100,000]** gross square feet or larger.
3. Product compliance, building compliance, or building reuse compliance pathway; for an *addition* to a building or structure that also includes an *alteration*, where the *addition* and *work area* of the *alteration* have a combined area of **[INSERT 50,000 OR 100,000]** gross square feet or larger.

Q103.3 Product compliance pathway. *Covered projects* shall submit Type III *product-specific* or *facility-specific environmental product declarations (EPDs)*, for all covered products per section Q103.3.1. The product compliance pathway shall calculate the *global warming potential (GWP)* for the total mass, volume, or area of the covered products, which shall total no more than **[INSERT 85, 90, 100, 125, OR 150]** percent of the values in Table Q103.3.1 for the same total mass, volume, or area of the covered products. This calculation shall include project-specific product quantities and *product-specific* or *facility-specific EPDs*, and be summed across the entire project based on mass, volume, or area.

Q103.3.1 Covered products. Covered products shall include no less than **[INSERT 90 OR 100]** percent of the total combined mass, volume, or area of all products used in the building project that are included in Table Q103.3.1.

TABLE Q103.3.1 COVERED PRODUCT GWP REFERENCE VALUES[a]

COVERED PRODUCT		GLOBAL WARMING POTENTIAL (A1-A3)	UNIT OF MEASUREMENT
Ready mix concrete products[b]	Up to 2,500 psi	240	$kg\ CO_2e/m^3$
	2,501-3,000 psi	262	$kg\ CO_2e/m^3$
	3,001-4,000 psi	308	$kg\ CO_2e/m^3$
	4,001-5,000 psi	365	$kg\ CO_2e/m^3$
	5,001-6,000 psi	385	$kg\ CO_2e/m^3$
	6,001-8,000 psi	446	$kg\ CO_2e/m^3$
	Lightweight, up to 3,000 psi	492	$kg\ CO_2e/m^3$
	Lightweight, 3,001-4,000 psi	540	$kg\ CO_2e/m^3$
	Lightweight, 4,001-5,000 psi	588	$kg\ CO_2e/m^3$
	Normal weight, up to 3,249 psi	208	$kg\ CO_2e/m^3$
	Normal weight, 3,250-4,499 psi	232	$kg\ CO_2e/m^3$
	Normal weight, 4,500 psi and greater	241	$kg\ CO_2e/m^3$
Concrete masonry unit products	Medium weight, up to 3,249 psi	360	$kg\ CO_2e/m^3$

	Medium weight, 3,250 psi and greater	244	kg CO_2e/m^3
	Lightweight, up to 3,249 psi	286	kg CO_2e/m^3
	Lightweight, 3,250 psi and greater	395	kg CO_2e/m^3
Reinforcing steel products	Rebar – unfabricated	753	kg CO_2e/metric ton
	Hot-rolled sections – unfabricated	1,000	kg CO_2e/metric ton
	Hollow structural sections – unfabricated	1,710	kg CO_2e/metric ton
	Decking	2,320	kg CO_2e/metric ton
Structural steel products	Plate – unfabricated	1,480	kg CO_2e/metric ton
	Hot-dipped galvanized cold-formed steel members	2,440	kg CO_2e/metric ton
	Open web steel joists and joist girders	1,430	kg CO_2e/metric ton
	Laminated veneer lumber	361	kg CO_2e/m^3
	Laminated strand lumber	275	kg CO_2e/m^3
	Glue laminated timber	137	kg CO_2e/m^3
	Wood framing	63.1	kg CO_2e/m^3
Structural wood products	Softwood plywood	219	kg CO_2e/m^3
	Oriented strand board	243	kg CO_2e/m^3
	Cross laminated timber[c]	178	kg CO_2e/m^3
	Dowel laminated timber[c]	145.2	kg CO_2e/m^3
	Mass Ply Panel[c]	311	kg CO_2e/m^3
	Expanded polystyrene (EPS) – Type I	2.53	kg CO_2e/1 m^2 @ RSI-1
	Polyiso – wall	4.10	kg CO_2e/1 m^2 @ RSI-1
	Polyiso – roof – GRF facer	2.11	kg CO_2e/1 m^2 @ RSI-1
	Polyiso – roof – CFG facer	2.95	kg CO_2e/1 m^2 @ RSI-1
	Extruded polystyrene (XPS)[d]	41	kg CO_2e/1 m^2 @ RSI-1
	Fiberglass board	5.02	kg CO_2e/1 m^2 @ RSI-1
	Heavy-density mineral wool board	6.82	kg CO_2e/1 m^2 @ RSI-1
	Mineral wool blanket (Light-density mineral wool board)	2.68	kg CO_2e/1 m^2 @ RSI-1
Insulation products	Fiberglass blanket (Fiberglass batt) – unfaced	1.01	kg CO_2e/1 m^2 @ RSI-1
	Fiberglass blanket (Fiberglass batt) – faced	1.06	kg CO_2e/1 m^2 @ RSI-1
	Closed-cell spray polyurethane foam – medium density	3.47	kg CO_2e/1 m^2 @ RSI-1
	Closed-cell spray polyurethane foam – roofing	4.05	kg CO_2e/1 m^2 @ RSI-1
	Closed-cell spray polyurethane foam - 2K-LP	3.12	kg CO_2e/1 m^2 @ RSI-1
	Open-cell spray polyurethane foam	1.05	kg CO_2e/1 m^2 @ RSI-1
	Loose-fill cellulose	0.487	kg CO_2e/1 m^2 @ RSI-1
	Loose-fill mineral wool	1.89	kg CO_2e/1 m^2 @ RSI-1
	Loose-fill fiberglass	0.988	kg CO_2e/1 m^2 @ RSI-1
Flat Glass	Flat glass (clear, tinted, and low-iron products)	1,430	kg CO2e/metric ton

a. GWP values are based on industry averages, sourced from industry-wide EPDs for all products for which there was one available.

b. AHJ to replace with regional ready mix concrete values based on NRMCA's regional benchmarks.

c. Replace with industry-wide average when available.

d. For all product types except XPS in this table, the noted GWP corresponds to A1-A3 life cycle modules (the "product stage"). An exception has been made for XPS board insulation due to the substantial contribution of blowing agent emissions to product life cycle GWP. Since insulation EPDs are required to report these impacts where applicable, the XPS value in this table includes modules A1-A3 (product stage), B1 (to account for blowing agent emissions during building life), and C4 (to account for blowing agent emissions during disposal).

