Evaluation of the Cost Impact of 2021 ICC Prescriptive Code Changes

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Interim Report

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Submitted to

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EXECUTIVE SUMMARY

The study examined the 2021 ICC Code changes (including: International Building Code (IBC); International Residential Code (IRC); International Energy Conservation Code; International Mechanical Code; International Plumbing Code; International Fuel Gas Code; International Code for Existing Buildings; and National Electrical Code) and their cost impact on the 2018 International Building Codes as incorporated in 2020 Florida Building Code (effective December 31, 2020).

The I-Codes 2021 changes that are prescriptive in nature and have the potential of changing the cost of construction were identified and used in a standard set of prototypes of two residential and five commercial/institutional building information models to determine the impact of these code changes on their construction costs. RS Means 2020 Cost data for the Orlando Region was used to price these prototype buildings. Model based quantities were used and verified along with some SF style estimates from RS means for certain systems that were not fully defined in the prototype BIM models.

Future research should focus on the use of the developed models and estimates to evaluate future code changes. In addition, workshop webinars should be promoted to introduce and encourage designers, builders and other code change petitioners to use the models to prospectively evaluate the cost impact of their proposed code changes. Finally, the modeling of other type of buildings should be explored to develop an even more diverse set of building models.

Overview

This research provides an assessment of the potential cost impacts of the 2021 I-Code changes to the 2018 International Building Codes as incorporated in 2021 Florida Building Code (effective December 31, 2020) by identifying those code changes/provisions that are prescriptive in nature and have the potential of adding cost to construction and by estimating the costs of the rest of the code changes using good engineering judgment and feedback from general contractors and consulting. A standard set of baseline residential and commercial building designs are modeled using building information modeling (BIM) and are used to produce cost estimates and extract the cost impact of code changes. Figure 1 shows the general process used to conduct this research.

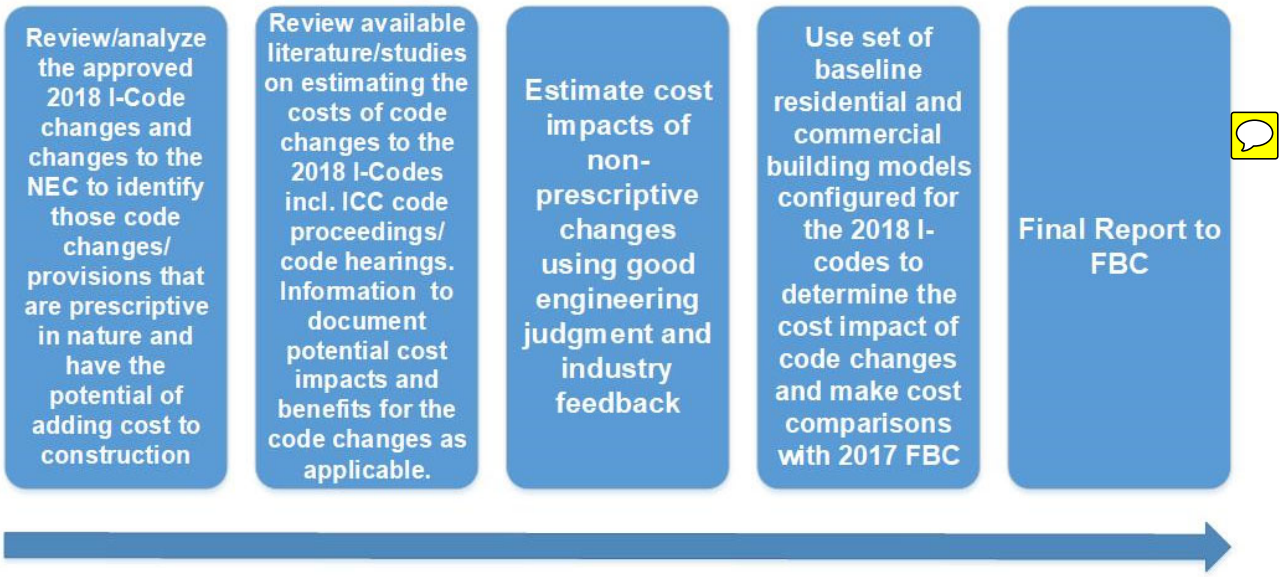


Figure 1. Research Plan

If any of the information gathered is seen as providing clear direction for one or more code recommendations, the recommendation(s) will also be written up and presented to the Commission. Effort will be made to provide a preliminary draft report by 26 February 2021.

Scope of Work

Task

a. RS shall review/analyze the approved 2018 I-Code changes and changes to the NEC to identify those code changes/provisions that are prescriptive in nature and have the potential of adding cost to construction.

b. RS shall review available literature/studies on the subject of estimating the costs of the code changes to the 2018 I-Codes including the ICC code proceedings/code hearings. Information gathered from this task shall be used to document potential cost impacts and benefits for the code changes as identified in "a." and as applicable.

c. RS shall estimate the construction cost impacts of those provisions that are not covered under "b." using good engineering judgment and feedback from general contractors and consulting engineers.

d. RS shall use the set of baseline residential and commercial building designs configured for the 2018 I-codes to determine the cost impact of code changes.

e. RS shall use building information modeling (BIM) tools developed under the 2015 I-Codes "as amended via the 6th Edition (2017) FBC" and 2018 I-Codes to produce:

f. RS shall use the information in "e." and cost databases to produce cost estimates and extract cost impact of changes on the reference houses and commercial buildings.

MEP Code Changes Cost Impact

Affiliated Engineers SE Inc. (AEI) has undertaken a study aimed at evaluating the cost impact that will result from the state of Florida's adoption of the 2021 Edition of the International Building Code (IBC). AEI's primary responsibility resided in evaluating the applicable MEP related changes that have occurred between the 2018 Edition and the 2021 Edition of the IBC and their cost impact and benefit.

Findings

----------Pending ----------

Tables 1-9 provides preliminary details.

International Building Code (IBC-FPC) Changes Cost Impact

Koffel Associates, Inc. has undertaken a study aimed at evaluating the cost impact that will result from the state of Florida's adoption of the 2018 Edition of the International Building Code (IBC).

Findings

----------Pending ----------

Table 10 provides preliminary details.

NEC Changes Cost Impact

NEC Changes Cost Impact

----------Pending ----------

Findings

----------Pending ----------

Structural Code Changes Cost Impact

The RS has undertaken a study aimed at evaluating the cost impact that will result from the state of Florida's adoption of the 2021 Edition of the International Building Code (IBC). RS took primary responsibility in evaluating the applicable Structural Engineering related changes that have occurred between the 2018 Edition and the 2021 Edition of the IBC and IRC.

Findings

----------Pending ----------

Tables 12-13 provide provides preliminary details.

Preliminary Conclusions

I-Codes 2021 changes that are prescriptive in nature and have the potential of impacting construction cost are in the process of being identified and used to develop cost estimates for two prototype residential (2) and five prototype commercial/institutional building information models. These construction cost estimates are being developed for the 2021 I-Codes based on models of each of seven building types.

RS Means 2020 Cost data will be used to price these prototype buildings. Model based quantities will be used and verified along with some SF style estimates from RS Means for certain systems that were not fully defined in the models. Based on these construction cost estimates, the relative increase in cost due to the 2021 ICC will be determined.

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
E15-18 Part I	**Modify as follows:** **1010.1.10 Panic and fire exit hardware.** Swinging doors serving a Group H occupancy and swinging doors serving rooms or spaces with an *occupant load* of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than *panic hardware* or *fire exit hardware*. **Exceptions:** 1. A main exit of a Group A occupancy shall be permitted to have locking devices in accordance with Section 1010.1.9.4, Item 2. 2. Doors provided with panic hardware or fire exit hardware and serving a Group A or E occupancy shall be permitted to be electrically locked in accordance with Section 1010.1.9.9 or 1010.1.9.10. Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide, and that contain overcurrent devices, switching devices or control devices with exit or *exit access* doors, shall be equipped with *panic hardware* or *fire exit hardware*. The doors shall swing in the direction of egress travel. Refrigeration machinery rooms larger than 1,000 square feet (93 m^2) shall have not less than two exits or exit access doorways that swing in the direction of egress travel and are equipped with panic hardware or fire exit hardware.		X			Necessary addition for clarification
E15-18 Part II	**1105.10 [BE] Means of egress.** Machinery rooms larger than 1,000 square feet (93 m2) shall have not less than two exits or exit access doorways. Where two exit access doorways are required, one such doorway is permitted to be served by a fixed ladder or an alternating tread device. Exit access doorways shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of the room. All portions of machinery rooms shall be within 150 feet (45 720 mm) of an exit or exit access doorway. An increase in exit access travel distance is permitted in accordance with Section 1017.1. Exit and exit access doorways shall swing in the direction of egress travel and shall be equipped with panic hardware, regardless of the			X	$4.00 per room sqft.	Necessary Addition

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	occupant load served. Exit and exit access doorways shall be tight fitting and self-closing.					
E27-18	**1008.2.1 Illumination level under normal power.** The means of egress illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along exit access stairways, exit stairways and at their required landings, the illumination level shall not be less than 10 footcandles at the walking surface when the stairway is in use. **Exception:** For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' fire alarm system: 1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux). 2. Steps, landings and the sides of ramps shall be permitted to be marked with self-luminous materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems listed in accordance with UL 1994. **1008.2.1 Illumination level under normal power.** The means of egress illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along exit access stairways, exit stairways and at their required landings, the illumination level shall not be less than 10 footcandles at the walking surface when the stairway is in use. **Exception:** For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' fire alarm system: 1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux). 2. Steps, landings and the sides of ramps shall be permitted to be marked with self-luminous materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems listed in accordance with UL 1994.			X	$1.00 per room sqft.	Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
E28-18	**412.7.3 Means of egress.** The means of egress from heliports and helistops shall comply with the provisions of Chapter 10. Landing areas located on buildings or structures shall have two or more ~~means of egress.~~ exits or access to exits. For landing areas less than 60 feet (18 288 mm) in length or less than 2,000 square feet (186 m^2) in area, the second means of egress is permitted to be a fire escape, alternating tread device or ladder leading to the floor below. **1008.3.1 General.** In the event of power supply failure in rooms and spaces that require two or more ~~means of egress~~ exits or access to exits, an emergency electrical system shall automatically illuminate all of the following areas: 1. Aisles. 2. Corridors. 3. Exit access stairways and ramps. **1008.3.2 Buildings.** In the event of power supply failure in buildings that require two or more ~~means of egress~~ exits or access to exits, an emergency electrical system shall automatically illuminate all of the following areas: 1. Interior exit access stairways and ramps. 2. Interior and exterior exit stairways and ramps. 3. Exit passageways. 4. Vestibules and areas on the level of discharge used for exit discharge in accordance with Section 1028.1. 5. Exterior landings as required by Section 1010.1.6 for exit doorways that lead directly to the exit discharge. **1010.1.4.5 Security grilles.** In Groups B, F, M and S, horizontal sliding or vertical security grilles are permitted at the main exit and shall be openable from the inside without the use of a key or special knowledge or effort during periods that the space is occupied. The grilles shall remain secured in the full-open position during the period of occupancy by the general public. Where two or more ~~means of egress~~ exits or access to exits are required, not more than one-half of the exits or exit access doorways shall be equipped with horizontal sliding or vertical security grilles.		X			Clarification
E30-18	**1009.2.1 Elevators required.** In buildings where a required accessible floor or occupied roof is four or more stories above or below a level of exit discharge, not less than one required accessible means of egress shall be an elevator complying with Section 1009.4.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exceptions: 1. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a horizontal exit and located at or above the levels of exit discharge. 2. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a ramp conforming to the provisions of Section 1012.					
E33-18	**1009.6.2 Stairway or elevator access.** Every required area of refuge shall have direct access to a stairway complying with Sections 1009.3 and 1023 or an elevator complying with Section 1009.4. **Exception:** An interior area of refuge at the level of exit discharge that provides direct access to an exterior exit door.		X			Clarification
E34-18	**1009.6.3 Size.** Each area of refuge shall be sized to accommodate one wheelchair space of 30 inches by ~~48~~ 52 inches (762 mm by ~~1219~~ 1320 mm) for each 200 occupants or portion thereof, based on the occupant load of the area of refuge and areas served by the area of refuge. Such wheelchair spaces shall not reduce the means of egress minimum width or required capacity. Access to any of the required wheelchair spaces in an area of refuge shall not be obstructed by more than one adjoining wheelchair space. ~~**1109.2.1.6 Clear floor space.** Where doors swing into a family or assisted-use toilet or bathing room, a clear floor space not less than 30 inches by 48 inches (762 mm by 1219 mm) shall be provided, within the room, beyond the area of the door swing.~~ **3008.6.4 Lobby size.** Each occupant evacuation elevator lobby shall have minimum floor area as follows: 1. The occupant evacuation elevator lobby floor area shall accommodate, at 3 square feet (0.28 m^2) per person, not less than 25 percent of the occupant load of the floor area served by the lobby. 2. The occupant evacuation elevator lobby floor area shall accommodate one wheelchair space of 30 inches by ~~48~~ 52 inches (760 mm by ~~1220~~ 1320 mm) for each 50 persons, or portion thereof, of the occupant load of the floor area served by the lobby.			X	$4.00 per room sqft.	Clarifies and amends the list of size for areas of refuge, exterior areas of assisted rescue, and lobbies