Q103.3.2 Alternative Products. Covered products are permitted to be replaced with a product that is a *salvaged and reused product*. Products are permitted to be procured from onsite or from vendors. If a covered product is *salvaged and reused*, the applicable product category is permitted to assume a *GWP* of 0.

Q103.4 Building compliance pathway. *Covered projects* shall submit a building life cycle assessment (LCA) as part of the *construction documents*, which shall be submitted to the *building official*. The building LCA shall be developed in accordance with section Q103.4.1, and comply with one of the following:

1. For absolute reduction requirements, the *global warming potential (GWP)* of the proposed building shall be no more than **[INSERT 70, 80, OR 90]** percent of 1,102 lbCO_2e/square feet (500 kgCO_2e/m^2).

2. For relative reduction requirements, the *GWP* of the proposed building shall be no more than **[INSERT 70, 80, OR 90]** percent of the *GWP* of a functionally equivalent reference building. The reference building shall be of the same size, geographic location, and thermal performance as the proposed building, shall be subject to the same code requirements as the proposed building, and shall be functionally equivalent to the proposed building per ASTM E2921-22. The products and product quantities in the proposed building are permitted to vary compared to that shown in the reference building. The same LCA tool(s) or software shall be used to complete the building life cycle assessment for both the reference and proposed building designs.

Q103.4.1 Building life cycle assessment. Building LCAs shall comply with the following:

1. ISO 14040 and ISO 14044.

2. Software used to conduct a building LCA shall conform to ISO 21931—1 and/or EN 15978 and shall have a data set compliant with ISO 14044 and ISO 21930 and/or EN 15804. The software shall utilize a calculation methodology that is compliant with EN 15978, ISO 21931—1 and ISO 21929—1. Environmental impact data shall not be sourced from expired or retired data sources, unless no valid alternative data exists.

3. The life cycle scope shall cover cradle-to-grave, including all modules in life cycle stages A, B, and C, as defined by ISO 21931—1 or 21930. The life cycle scope is permitted to exclude modules B6 and B7, covering operating energy and water.

4. The building LCA shall include all of the following building elements: foundations; *exterior wall envelope; primary structural frame; secondary structural members; roof covering; roof deck; fenestration; load-bearing walls;* and insulation. The assessment is permitted to include *non-load-bearing walls;* fireproofing; insulation; interior constructions and *interior finishes.* An assessment submitted for an *addition* and/or *alteration* shall include elements within the boundary of the *addition* and/or the *work area* of the *alteration*.

5. The reference study period shall be 60 years.

6. Existing and *salvaged and reused products* shall be included or excluded at the discretion of the project team. For in-situ reused materials, it is permissible to assume the A1-A4 stages (raw material supply, raw material transport, manufacturing, and transportation to construction site) carry no impact in the proposed building's LCA to show the benefit of reusing materials, while retaining the A1-A4 estimated impacts for these materials in the LCA of the functionally equivalent reference design. For salvaged materials, it is permissible to assume the A1-A3 stages carry no impact in the proposed building's LCA to show the benefit of salvaging materials, while retaining the A1-A3 estimated impacts for these materials in the LCA of the functionally equivalent reference design.
7. Biogenic carbon and carbon sequestration shall be reported separately from fossil *GWP*.

Q103.5 Building reuse pathway. An *alteration* shall retain no less than a combined 45 percent, as calculated per section Q103.5.1, of the *existing building's primary* and *secondary structural frame* and *exterior wall envelope* as part of the *work area*. An *addition* to a building or structure that also includes an *alteration*, where the *addition* and *work area* of the *alteration* have a combined area of **[INSERT 50,000 OR 100,000]** gross square feet or larger, is permitted to use this compliance pathway.

Q103.5.1 Building reuse compliance calculation. The calculation shall include roof and floor areas, and façade area as measured in elevation, for the entire building. Façade areas are permitted to be considered retained even if the existing *exterior wall covering* is repaired, replaced, or modified to increase insulation or airtightness. *Salvaged and reused products* sourced from the project site are permitted to be counted towards the 45 percent building reuse threshold.

Exception: Buildings, or portions of buildings, that are deemed unsafe or *dangerous*, or that have *hazardous materials*, that are remediated as part of the project.

Q103.5.2 Construction documents for building reuse compliance. *Construction documents* for the building reuse compliance pathway shall clearly distinguish the square footage for existing and new elements, and include the following information:

1. Gross floor area of *existing building*(s) in square feet;
2. Gross floor area of the aggregate *addition(s)* in square feet (if applicable);
3. Gross floor area of the *alteration* in square feet;
4. Existing total floor area and retained total floor area of the *primary* and *secondary structural frame* of the *existing building*(s) in square feet; and
5. Existing total *exterior wall* and *fenestration* surface area and total retained *exterior wall* and *fenestration* surface area of the *existing building*(s) in square feet, as well as areas allowed to be excluded from the calculation.

SECTION Q104
DOCUMENTATION OF REDUCTION OF EMBODIED GHG EMISSIONS

Q104.1 Registered design professional. A r*egistered design professional* shall prepare the *construction documents* and provide signature verifying compliance with the requirements of this appendix.

Q104.2 Amended construction documents for embodied GHG emissions. Covered products shall be installed in accordance with the approved *construction documents.* Prior to the issuance of the certificate of occupancy, the r*egistered design professional* that submits documentation per Sections Q103.3, Q103.4, or Q103.5 shall ensure that as-built product selection matches the approved *construction documents.* If as-built products differ from those submitted on the approved construction documents, the r*egistered design professional* shall update the *embodied GHG emissions* calculations based on the updated procured products and attest that they are accurate to the best of the *registered design professional*'s knowledge.

SECTION Q105
REFERENCED STANDARDS

Q105.1 General. See Table Q105.1 for standards that are referenced in various sections of this appendix. Standards are listed by the standard identification with the effective date, standard title, and the section or sections of this appendix that reference the standard.

TABLE Q105.1 REFERENCED STANDARDS

STANDARD ACRONYM	STANDARD NAME	SECTIONS HEREIN REFERENCED
ASTM E2921–2022	*Standard Practice for Minimum Criteria for Comparing Whole Building Life Cycle Assessments for Use with Building Codes, Standards, and Rating Systems*	Q103.4
EN 15804—2022	*Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products*	Q103.4.1
EN 15978—2011	*Sustainability of construction works – Assessment of environmental performance of buildings – Calculation method*	Q103.4.1
ISO 14040—2006	*Environmental management – Life cycle assessment – Principles and framework*	Q103.4.1
ISO 14044—2006	*Environmental management – Life cycle assessment – Requirements and guidelines*	Q103.4.1
ISO 21929-1—2011	*Sustainability in building construction – Sustainability indicators – Part 1: Framework for the development of indicators and a core set of indicators for buildings*	Q103.4.1
ISO 21930—2017	*Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services*	Q102.1, Q103.4.1
ISO 21931-1—2022	*Sustainability in buildings and civil engineering works – Framework for methods of assessment of the environmental, social and economic performance of construction works as a basis for sustainability assessment – Part 1: Buildings*	Q102.1, Q103.4.1

Reason: Overview of Appendix Requirements

This proposal adds a new voluntary appendix to the International Building Code (IBC), which may act as a reference for jurisdictions wishing to establish code methods to measure and reduce the embodied greenhouse gas (GHG) emissions impact of building materials. Appendix Q provides criteria for the production and submission of environmental product declarations, building life cycle assessment, and proof of building reuse for a building project.

In sum, the appendix provides a requirement for construction document submittals to include reporting on the embodied GHG emissions associated with proposed projects over a choice of 50,000 or 100,000 square feet, as determined by the AHJ. Project teams must choose one form of documentation from the following three options:

1. **Product compliance pathway:** submit product- or facility-specific environmental product declarations (EPDs) for covered products that indicate that the global warming potential (GWP) meets a certain percentage – as determined by the AHJ – of the industry-average GWP of the product;
2. **Building compliance pathway:** submit a building life cycle assessment (LCA) for the building's structure and enclosure that indicates a percent-reduction – as determined by the AHJ – in GWP from 102 lbCO_2e/square feet (500 kgCO_2e/m^2) or compared to an industry-average baseline;
3. **Building reuse pathway:** submit proof of reuse of at least 45% of an existing building's structure and enclosure.

Finally, the proposed appendix aims to provide a clear and simple path for code officials to determine compliance at two points along the project timeline: at the initial submission of construction documents and at the subsequent submission of amended construction documents. The role of the code official is to check for the submission of required documentation, confirm that requirements were met, and verify that the registered design professional has signed off on meeting these provisions. These efforts that fall on the design professional as well as the code official are anticipated to require minimal effort.

Problem and Opportunity

Building operations and building construction are responsible for 39% of today's global greenhouse gas (GHG) emissions.[1] About 11% of these emissions are embodied GHG emissions – the emissions associated with the creation of building materials and construction activities.[1] The largest contributors tend to be found in buildings' structures and envelopes due to their high embodied GHG emissions and quantity of use in projects.

The need to confront and reduce embodied GHG is urgent. The IPCC reports that limiting warming to the target set by the Paris Agreement – and avoiding the worst-case impacts of the climate crisis – is contingent on GHG emissions peaking by 2025 at the latest

and reducing them by 43% by 2030.[2]

Doing justice to the urgency presented by climate change requires a focus on the embodied emissions associated with the full lifecycle, and especially the early phases of buildings' construction and materials. Unlike operational emissions, which can be improved over the lifespan of a building through deep-energy retrofits and decarbonizing the electric grid, most of a building's embodied GHG emissions occur before a building is occupied and cannot be reduced over time. A joint University of Washington and University of California, Berkeley study found that, on average, 80% of a building's embodied GHG impacts over its lifetime takes place in the phases leading up to a building's completion before occupancy.[3]

Therefore, addressing embodied GHG in the construction of buildings presents an urgent and valuable opportunity to reduce GHG emissions in the built environment. The IBC thus holds critical potential to address this bulk of emissions, as it impacts decisions made early during the design process, which directly and most substantially influence early production and construction activities. Prioritizing these immediate emissions will help to stop the accumulation of GHGs in the atmosphere, improving the likelihood that adopting jurisdictions will reach their GHG peaks sooner.

Finally, the IBC has been in place and used by the design and construction industry to ensure that materials in the built environment preserve public health and safety. This appendix is intended to do just that: to safeguard the public from the hazards associated with the creation of buildings and their materials. This entails reducing emissions in the extraction, manufacturing, and transportation of these products, which can improve air quality and public health in communities located near industrial centers and manufacturing facilities.

Methodology and Reasoning

The IBC is suitable for addressing embodied GHG emissions. First, it is intended to "preserve public health and safety that provides safeguards from hazards associated with the built environment."[4] This proposal protects the public as well as the environment from the hazards associated with the creation of building materials. Second, IBC regulations have a clear focus on materials and building elements, which is consistent with this proposal's approach to addressing the emissions associated with building products. Finally, the wide adoption of the IBC would make this appendix an easily accessible resource for jurisdictions looking to address embodied GHG in their building codes.

This is proposed as a voluntary appendix, available to jurisdictions that are interested in implementing it. For these jurisdictions, this proposal offers a standardized approach and set of requirements, saving them time and effort in potentially developing their own requirements from scratch, or piecemeal from other sources. It is also intended to save practitioners considerable trouble in trying to comply with varying requirements from one jurisdiction to the next. This matters to designers and contractors when they have to navigate these differences. In addition, it saves building department staff considerable trouble when they need to correct permit applicants on how the forms are filled out for their local requirements. Having consistency in voluntary measures benefits everyone.

This proposal is also intended to provide a level of flexibility for jurisdictions and project teams to meet these provisions in ways that are most suited to their own unique needs, goals, and circumstances. Three compliance pathways are included to provide project teams with that flexibility. These pathways are also based in precedent, drawing from California's statewide building code, CALGreen, the latest version of which is now in effect.