Table 1. 2021 IBC MEP Changes Cost Impact						
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		Decrease	None	Increase		
Sub Code:						
	Exception: The size of lobbies serving multiple banks of elevators shall have the minimum floor area approved on an individual basis and shall be consistent with the building's fire safety and evacuation plan.					
E36-18	**1009.8.1 System requirements.** Two-way communication systems shall provide communication between each required location and the fire command center or a central control point location approved by the fire department. Where the central control point is not a constantly attended location, ~~a~~ two-way communication system shall have a timed automatic telephone dial-out capability ~~to a monitoring location~~ that provides two way communication with an approved supervising station or 9-1-1. The two-way communication system shall include both audible and visible signals.			X	Minimal	Clarification
E37-18	**1010.1 ~~Doors~~ General.** Doors in the *means of egress* shall comply with the requirements of Sections 1010.1.1 through ~~1010.1.3.4~~ 1010.3.4. Exterior exit doors shall also comply with the requirements of Section 1022.2. Gates in the means of egress shall comply with the requirements of Section 1010.4 through 1010.4.1. Turnstiles in the means of egress shall comply with the requirements of Section 1010.5 through 1010.5.4. Doors, gates and turnstiles provided for egress purposes in numbers greater than required by this code shall comply with the requirements of this section. Doors in the *means of egress* shall be readily distinguishable from the adjacent construction and finishes such that the doors are easily recognizable as doors. Mirrors or similar reflecting materials shall not be used on *means of egress* doors. *Means of egress* doors shall not be concealed by curtains, drapes, decorations or similar materials. **1010.2.8 Locking arrangements in educational occupancies.** In Group E and Group B educational occupancies, egress doors from classrooms, offices and other occupied rooms shall be permitted to be provided with locking arrangements designed to keep intruders from entering the room where all of the following conditions are met: 1. The door shall be capable of being unlocked from outside the room with a key or other *approved* means. 2. The door shall be openable from within the room in accordance with Section 1010.2. ~~2.~~3. Modifications shall not be made to listed *panic hardware*, fire door hardware or door closers.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
E38-18	**1028.1 General.** The exit discharge shall comply with Sections 1028 and 1029 and the applicable requirements of Sections 1003 through 1015.		X			Clarification
E39-18	**1010.1.1 Size of doors.** The required capacity of each door opening shall be sufficient for the *occupant load* thereof and shall provide a minimum clear opening width of 32 inches (813 mm). The clear opening width of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear opening width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width of 32 inches (813 mm). In Group I-2, doors serving as *means of egress* doors where used for the movement of beds shall provide a minimum clear opening width of $41^1/_2$ inches (1054 mm). The ~~maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. The~~ minimum clear opening height of doors shall be not less than 80 inches (2032 mm). **Exceptions:** 1. In Group R-2 and R-3 *dwelling and sleeping units* that are not required to be an Accessible unit, Type A unit or Type B unit, the minimum ~~and maximum~~ width shall not apply to door openings that are not part of the required *means of egress*. 2. In Group I-3, door openings to resident *sleeping units* that are not required to be an *Accessible unit* shall have a minimum clear opening width of 28 inches (711 mm). 3. Door openings to storage closets less than 10 square feet (0.93 m2) in area shall not be limited by the minimum clear opening width. 4. The maximum width of door leaves in revolving doors that comply with Section 1010.1.4.1 shall not be limited. 5. The maximum width of door leaves in *power-operated doors* that comply with Section 1010.1.4.2 shall not be limited. 6. Door openings within a *dwelling unit* or *sleeping unit* shall have a minimum clear opening height of 78 inches (1981 mm). 7. In *dwelling and sleeping units* that are not required to be Accessible, Type A or Type B units, exterior door openings other than the required *exit* door shall have a minimum clear opening height of 76 inches (1930 mm). 8. In Groups I-1, R-2, R-3 and R-4, in *dwelling and sleeping units* that are not required to be Accessible, Type A or Type B units, the minimum clear opening widths shall not apply to interior egress doors.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	9. Door openings required to be *accessible* within *Type B units* intended for user passage shall have a minimum clear opening width of 31.75 inches (806 mm). 10. Doors to walk-in freezers and coolers less than 1,000 square feet (93 m^2) in area shall have a maximum width of 60 inches (1524 mm) nominal. 11. The minimum clear opening width shall not apply to doors for nonaccessible shower or sauna compartments. 12. The minimum clear opening width shall not apply to the doors for nonaccessible toilet stalls.					
E40-18	**1010.1.1 Size of doors.** The required capacity of each door opening shall be sufficient for the occupant load thereof and shall provide a minimum clear opening width of 32 inches (813 mm). The clear opening width of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear opening width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width of 32 inches (813 mm). In Group I-2, doors serving as means of egress doors where used for the movement of beds shall provide a minimum clear opening width of $41^1/_2$ inches (1054 mm). The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. The minimum clear opening height of doors shall be not less than 80 inches (2032 mm)~~.~~. **Exceptions:** 1. In Group R-2 and R-3 dwelling and sleeping units that are not required to be an Accessible unit, Type A unit or Type B unit, the minimum and maximum width shall not apply to door openings that are not part of the required means of egress. 2. In Group I-3, door openings to resident sleeping units that are not required to be an Accessible unit shall have a minimum clear opening width of 28 inches (711 mm). 3. Door openings to storage closets less than 10 square feet (0.93 m2) in area shall not be limited by the minimum clear opening width. 4. The width of door leaves in revolving doors that comply with Section 1010.1.4.1 shall not be limited. 5. The maximum width of door leaves in doors that comply with Section 1010.1.4.2 shall not be limited. 6. Door openings within a dwelling unit or sleeping unit shall have a minimum clear opening height of 78 inches (1981 mm).	X				Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	7. In dwelling and sleeping units that are not required to be Accessible, Type A or Type B units, exterior door openings other than the required exit door shall have a minimum clear opening height of 76 inches (1930 mm). 8. In Groups I-1, R-2, R-3 and R-4, in dwelling and sleeping units that are not required to be Accessible, Type A or Type B units, the minimum clear opening widths shall not apply to interior egress doors. 9. Door openings required to be accessible within Type B units intended for user passage shall have a minimum clear opening width of 31.75 inches (806 mm). 10. Doors to walk-in freezers and coolers less than 1,000 square feet (93 m^2) in area shall have a maximum width of 60 inches (1524 mm) nominal. ~~11. The minimum clear opening width shall not apply to doors for nonaccessible shower or sauna compartments.~~ ~~12. The minimum clear opening width shall not apply to the doors for nonaccessible toilet stalls.~~ ~~13. The minimum clear opening width shall not apply to the doors for nonaccessible~~ Doors serving nonaccessible single user shower or sauna compartments, toilet stalls or dressing, fitting or changing rooms shall have a minimum clear opening width of 20 inches (508 mm).					
E41-18	**1010.1.1.1 Projections into clear ~~width~~ opening.** There shall not be projections into the required clear opening width lower than 34 inches (864 mm) above the floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the floor or ground shall not exceed 4 inches (102 mm). **Exception:** Door closers, overhead door stops, power door operators, and electromagnetic door ~~stops~~ locks shall be permitted to be 78 inches (1980 mm) minimum above the floor.		X			Clarification
E42-18	**1010.1.2 ~~Door swing~~ Egress door types.** Egress doors shall be of the ~~pivoted or~~ side-hinged swinging ~~type.~~door, pivoted door, or balanced door types. **Exceptions:** 1. Private garages, office areas, factory and storage areas with an occupant load of 10 or less. 2. Group I-3 occupancies used as a place of detention. 3. Critical or intensive care patient rooms within suites of health care facilities. 4. Doors within or serving a single dwelling unit in Groups R-2 and R-3.		X			Addresses balanced doors as a type of swinging door, consistent with the intent of the provisions

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	5. In other than Group H occupancies, revolving doors complying with Section 1010.1.4.1. 6. In other than Group H occupancies, special purpose horizontal sliding, accordion or folding door assemblies complying with Section 1010.1.4.3. 7. Power-operated doors in accordance with Section 1010.1.4.2. 8. Doors serving a bathroom within an individual sleeping unit in Group R-1. 9. In other than Group H occupancies, manually operated horizontal sliding doors are permitted in a means of egress from spaces with an occupant load of 10 or less. **1010.1.2.1 Direction of swing.** ~~Pivot or side~~Side-hinged swinging doors, pivoted doors, and balanced doors shall swing in the direction of egress travel where serving a room or area containing an occupant load of 50 or more persons or a Group H occupancy.					
E44-18	**1010.1.3 Forces to unlatch and open doors.** The forces to unlatch ~~and to open~~ doors shall comply with the following: 1. Where door hardware operates by push or pull, the operational force to unlatch the door shall not exceed 15 pounds (66.7N). 2. Where door hardware operates by rotation, the operational force to unlatch the door shall not exceed 28 inch-pounds (315 N-cm). The forces to open doors shall comply with the following: 1. For ~~manual~~ interior swinging egress doors that are manually operated, other than doors required to be fire rated, the force for pushing or pulling open the door shall not exceed 5 pounds (22 N). 2. For other swinging doors, sliding doors, or folding doors, and doors required to be ~~fire-resistance-rated~~ fire rated, the door shall require not more than a 30-pound (133 N) force to be set in motion and shall move to a full-open position when subjected to not more than a 15-pound (67 N) force.		X			Clarification
E45-18	**1010.1.3.2 Manual horizontal sliding doors.** Where a manual horizontal sliding door is required to latch, the latch or other mechanism shall prevent the door from rebounding into a partially open position when the door is closed.			X		Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
E46-18	**1010.1.4.1 Revolving doors.** Revolving doors shall comply with the following: 1. Revolving doors shall comply with BHMA A156.27 and shall be installed in accordance with the manufacturer's instructions. 2. Each revolving door shall be capable of breakout in accordance with BHMA A156.27 and shall provide an aggregate width of not less than 36 inches (914 mm). 3. A revolving door shall not be located within 10 feet (3048 mm) of the foot or top of stairways or escalators. A dispersal area shall be provided between the stairways or escalators and the revolving doors. 4. The revolutions per minute (rpm) for a revolving door shall not exceed the maximum rpm as specified in BHMA A156.27. Manual revolving doors shall comply with Table 1010.1.4.1(1). Automatic or power-operated revolving doors shall comply with Table 1010.1.4.1(2). 5. An emergency stop switch shall be provided near each entry point of power or automatic operated revolving doors within 48 inches (1220 mm) of the door and between ~~24~~ 34 inches (~~610~~ 864 mm) and 48 inches (1220 mm) above the floor. The activation area of the emergency stop switch button shall be not less than 1 inch (25 mm) in diameter and shall be red. 6. Each revolving door shall have a side-hinged swinging door that complies with Section 1010.1 in the same wall and within 10 feet (3048 mm) of the revolving door. 7. Revolving doors shall not be part of an accessible route required by Section 1009 and Chapter 11.		X			Creates consistency with ANSI/BMHA A156.27
E47-18	**1010.1.4.3 Special purpose horizontal sliding, accordion or folding doors.** In other than Group H occupancies, special purpose horizontal sliding, accordion or folding door assemblies permitted to be a component of a means of egress in accordance with Exception 6 to Section 1010.1.2 shall comply with all of the following criteria: 1. The doors shall be power operated and shall be capable of being operated manually in the event of power failure. 2. The doors shall be openable by a simple method ~~from both sides~~ without special knowledge ~~or effort~~ or effort from the egress side or sides. 3. The force required to operate the door shall not exceed 30 pounds (133 N) to set the door in motion and 15 pounds (67 N) to close the door or open it to the minimum required width.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	4. The door shall be openable with a force not to exceed 15 pounds (67 N) when a force of 250 pounds (1100 N) is applied perpendicular to the door adjacent to the operating device. 5. The door assembly shall comply with the applicable fire protection rating and, where rated, shall be self-closing or automatic closing by smoke detection in accordance with Section 716.2.6.6, shall be installed in accordance with NFPA 80 and shall comply with Section 716. 6. The door assembly shall have an integrated standby power supply. 7. The door assembly power supply shall be electrically supervised. 8. The door shall open to the minimum required width within 10 seconds after activation of the operating device.					
E48-18	**1010.1.4.4 Locking arrangements in educational occupancies.** In Group E ~~and~~ occupancies, Group B educational occupancies and Group I-4 occupancies, egress doors from classrooms, offices and other occupied rooms ~~shall be permitted to be provided~~ with locking arrangements designed to keep intruders from entering the room ~~where~~ shall comply with all of the following conditions ~~are met~~: 1. The door shall be capable of being unlocked from outside the room with a key or other approved means. 2. The door shall be openable from within the room in accordance with Section 1010.1.9. 3. Modifications shall not be made to listed panic hardware, fire door hardware or door closers. 4. Modifications to fire door assemblies shall be in accordance with NFPA 80. Remote locking or unlocking of doors from an approved location shall be permitted in addition to the unlocking operation in Item 1.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~**1010.1.4.4.1 Remote operation of locks.** Remote operation of locks complying with Section 1010.1.4.4 shall be permitted.~~ ~~**[BE]** **1031.2.2 Locking arrangements in educational occupancies.**~~ In Group E occupancies, Group B educational occupancies and Group I-4 occupancies, egress doors ~~from classrooms, offices and other occupied rooms shall be permitted to be provided~~ with locking arrangements designed to keep intruders from entering the room shall comply with Section 1010.1.4.4. ~~where all of the following conditions are met:~~ ~~1. The door shall be capable of being unlocked from outside the room with a key or other approved means.~~ ~~2. The door shall be openable from within the room in accordance with Section 1010.1.9.~~ ~~3. Modifications shall not be made to existing listed panic hardware, fire door hardware or door closers.~~ ~~4. Modifications to fire door assemblies shall be in accordance with NFPA 80.~~					
E52-18	**1010.1.9.4 Locks and latches.** Locks and latches shall be permitted to prevent operation of doors where any of the following exist: 1. Places of detention or restraint. 2. In Group I-1 Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times. 3. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided: 3.1. The locking device is readily distinguishable as locked. 3.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background. 3.3. The use of the key-operated locking device is revocable by the building official for due cause.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	4. Where egress doors are used in pairs, approved automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts does not have a doorknob or surface-mounted hardware. 5. Doors from individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool. 6. Fire doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with listed fire door test procedures. 7. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the building from the roof.					
E53-18	**1010.1.9.4 Locks and latches.** Locks and latches shall be permitted to prevent operation of doors where any of the following exist: 1. Places of detention or restraint. 2. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided: 2.1. The locking device is readily distinguishable as locked. 2.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background. 2.3. The use of the key-operated locking device is revocable by the building official for due cause. 3. Where egress doors are used in pairs, approved automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts does not have a doorknob or surface-mounted hardware. 4. Doors from individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool. 5. Fire doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with listed fire door test procedures.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	6. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the building from the roof. 7. Other than egress courts, where occupants must egress from an exterior space through the building for means of egress, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following: 7.1. The maximum occupant load shall be posted where required by Section 1004.9. Such sign shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways. 7.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side. 7.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device. 7.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m^2) sq. ft. in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area. 7.5. A readily visible durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating: THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED. The letters on the sign shall be not less than 1 " high on a contrasting background. 7.6. <u>The occupant load of the occupied exterior area shall not exceed 300 in accordance with Section 1004.</u> 8. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual dwelling or sleeping units. 9. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet or less, serving a private office space.					
E54-18	**1010.1.9.6 Unlatching.** The unlatching of any door or leaf for egress shall require not more than one motion in a single linear or rotational direction to release all latching and all locking devices. ~~Latching or locking devices shall comply with ANSI/BHMA A156.41.~~			X	Minimal	Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exceptions: 1. Places of detention or restraint. 2. Where manually operated bolt locks are permitted by Section 1010.1.9.5. 3. Doors with automatic flush bolts as permitted by Section 1010.1.9.4, Item 3. 4. Doors from individual *dwelling units* and *sleeping units* of Group R occupancies as permitted by Section 1010.1.9.4, Item 4.					
E55-18	**1010.1.9.7 Controlled egress doors in Groups I-1 and I-2.** Electric locking systems, including electro-mechanical locking systems and electromagnetic locking systems, shall be permitted to be locked in the means of egress in Group I-1 or I-2 occupancies where the clinical needs of persons receiving care require their containment. Controlled egress doors shall be permitted in such occupancies where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke ~~or heat~~ detection system installed in accordance with Section 907, provided that the doors are installed and operate in accordance with all of the following: 1. The door locks shall unlock on actuation of the automatic sprinkler system or automatic ~~fire~~ <u>smoke</u> detection system. 2. The door locks shall unlock on loss of power controlling the lock or lock mechanism. 3. The door locking system shall be installed to have the capability of being unlocked by a switch located at the fire command center, a nursing station or other approved location. The switch shall directly break power to the lock. 4. A building occupant shall not be required to pass through more than one door equipped with a controlled egress locking system before entering an exit. 5. The procedures for unlocking the doors shall be described and approved as part of the emergency planning and preparedness required by Chapter 4 of the International Fire Code. 6. All clinical staff shall have the keys, codes or other means necessary to operate the locking systems. 7. Emergency lighting shall be provided at the door. 8. The door locking system units shall be listed in accordance with UL 294. **Exceptions:** 1. Items 1 through 4 shall not apply to doors to areas occupied by persons who, because of clinical needs, require restraint		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	or containment as part of the function of a psychiatric treatment area. 2. Items 1 through 4 shall not apply to doors to areas where a listed egress control system is utilized to reduce the risk of child abduction from nursery and obstetric areas of a Group I-2 hospital.					
E57-18	**1010.1.9.7 Controlled egress doors in Groups I-1 and I-2.** Electric locking systems, including electro-mechanical locking systems and electromagnetic locking systems, shall be permitted to be locked in the means of egress in Group I-1 or I-2 occupancies where the clinical needs of persons receiving care require their containment. Controlled egress doors shall be permitted in such occupancies where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors are installed and operate in accordance with all of the following: 1. The door locks shall unlock on actuation of the automatic sprinkler system or automatic fire detection system. 2. The door locks shall unlock on loss of power controlling the lock or lock mechanism. 3. The door locking system shall be installed to have the capability of being unlocked by a switch located at the fire command center, a nursing station or other approved location. The switch shall directly break power to the lock. 4. A building occupant shall not be required to pass through more than one door equipped with a controlled egress locking system before entering an exit. 5. The procedures for unlocking the doors shall be described and approved as part of the emergency planning and preparedness required by Chapter 4 of the International Fire Code. 6. All clinical staff shall have the keys, codes or other means necessary to operate the locking systems. 7. Emergency lighting shall be provided at the door. 8. The door locking system units shall be listed in accordance with UL 294. **Exceptions:** 1. Items 1 through 4 shall not apply to doors to areas occupied by persons who, because of clinical needs, require restraint or containment as part of the function of a psychiatric <u>or cognitive</u> treatment area.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	2. Items 1 through 4 shall not apply to doors to areas where a listed egress control system is utilized to reduce the risk of child abduction from nursery and obstetric areas of a Group I-2 hospital.					
E58-18	**1010.1.9.8 Delayed egress.** Delayed egress locking systems shall be permitted to be installed on doors serving the following occupancies in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907. 1. Group B, F, I, M, R, S and U occupancies. 2. Group E classrooms with an occupant load of less than 50. 3. In ~~a courthouse~~ courtrooms in Group A-3 and B occupancies, delayed egress locking systems shall be permitted to be installed on exit or exit access doors, other than the main exit or exit access door, ~~serving a Group A-3 courtroom~~ in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.		X			Clarification
E59-18	**1010.1.9.8.1 Delayed egress locking system.** The delayed egress locking system shall be installed and operated in accordance with all of the following: 1. The delay electronics of the delayed egress locking system shall deactivate upon actuation of the automatic sprinkler system or automatic fire detection system, allowing immediate free egress. 2. The delay electronics of the delayed egress locking system shall deactivate upon loss of power controlling the lock or lock mechanism, allowing immediate free egress. 3. The delayed egress locking system shall have the capability of being deactivated at the fire command center and other approved locations. 4. An attempt to egress shall initiate an irreversible process that shall allow such egress in not more than 15 seconds when a physical effort to exit is applied to the egress side door hardware for not more than 3 seconds. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the delay electronics have been deactivated, rearming the delay electronics shall be by manual means only. **Exception:**		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Where approved, a delay of not more than 30 seconds is permitted on a delayed egress door. 5. The egress path from any point shall not pass through more than one delayed egress locking system. **Exceptions:** 1. In Group I-1, Condition 2, Group I-2 or I-3 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided that the combined delay does not exceed 30 seconds. 2. In Group I-1, Condition 1 or I-4 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided the combined delay does not exceed 30 seconds and the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. 6. A sign shall be provided on the door and shall be located above and within 12 inches (305 mm) of the door exit hardware: 6.1. For doors that swing in the direction of egress, the sign shall read: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS. 6.2. For doors that swing in the opposite direction of egress, the sign shall read: PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS. 6.3. The sign shall comply with the visual character requirements in ICC A117.1. **Exception**: Where approved, in Group I occupancies, the installation of a sign is not required where care recipients who because of clinical needs require restraint or containment as part of the function of the treatment area. 7. Emergency lighting shall be provided on the egress side of the door. 8. The delayed egress locking system units shall be listed in accordance with UL 294.					
E61-18	**2018 International Building Code**		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	1010.1.9.9 Sensor release of electrically locked egress doors. Sensor release of electric locking systems shall be permitted on doors located in the means of egress in any occupancy except Group H where installed and operated in accordance with all of the following criteria: 1. The sensor shall be installed on the egress side, arranged to detect an occupant approaching the doors, and shall cause the electric locking system to unlock. 2. The electric locks shall be arranged to unlock by a signal from or loss of power to the sensor. 3. Loss of power to the lock or locking system shall automatically unlock the electric locks. 4. The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016 mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device located 40 inches to 48 inches (1016 mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device shall result in direct interruption of power to the electric lock-independent of other electronics and the electric lock shall remain unlocked for not less than 30 seconds. 5. Activation of the building fire alarm system, where provided, shall automatically unlock the electric lock, and the electric lock shall remain unlocked until the fire alarm system has been reset. 6. Activation of the building automatic sprinkler system or fire detection system, where provided, shall automatically unlock the electric lock. The electric lock shall remain unlocked until the fire alarm system has been reset. 7. Emergency lighting shall be provided on the egress side of the door. 8. The door locking system units shall be listed in accordance with UL 294.					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
E64-18	**1010.1.10.1 Rooms with electrical equipment.** Exit or exit access doors serving transformer vaults, rooms designated for batteries or energy storage systems, or modular data centers shall be equipped with panic hardware or fire exit hardware. ~~Where rooms contain~~ Rooms containing electrical ~~rooms with~~ equipment rated 800 amperes or more and that contain overcurrent devices, switching devices or control devices and where the exit or exit access door is less than 25 feet from the equipment working space as required by NFPA 70, ~~shall be equipped with~~ such doors shall not be provided with a latch or lock other than panic hardware or fire exit hardware. The doors shall swing in the direction of egress travel.		X			Clarification
E66-18	**1011.5.2 Riser height and tread depth.** Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. The riser height shall be measured vertically between the nosings of adjacent treads or between the stairway landing and the adjacent tread. Rectangular tread depths shall be 11 inches (279 mm) minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's nosing. Winder treads shall have a minimum tread depth of 11 inches (279 mm) between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline and a minimum tread depth of 10 inches (254 mm) within the clear width of the stair. **Exceptions:** 1. Spiral stairways in accordance with Section 1011.10. 2. Stairways connecting stepped aisles to cross aisles or concourses shall be permitted to use the riser/tread dimension in Section 1029.14.2. 3. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be $7^3/_4$ inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum winder tread depth at the walkline shall be 10 inches (254 mm); and the minimum winder tread depth shall be 6 inches (152 mm). A nosing projection not less than $^3/_4$ inch (19.1 mm) but not more than $1^1/_4$ inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm). 4. See Section 503.1 of the International Existing Building Code for the replacement of existing stairways.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	5. In Group I-3 facilities, stairways providing access to guard towers, observation stations and control rooms, not more than 250 square feet (23 m2) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).					
E68-18	**1011.6 Stairway landings.** There shall be a floor or landing at the top and bottom of each stairway. The width of landings, measured perpendicularly to the direction of travel, shall be not less than the width of stairways served. Every landing shall have a minimum depth, measured parallel to the direction of travel, equal to the width of the stairway or 48 inches (1219 mm), whichever is less. Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into the required width of a landing. Where wheelchair spaces are required on the stairway landing in accordance with Section 1009.6.3, the wheelchair space shall not be located in the required width of the landing and doors shall not swing over the wheelchair spaces. **Exception:** Where stairways connect stepped aisles to cross aisles or concourses, stairway landings are not required at the transition between stairways and stepped aisles constructed in accordance with Section 1029.		X			Clarification
E69-18	**1011.6 Stairway landings.** There shall be a floor or landing at the top and bottom of each *stairway*. The width of landings, measured perpendicularly to the direction of travel, shall be not less than the width of *stairways* served. Every landing shall have a minimum depth, measured parallel to the direction of travel, equal to the width of the *stairway* or 48 inches (1219 mm), whichever is less. Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into a landing. Where wheelchair spaces are required on the *stairway* landing in accordance with Section 1009.6.3, the *wheelchair space* shall not be located in the required width of the landing and doors shall not swing over the *wheelchair spaces*. ~~**Exception:**~~ **Exceptions:** 1. Where *stairways* connect stepped *aisles* to cross *aisles* or concourses, *stairway* landings are not required at the transition between *stairways* and stepped *aisles* constructed in accordance with Section 1029. 2. Where curved stairways of constant radius have intermediate landings, the landing depth shall be measured	X				Provides consistent interpretation and enforcement