The proposed appendix also provides flexibility on the quantitative thresholds that jurisdictions may choose to adopt according to their unique needs and preferences. These jurisdictional options deal with the project size to which the appendix would apply; product-level GWP cap for the product compliance pathway; percentage of products required to submit EPDs for the product compliance pathway; and building-level GWP percentage reduction for the building compliance pathway.

Bibliography: [1] "Bringing Embodied Carbon Upfront," World Green Building Council, 2019, https://worldgbc.org/advancing-net-zero/embodied-carbon/.

[2] Working Group III, "The Evidence Is Clear: The Time for Action Is Now. We Can Halve Emissions by 2030.," The Intergovernmental Panel on Climate Change, April 4, 2022, https://www.ipcc.ch/2022/04/04/ipcc-ar6-wgiii-pressrelease/.

[3] Brad Benke et al., "The California Carbon Report: An Analysis of the Embodied and Operational Carbon Impacts of 30 Buildings" (The Carbon Leadership Forum, May 2024), https://carbonleadershipforum.org/california-carbon/.

[4] ICC, "The International Building Code" (International Code Council), https://www.iccsafe.org/products-and-services/i-codes/2018-i-codes/ibc/#:~:text=The%20International%20Building%20Code%20(IBC)%20is%20the,or%20exceed%20public%20health%20and%20s

[5] California Department of General Services, Building Standards Commission, "Economic and Fiscal Impact Statement (Form 399), Attachment C- CCRC regulations 54day, Amend the 2022 California Green Building Standards Code, CCR, Title 24, Part 11,"

Department of General Services, March 2, 2023, https://www.dgs.ca.gov/-/media/Divisions/BSC/03-Rulemaking/2022-Intervening-Cycle/Public-Comments/GREEN-45-Day/BSC/BSC-04-22-399-PT11-Attachment-C-R1-45day.pdf?la=en&hash=E1121CBF2FEA6D07492DCD1E962D8AA1AFC43618.

[6] State Building Code Council, "Greenhouse Gas Emissions Reduction for Steel Products," State of Washington, 2022, accessed August 9, 2024, https://sbcc.wa.gov/sites/default/files/2022-04/095_Sections%20202%20and%202205_IBC.pdf

[7] "Economic and Fiscal Impact Statement (Form 399) Attachment C – CCRC regulations 45day" (California Department of General Services, 2022), https://www.dgs.ca.gov/-/media/Divisions/BSC/03-Rulemaking/2022-Intervening-Cycle/Public-Comments/GREEN-45-Day/BSC/BSC-04-22-399-PT11-Attachment-C-R1-45day.pdf?la=en&hash=E1121CBF2FEA6D07492DCD1E962D8AA1AFC43618/.

Cost Impact: Increase

Estimated Immediate Cost Impact:

In jurisdictions in which this appendix is adopted, it is anticipated that the economic impact of each of the pathways in this proposal will increase either at an insignificant level or not at all.

A project's embodied GHG emissions can be significantly reduced at little to no additional up-front cost. There are products and solutions available today that can realize embodied GHG reductions with low to no financial burden. In the future, these costs are only anticipated to decrease, and ultimately result in additional cost savings, as the production of low embodied GHG materials, the practice of conducting a building life cycle assessment, and pursuing building reuse scale up and the cost of low embodied GHG materials goes down as a result of increased practice and demand.

As with many code changes, there is an expected short-term cost associated with an initial learning curve, which requires additional time spent on training and learning about how to implement new compliance requirements. This is expected to decrease over time, as code officials, design and development teams, and product manufacturers and suppliers become more familiar with the requirements and the processes needed to comply.

It is also worth noting that jurisdictions that choose to act on embodied GHG emissions and adopt this voluntary appendix would incur many of these costs anyway; having this code language as a resource will ultimately realize savings on needing to develop code from scratch.

In assessing the impact of this proposal, the costs described below were considered.

Estimated Immediate Cost Impact Justification (methodology and variables):

Costs to Design and Development Teams

- **Impact of product compliance pathway:** Designers and developers specifying and procuring materials covered under the first pathway option can use EPD databases to search for, filter, and compare products with GWP limits that comply with code requirements. Users can download EPD documents for code submission and verification. Building Transparency's Embodied Carbon in Construction Calculator (EC3) is a robust EPD database for construction materials that project teams can use at no cost. Requesting EPDs from manufacturers directly is another option.
- **Impact of building compliance pathway:** For developers and design professionals, option 2, requiring a building lifecycle assessment, would be the costliest path, adding an estimated cost in the range of of $15,000.[5] This cost may vary depending on the number of analyses performed throughout the project timeline, whether a baseline is modeled, and the size and complexity of the project. However, for many of the larger projects that would be subject to this appendix, this cost impact is negligible compared to total project costs. Beyond the direct costs of training and LCA software, professionals may take additional time to prepare documents for code review.
- **Building reuse pathway:** Costs will be minimal or nonexistent. The only analysis required to comply is a calculation of square footage.

Costs to Manufacturers and Suppliers

- **Impact of materials-based and building-level pathways:** Material manufacturers can face costs associated with the production of EPDs. EPDs typically expire after five years, at which point manufacturers must repeat the process. There is an expense associated with generating EPDs, but many manufacturers have already made this investment. The total cost of generating an EPD varies

depending on the complexity of manufacturing processes for each material type. However, any product cost increase imposed by the manufacturer to alleviate the cost of EPDs is spread across consumers and negligible to individual project costs.[6]

- **Building reuse pathway:** There are no additional requirements placed on materials manufacturers and suppliers in this pathway.