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		Decrease	**None**	**Increase**		
Sub Code:						
	horizontally between the intersection of the walkline of the lower flight at the landing nosing and the intersection of the walkline of the upper flight at the nosing of the lowest tread of the upper flight.					
E70-18	**1011.6 Stairway landings.** There shall be a floor or landing at the top and bottom of each stairway. The width of landings, measured perpendicularly to the direction of travel, shall be not less than the width of stairways served. Every landing shall have a minimum depth, measured parallel to the direction of travel, equal to the width of the stairway or 48 inches (1219 mm), whichever is less. Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into a landing. Where wheelchair spaces are required on the stairway landing in accordance with Section 1009.6.3, the wheelchair space shall not be located in the required width of the landing and doors shall not swing over the wheelchair spaces. **Exceptions:** 1. Where stairways connect stepped aisles to cross aisles or concourses, stairway landings are not required at the transition between stairways and stepped aisles constructed in accordance with Section 1029. 2. ~~The~~ Where a landing ~~at stairway~~ turns ~~of~~ 90 degrees (1.57 rad) or more ~~shall not be required to provide a minimum~~, the minimum landing depth in accordance with this section ~~where the corner of the landing on the outside of the turn in plan has been truncated and the area of~~ shall not be required where the landing provided is not less than that described by an arc with a radius equal to the width of the flight served.	X				Clarification
E71-18	**1011.11 Handrails.** *Flights of stairways* shall have *handrails* on each side and shall comply with Section 1014. Where glass is used to provide the *handrail*, the *handrail* shall comply with Section 2407. **Exceptions:** 1. Flights of stairways within dwelling units and flights of spiral stairways are permitted to have a handrail on one side only. 2. Decks, patios and walkways that have a single change in elevation where the landing depth on each side of the change of elevation is greater than what is required for a landing do not require handrails. 3. In Group R-3 occupancies, a change in elevation consisting of a single riser at an entrance or egress door does not require		X			Clarification

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		Decrease	**None**	**Increase**		
Sub Code:						
	handrails. 4. Changes in room elevations of three or fewer risers within dwelling units and sleeping units in Group R-2 and R-3 do not require handrails. 5. Where a platform lift is in a stationary position and the floor of the platform lift serves as the upper landing of a stairway, handrails shall not be required on the stairway, provided that all of the following criteria are met: 5.1. The stairway contains no more than two risers. 5.2. A handhold, positioned horizontally or vertically, is located on one side of the stairway adjacent to the top landing. 5.3. The handhold is located not less than 34 inches (864 mm) and not more than 42 inches (1066 mm) above the bottom landing of the stairway. 5.4. The handhold gripping surface complies with Section 1014.3, and is not less than 4.5 inches (144 mm) in length.					
E72-18	**1013.3 Illumination.** Exit signs shall be internally or externally illuminated. **Exception:** Tactile signs required by Section 1013.4 need not be provided with illumination. **Revise as follows:** **1013.4 Raised character and braille exit signs.** ~~A sign stating EXIT in visual characters, raised characters and braille and complying with ICC A117.1 shall be provided adjacent to each door to~~ Where exit signs are provided at an area of refuge, providing direct access to a stairway, an exterior area for assisted rescue, an exit stairway or ramp, an exit passageway and the exit discharge, a sign stating EXIT in visual characters, raised characters and braille and complying with ICC A117.1 shall be provided.		X			Clarifies and amends the list of raised character and braille exit signs, stairway identification signs and tactile floor-level signs

1023.8 Discharge identification. An interior exit stairway and ramp shall not continue below its level of exit discharge unless an approved barrier is provided at the level of exit discharge to prevent persons from unintentionally continuing into levels below. Directional exit signs shall be provided as specified in Section 1013.

1023.9 Stairway identification signs. A sign shall be provided at each floor landing in an interior exit stairway and ramp connecting more than three stories designating the floor level, the terminus of the top and bottom of the interior exit stairway and ramp and the identification of the stairway or ramp. The signage shall state the story of and direction to the exit discharge, and the availability of roof access from the interior exit stairway and ramp for the fire department. The bottom of the sign shall be located 5 feet (1524 mm) minimum above the floor landing in a position that is readily visible when the doors are in the open and closed positions. ~~In addition to the stairway identification sign, a floor-level sign in visual characters, raised characters and braille complying with ICC A117.1 shall be located at each floor-level landing adjacent to the door leading from the interior exit stairway and ramp into the corridor to identify the floor level.~~

1023.9.1 Signage requirements. Stairway identification signs shall comply with all of the following requirements:

1. The signs shall be a minimum size of 18 inches (457 mm) by 12 inches (305 mm).
2. The letters designating the identification of the interior exit stairway and ramp shall be not less than $1^1/_2$ inches (38 mm) in height.
3. The number designating the floor level shall be not less than 5 inches (127 mm) in height and located in the center of the sign.
4. Other lettering and numbers shall be not less than 1 inch (25 mm) in height.
5. Characters and their background shall have a nonglare finish. Characters shall contrast with their background, with either light characters on a dark background or dark characters on a light background.
6. Where signs required by Section 1023.9 are installed in the interior exit stairways and ramps of buildings subject to Section 1025, the signs shall be made of the same materials as required by Section 1025.4.

1023.10 Elevator lobby identification signs. At landings in interior exit stairways where two or more doors lead to the floor level, any door with direct access to an enclosed elevator lobby shall be identified by signage located on the door or directly adjacent to the door stating "Elevator Lobby." Signage shall be in accordance with Section 1023.9.1, Items 4, 5 and 6.

1023.11 Tactile floor-level signs. Where floor level signs are provided in interior exit stairways and ramps, a floor-level sign in

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	visual characters, raised characters and braille complying with ICC A117.1 shall be located at each floor-level landing adjacent to the door leading from the interior exit stairway and ramp into the corridor to identify the floor level.					
E73-18	**1013.4 Raised character and braille exit signs.** A sign stating EXIT in visual characters, raised characters and braille and complying with ICC A117.1 shall be provided adjacent to each door to an area of refuge, providing direct access to a stairway, an exterior area for assisted rescue, an exit stairway or ramp, an exit passageway, a horizontal exit and the exit discharge.			X	Minimal	Clarification
E77-18	**1015.2 Where required.** Guards shall be located along open-sided walking surfaces, including mezzanines, equipment platforms, aisles, stairs, ramps and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Guards shall be adequate in strength and attachment in accordance with Section 1607.8. **Exception:** Guards are not required for the following locations: 1. On the loading side of loading docks or piers. 2. On the audience side of stages and raised platforms, including stairs leading up to the stage and raised platforms. 3. On raised stage and platform floor areas, such as runways, ramps and side stages used for entertainment or presentations. 4. At vertical openings in the performance area of stages and platforms. 5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment. 6. Along vehicle service pits not accessible to the public. 7. In assembly seating areas at cross aisles in accordance with Section 1029.17.2. 8. On the loading side of station platforms on fixed guideway transit or passenger rail systems.		X			Clarification
E80-18	**1015.8 Window openings.** Windows in Group R-2 and R-3 buildings including *dwelling units*, where the bottom of the clear opening of an operable window ~~opening~~ is located less than 36 inches above the finished floor and more than 72 inches (1829 mm) above the finished grade or other surface below on the exterior of the building, shall comply with one of the following:		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	1. Operable windows where the top of the sill of the opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below and that are provided with window fall prevention devices that comply with ASTM F2006. 2. Operable windows where the openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the window is in its largest opened position. 3. Operable windows where the openings are provided with window fall prevention devices that comply with ASTM F2090. 4. Operable windows that are provided with window opening control devices that comply with Section 1015.8.1.					
E84-18	**1015.7 Roof access.** Guards shall be provided where the roof hatch opening is located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall extend <u>not less than</u> 30 inches (762mm) beyond each end of the hatch parallel to the roof edge. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter. **Exception:** Guards are not required where personal fall arrest anchorage connector devices that comply with ANSI/ASSE Z 359.1 are installed.			X	Minimal	Clarification
E85-18	**1016.2 Egress through intervening spaces.** Egress through intervening spaces shall comply with this section. 1. Exit access through an enclosed elevator lobby is permitted. ~~Access to~~ <u>Where access to two or more exits or exit access doorways is required in Section 1006.2.1,</u> <u>access to</u> not less than one of the required exits shall be provided without travel through the enclosed elevator lobbies required by Section 3006. Where the path of exit access travel passes through an enclosed elevator lobby, the level of protection required for the enclosed elevator lobby is not required to be extended to the exit unless direct access to an exit is required by other sections of this code. 2. Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas and the area served are accessory to one or the other, are not a Group H occupancy and provide a discernible path of egress travel to an exit.		X			Clarification

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CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exception: Means of egress are not prohibited through adjoining or intervening rooms or spaces in a Group H, S or F occupancy where the adjoining or intervening rooms or spaces are the same or a lesser hazard occupancy group. 3. An exit access shall not pass through a room that can be locked to prevent egress. 4. Means of egress from dwelling units or sleeping areas shall not lead through other sleeping areas, toilet rooms or bathrooms. 5. Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes. **Exceptions:** 1. Means of egress are not prohibited through a kitchen area serving adjoining rooms constituting part of the same dwelling unit or sleeping unit. 2. Means of egress are not prohibited through stockrooms in Group M occupancies where all of the following are met: 2.1. The stock is of the same hazard classification as that found in the main retail area. 2.2. Not more than 50 percent of the exit access is through the stockroom. 2.3. The stockroom is not subject to locking from the egress side. 2.4. There is a demarcated, minimum 44-inch-wide (1118 mm) aisle defined by full- or partial-height fixed walls or similar construction that will maintain the required width and lead directly from the retail area to the exit without obstructions.					
E86-18	**1017.3 Measurement.** Exit access travel distance shall be measured from the most remote point of each room, area or space along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit. Where more than one ~~means of egress~~ exit is required, exit access travel distance shall be measured to the nearest exit. **Exception:** In open parking garages, exit access travel distance is permitted to be measured to the closest riser of an exit access stairway or the closest slope of an exit access ramp.		X			Corrects consistency within the sentence and the rest of Chapter 10.
E88-18	**2018 International Building Code**		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	1019.3 Occupancies other than Groups I-2 and I-3. In other than Group I-2 and I-3 occupancies, floor openings containing exit access stairways or ramps ~~that do not comply with one of the conditions listed in this section~~ shall be enclosed with a shaft enclosure constructed in accordance with Section 713. **Exceptions:** 1. Exit access stairways and ramps that serve or atmospherically communicate between only two stories. Such interconnected stories shall not be open to other stories. 2. In Group R-1, R-2 or R-3 occupancies, exit access stairways and ramps connecting four stories or less serving and contained within an individual dwelling unit or sleeping unit or live/work unit. 3. Exit access stairways serving and contained within a Group R-3 congregate residence or a Group R-4 facility are not required to be enclosed. 4. Exit access stairways and ramps in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, where the area of the vertical opening between stories does not exceed twice the horizontal projected area of the stairway or ramp and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Group B and M occupancies, this provision is limited to openings that do not connect more than four stories. 5. Exit access stairways and ramps within an atrium complying with the provisions of Section 404. 6. Exit access stairways and ramps in open parking garages that serve only the parking garage. 7. Exit access stairways and ramps serving smoke-protected or open-air assembly seating complying with the exit access travel distance requirements of Section 1029.7. 8. Exit access stairways and ramps between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, places of religious worship, auditoriums and sports facilities.					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
E89-18	**1019.3 Occupancies other than Groups I-2 and I-3.** In other than Group I-2 and I-3 occupancies, floor openings containing exit access stairways or ramps that do not comply with one of the conditions listed in this section shall be enclosed with a shaft enclosure constructed in accordance with Section 713. 1. Exit access stairways and ramps that serve or atmospherically communicate between only two adjacent stories. Such interconnected stories shall not be open to other stories. 2. In Group R-1, R-2 or R-3 occupancies, exit access stairways and ramps connecting four stories or less serving and contained within an individual dwelling unit or sleeping unit or live/work unit. 3. Exit access stairways serving and contained within a Group R-3 congregate residence or a Group R-4 facility are not required to be enclosed. 4. Exit access stairways and ramps in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, where the area of the vertical opening between stories does not exceed twice the horizontal projected area of the stairway or ramp and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Group B and M occupancies, this provision is limited to openings that do not connect more than four stories. 5. Exit access stairways and ramps within an atrium complying with the provisions of Section 404. 6. Exit access stairways and ramps in open parking garages that serve only the parking garage. 7. Exit access stairways and ramps serving smoke-protected or open-air assembly seating complying with the exit access travel distance requirements of Section 1029.7. 8. Exit access stairways and ramps between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, places of religious worship, auditoriums and sports facilities.		X			Clarification
E91-18	**1020.4 Dead ends.** Where more than one exit or exit access doorway is required, the exit access shall be arranged such that dead-end corridors do not exceed 20 feet (6096 mm) in length. **Exceptions:** 1. In Group I-3, Condition 2, 3 or 4, occupancies, the dead end in a corridor shall not exceed 50 feet (15 240 mm).		X			Aligns the limitation for corridors in hospitals with CMS

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	2. In occupancies in Groups B, E, F, I-1, M, R-1, R-2, S and U, where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the length of the dead-end corridors shall not exceed 50 feet (15 240 mm). 3. A dead-end corridor shall not be limited in length where the length of the dead-end corridor is less than 2.5 times the least width of the dead-end corridor. 4. In Group I-2, Condition 2 occupancies, the length of dead end corridors that do not serve patient rooms or patient treatment spaces shall not exceed 30 feet (9144 mm).					
E92-18	**1020.5 Air movement in corridors.** Corridors shall not serve as supply, return, exhaust, relief or ventilation air ducts. **Exceptions:** 1. Use of a corridor as a source of makeup air for exhaust systems in rooms that open directly onto such corridors, including toilet rooms, bathrooms, dressing rooms, smoking lounges and janitor closets, shall be permitted, provided that each such corridor is directly supplied with outdoor air at a rate greater than the rate of makeup air taken from the corridor. 2. Where located within a dwelling unit, the use of corridors for conveying return air shall not be prohibited. 3. Where located within tenant spaces of 1,000 square feet (93 m^2) or less in area, utilization of corridors for conveying return air is permitted. 4. Transfer air movement required to maintain pressurization difference within health care facilities in accordance with ~~Section 407.1 of the International Mechanical Code.~~ ASHRAE 170.		X			Clarification
E94-18	**1023.2 Construction.** Enclosures for interior exit stairways and ramps shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both. Interior exit stairway and ramp enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the interior exit stairways or ramps shall include any basements, but not any mezzanines. Enclosures for ~~Interior~~ interior exit stairways and ramps shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours.		X			Clarification

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CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Exceptions: 1. Interior exit stairways and ramps in Group I-3 occupancies in accordance with the provisions of Section 408.3.8. 2. Interior exit stairways within an atrium enclosed in accordance with Section 404.6.					
E98-18	**1023.5 Penetrations.** Penetrations into or through interior exit stairways and ramps are prohibited except for the following: 1. Equipment and ductwork necessary for independent ventilation or pressurization. 2. Fire protection systems. 3. Security systems. 4. Two-way communication systems. 5. Electrical raceway for fire department communication systems. 6. Electrical raceway serving the interior exit stairway and ramp and terminating at a steel box not exceeding 16 square inches (0.010 m^2). 7. Structural elements supporting the interior exit stairway or ramp or enclosure, such as beams or joists. Such penetrations shall be protected in accordance with Section 714. There shall not be penetrations or communication openings, whether protected or not, between adjacent interior exit stairways and ramps. **Exception:** Membrane penetrations shall be permitted on the outside of the interior exit stairway and ramp. Such penetrations shall be protected in accordance with Section 714.4.2.		X			Clarification
E101-18	**1024.6 Penetrations.** Penetrations into or through an exit passageway are prohibited except for the following: 1. Equipment and ductwork necessary for independent ventilation or pressurization. 2. Fire protection systems. 3. Security systems. 4. Two-way communication systems. 5. Electrical raceway for fire department communication. 6. Electrical raceway serving the exit passageway and terminating at a steel box not exceeding 16 square inches (0.010 m^2). Such penetrations shall be protected in accordance with Section 714. There shall not be penetrations or communicating openings, whether protected or not, between adjacent exit passageways.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exception: Membrane penetrations shall be permitted on the outside of the exit passageway. Such penetrations shall be protected in accordance with Section 714.4.2.					
E102-18	**707.4 Exterior walls.** Where exterior walls serve as a part of a required fire-resistance-rated shaft or ~~stairway~~ separation or ~~ramp~~ enclosure for a stairway, ramp or ~~separation~~ exit passageway, such walls shall comply with the requirements of Section 705 for exterior walls and the fire-resistance-rated enclosure or separation requirements shall not apply. **Exception:** Exterior walls required to be fire-resistance rated in accordance with Section 1021 for exterior egress balconies, Section 1023.7 for interior exit stairways and ramps, Section 1024.8 for exit passageways and Section 1027.6 for exterior exit stairways and ramp. **1024.8 Exit passageway exterior walls.** Exterior walls of the exit passageway shall comply with Section 705. Where nonrated walls or unprotected openings enclose the exterior of the exit passageway and the walls or openings are exposed by other parts of the building at an angle of less than 180 degrees (3.14 rad), the building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening shall have a fire-resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than 3/4 hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the floor of the exit passageway, or to the roof line, whichever is lower.	X				Clarification
E104-18	**1017.3 Measurement.** Exit access travel distance shall be measured from the most remote point of each room, area or space along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit. **~~Exception~~ Exceptions:** 1. In open parking garages, exit access travel distance is permitted to be measured to the closest riser of an exit access stairway or the closest slope of an exit access ramp. 2. In smoke protected seating and open air assembly seating, exit access travel distance shall be measured in accordance with Section 1029.7.		X			Provides consistency with E132-15

1029.6 Capacity of aisle for assembly. The required capacity of aisles shall be not less than that determined in accordance with Section 1029.6.1 where smoke-protected assembly seating is not provided, Section 1029.6.2 where smoke-protected assembly seating is provided and Section 1029.6.3 where open-air assembly seating is provided.

1029.6.2 Smoke-protected assembly seating. The required capacity in inches (mm) of the aisle for smoke-protected assembly seating shall be not less than the occupant load served by the egress element multiplied by the appropriate factor in Table 1029.6.2. The total number of seats specified shall be those within the space exposed to the same smoke-protected environment. Interpolation is permitted between the specific values shown. A life safety evaluation, complying with NFPA 101, shall be done for a facility utilizing the reduced width requirements of Table 1029.6.2 for smoke-protected assembly seating.

~~**Exception:**~~
~~For open-air assembly seating with an occupant load not greater than 18,000, the required capacity in inches (mm) shall be determined using the factors in Section 1029.6.3.~~

TABLE 1029.6.2
CAPACITY FOR AISLES FOR SMOKE-PROTECTED ASSEMBLY

TOTAL NUMBER OF SEATS IN THE SMOKE-PROTECTED ASSEMBLY SEATING	**INCHES OF CAPACITY PER SEAT SERVED**			
	Stepped aisles with handrails within 30 inches	**Stepped aisles without handrails within 30 inches**	**Level aisles or ramped aisles not steeper than 1 in 10 in slope**	**Ramped aisles steeper than 1 in 10 in slope**
Equal to or less than 5,000	0.2	0.25	0.15	0.165
10,000	0.13	0.163	0.1	0.11
15,000	0.096	0.12	0.07	0.077
20,000	0.076	0.095	0.056	0.062
Equal to or greater than 25,000	0.06	0.075	0.044	0.048

For SI: 1 inch = 25.4 mm.

1029.6.2.3 Automatic sprinklers. Enclosed areas with walls and ceilings in buildings or structures containing smoke-protected assembly seating shall be protected with an approved automatic sprinkler system in accordance with Section 903.3.1.1.

Table 1. 2021 IBC MEP Changes Cost Impact

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		Decrease	None	Increase		
Sub Code:						
	Exceptions: 1. The floor area used for contests, performances or entertainment provided that the roof construction is more than 50 feet (15 240 mm) above the floor level and the use is restricted to low fire hazard uses. 2. Press boxes and storage facilities less than 1,000 square feet (93 m^2) in area. ~~3. Outdoor seating facilities where seating and the means of egress in the seating area are essentially open to the outside.~~ **1029.6.3 Open-air assembly seating.** In open-air assembly seating, the required capacity in inches (mm) of aisles shall be not less than the total occupant load served by the egress element multiplied by 0.08 (2.0 mm) where egress is by stepped aisle and multiplied by 0.06 (1.52 mm) where egress is by level aisles and ramped aisles. **Exception:** The required capacity in inches (mm) of aisles shall be permitted to comply with Section 1029.6.2 for the number of seats in the open-air assembly seating where Section 1029.6.2 permits less capacity. **1029.6.3.1 Automatic sprinklers.** Enclosed areas with walls and ceilings in buildings or structures containing open-air assembly seating shall be protected with an approved automatic sprinkler system in accordance with Section 903.3.1.1. **Exceptions:** 1. The floor area used for contests, performances or entertainment provided the roof construction is more than 50 feet (15 240 mm) above the floor level and the use is restricted to low fire hazard uses. 2. Press boxes and storage facilities less than 1,000 square feet (93 m^2) in area. 3. Open-air assembly seating facilities where seating and the means of egress in the seating area are essentially open to the outside.					
E105-18	**TABLE 1029.13.2.1** **SMOKE-PROTECTED OR OPEN-AIR ASSEMBLY AISLE ACCESSWAYS** **~~TOTAL~~ NUMBER OF SEATS IN THE SMOKE-PROTECTED OR OPEN-AIR** / **MAXIMUM NUMBER OF SEATS PER ROW PERMITTED TOHAVE A MINIMUM 12-INCH CLEAR WIDTH AISLE ACCESSWAY**: **Aisle or doorway at both ends of row** / **Aisle or doorway at one end of row only**		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact

<table>
<tr><th>CODE CHANGE #</th><th>2021 IBC MEP CHANGE SUMMARY</th><th colspan="3">IBC COST IMPACT</th><th>ESTIMATED AMOUNT*</th><th>BENEFIT OF CHANGE</th></tr>
<tr><th></th><th></th><th>Decrease</th><th>None</th><th>Increase</th><th></th><th></th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td></td><td>
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<tr><th>ASSEMBLY SEATING</th><th>Seats with backrests</th><th>Seats without backrests</th><th>Seats with backrests</th><th>Seats without backrests</th></tr>
<tr><td>Less than 4,000</td><td>14</td><td>21</td><td>7</td><td>10</td></tr>
<tr><td>4,000 <u>to 6,999</u></td><td>15</td><td>22</td><td>7</td><td>10</td></tr>
<tr><td>7,000 <u>to 9,999</u></td><td>16</td><td>23</td><td>8</td><td>11</td></tr>
<tr><td>10,000 <u>to 12,999</u></td><td>17</td><td>24</td><td>8</td><td>11</td></tr>
<tr><td>13,000 <u>to 15,999</u></td><td>18</td><td>25</td><td>9</td><td>12</td></tr>
<tr><td>16,000 <u>to 18,999</u></td><td>19</td><td>26</td><td>9</td><td>12</td></tr>
<tr><td>19,000 <u>to 21,999</u></td><td>20</td><td>27</td><td>10</td><td>13</td></tr>
<tr><td>22,000 and greater</td><td>21</td><td>28</td><td>11</td><td>14</td></tr>
</table>
For SI: 1 inch = 25.4 mm.
</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>E106-18</td><td>1029.16 Handrails. Ramped aisles having a slope exceeding one unit vertical in 15 units horizontal (6.7-percent slope) and stepped aisles shall be provided with handrails in compliance with Section 1014 located either at one or both sides of the aisle or within the aisle width. Where the stepped aisle <s>have</s> <u>has</u> seating on one side and the aisle width is 74 inches (1880 mm) or greater, two handrails are required. Where two handrails are required, one of the handrails shall be within 30 inches horizontally of the <s>end</s> <u>side</u> of <u>the tiered floor adjacent to</u> the <u>stepped</u> aisle <s>accessways</s>.