Costs of Code Enforcement

There is no major fiscal impact on local governments to enforce the regulation: local governments would only need to verify results provided by applicants, in a standardized manner, to ensure compliance with the proposed pathways. Additionally, a study published for CALGreen's 2022 embodied GHG requirements, which includes similar materials-based, building-level, and building reuse pathway requirements as this proposal, determined that there was a minor increase of costs to local governments to review and check plans for compliance with one of the three pathways.[7]

Staff Analysis: A review of the following standards proposed for inclusion in the code regarding some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025:

ASTM E2921–2022 Standard Practice for Minimum Criteria for Comparing Whole Building Life Cycle Assessments for Use with Building Codes, Standards, and Rating Systems
EN 15804—2022 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products
EN 15978—2011 Sustainability of construction works – Assessment of environmental performance of buildings – Calculation method
ISO 14040—2006 Environmental management – Life cycle assessment – Principles and framework
ISO 14044—2006 Environmental management – Life cycle assessment – Requirements and guidelines
ISO 21929-1—2011 Sustainability in building construction – Sustainability indicators – Part 1: Framework for the development of indicators and a core set of indicators for buildings
ISO 21930—2017 Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services
ISO 21931-1—2022 Sustainability in buildings and civil engineering works – Framework for methods of assessment of the environmental, social and economic performance of construction works as a basis for sustainability assessment – Part 1: Buildings

G206-25

G207-25

IBC: APPENDIX Q (New), SECTION Q101 (New), Q101.1 (New), SECTION Q102 (New), Q102.1 (New), SECTION 202 (New), SECTION Q103 (New), Q103.1 (New), Q103.2 (New), Q103.3 (New), Q103.4 (New), Q103.4.1 (New), Q103.4.2 (New), Q103.4.3 (New), Q103.5 (New), SECTION Q104 (New), Q104.1 (New), SECTION Q105 (New), Q105.1 (New), Q105.2 (New), Q105.3 (New), Q105.4 (New), Q105.5 (New), Q105.6 (New), SECTION Q106 (New), Q106.1 (New), Q106.2 (New), Q106.3 (New), Q106.4 (New), Q106.5 (New), SECTION Q107 (New), Q107.1 (New), TABLE Q107.1 (New)

Proponents: Bryan Holland, representing National Electrical Manufacturers Association (NEMA) (bryan.holland@nema.org)

2024 International Building Code

Add new text as follows:

APPENDIX Q
CONNECTED BUILDING MANAGEMENT SYSTEMS PROVISIONS

SECTION Q101
GENERAL

Q101.1 Purpose. To provide safe and effective installation and operation of fully integrated and connected building management systems.

SECTION Q102
DEFINITIONS

Q102.1 General. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of this code for general definitions.

Add new definition as follows:

CONNECTED BUILDING. A facility equipped with advanced digital technologies to enhance its operational safety and efficiency, energy efficiency, occupant comfort, and environmental sustainability. These technologies include various interconnected systems and devices that are managed through a centralized platform, often utilizing the Internet of Things (IoT), automation, and data analytics.
CONNECTED BUILDING MANAGEMENT SYSTEMS. Equipment that monitors and controls power within an electrical system and may include an energy management system, power control system, automatic load management system, or other building management systems that are connected to the internet and fully integrated.
DATA. Unprocessed values collected from various sensors and devices within a building. These sensors can monitor building and environmental conditions that provide a real-time picture of a building's operational state.

Add new text as follows:

SECTION Q103
CONNECTED BUILDING MANAGEMENT SYSTEMS PERFORMANCE CRITERIA

Q103.1 Referenced standards. Connected building management systems shall comply with all applicable codes and standards.

Q103.2 Installation requirements. Connected building management systems shall comply product's listing and labeling, the manufacturer's installation instructions, and the provisions of this appendix.

Q103.3 Systems integration and communication protocols. The connect building management systems shall include the following features:

1. Utility-interactive for demand response functionality and peak load shaving.
2. Ability to facilitate distinct operating modes in accordance with Q103.4.
3. Fault detection and diagnostics (FDD).
4. Full integration with building life safety, fire safety, and emergency systems.
5. Supervision of communication protocols.
6. Cybersecurity and data privacy protocols.

Exception: Fire, life-safety, security, and emergency communication devices and systems shall not be connected to a demand response or peak load shaving controlled circuit.

Q103.4 Connected building management system operating modes. Connected building management system operating mode shall be capable of optimizing the building performance to mitigate other internal and external conditions as established by the building design team and shall comply with Q103.4.1 through Q103.4.3.

Q103.4.1 Operating modes. Connected building management systems shall be capable to be programed with distinct operating modes as follows:

1. During normal operation, all devices, equipment, and systems are fully operational.
2. During emergency operation, all devices, equipment, and systems are monitored and controlled from the fire command center.
3. For indoor pollutant mitigation, the predetermined threshold for the concentration of pollutants in the occupiable space are lowered by increasing the outdoor airflow rate, overriding supply air filter bypass, or adjusting indoor temperature set points.
4. For outdoor pollutant mitigation, the mechanical system suspends outdoor airflow and override supply air filter bypass to maximize return air filtration.
5. For utility demand response and peak load shaving, energy consumption of the building is decreased, as needed, by reducing lighting power, adjusting indoor temperature set points, shifting non-essential operational loads, discharging of energy storage systems, and suspending the charging of energy storage and electrical vehicles.
6. For reduced occupancy, energy consumption of the building is reduced by setting one or more of the following as a default condition capable of being overridden by an occupant:
   - 6.1. Non-emergency lighting is turned off.
   - 6.2. Indoor temperature set points for non-occupancy schedules are held.
   - 6.3. Ventilation rates are adjusted to minimize outdoor air.
   - 6.4. Nonessential plug loads are switched off.
7. In other operating modes, devices, equipment, and systems are operated and controlled in a distinct mode based on environmental conditions or other changes to building occupancy and use.

Q103.4.2 Password protection. All operating modes shall password protection and issue daily notification to the building owner or other designee when the system is in override.

Q103.4.3 Buildng readiness plan. Where facilities are designed to operate in various modes in response to natural or manmade threat

to, and exposure of the building, the following shall be documented through an approved Building Readiness Plan (BRP). The BRP shall include the operations and maintenance (O&M) procedures involved in this operating mode, the mechanical equipment affected, final design drawings, critical asset inventory management plan, maintenance schedules, the maintenance requirements, frequencies, and establish a return to normal mode review period.

Q103.5 Maintenance requirements. Connected building management systems shall be maintained in accordance with the referenced standards and commissioned in accordance with Section Q106.