Exceptions:
1. Handrails are not required for ramped aisles with seating on both sides.
2. Handrails are not required where, at the side of the aisle, there is a guard with a top surface that complies with the graspability requirements of handrails in accordance with Section 1014.3.
3. Handrail extensions are not required at the top and bottom of stepped aisles and ramped aisles to permit crossovers within the aisles.
1029.16.1 Discontinuous handrails. Where there is seating on both sides of the aisle, the mid-aisle handrails shall be discontinuous. Where the stepped aisle is required to have two handrails, <s>handrails not located on a guard or wall</s> <u>the mid-aisle handrails</u> shall be discontinuous. The gaps or breaks at intervals shall not <s>exceed five</s> <u>exceed five</u> rows to facilitate access to seating and to permit crossing from one side of the aisle to the other. These gaps or breaks shall have a clear width of not less than 22 inches (559 mm) and not greater than 36 inches (914 mm), measured horizontally, and the mid-aisle handrail shall have rounded terminations or bends.</td><td></td><td></td><td>X</td><td>Minimal</td><td>Clarification</td></tr>
</table>

Table 1. 2021 IBC MEP Changes Cost Impact						
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		Decrease	**None**	**Increase**		
Sub Code:						
	1029.16.2 Handrail termination. Handrails located on the side of stepped aisles shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stepped aisle flight. **1029.16.3 Mid-aisle termination.** Mid-aisle handrails shall not extend beyond the lowest riser and shall terminate within 18 inches (381 mm), measured horizontally, from the lowest riser. Handrail extensions are not required. **Exception:** Mid-aisle handrails shall be permitted to extend beyond the lowest riser where the handrail extensions do not obstruct the width of the cross aisle.					
E107-18	**Modify as follows:** **2018 International Building Code** **1030.1 General.** Emergency escape and rescue openings shall comply with the requirements of this section. ~~**1030.1**~~ **1030.2 Where required.** In addition to the means of egress required by this chapter, emergency escape and rescue openings shall be provided in the following occupancies: 1. Group R-2 occupancies located in stories with only one exit or access to only one exit as permitted by Tables 1006.3.3(1) and 1006.3.3(2). 2. Group R-3 and R-4 occupancies. Basements and sleeping rooms below the fourth story above grade plane shall have not fewer than one emergency escape and rescue opening in accordance with this section. Where basements contain one or more sleeping rooms, an emergency escape and rescue opening shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. Such openings shall open directly into a public way or to a yard or court that opens to a public way. **Exceptions:** 1. Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue openings.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	2. Emergency escape and rescue openings are not required from basements or sleeping rooms that have an exit door or exit access door that opens directly into a public way or to a yard, court or exterior egress balcony that opens to a public way. 3. Basements without habitable space and having not more than 200 square feet (18.6 m^2) in floor area shall not be required to have emergency escape and rescue openings. 4. Storm shelters are not required to comply with this section where the shelter is constructed in accordance with ICC 500. 5. Within individual dwelling and sleeping units in Groups R-2 and R-3, where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, sleeping rooms in basements shall not be required to have emergency escape and rescue openings provided that the basement has one of the following: 5.1. One means of egress and one emergency escape and rescue opening. 5.2. Two means of egress.					
E110-18	**1030.3 Emergency escape and rescue doors.** Where a door is provided as the required emergency escape and rescue opening, it shall be a swinging door or a sliding door.		X			Necessary addition for clarification
E111-18	**1030.4 ~~Window~~ Area wells.** An emergency escape and rescue opening with ~~a finished sill height~~ the bottom of the clear opening below the adjacent ~~ground level~~ grade shall be provided with ~~a window~~ an area well in accordance with Sections 1030.4.1 ~~and 1030.4.2~~ through 1030.4.4. **1030.4.1 Minimum size.** The minimum horizontal area of the ~~window~~ area well shall be 9 square feet (0.84 m2), with a ~~minimum dimension of~~ horizontal projection and width of not less than 36 inches (914 mm). The area ~~of the window~~ well shall allow the emergency escape and rescue opening to be fully opened. **Exception:** The ladder or steps required by Section 1030.4.2.1 shall be permitted to encroach not more than 6 inches (152 mm) into the required dimensions of the area well.		X			Clarifies and amends the list of the Emergency Escape and Rescue Openings

Table 1. 2021 IBC MEP Changes Cost Impact						
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		Decrease	**None**	**Increase**		
Sub Code:						
	1030.4.2 Ladders or steps. ~~Window~~ Area wells with a vertical depth of more than 44 inches (1118 mm) shall be equipped with an approved permanently affixed ladder or steps. ~~Ladders or rungs shall have an inside width of not less than 12 inches (305 mm), shall project not less than 3 inches (76 mm) from the wall and shall be spaced not more than 18 inches (457 mm) on center (o.c.) vertically for the full height of the window well.~~ The ladder or steps shall not ~~encroach into the required dimensions of the window well by more than 6 inches (152 mm). The ladder or steps shall not~~ be obstructed by the emergency escape and rescue opening ~~.~~ when the window or door is in the open position. Ladders or steps required by this section ~~are exempt from the stairway requirements of~~ shall not be required to comply with Section 1011. **1030.4.2.1 Ladders.** Ladders or rungs shall have an inside width of at least 12 inches (305 mm), shall project at least 3 inches (76 mm) from the wall and shall be spaced not more than 18 inches (457 mm) on center (o.c.) vertically for the full height of the area well. **1030.4.3 Drainage.** Area wells shall be designed for proper drainage by connecting to the building's foundation drainage system required by Section 1805. **Exception:** A drainage system for area wells is not required where the foundation is on well-drained soil or sand-gravel mixture soils in accordance with the United Soil Classification System, Group I Soils, in accordance with Section 1803.5.1. ~~**1030.5**~~ **1030.4.4 Bars, grilles, covers and screens.** ~~Bars~~ Where bars, grilles, covers, screens or similar devices ~~are permitted to be~~ placed over emergency escape and rescue openings~~, bulkhead enclosures~~ or ~~window~~ area wells that serve such openings, ~~provided that~~ the minimum net clear opening size ~~complies~~ shall comply with Sections 1030.1.1 through ~~1030.4.2~~ 1030.2.2 and ~~such~~ 1030.4. Such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation ~~of the emergency escape and rescue opening. Where such bars, grilles, covers, screens or similar devices are installed in existing buildings, they shall not reduce the net clear opening~~ of the emergency escape and rescue opening ~~and smoke alarms shall be installed in accordance with Section 907.2.10 regardless of the valuation of the alteration~~.					

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		Decrease	None	Increase		
Sub Code:						
E112-18	**1030.4.2.2 Steps.** Steps shall have an inside width of not less than 12 inches (305 mm), shall have treads greater than 5 inches (127 mm) in depth and a riser height not greater than 18 inches (457 mm) for the full height of the area well.			X	Minimal	larification
E114-18	**2018 International Building Code** **Revise as follows:** **1104.4 Multistory buildings and facilities.** At least one accessible route shall connect each accessible story, mezzanine and occupied roofs in multilevel buildings and facilities. **Exceptions:** 1. An accessible route is not required to stories, of not more than 3,000 square feet (278.7 m^2) and are located above and below accessible levels. This exception shall not apply to: 1.1. Multiple tenant facilities of Group M occupancies containing five or more tenant spaces used for the sales or rental of goods and where at least one such tenant space is located on a floor level above or below the accessible levels. 1.2. Stories or mezzanines containing offices of health care providers (Group B or I). 1.3. Passenger transportation facilities and airports (Group A-3 or B). 1.4. Government buildings. 1.5. Structures with 4 or more dwelling units. 2. Stories mezzanines contain accessible elements or other spaces as determined by Section 1107 or 1108 are not required to be served by an accessible route from an accessible level. 3. In air traffic control towers, an accessible route is not required to serve the cab and the floor immediately below the cab. 4. Where a two-story building or facility has one story or mezzanine with an occupant load of five or fewer persons that does not contain public use space, that story or mezzanine shall not be required to be connected by an accessible route to the story above or below.			X	Minimal	Correlation of items so that the efficiency units do not conflict with the Type B requirements in the codes

Table 1. 2021 IBC MEP Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC MEP CHANGE SUMMARY</th><th colspan="3">IBC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td>E115-18</td><td>1105.1.1 Automatic doors. In facilities with the occupancies and building occupant loads indicated in Table 1105.1.1, ~~at least one accessible exterior public entrance shall~~ public entrances that are required to be accessible shall have one door be either a full power-operated door or a low-energy power-operated door. Where the public entrance includes a vestibule, at least one door into and one door out of the vestibule shall meet the requirements of this section.

Modify as follows:

2018 International Building Code

TABLE 1105.1.1[a]
PUBLIC ENTRANCE WITH POWER-OPERATED DOOR
<table>
<tr><th>OCCUPANCY</th><th>BUILDING OCCUPANT LOAD GREATER THAN</th></tr>
<tr><td>A-1, A-2, A-3, A-4</td><td>300</td></tr>
<tr><td>B, M, R-1</td><td>500</td></tr>
</table>
a. In mixed-use facilities, when the total sum of the building occupant load is greater than those listed, the most restrictive building occupant load shall apply.</td><td></td><td></td><td>X</td><td>Minimal</td><td>Clarification</td></tr>
<tr><td>E119-18</td><td>1106.7 Parking meters and pay stations. Where parking meters and pay stations serve accessible parking spaces, such parking meters and pay stations shall be accessible.</td><td></td><td></td><td>X</td><td>Minimal</td><td>Necessary addition for clarification</td></tr>
<tr><td>E121-18</td><td>SECTION 202
DEFINITIONS

ELECTRIC VEHICLE CHARGING STATION. One or more vehicle spaces served by an electric vehicle charging system.

406.2.7 Electric vehicle charging ~~stations~~ systems. Where provided, electric vehicle charging ~~stations~~ 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. Accessibility to electric vehicle charging stations shall be provided in accordance with Chapter 11.

SECTION 1106
PARKING AND PASSENGER LOADING FACILITIES

Add new text as follows:</td><td></td><td></td><td>X</td><td>Minimal</td><td>Clarifies and amends the list of Electric vehicle charging station, parking and passenger loading facilities, and motor vehicle related facilities</td></tr>
</table>

Table 1. 2021 IBC MEP Changes Cost Impact						
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		Decrease	None	Increase		
Sub Code:						
	1106.1 General. Parking shall comply with Section 1106.2 through 1106.7. Passenger loading zones shall comply with Section 1106.8. **SECTION 1107** **MOTOR VEHICLE RELATED FACILITIES** **1107.1 General.** Electrical vehicle charging stations shall comply with Section 1107.2. Fuel-dispensing systems shall comply with Section 1107.3. **1107.2 Electrical vehicle charging stations.** Electrical vehicle charging stations shall comply with Sections 1107.2.1 and 1107.2.2. **Exception:** Electrical vehicle charging stations provided to serve Groups R-2, R-3 and R-4 occupancies are not required to comply with this section. **1107.2.1 Number of accessible vehicle spaces.** At least five percent (5%) of vehicle spaces on the site served by electrical vehicle charging systems but, not fewer than one for each type of electric vehicle charging system shall be accessible. **1107.2.2 Vehicle space size.** Accessible vehicle spaces shall comply with the requirements for a van accessible parking space that is 132 inches (3350 mm) minimum in width with an adjoining access aisle that is 60 inches (1525 mm) minimum in width. **Revise as follows:** ~~**1109.14**~~ **1107.3 Fuel-dispensing systems.** Fuel-dispensing systems shall be accessible.					
E122-18	**1107.5.1.1 Accessible units.** In Group I-1, Condition 1, at least 4 percent, but not less than one, of the dwelling units and sleeping units shall be Accessible units. In Group I-1, Condition 2, at least 10 percent, but not less than one, of the dwelling units and sleeping units shall be Accessible units. Accessible dwelling units and sleeping units shall be dispersed among the various classes of units.			X	Minimal	Clarification to make consistent with DOJ requirements
E123-18	**1107.5.1.1 Accessible units in Group I-1, Condition 1.** In Group I-1, Condition 1, at least 4 percent, but not less than one, of the *dwelling units* and *sleeping units* shall be *Accessible units*. **Exceptions:** 1. ~~In not more than 50 percent of the Accessible units, water~~ Water closets shall not be required to comply with ICC			X	Minimal	Scoping and technical criteria to allow for assisted toileting and bathing in

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
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Sub Code:						
	A117.1 where such water closets comply with Section 1109.2.2, in not more than 50 percent of the Accessible units. 2. ~~In not more than 50 percent of the Accessible units, roll-in type~~ Roll-in-type showers shall not be required to comply with ICC A117.1 where roll-in-type showers comply with Section 1109.2.3, in not more than 50 percent of the Accessible units. **1107.5.1.2 Accessible units in Group I-1, Condition 2.** In Group I-1,Condition 2, at least 10 percent, but not less than one, of the dwelling units and sleeping units shall be Accessible units. **Exceptions:** 1. ~~In not more than 50 percent of the Accessible units, water~~ Water closets shall not be required to comply with ICC A117.1 where such water closets comply with Section 1109.2.2, in not more than 50 percent of the Accessible units. 2. ~~In not more than 50 percent of the Accessible units, roll-in type~~ Roll-in-type showers shall not be required to comply with ICC A117.1 where roll-in-type showers comply with Section 1109.2.3, in not more than 50 percent of the Accessible units.					some types of care facilities
E124-18	**1107.5.2.1 Accessible units.** At least 50 percent but not less than one of each type of the *dwelling units* and *sleeping units* shall be *Accessible units*. **Exceptions:** 1. ~~In not more than 90 percent of the Accessible units, water~~ Water closets shall not be required to comply with ICC A117.1 where such water closets comply with Section 1109.2.2, in not more than 90 percent of the accessible units. 2. ~~In not more than 90 percent of the Accessible units, roll-in type~~ Roll-in-type showers shall not be required to comply with ICC A117.1 where roll-in-type showers comply with Section 1109.2.3, in not more than 90 percent of the Accessible units.			X	Minimal	Scoping and technical criteria to allow for assisted toileting and bathing in some types of care facilities
E125-18	**1107.5.4 Group I-2 rehabilitation facilities.** In hospitals and rehabilitation facilities of Group I-2 occupancies that specialize in treating conditions that affect mobility, or units within either that specialize in treating conditions that affect mobility, 100 percent of the *dwelling units* and *sleeping units* shall be *Accessible units*.			X	Minimal	Scoping and technical criteria to allow for assisted

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		Decrease	None	Increase		
Sub Code:						
	Exceptions: 1. ~~In not more than 50 percent of the Accessible units, water~~ Water closets shall not be required to comply with ICC A 117.1 where such water closets comply with Section 1109.2.2, in not more than 50 percent of Accessible units. ~~2. In not more than 50 percent of the Accessible units, roll-in-type~~ Roll-in-type showers shall not be required to comply with ICC A117.1 where roll-in-type showers comply with Section 1109.2.3, in not more than 50 percent of Accessible units.					toileting and bathing in some types of care facilities
E127-18	**1107.7.5 ~~Design flood elevation~~ Flood hazard areas.** ~~The required number of~~ Type A units and Type B units ~~shall not apply to a site where the~~ shall not be required for buildings without elevator service that are located in flood hazard areas as established in Section 1612.3, where the minimum required elevation of the lowest floor or ~~the~~ lowest ~~horizontal structural building members of nonelevator buildings are at or above the design flood elevation resulting~~ supporting horizontal structural member, as applicable, results in all of the following: 1. A difference in elevation between the minimum required floor elevation at the primary entrances and vehicular and pedestrian arrival points within 50 feet (15 240 mm) exceeding 30 inches (762 mm). 2. A slope exceeding 10 percent between the minimum required floor elevation at the primary entrances and vehicular and pedestrian arrival points within 50 feet (15 240 mm). Where such arrival points are not within 50 feet (15 240 mm) of the primary entrances, the closest arrival points shall be used.		X			Clarification
E128-18	**1109.2 Toilet and bathing facilities.** Each toilet room and bathing room shall be accessible. Where a floor level is not required to be connected by an accessible route, the only toilet rooms or bathing rooms provided within the facility shall not be located on the inaccessible floor. Except as provided for in Sections ~~1109.2.2~~ 1109.2.3 and ~~1109.2.3~~ 1109.2.4, at least one of each type of fixture, element, control or dispenser in each accessible toilet room and bathing room shall be accessible. **Exceptions:** 1. Toilet rooms or bathing rooms accessed only through a private office, not for common or public use and intended			X	Minimal	Scoping and technical criteria to allow for assisted toileting and bathing in some types of care facilities

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		Decrease	**None**	**Increase**		
Sub Code:						
	for use by a single occupant, shall be permitted to comply with the specific exceptions in ICC A117.1. 2. This section is not applicable to toilet and bathing rooms that serve dwelling units or sleeping units that are not required to be accessible by Section 1107. 3. Where multiple single-user toilet rooms or bathing rooms are clustered at a single location, at least 50 percent but not less than one room for each use at each cluster shall be accessible. 4. Where no more than one urinal is provided in a toilet room or bathing room, the urinal is not required to be accessible. 5. Toilet rooms or bathing rooms that are part of critical care or intensive care patient sleeping rooms serving Accessible units are not required to be accessible. 6. Toilet rooms or bathing rooms designed for bariatrics patients are not required to comply with the toilet room and bathing room requirement in ICC A117.1. The sleeping units served by bariatrics toilet or bathing rooms shall not count toward the required number of Accessible sleeping units. 7. Where permitted in Section 1107, in toilet rooms or bathrooms serving Accessible units, water closets designed for assisted toileting shall comply with Sections 1109.2.2. 8. Where toilet facilities are primarily for children's use, required accessible water closets, toilet compartments and lavatories shall be permitted to comply with children's provision of ICC A117.1. **1109.2.2 Water closets designed for assisted toileting.** Water closets designed for assisted toileting shall comply with Section 1109.2.2.1 through 1109.2.2.6. **1109.2.2.1 Location.** The centerline of the water closet shall be 24 inches (610 mm) minimum and 26 inches maximum (660 mm) from one side of the required clearance.					

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		Decrease	None	Increase		
Sub Code:						
	1109.2.2.2 Clearance. Clearance around the water closet shall comply with Section 1109.2.2.2.1 through 1109.2.2.2.3 **1109.2.2.2.1 Clearance width.** Clearance around a water closet shall be 66 inches (1675 mm) minimum in width, measured perpendicular from the side of the clearance that is 24 inches (610 mm) minimum and 26 inches (660 mm) maximum from the water closet centerline. **1109.2.2.2.2 Clearance depth.** Clearance around the water closet shall be 78 inches (1980 mm) minimum in depth, measured perpendicular from the rear wall **1109.2.2.2.3 Clearance overlap.** The required clearance around the water closet shall be permitted overlaps per ICC A117.1 Section 604.3.3 **1109.2.2.3 Height.** The height of the water closet seats shall comply with ICC A117.1 Section 604.4. **1109.2.2.4 Swing–up grab bars.** The swing-up grab bars shall comply with ICC A117.1 Sections 609.2 and 609.8. Swing–up grab bars shall be provided on both sides of the water closet and shall comply with all of the following: 1. The centerline of the grab bar shall be 14 inches minimum to 16inches (356 to 405 mm) maximum from the centerline of the water closet 2. The length of the grab bar is 36 inches (915 mm) minimum in length, measured from the rear wall to the end of the grab bar. 3. The top of the grab bar in the down position is 30 inches (760 mm) minimum and 34 inches (865 mm) maximum above the floor. **1109.2.2.5 Flush controls.** Flush controls shall comply with ICC A117.1 Section 604.6. **1109.2.2.6 Dispensers**. Toilet paper dispensers shall be mounted on at least one of the swing-up grab bars and the outlet of the dispenser shall be located at 24 inches (610 mm) minimum to 36 inches (915 mm) maximum from the rear wall.					

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Sub Code:						
E129-18	**1109.2 Toilet and bathing facilities.** Each toilet room and bathing room shall be accessible. Where a floor level is not required to be connected by an accessible route, the only toilet rooms or bathing rooms provided within the facility shall not be located on the inaccessible floor. Except as provided for in Sections ~~1109.2.2~~ 1109.2.4 and ~~1109.2.3~~1109.2.5, at least one of each type of fixture, element, control or dispenser in each accessible toilet room and bathing room shall be accessible. **Exceptions:** 1. Toilet rooms or bathing rooms accessed only through a private office, not for common or public use and intended for use by a single occupant, shall be permitted to comply with the specific exceptions in ICC A117.1. 2. This section is not applicable to toilet and bathing rooms that serve dwelling units or sleeping units that are not required to be accessible by Section 1107. 3. Where multiple single-user toilet rooms or bathing rooms are clustered at a single location, at least 50 percent but not less than one room for each use at each cluster shall be accessible. 4. Where no more than one urinal is provided in a toilet room or bathing room, the urinal is not required to be accessible. 5. Toilet rooms or bathing rooms that are part of critical care or intensive care patient sleeping rooms serving Accessible units are not required to be accessible. 6. Toilet rooms or bathing rooms designed for bariatrics patients are not required to comply with the toilet room and bathing room requirement in ICC A117.1. The sleeping units served by bariatrics toilet or bathing rooms shall not count toward the required number of Accessible sleeping units. 7. Where permitted in Section 1107, in bathrooms serving Accessible units, showers designed for assisted toileting shall comply with Section 1109.2.3. 8. Where toilet facilities are primarily for children's use, required accessible water closets, toilet compartments and lavatories shall be permitted to comply with children's provision of ICC A117.1.			X	Minimal	Scoping and technical criteria to allow for assisted toileting and bathing in some types of care facilities

	1109.2.3 Standard roll-in-type shower compartment designed for assisted bathing. Standard roll-in-type shower compartments designed for assisted bathing shall comply with Section 1109.2.3.1 through 1109.2.3.8. **1109.2.3.1 Size.** Standard roll-in-type shower compartments shall have a clear inside dimension of 60 inches (1525 mm) minimum in width and 30 inches (760 mm) minimum in depth, measured at the center point of opposing sides. An entry 60 inches (1525 mm) minimum in width shall be provided. **1109.2.3.2 Clearance.** A clearance of 60 inches (1525 mm) minimum in length adjacent to the 60-inch (1525 mm) width of the open face of the shower compartment, and 30 inches (760 mm) minimum in depth, shall be provided. **Exceptions:** 1. A lavatory complying with Section 606 shall be permitted at one end of the clearance. 2. Where the shower compartment exceeds minimum sizes, the clear floor space shall be placed adjacent to the grab bars and 30 inches minimum from the back wall. **1109.2.3.3 Grab bars.** Grab bars shall comply with ICC A117.1 Section 609 and shall be provided in accordance with Section 1109.2.3.3.1 and 1109.2.3.3.2. In standard roll-in type shower compartments, grab bars shall be provided on three walls. Where multiple grab bars are used, required horizontal grab bars shall be installed at the same height above the floor. Grab bars can be separate bars or one continuous bar. **1109.2.3.3.1 Back-wall grab bar.** The back-wall grab bar shall extend the length of the back wall and extend within 6 inches (150 mm) maximum from the two adjacent side walls. **Exception:** The back wall grab bar shall not be required to exceed 48 inches (1220 mm) in length. The rear grab bar shall be located with one end within 6 inches maximum of a side wall with a grab bar complying with Section 1109.2.3.3.2. **1109.2.3.3.2 Side-wall grab bars.** The side wall grab bars shall extend the length of the wall and extend within 6 inches (150 mm) maximum from the adjacent back wall. **Exceptions:** 1. The side-wall grab bar shall not be required to exceed 30 inches (760 mm) in length. The side grab bar shall be located with one end within 6 inches maximum of the back wall with a grab bar complying with Section 1109.2.3.3.1. 2. Where the side walls are located 72 inches (1830 mm) or greater apart, a grab bar is not required on one of the side-walls.					

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		Decrease	None	Increase		
Sub Code:						
	1109.2.3.4 Seats. Wall-mounted folding seats shall not be installed. **1109.2.3.5 Controls and hand showers.** In standard roll-in-type showers, the controls and hand shower shall be located 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor. Controls shall be located to facilitate caregiver access. **1109.2.3.6 Hand showers.** Hand showers shall comply with ICC A117.1 Section 608.5. **1109.2.3.7 Thresholds.** Thresholds shall comply with ICC A117.1 Section 608.6. **1109.2.3.8 Shower enclosures.** Shower compartment enclosures for shower compartments shall comply with ICC A117.1 Section 608.7. **1109.2.3.9 Water temperature.** Water temperature shall comply with ICC A117.1 Section 608.8.					
E130-18	**1109.6 Bottle filling stations.** Where bottle filling stations are provided, they shall be accessible. **Exception:** Bottle filling stations over drinking fountains for standing persons are not required to be accessible provided bottle filling stations are also located over the drinking fountains for persons using wheelchairs. **Update standard(s) as follows:** **ICC** ICC ~~A117.109~~ A117.12017: Accessible and Usable Buildings and Facilities		X			Necessary addition for clarification
E131-18	~~**1109.12.1**~~ **1109.13 Dressing, fitting and locker rooms.** Where dressing rooms, fitting rooms or locker rooms are provided, at least 5 percent, but not less than one, of each type of use in each cluster provided shall be accessible.		X			Clarification
E132-18	**1109.12.3 ~~Point of sale~~ Sales and service counters and windows.** Where counters or windows are provided for ~~sales~~ sale or distribution of goods or services, at least one of each type of counter and window provided shall be accessible. Where such counters or windows are dispersed throughout the building or facility, accessible counters or windows shall also be dispersed.		X			Clarification

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Sub Code:						
E133-18	**1109.13 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. Electrical or communication receptacles serving a dedicated use shall not be required to be accessible.~~ ~~3. Where two or more outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one outlet shall not be required to be accessible.~~ ~~4. Floor electrical receptacles shall not be required to be accessible.~~ ~~5. HVAC diffusers shall not be required to be accessible.~~ ~~6. Except for light switches, where redundant controls are provided for a single element, one control in each space shall not be required to be accessible.~~ 2~~7~~. Access doors or gates in barrier walls and fences protecting pools, spas and hot tubs shall be permitted to comply with Section 1010.1.9.2. 3.Operable parts exempted in accordance with ICC A117.1 are not required to be accessible.		X			Removes redundant language
E134-18	**1110.4.14 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. Catch pools 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. 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, wading pools, spas, cold baths and hot tubs that are required to be accessible by Sections 1110.2.2 and 1110.2.3 are not required to provide accessible means of entry into the water.			X	Minimal	Clarification

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CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
E135-18	**1110.4.15 Shooting facilities with firing positions.** Where shooting facilities with firing positions are designed and constructed at a site, at least 5 percent, but not less than one, of each type of firing position shall be accessible and be on an accessible route. **Exception:** Shooting facilities with firing positions on free-standing platforms that are elevated above grade 12 feet (3660 mm) minimum provided that the aggregate area of elevated firing positions is 500 square feet (46 m^2) maximum are not required to be accessible.	X				The 2017 ICC A117.1 exempts elevated shooting stations and is consistent with the 2010 ADA Standards.
E136-18	**1111.1 Signs.** Required accessible elements shall be identified by the International Symbol of Accessibility at the following locations. 1. *Accessible* parking spaces required by Section 1106.1. **Exception:** Where the total number of parking spaces provided is four or less, identification of accessible parking spaces is not required. 2. *Accessible* parking spaces required by Section 1106.2. **Exception:** In Group I-1, R-2, R-3 and R-4 facilities, where parking spaces are assigned to specific dwelling units or sleeping units, identification of accessible parking spaces is not required. 3. *Accessible* passenger loading zones. 4. *Accessible* toilet or bathing rooms where ~~multiple single-user~~ not all toilet or bathing rooms are ~~clustered at a single location~~ accessible. 5. *Accessible* entrances where not all entrances are accessible. 6. *Accessible* check-out aisles where not all aisles are accessible. The sign, where provided, shall be above the check-out aisle in the same location as the checkout aisle number or type of check-out identification. ~~7.~~ ~~Family or assisted-use toilet and bathing rooms.~~ ~~8~~ 7. *Accessible* dressing, fitting and locker rooms where not all such rooms are accessible. ~~9~~ 8. *Accessible* areas of refuge in accordance with Section 1009.9.	X				Clarifies and amends the list of signage information in Section 1111

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		Decrease	None	Increase		
Sub Code:						
	~~10~~ 9. Exterior areas for assisted rescue in accordance with Section 1009.9. ~~11~~ 10. In recreational facilities, lockers that are required to be accessible in accordance with Section 1109.9. **1111.2 Signs identifying toilet or bathing rooms.** Signs required in Section 403.4 of the International Plumbing Code identifying toilet rooms and bathing rooms shall be visual characters, raised characters and braille complying with ICC A117.1. Where pictograms are provided as designations for toilet rooms and bathing rooms, the pictograms shall have visual characters, raised characters and braille complying with ICC A117.1.					
E137-18	**E104.2.2 Group I-3.** In Group I-3 occupancies, at least 2 percent~~, but no fewer than one~~ of the total number of general holding cells and general housing cells equipped with audible emergency notification systems, and not less than one cell, ~~devices~~ shall be provided with visual notification devices. ~~and~~ Permanently ~~permanently~~ installed telephones within the cell shall comply~~, both complying~~ with Section E104.2.4.	X				Clarification
FS1-18	**703.2 Fire-resistance ~~ratings~~.** The fire-resistance ~~rating~~ of building elements, components or assemblies shall be determined in accordance with Sections 703.2.1 or 703.2.2 without the use of automatic sprinklers or any other fire suppression system being incorporated, or in accordance with Section 703.2.3. **703.2.1 Tested assemblies.** A fire-resistance rating of building elements, components or assemblies shall be determined by the test procedures set forth in ASTM E119 or UL 263~~, without the use of automatic sprinklers or any other fire suppression system being incorporated as part of the test, or in accordance with Section 703.3~~. The fire-resistance rating of penetrations and fire-resistant joint systems shall be determined in accordance Sections 714 and 715, respectively. ~~**703.3**~~ **703.2.2 ~~Methods for determining fire resistance~~ Analytical methods.** The fire resistance of building elements, components or assemblies established by an analytical method shall be by ~~The application of~~ any of the methods listed in this section ~~shall be~~ based on the fire exposure and acceptance criteria specified in ASTM E119 or UL 263. ~~The required fire resistance of a building element, component or assembly shall be permitted to be established by any of the following methods or procedures:~~ 1. Fire-resistance designs documented in approved sources.		X			Clarification

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		Decrease	**None**	**Increase**		
Sub Code:						
	2. Prescriptive designs of fire-resistance-rated building elements, components or assemblies as prescribed in Section 721. 3. Calculations in accordance with Section 722. 4. Engineering analysis based on a comparison of building element, component or assemblies designs having fire-resistance ratings as determined by the test procedures set forth in ASTM E119 or UL 263. ~~5. Alternative protection methods as allowed by Section 104.11.~~ ~~6~~5. Fire-resistance designs certified by an approved agency. **703.2.3 Approved alternative method.** The fire resistance of building elements, components or assemblies not complying with Sections 703.2.1 or 703.2.2 shall be permitted to be established by an alternative protection method in accordance with Section 104.11.					
FS2-18	**703.5.1 Non-composite materials.** Materials required to be noncombustible shall be tested in accordance with ASTM E136. **Exception:** Materials having a structural base of noncombustible material as determined in accordance with ASTM E136 and ~~this section~~ with a surfacing of not more than 0.125 inch (3.18 mm) thick that has a flame spread index not greater than 50 when tested in accordance with ASTM E84 or UL 723 shall be acceptable as non-combustible.		X			Clarification
FS3-18	**703.5 Noncombustibility tests.** The tests indicated in ~~Sections~~ Section 703.5~~.1 and 703.5.2~~ .1 shall serve as criteria for acceptance of building materials as set forth in Sections 602.2, 602.3 and 602.4 in Types I, II, III and IV construction. The term ~~"noncombustible"~~ "noncombustible" does not apply to the flame spread characteristics of interior finish or trim materials. A material shall not be classified as a noncombustible building construction material if it is subject to an increase in combustibility or flame spread beyond the limitations herein established through the effects of age, moisture or other atmospheric conditions. **703.5.1 ~~Elementary~~ Noncombustible materials.** Materials required to be noncombustible shall be tested in accordance with ASTM E136. Alternately, materials required to be noncombustible shall be tested in accordance with ASTM E2652 using the acceptance criteria prescribed by ASTM E136. **Exception:** Materials having a structural base of noncombustible material as determined in accordance with ASTM E136, or with ASTM E2652 using the acceptance criteria prescribed by ASTM		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	E136, with a surfacing of not more than 0.125 inch (3.18 mm) thick that has a flame spread index not greater than 50 when tested in accordance with ASTM E84 or UL 723 shall be acceptable as non-combustible. **~~703.5.2~~ ~~Composite materials.~~** ~~Materials having a structural base of noncombustible material as determined in accordance with Section 703.5.1 with a surfacing not more than 0.125 inch (3.18 mm) thick that has a flame spread index not greater than 50 when tested in accordance with ASTM E84 or UL 723 shall be acceptable as noncombustible materials.~~					
FS5-18	**Add new text as follows:** **703.8 Determination of noncombustible protection time contribution.** The time, in minutes, contributed to the fire resistance rating by the noncombustible protection of mass timber building elements, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E 119 or UL 263. The test assemblies shall be identical in construction, loading, and materials, other than the noncombustible protection. The two test assemblies shall be tested to the same criteria of structural failure. 1. Test Assembly 1 shall be without protection. 2. Test Assembly 2 shall include the representative noncombustible protection. The protection shall be fully defined in terms of configuration details, attachment details, joint sealing details, accessories and all other relevant details. The noncombustible protection time contribution shall be determined by subtracting the fire resistance time, in minutes, of Test Assembly 1 from the fire resistance time, in minutes, of Test Assembly 2.		X			Necessary addition for clarification
FS6-18	**703.9 Sealing of adjacent mass timber elements.** In buildings of Type IVA, IVB, and IVC construction, sealant or adhesive shall be provided to resist the passage of air in the following locations: 1. At abutting edges and intersections of mass timber building elements required to be fire resistance-rated 2. At abutting intersections of mass timber building elements and building elements of other materials where both are required to be fire resistance-rated.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC MEP CHANGE SUMMARY</th><th colspan="3">IBC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: ~~Where sealant or adhesive is not~~ Sealants or adhesives need not be provided where they are not a required component of a tested fire resistance-rated assembly.