SECTION Q104
CONNECTED BUILDING MANAGEMENT SYSTEM COMPONENTS

Q104.1 General. Connected building management systems shall operate and control devices, equipment, and systems installed in buildings, including but not limited to:

1. Demand responsive lighting controls.
2. Dynamic shading and automatic glazing coverings.
3. Electric vehicle power transfer system equipment.
4. Demand control ventilation.
5. Fault detection and diagnostics (FDD).
6. Energy storage systems (ESS).
7. Onsite interconnected power production sources.

SECTION Q105
SYSTEM INTEGRATION AND COMMUNICATION PROTOCOLS

Q105.1 General. Connected building management systems shall include system integration and communication protocols in accordance with this section.

Q105.2 Directory. A directory identifying the systems, equipment, circuits, or devices that are controlled by the connected building management system shall be posted on the enclosure of the integrated building system controller, disconnecting means, or branch-circuit overcurrent device.

Q105.3 Cybersecurity. Connected building management systems that are connected to a communication network and controlling any device, appliance, or equipment shall be assessed to address its ability to withstand unauthorized updates and malicious attacks while continuing to perform its intended safety functionality set forth by the building owner or owner's authorized agent.

Q105.4 Privacy. Connected building management systems that are connected to a communication network to store and transmit data shall include protocols for data privacy set forth by the building owner or owner's authorized agent.

Q105.5 System malfunction. When the connected building management system controls are used to reduce the electrical load on an electrical service or feeder, the connected building management system shall use monitoring and controls to automatically deenergize non-essential systems upon malfunction of the connected building system controls.

Q105.6 Monitoring, alarming, scheduling, and trending. The connected building management system shall monitor the connected systems, receive alarms from connected systems, allow scheduling of connected systems, and store trend data from connected systems. Data collected by the connected building management system shall be backed up and stored on an enterprise server or cloud based.

SECTION Q106
MAINTENANCE INFORMATION AND SYSTEM COMMISSIONING

Q106.1 General. Maintenance information and commissioning of the connected building management systems shall comply with this section.

Q106.2 Building operations and maintenance information. The building operations and maintenance documents shall be provided to the owner and shall consist of manufacturers' information, specifications, and recommendations; programming procedures and data points; narratives; and other means of illustrating to the owner how the building, equipment and systems are intended to be installed, maintained and operated. Required regular maintenance actions for equipment and systems shall be clearly stated on a readily visible label. The label shall include the title or publication number for the operation and maintenance manual for that model and type of product.

Q106.3 Emergency and standby source load testing. Where connected building system control setpoints are bypassed for the required annual load testing for emergency and standby sources in accordance with NFPA 110, NFPA 111, NFPA 70, NFPA 855 or other applicable standard, the system controls shall be returned back to the original commissioned setpoints at the conclusion of the load testing.

Q106.4 Commissioning plan and report. A commissioning plan shall be developed by a registered design professional or approved agency and shall include a narrative description of the activities that will be accomplished during each phase of commissioning, including the personnel intended to accomplish each of the activities, a listing of the specific equipment to be tested and a description of the tests to be performed, equipment functions to be tested, conditions under which the test will be performed, and measurable criteria for performance. A report of test procedures and results identified as "Final Commissioning Report" shall be delivered to the building owner or owner's authorized agent. The report shall include the results of functional performance tests, disposition of deficiencies found during testing, including details of corrective measures used or proposed, and functional performance test procedures used during the commissioning process, including measurable criteria for test acceptance, provided herein for repeatability.

Q106.5 Records. Records shall be created and maintained for all connected building system controls inspections, operational tests, repairs, and modifications. Records shall be made available to the code official upon request. Records shall include the date of the maintenance report, identification of the servicing personnel, notation of any unsatisfactory condition and the corrective action taken, including parts replaced, and testing of any repair in the time recommended by the manufacturer. Records shall be retained for a period of time defined by the building owner, facility management, or by the code official.

SECTION Q107
REFERENCED STANDARDS

Q107.1 General. See Table Q107.1 for standards that are referenced in various sections of this appendix. Standards are listed by the standard identification with the effective date, standard title, and the section or sections of this appendix that reference the standard.

TABLE Q107.1 REFERENCED STANDARDS

STANDARD ACRONYM	STANDARD NAME	SECTIONS HEREIN REFERENCED
NFPA 70-23	National Electrical Code	Q106.3
NFPA 110-22	Standard for Emergency and Standby Power Systems	Q106.3
NFPA 111-22	Standard on Stored Electrical Energy Emergency and Standby Power Systems	Q106.3
NFPA 855-23	Standard for the Installation of Stationary Energy Storage Systems	Q106.3

Reason: The purpose of this appendix proposal is to consolidate and integrate isolated devices, equipment, and systems that are required or permitted by the family of I-Codes into a single connected building management system to maximize safety, efficiency and resiliency during the use and occupancy of the building. In addition to installation requirements, the appendix outlines maintenance and commissioning requirements for the connected building

management system.

- **Section Q102** provides three new definitions to help users of the appendix understand the meaning and context of these terms.
- **Section Q103** outlines the performance criteria for the connected building management systems. The core requirement is that all devices, equipment, and systems are installed in accordance with their listing and manufacturer's installation instructions. Essential features of the connected building management systems are outlined. Applicable NFPA standards may include but not be limited to NFPA 3, 4, 70, and 72.
- **Section Q104** ensures that other devices, equipment, and systems that are not required, but permitted, to be installed in buildings are integrated into the connected building management systems.
- **Section Q105** outlines system integration and communication protocols to address cybersecurity, data privacy and system malfunction concerns.
- **Section Q106** outlines the system maintenance information and commissioning requirements to ensure the connected building management systems was properly installed, fully operational, and will continue to function as designed for the life of the building.

Cost Impact: Increase

Estimated Immediate Cost Impact:

As an appendix, the impact cost will be $0 since it is only optional unless adopted by the jurisdiction having authority. This proposed appendix will increase the cost of construction for those projects that elect to implement the safe and effective installation and operation of fully integrated and connected building management systems in compliance with this appendix. The additional costs may be offset by energy savings, more efficient operations, increased productivity, and reduced operational downtime.