1705.19 Sealing of mass timber. Periodic special inspections of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.9 is applied to mass timber building elements as designated in the approved construction documents.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FS8-18</td><td>704.6.1 Secondary attachments to structural members. Where primary and secondary structural members require fire protection, secondary ~~tubular~~ steel attachments to those structural members shall be protected with the same fire resistive material and thickness as required for the structural member. The protection shall extend away from the structural member a distance of not less than 12 inches, or shall be applied to the entire length when the attachment is less than 12 inches long. When an attachment is hollow and the ends are open, the fire resistive material and thickness shall be applied to both the exterior and interior of the ~~tubular~~ hollow steel attachment.</td><td></td><td></td><td>X</td><td>Minimal</td><td>Clarification</td></tr>
<tr><td>FS14-18</td><td>Revise as follows:

TABLE 705.2
MINIMUM DISTANCE OF PROJECTION<table><tr><td>FIRE SEPARATION DISTANCE-FSD (feet)</td><td>MINIMUM DISTANCE FROM LINE USED TO DETERMINE FSD</td></tr><tr><td>0 to less than 2</td><td>Projections not permitted</td></tr><tr><td>2 to less than 3</td><td>24 inches</td></tr><tr><td>3 to less than 5</td><td>~~24 inches plus 8 inches for every foot of FSD beyond 3 feet or fraction thereof~~ 2/3 the FSD</td></tr><tr><td>5 or greater</td><td>40 inches</td></tr></table>For SI: 1 foot = 304.8 mm; 1 inch = 25.4 mm.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>FS16-18</td><td>~~705.2.3 Combustible projections. Combustible projections extending to within 5 feet (1524 mm) of the line used to determine the fire separation distance shall be of not less than 1-hour fire-resistance-rated construction, heavy timber construction, complying with Section 2304.11, fire-retardant-treated wood or as permitted by Section 705.2.3.1.~~</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~**Exception:** Type VB construction shall be allowed for combustible projections in Group R-3 and U~~ **705.2.3 Projection Protection.** Projections extending to within 5 feet (1524 mm) of the line used to determine the fire separation distance shall be one of the following: 1. Noncombustible materials. 2. Combustible materials of not less than 1 hour fire resistance rated construction. 3. Heavy timber construction complying with Section 2304.11. 4. Fire-retardant treated wood. 5. As permitted by Section 705.2.3.1. **Exception:** Type VB construction shall be allowed for combustible projections in Group R-3 and U occupancies with a fire separation distance greater than or equal to 5 feet (1524 mm).					
FS18-18	**705.5 Fire-resistance ratings.** Exterior walls shall be fire-resistance rated in accordance with Tables 601 based on the type of construction and Table 705.5 ~~and this section~~ based on the fire separation distance. The required fire-resistance rating of exterior walls with a fire separation distance of greater than 10 feet (3048 mm) shall be rated for exposure to fire from the inside. The required fire-resistance rating of exterior walls with a fire separation distance of less than or equal to 10 feet (3048 mm) shall be rated for exposure to fire from both sides.		X			Clarification
FS22-18	**Revise as follows:** **706.1.1 Party walls.** Any wall located on a *lot line* between adjacent buildings, which is used or adapted for joint service between the two buildings, shall be constructed as a *fire wall* in accordance with Section 706. Party walls shall be constructed without openings and shall create separate buildings. **Exceptions:** 1. Openings in a party wall separating an anchor building and a mall shall be in accordance with Section 402.4.2.2.1. 2. ~~Fire~~ Party walls and fire walls are not required on lot lines dividing a building for ownership purposes where the aggregate height and area of the portions of the building located on both sides of the lot line do not exceed the maximum height and area requirements of this code. For the code official's review and approval, he or she shall be provided with copies of dedicated access easements and		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	contractual agreements that permit the owners of portions of the building located on either side of the lot line access to the other side for purposes of maintaining fire and life safety systems necessary for the operation of the building.					
FS24-18	**706.6.1 Stepped buildings.** Where a fire wall also serves as an exterior wall for a building and separates buildings having different roof levels, such wall shall terminate at a point not less than 30 inches (762 mm) above the lower roof level. Exterior walls above the fire wall extending more than 30 inches (762 mm) above the lower roof shall be of not less than 1-hour fire-resistance-rated construction from both sides with openings protected by fire assemblies having a fire protection rating of not less than $^3/_4$ hour. Portions of the exterior walls greater than 15 feet (4572 mm) above the lower roof shall be of non-fire-resistance rated construction unless otherwise rated construction is required by other provisions of this code. **Exception**: A fire wall serving as part of an exterior wall ~~for a building~~ that separates buildings having different roof levels shall be permitted to terminate at the underside of the roof sheathing, deck or slab of the lower roof, provided items 1, 2, and 3 below are met. The exterior wall above the *fire wall* is not required to be of fire-resistance rated construction, unless required by other provisions of this code ~~all of the following requirements are met:~~ 1. The lower roof assembly within 10 feet (3048 mm) of the fire wall has not less than a 1-hour fire-resistance rating. and the 2. The entire length and span of supporting elements for the rated roof assembly ~~shall have~~ has a fire-resistance rating of not less than 1-hour. 3. Openings in the lower roof ~~shall~~ are not ~~be~~ located within 10 feet (3048 mm) of the fire wall. 4. ~~1-hour fire- resistance rated exterior wall protection above the lower roof, as specified in this section, is not required unless fire-resistance-rated construction is required by other provisions of this~~		X			Clarification
FS26-18	**707.4 Exterior walls.** Where exterior walls serve as a part of a required fire-resistance-rated shaft or stairway or ramp enclosure, or separation, such walls shall comply with the requirements of Section 705 for exterior walls and the fire-resistance-rated enclosure or separation requirements shall not apply.			X	Minimal	Clarifies and amends the list of Energy storage systems

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CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~**Exception**~~ **Exceptions:** 1. Exterior walls required to be fire-resistance rated in accordance with Section 1021 for exterior egress balconies, Section 1023.7 for interior exit stairways and ramps and Section 1027.6 for exterior exit stairways and ramp. 2. Exterior walls required to be fire-resistance rated in accordance with Section 1206 of the International Fire Code for enclosure of energy storage systems. **TABLE 716.1(2) OPENING FIRE PROTECTION ASSEMBLIES, RATINGS AND MARKINGS** For SI: 1 square inch = 645.2 mm. a. Two doors, each with a fire protection rating of $1^1/_2$ hours, installed on opposite sides of the same opening in a fire wall, shall be deemed equivalent in fire protection rating to one 3-hour fire door. b. Fire-resistance-rated glazing tested to ASTM E119 in accordance with Section 716.1.2.3 shall be permitted, in the maximum size tested. c. Under the column heading "Fire-rated glazing marking door vision panel," W refers to the fire-resistance rating of the glazing, not the frame. d. See Section 716.2.5.1.2.1. e. See Section 716.1.2.2.1 and Table 716.1(1) for additional permitted markings. f. Fire-protection-rated glazing is not permitted for fire barriers required by Section 1206 of the International Fire Code to enclose energy storage systems. Fire-resistance-rated glazing assemblies tested to ASTM E119 or UL 263, as specified in Section 716.1.2.3 shall be permitted. **TABLE 716.1(3)** **FIRE WINDOW ASSEMBLY FIRE PROTECTION RATINGS** NP = Not Permitted. a. Not permitted except fire-resistance-rated glazing assemblies tested to ASTM E119 or UL 263, as specified in Section 716.1.2.3. b. XXX = The fire rating duration period in minutes, which shall be equal to the fire-resistance rating required for the wall assembly. c. Fire-protection-rated glazing is not permitted for fire barriers required by Section 1206 of the International Fire Code to enclose energy storage systems. Fire-resistance-rated glazing assemblies tested to ASTM E119 or UL 263, as specified in Section 716.1.2.3 shall be permitted. **716.2.5.4 Fire door frames with transom lights and sidelights.** Fire-protection-rated glazing shall be permitted in door frames with transom lights, sidelights or both, where a 3/4-hour fire protection rating or less is required and in 2-hour fire-resistance-rated exterior walls in accordance with Table 716.1(2). Fire door frames with					

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		Decrease	None	Increase		
Sub Code:						
	transom lights, sidelights, or both, installed with fire-resistance-rated glazing tested as an assembly in accordance with ASTM E119 or UL 263 shall be permitted where a fire protection rating exceeding $^3/_4$ hour is required in accordance with Table 716.1(2). **716.2.5.4.1 Energy storage system separation.** Fire-protection-rated glazing shall not be permitted in fire door frames with transom lights and sidelights in fire barriers required by Section 1206 of the International Fire Code to enclose energy storage systems. **716.3.2.1 Interior fire window assemblies.** Fire-protection-rated glazing used in fire window assemblies located in fire partitions and fire barriers shall be limited to use in assemblies with a maximum fire-resistance rating of 1 hour in accordance with this section. **716.3.2.1.1 Where 3/4-hour-fire-protection window assemblies permitted.** Fire-protection-rated glazing requiring 45-minute opening protection in accordance with Table 716.1(3) shall be limited to fire partitions designed in accordance with Section 708 and fire barriers utilized in the applications set forth in Sections 707.3.6, 707.3.7 and 707.3.9 where the fire-resistance rating does not exceed 1 hour. Fire- resistance-rated glazing assemblies tested in accordance with ASTM E119 or UL 263 shall not be subject to the limitations of this section. **716.3.2.1.1.1 Energy storage system separation.** Fire-protection-rated glazing is not permitted for use in fire window assemblies in fire barriers required by Section 1206 of the International Fire Code to enclose energy storage systems.					
FS27-18	**707.5 Continuity.** Fire barriers shall extend from the top of the foundation or floor/ceiling assembly below to the underside of the floor or roof sheathing, slab or deck above and shall be securely attached thereto. Such fire barriers shall be continuous through concealed space, such as the space above a suspended ceiling. Joints and voids at intersections shall comply with Sections 707.8 and 707.9 **Exceptions:** 1. Shaft enclosures shall be permitted to terminate at a top enclosure complying with Section 713.12. 2. Interior exit stairway and ramp enclosures required by Section 1023 and exit access stairway and ramp enclosures required by Section 1019 shall be permitted to terminate at a top enclosure complying with Section 713.12.		X			Clarification

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		Decrease	**None**	**Increase**		
Sub Code:						
	3. An exit passageway enclosure required by Section 1024.3 that does not extend to the underside of the roof sheathing, slab or deck above shall be enclosed at the top with construction of the same fire-resistance rating as required for the exit passageway.					
FS32-18	**708.1 General.** The following wall assemblies shall comply with this section. 1. Separation walls as required by Section 420.2 for Group I-1 and Group R occupancies. 2. Walls separating tenant spaces in covered and open mall buildings as required by Section 402.4.2.1. 3. Corridor walls as required by Section 1020.1. 4. Enclosed elevator lobby separation as required by Section 3006.2. 5. Egress balconies as required by Section 1021.2 6. Walls separating ambulatory care facilities from adjacent spaces, corridors or tenants as required by Section 422.2		X			Clarification
FS33-18	**Modify proposal as follows:** **708.1 General.** The following wall assemblies shall comply with this section. 1. Separation walls as required by Section 420.2 for Group I-1 and Group R occupancies. 2. Walls separating tenant spaces in covered and open mall buildings as required by Section 402.4.2.1. 3. Corridor walls as required by Section 1020.1. 4. Enclosed elevator lobby separation as required by Section 3006.3. 5. Egress balconies as required by Section 1021.2 6. Walls separating ambulatory care facilities from adjacent spaces, corridors or tenants as required by Section 422.2. 7. Walls separating ~~individual~~ dwelling and sleeping units in Groups R-1 and R-2 in accordance with ~~and contiguous attic and crawl spaces to those units are separated from each other and public or common areas as required by~~ Sections 907.2.8.1~~,~~ and 907.2.9.1 and 907.2.9.1. ~~8. Walls separating vestibules from a level of exit discharge as required by~~ Vestibules in accordance with Section 1028.1. **708.4.1 Supporting construction.** The supporting construction for a fire partition shall have a fire-resistance rating that is equal to or		X			Clarification

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		Decrease	None	Increase		
Sub Code:						
	greater than the required fire-resistance rating of the supported fire partition. **Exception:** In buildings of Types IIB, IIIB and VB construction, the supporting construction requirement shall not apply to fire partitions separating tenant spaces in covered and open mall buildings, fire partitions separating dwelling units, fire partitions separating sleeping units, and fire partitions serving as corridor walls, fire partitions separating ambulatory care facilities from adjacent spaces or corridor, fire partitions separating dwelling and sleeping units in Groups R-1 and R-2 and fire partitions separating vestibules from the level of exit discharge.					
FS37-18	**Revise as follows:** **708.4.1 Supporting construction.** The supporting construction for a fire partition shall have a fire-resistance rating that is equal to or greater than the required fire-resistance rating of the supported fire partition. **Exception:** In buildings of Types IIB, IIIB and VB construction, the supporting construction requirement shall not apply to fire partitions separating tenant spaces in covered and open mall buildings, fire partitions separating dwelling units, fire partitions separating sleeping units, fire partitions separating ambulatory care facilities from adjacent spaces or corridors, and fire partitions serving as corridor walls.	X				Clarification
FS38-18	**Revise as follows:** **[BG] SMOKE COMPARTMENT.** A space within a building ~~enclosed by smoke barriers on all sides, including the top and bottom~~ separated from other interior areas of the building by smoke barriers, including interior walls and horizontal assemblies. **709.4.1 Smoke-barrier ~~walls~~ assemblies separating smoke compartments.** Smoke-barrier ~~walls~~ assemblies used to separate smoke compartments shall form an effective membrane enclosure that is continuous from outside wall or smoke barrier wall to outside wall or another smoke barrier wall and horizontal assemblies.	X				Clarification
FS39-18	**710.5.3 Pass through openings in Group I-2 Condition 2.** Where pass through openings are provided in smoke partitions in Group I-2, Condition 2 occupancies, such openings shall comply with all of the following:			X	Minimal	Clarification