Estimated Immediate Cost Impact Justification (methodology and variables):

Unknown - No Cost Impact Justification Study Performed

Staff Analysis: The proposed referenced standard, NFPA 855-23 Standard for the Installation of Stationary Energy Storage Systems, is currently referenced in the IFC.

G207-25

G208-25

IBC: [BS] 3301.3, 3301.3.1 (New), 3301.3.2 (New); IEBC: [BS] 1501.3, 1501.3.1 (New), 1501.3.2 (New)

Proponents: Peter Somers, Magnusson Klemencic Associates, representing self (psomers@mka.com); Kelly Cobeen, Wiss Janney Elstner Associates, representing Self (kcobeen@wje.com); Seth Thomas, KPFF Consulting Engineers, representing Self (seth.thomas@kpff.com); Julie C. Furr, representing NCSEA Existing Building Committee (jcfurr@ssr-inc.com)

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

2024 International Building Code

Revise as follows:

[BS] 3301.3 ~~Roof loads~~ Loads during construction. ~~Structural roof components shall be capable of supporting the roof-covering system and the material and equipment *loads* that will be encountered during installation of the system.~~Structural loads and lateral force resisting strength during construction shall comply with sections 3301.3.1 and 3301.3.2.

Add new text as follows:

3301.3.1 Roof loads. Structural roof components shall be capable of supporting the roof-covering system and the material and equipment loads that will be encountered during installation of the system.

3301.3.2 Buildings occupied during construction. Existing buildings that remain occupied during construction shall comply with the following:

1. Gravity load supporting capacity of existing structural system shall not be reduced from their pre-construction state, unless such systems are shown to comply with the gravity loads required by the IBC for the use and occupancy during construction.
2. The lateral force resisting strength of any story in any given direction shall not be reduced by more than 10% from its pre-construction state.

Temporary or permanent measures shall be permitted to augment the strength and stiffness of the gravity or lateral system in order to comply with this section. Modification of the lateral force resisting system shall not create a Type 1 or 4 Horizontal or Type 1, 3 or 4 Vertical structural irregularity as defined in ASCE 7. Where approved by the authority having jurisdication, the duration of construction shall be permitted to be considered in evaluating element lateral forces.

2024 International Existing Building Code

Revise as follows:

[BS] 1501.3 ~~Roof loads~~ Loads during construction. ~~Structural roof components shall be capable of supporting the roof-covering system and the material and equipment loads that will be encountered during installation of the system.~~Structural loads and lateral force resisting strength during construction shall comply with sections 1501.3.1 and 1501.3.2.

Add new text as follows:

1501.3.1 Roof loads. Structural roof components shall be capable of supporting the roof-covering system and the material and equipment loads that will be encountered during installation of the system.

1501.3.2 Buildings occupied during construction. Existing buildings that remain occupied during construction shall comply with the following:

1. Gravity load supporting capacity of existing structural system shall not be reduced from their pre-construction state, unless such systems are shown to comply with the gravity loads required by the *International Building Code* for the use and occupancy during construction.
2. The lateral force resisting strength of any story in any given direction shall not be reduced by more than 10% from its pre-construction state.

Temporary or permanent measures shall be permitted to augment the strength and stiffness of the gravity or lateral system in order to comply with this section. Modification of the Lateral force resisting system shall not create a Type 1 or 4 Horizontal or Type 1, 3 or 4 Vertical structural irregularity as defined in ASCE 7. Where approved by the authority having jurisdiction, the duration of construction shall be permitted to be considered in evaluating element lateral forces.

Reason: Currently the IEBC provides no regulations on the requirements for modification of the lateral force resisting system (LFRS) during construction. Some AHJ's do have requirements for occupied buildings (e.g. City of Portland, Oregon). For certain types of buildings (Hospitals, airports, etc.) portions of these structures often remain occupied during construction. When the construction project (seismic upgrade or other) within a publicly occupied building modifies the LFRS it is important to maintain a minimum amount of resistance to gravity loads and possible environmental loads to protect the occupants. Often seismic upgrades or renovations will modify shear walls or move braces around occupied space, sometimes these construction activities take days (i.e. swapping out a brace) and some times the moves take weeks or months. This proposal aims to strike a balance between providing a minimum level of structural requirements to protect the public occupants while providing flexibility for construction projects.

The provisions specifically allow for temporary measures to be used to meet the requirements of this section. This could be a temporary header when a floor opening is being added or a temporary wall or brace to augment the LFRS so that the 10% threshold is not exceeded.

In addition to the requirement not to reduce the lateral strength by more than 10 percent there is a restriction on creating certain types of new structural irregularities. Irregularities are selected that are often triggered by modification of the lateral force resting system that increase the collapse hazard of the building. The irregularities selected are as follows;

- Type 1 horizontal irregularity: This could happen by removing a wall near the edge of a building and replacing it with a wall near the center. While the lateral strength of the story is not changed the different location can trigger a torsional irregularity which increases the collapse hazard of the building, specifically the new strength portion of the check introduced in ASCE 7-22.
- Type 4 horizontal irregularity: The condition could be created by moving a brace from one bay to another which creates a horizontal load transfer through a diaphragm that is not designed for these loads.
- Type 1 Vertical Stiffness Irregularity: This condition could be triggered by inadvertently by adding or subtracting too much temporary or permanent LFRS elements to an adjacent floor. The base provision only restricts removal of 10% of the story strength, this limit restricts the change in adjacent stiffness.
- Type 3 Vertical Irregularity: This could happen if a larger opening is put in an existing wall. While a new wall could replace the strength of the wall at that level, if the new opening triggers a Type 3 vertical irregularity for the pier/column element below and that element is not designed or detailed as required a dangerous condition is created.
- Type 4 Vertical Strength Irregularity: This condition could be triggered by inadvertently adding or subtracting to much temporary or permanent LFRS elements to an adjacent floor. The base provision only restricts removal of 10% of the story strength, this limit restricts adding too much strength to a floor above.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Ensuring structural safety of buildings that remain occupied during construction of renovation work is generally required by code and should be enforced by AHJ as part of renovation or demolition permitting. The added text is simply a clarification and standardization of standard of practice requirements.

G208-25

G209-25

IBC: [F] TABLE 509.1

Proponents: Greg Johnson, Johnson & Associates Consulting Services, representing self (gjohnsonconsulting@gmail.com); Robert Buchetto, HED, representing Self (rbuchetto@hed.design); Jay Peters, representing Codes and Standards International (peters.jay@me.com)

2024 International Building Code

Revise as follows:

[F] TABLE 509.1 INCIDENTAL USES

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Electrical installations and transformers	See Sections 110.26 through 110.34 and Sections 450.8 through 450.48 of NFPA 70 for protection and separation requirements.
In Group D, rooms with lithium-ion or lithium metal batteries	2 hours

For SI: 1 square foot = 0.0929 m^2, 1 pound per square inch (psi) = 6.9 kPa, 1 British thermal unit (Btu) per hour = 0.293 watts, 1 horsepower = 746 watts, 1 gallon = 3.785 L, 1 cubic foot = 0.0283 m^3.

Reason: Data centers are unique occupancies and merit their own occupancy classification, as is proposed in a companion change. It is typical in the data center industry for energy storage systems using lithium batteries to be separated by 2 hour fire separations from the data hall and accessory office spaces.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

What is proposed is consistent with current industry practices and should create no additional expense.

Staff Analysis: Provisions for the separtation of rooms containig lithium-ion and lithium metal batteries was added in the 2024 IFC Section 320.4.2.2 by F21-21; and relocated to a new Chapter 42 by F230-24.

G209-25

G210-25

IBC: SECTION 429 (New), 429.1 (New), 429.2 (New), 429.3 (New), 429.3.1 (New), 429.4 (New), 429.5 (New), NFPA Chapter 35 (New), NEMA (New), 2702.2.20 (New); IFC: 1203.2.20 (New)

Proponents: Bryan Holland, representing National Electrical Manufacturers Association (NEMA) (bryan.holland@nema.org)

2024 International Building Code

Add new text as follows:

SECTION 429
DATA CENTERS AND COMPUTER ROOMS

429.1 Applicability. The provisions of Sections 429.1 through 429.5 shall apply to all buildings and structures or parts of buildings and structures that contain data centers or computer rooms.

429.2 Power and lighting systems. Power and lighting equipment and systems installed for data centers and computer rooms shall comply with NEMA XX.

429.3 Standby power. Equipment and systems installed for data centers and computer rooms shall be provided with standby power installed in accordance with Section 1203 of the International Fire Code and Article 701 of NFPA 70. Standby power loads shall be supplied by an electrical energy storage system (ESS) installed in accordance with Section 1207 of the International Fire Code, NFPA 855, and Article 706 of NFPA 70.

429.3.1 Capacity and duration. The standby power supply shall be capable of operating the equipment and systems installed for data centers and computers rooms at 100-percent system capacity for a duration of not less than 12 hours.

429.4 Emergency power. Emergency power shall be provided for data centers and computers rooms in accordance with Section 2702 of this code, Section 1203 of the *International Fire Code*, and Article 700 of NFPA 70.

429.5 Surge protection. All services or feeders supplying data centers and computer rooms shall be provided with surge protection installed in accordance with Article 242 of NFPA 70.

Add new standard(s) as follows:

NFPA

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169-7471

855-23	Standard for the Installation of Stationary Energy Storage Systems

NEMA

National Electrical Manufacturers Association
1300 North 17th Street, Suite 900
Arlington, VA 22209

xx-xx	Standard for Electrical Equipment in Data Centers and Computer Rooms

Add new text as follows:

2702.2.20 Data Centers and Computer Rooms. Emergency and standby power shall be provided for data centers and computer rooms as required in Section 429 of the *International Buidling Code*.

2024 International Fire Code

Add new text as follows:

1203.2.20 Data Centers and Computer Rooms. Emergency and standby power shall be provided for data centers and computer rooms as required in Section 429 of the *International Buidling Code*.

Reason: Data centers and computers rooms have and are rapidly becoming critical infrastructure requiring reliable power systems with sufficient standby and emergency power, resilient to transient energy from overvoltage and surge currents. NEMA is currently developing a standard for data center power and lighting equipment and systems that will be published in time for the 2026 Public Comment Hearings or potentially ahead of the 2025 Group B CAH #2. Additionally, this proposal adds essential power reliability by mandating standby power for the equipment and systems installed for data centers and computer rooms along with emergency power for life safety and fire responder operations. Surge protection will also be required for all services and feeders installed for the normal, standby, and emergency equipment and systems. The combination of standby power, emergency power, and surge protection will ensure data centers and computer rooms will remain energized during normal power outages and will not be damaged from transient surges.

Cost Impact: Increase

Estimated Immediate Cost Impact:

This proposal will increase the cost of construction of data centers and computer rooms by requiring compliance with requirements outlined in Sections 429 and 2702.2.20. However, the increased costs at time of construction will be offset operational savings achieved by reduced downtime, increased productivity, and protection against data loss and equipment damage. This return on investment will vary depending on project scale and scope.
For example, a small computer room with a single network terminal may only require the installation of a single surge-protective device and a UPS for standby power backup, whereas a 50k square foot standalone data center with thousands of network terminals may require extensive electrical infrastructure to meet the proposed requirements in Sections 429 and 2702.2.20.
Actual costs in dollars could be as low as $500 in the first example above to more than $100k in electrical upgrades in the second example above.

Estimated Immediate Cost Impact Justification (methodology and variables):

Unknown - No Cost Impact Justification Study Performed. NEMA's proposals are developed by a member consensus process where both our bylaws and federal regulations prohibit us from discussing prices, cost, and other financial details of electrical products.
The best we can offer is a statement that we acknowledge the proposed requirements will indeed increase the cost of construction dependent on the scale and scope of the project, but that we also believe these initial costs will be offset by operational savings achieved by reduced downtime, increased productivity, and protection against data loss and equipment damage, as stated in our proposal.

Staff Analysis: The proposed referenced standard, NFPA 855-23 Standard for the Installation of Stationary Energy Storage Systems, is currently referenced in the IFC.

A review of the standard proposed for inclusion in the code, NEMA XX-XX *Standard for Electrical Equipment in Data Centers and Computer Rooms,* with regard to some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before April 1, 2025.

G210-25