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Sub Code:						
	1. The smoke ~~Smoke~~ compartment in which the pass through openings occur do not contain a patient care suite or sleeping room. 2. Pass through openings are installed in a wall, door or vision panel that is not required to have a fire ~~protection~~ resistance rating. 3. The top of the pass through opening is located a maximum of 48 inches above the floor. 4. The aggregate area of all such pass through openings within a single room shall not exceed 80 square inches ($0.05m^2$).					
FS41-18	**Modify proposal as follows:** **713.12 Enclosure at top.** The top of shaft enclosures shall comply with one of the following: 1. ~~They shall e~~ Extend to the underside of the roof sheathing, deck or slab of the building and the roof assembly shall comply with the requirements for the type of construction as specified in Table 601. 2. ~~They shall t~~ Terminate below the roof assembly and be enclosed at the top with construction of the same fire-resistance rating as the topmost floor penetrated by the shaft, but not less than the fire-resistance rating required for the shaft enclosure. 3. ~~They shall e~~ Extend past the roof assembly and comply with the requirements of Section 1510.		X			Clarification
FS42-18	**713.12 Enclosure at top.** A shaft enclosure that does not extend to the underside of the roof sheathing, deck or slab of the building shall be enclosed at the top with construction of the same fire-resistance rating as the topmost floor penetrated by the shaft, but not less than the fire-resistance rating required for the shaft enclosure. **713.12.1 Penthouse mechanical rooms.** A fire/smoke damper shall not be required at the penetration of the rooftop structure where shaft enclosures extend up through the roof assembly into a rooftop structure conforming to Section 1510. All ductwork in the shaft shall be connected directly to HVAC equipment.	X				Necessary addition for clarification
FS44-18	**713.13 Waste, recycle and linen chutes and incinerator rooms.** Waste, recycle and linen chutes shall comply with the provisions of NFPA 82, Chapter 6 and shall meet the requirements of Sections 712 and 713.13.1 through 713.13.6. Incinerator rooms shall meet the provisions of Sections 713.13.4 through 713.13.5. **Exception:** Chutes serving and contained within a single dwelling unit.		X			Clarification

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		Decrease	None	Increase		
Sub Code:						
	713.13.1 Waste, recycle and linen chute enclosures. A shaft enclosure containing a recycling, or waste or linen chute shall not be used for any other purpose and shall be enclosed in accordance with Section 713.4. A shaft enclosure shall be permitted to contain recycling and waste chutes. Openings into the shaft, from access rooms and discharge rooms, shall be protected in accordance with this section and Section 716. Openings into chutes shall not be located in corridors. Doors into chutes shall be self-closing. Discharge doors shall be self-or automatic-closing upon the actuation of a smoke detector in accordance with Section 716.2.6.6, except that heat-activated closing devices shall be permitted between the shaft and the discharge room. **713.13.3 Chute access rooms.** Access openings for waste, recycling or linen chutes shall be located in rooms or compartments enclosed 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. Openings into the access rooms shall be protected by opening protectives having a fire protection rating of not less than $^3/_4$ hour. Doors shall be self- or automatic-closing upon the detection of smoke in accordance with Section 716.2.6.6. The room or compartment shall be configured to allow the access door to the room or compartment to close and latch with the access panel to the ~~refuse or laundry~~ chute in any position. **713.13.4 Chute discharge room.** Waste, recycling or linen chutes shall discharge into an enclosed room separated by fire barriers with a fire-resistance rating not less than the required fire rating of the shaft enclosure and constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both. Openings into the discharge room from the remainder of the building shall be protected by opening protectives having a fire protection rating equal to the protection required for the shaft enclosure. Doors shall be self- or automatic-closing upon the detection of smoke in accordance with Section 716.2.6.6. Waste chutes shall not terminate in an incinerator room. Waste and linen rooms that are not provided with chutes need only comply with Table 509.					
FS50-18	**714.5.2 Membrane penetrations.** Penetrations of membranes that are part of a horizontal assembly shall comply with Section 714.5.1.1 or 714.5.1.2. Where floor/ceiling assemblies are required to have a fire-resistance rating, recessed fixtures shall be installed such that the required fire resistance will not be reduced.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exceptions: 1. Membrane penetrations by steel, ferrous or copper conduits, pipes, tubes or vents, or concrete or masonry items where the annular space is protected either in accordance with Section 714.5.1 or to prevent the free passage of flame and the products of combustion. The aggregate area of the openings through the membrane shall not exceed 100 square inches (64 500 mm^2) in any 100 square feet (9.3 m^2) of ceiling area in assemblies tested without penetrations. 2. Ceiling membrane penetrations of maximum 2-hour horizontal assemblies by steel electrical boxes that do not exceed 16 square inches (10 323 mm^2) in area, provided that the aggregate area of such penetrations does not exceed 100 square inches (44 500 mm^2) in any 100 square feet (9.29 m^2) of ceiling area, and the annular space between the ceiling membrane and the box does not exceed $^1/_8$ inch (3.2 mm). 3. Membrane penetrations by electrical boxes of any size or type, that have been listed as part of an opening protective material system for use in horizontal assemblies and are installed in accordance with the instructions included in the listing. 4. Membrane penetrations by listed electrical boxes of any material, provided that such boxes have been tested for use in fire-resistance-rated assemblies and are installed in accordance with the instructions included in the listing. The annular space between the ceiling membrane and the box shall not exceed $^1/_8$ inch (3.2 mm) unless listed otherwise. 5. The annular space created by the penetration of a fire sprinkler, provided that it is covered by a metal escutcheon plate. 6. Noncombustible items that are cast into concrete building elements and that do not penetrate both top and bottom surfaces of the element. 7. The ceiling membrane of ~~1- and~~ a maximum 2-hour fire-resistance-rated horizontal assemblies is permitted to be interrupted with the double wood top plate of a wall assembly that is sheathed with Type X gypsum wallboard, provided that all penetrating items through the double top plates are protected in accordance with Section 714.5.1.1 or 714.5.1.2 and the ceiling membrane is tight to the top plates. 8. Ceiling membrane penetrations by listed luminaires (light fixtures) or by luminaires protected with listed materials, which have been tested for use in fire-resistance-rated					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	assemblies and are installed in accordance with the instructions included in the listing.					
FS51-18	**712.1.5.2 Joints in or between nonfire-resistance-rated floor assemblies.** Joints in or between floor assemblies without a required fire-resistance rating shall be permitted where they comply with one of the following: 1. The joint shall be concealed within the cavity of a wall. 2. The joint shall be located above a ceiling. 3. The joint shall be sealed, treated or covered with an approved material or system to resist the free passage of flame and the products of combustion. **Exception:** Joints meeting one of the exceptions listed in Section ~~715.1.~~715.3. **715.1 General.** The provision of this section shall govern the materials and methods of construction used to protect joints and voids in or between horizontal and vertical assemblies. **~~715.1~~ 715.3 ~~General.~~ Fire-resistance-rated assembly intersections.** Joints installed in or between fire-resistance-rated walls, floor or floor/ceiling assemblies and roofs or roof/ceiling assemblies shall be protected by an approved fire-resistant joint system designed to resist the passage of fire for a time period not less than the required fire-resistance rating of the wall, floor or roof in or between which the system is installed. ~~Fire-resistant joint systems shall be tested in accordance with Section 715.3.~~ **Exception:** Fire-resistant joint systems shall not be required for joints in all of the following locations: 1. Floors within a single dwelling unit. 2. Floors where the joint is protected by a shaft enclosure in accordance with Section 713. 3. Floors within atriums where the space adjacent to the atrium is included in the volume of the atrium for smoke control purposes. 4. Floors within malls. 5. Floors and ramps within parking garages or structures constructed in accordance with Sections 406.5 and 406.6. 6. Mezzanine floors. 7. Walls that are permitted to have unprotected openings.		X			Clarifies and amends the lists of Section 712 and 715

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	8. Roofs where openings are permitted. 9. Control joints not exceeding a maximum width of 0.625 inch (15.9 mm) and tested in accordance with ASTM E119 or UL 263. 10. The intersection of exterior curtain wall assemblies and the roof slab or roof deck. ~~**715.1.1 Curtain wall assembly.** The void created at the intersection of a floor/ceiling assembly and an exterior curtain wall assembly shall be protected in accordance with Section 715.4.~~ ~~**715.3**~~ **715.3.1 Fire test criteria.** Fire-resistant joint systems shall be tested in accordance with the requirements of either ASTM E1966 or UL 2079. Nonsymmetrical wall joint systems shall be tested with both faces exposed to the furnace, and the assigned fire-resistance rating shall be the shortest duration obtained from the two tests. Where evidence is furnished to show that the wall was tested with the least fire-resistant side exposed to the furnace, subject to acceptance of the building official, the wall need not be subjected to tests from the opposite side. **Exception**: For exterior walls with a horizontal fire separation distance greater than 10 feet (3048 mm), the joint system shall be required to be tested for interior fire exposure only. ~~**715.4.1**~~ **715.5 Exterior curtain wall/nonfire-resistance-rated floor assembly intersections.** Voids created at the intersection of exterior curtain wall assemblies and nonfire-resistance-rated floor or floor/ceiling assemblies shall be sealed with an approved material or system to retard the interior spread of fire and hot gases between stories. ~~**715.4.2**~~ **715.6 Exterior curtain wall/vertical fire barrier intersections.** Voids created at the intersection of nonfire-resistance-rated exterior curtain wall assemblies and fire barriers shall be filled. An approved material or system shall be used to fill the void and shall be securely installed in or on the intersection for its entire length so as not to dislodge, loosen or otherwise impair its ability to accommodate expected building movements and to retard the passage of fire and hot gases. ~~**715.5**~~ **715.7 Spandrel wall.** Height and fire-resistance requirements for curtain wall spandrels shall comply with Section 705.8.5. Where					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Section 705.8.5 does not require a fire-resistance-rated spandrel wall, the requirements of Section 715.4 shall still apply to the intersection between the spandrel wall and the floor. ~~**715.6**~~ **715.8 Fire-resistant joint systems in smoke barriers.** Fire-resistant joint systems in smoke barriers, and joints at the intersection of a horizontal smoke barrier and an exterior curtain wall, shall be tested in accordance with the requirements of UL 2079 for air leakage. The L rating of the joint system shall not exceed 5 cfm per linear foot (0.00775 m^3/s m) of joint at 0.30 inch (7.47 Pa) of water for both the ambient temperature and elevated temperature tests.					
FS52-18	**715.2 Installation.** ~~A fire-resistant joint system~~ Systems or materials protecting joints and voids shall be securely installed in accordance with the manufacturer's installation instructions ~~and the listing criteria~~ in or on the joint or void for its entire length so as not to dislodge, loosen or otherwise impair its ability to accommodate expected building movements and to resist the passage of fire and hot gases. Fire-resistant joint systems or systems used to protect voids at exterior curtain walls and fire-resistance-rated floor intersections shall also be installed in accordance with the listing criteria. **715.4.2 Exterior curtain wall/vertical fire barrier intersections.** Voids created at the intersection of nonfire-resistance-rated exterior curtain wall assemblies and vertical fire barriers shall be ~~filled. An~~ filled with an approved material or system ~~shall be used to fill the void and shall be securely installed in or on the intersection for its entire length so as not to dislodge, loosen or otherwise impair its ability to accommodate expected building movements and~~ to retard the ~~passage~~ interior spread of fire and hot gases.		X			Clarification
FS53-18	**715.4.1 Fire test criteria.** Perimeter fire ~~barriers~~ containment systems shall be tested in accordance with the requirements of ASTM E2307 . **Exception:** Voids created at the intersection of the exterior curtain wall assemblies and floor assemblies where the vision glass extends to the finished floor level shall be permitted to be protected with an approved material to prevent the interior spread of fire. Such material shall be securely installed and capable of preventing the passage of flame and hot gases sufficient to ignite cotton waste where subjected to ASTM E119 time-temperature fire conditions under a minimum positive pressure differential of 0.01 inch (0.254		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	mm) of water column (2.5 Pa) for the time period not less than the fire-resistance rating of the floor assembly.					
FS54-18	**715.4 Exterior curtain wall/floor intersection.** Where fire-resistance-rated floor or floor/ceiling assemblies are required, voids created at the intersection of the exterior curtain wall assemblies and such floor assemblies shall be sealed with an approved system to prevent the interior spread of fire. Such systems shall be securely installed and tested in accordance with ASTM E2307 to provide an F rating for a time period not less than the fire-resistance rating of the floor assembly. **Exception:** Voids created at the intersection of the exterior curtain wall assemblies and such floor assemblies where the vision glass extends to the finished floor level shall be permitted to be sealed with an approved material to prevent the interior spread of fire. Such material shall be securely installed and capable of preventing the passage of flame and hot gases sufficient to ignite cotton waste where subjected to ASTM E119 time-temperature fire conditions under a minimum positive pressure differential of 0.01 inch (0.254 mm) of water column (2.5 Pa) for the time period not less than the fire-resistance rating of the floor assembly. **715.5 Curtain wall spandrels.** Height and fire-resistance requirements for curtain wall spandrels shall comply with Section 705.8.5. Where Section 705.8.5 does not require ~~a~~ fire-resistance-rated ~~spandrel~~ curtain wall spandrels , the requirements of Sections 715.4 and 715.4.1 shall still apply to the intersection between the ~~spandrel~~ curtain wall spandrels and the floor.		X			Clarification
FS55-18	**715.6 ~~Fire-resistant joint systems~~ Joints and voids in smoke barriers.** Fire-resistant joint systems protecting joints in smoke barriers, and ~~joints~~ systems protecting voids at the intersection of a horizontal smoke barrier and an exterior curtain wall, shall be tested in accordance with the requirements of UL 2079 for air leakage. The L rating of the joint system shall not exceed 5 cfm per linear foot (0.00775 m^3/s m) of joint at 0.30 inch (~~7.47~~ 74.7 Pa) of water for both the ambient temperature and elevated temperature tests.		X			Clarification
FS56-18	**TABLE 716.1(2)** **OPENING FIRE PROTECTION ASSEMBLIES, RATINGS AND MARKINGS** For SI: 1 square inch = 645.2 mm. a. Two doors, each with a fire protection rating of $1^1/_2$ hours, installed on opposite sides of the same opening in a fire wall, shall be deemed equivalent in fire protection rating to one 3-hour fire door. b. Fire-resistance-rated glazing tested to ASTM E119 in accordance with Section 716.1.2.3 shall be permitted, in the maximum size tested.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	c. Under the column heading Fire-rated glazing marking door vision panel, W refers to the fire-resistance rating of the glazing, not the frame. d. See Section 716.2.5.1.2.1. e. See Section 716.1.2.2.1 and Table 716.1(1) for additional permitted markings. f. Two doors, each with a fire rating of 20 minutes, installed on opposite sides of the same opening in a fire partition, shall be deemed equivalent in fire protection rating to one 45 minute fire door.					
FS59-18	(In the 5th line of the Table 716.1(2) in the column labeled: Required Wall Assembly Ratings, the proposal creates 2 subcolumns with their own headers. For the left of the 2 subcolumns the header is amended as follows: Single wall assembly rating (hours)[f] For the right of the 2 subcolumns the header is amended as follows: Each wall of the double wall assembly (hours)[g]) Notes: a. Two doors, each with a fire protection rating of $1^1/_2$ hours, installed on opposite sides of the same opening in a fire wall, shall be deemed equivalent in fire protection rating to one 3-hour fire door. b. Fire-resistance-rated glazing tested to ASTM E119 in accordance with Section 716.1.2.3 shall be permitted, in the maximum size tested. c. Under the column heading "Fire-rated glazing marking door vision panel," W refers to the fire-resistance rating of the glazing, not the frame. d. See Section 716.2.5.1.2.1. e. See Section 716.1.2.2.1 and Table 716.1(1) for additional permitted markings. f. As required in Section 706.4. g. As allowed in NFPA 221 Section 4.6. **TABLE 716.1(2)** **OPENING FIRE PROTECTION ASSEMBLIES, RATINGS AND MARKINGS**		X			Clarification
FS60-18	**SECTION 202** **DEFINITIONS** **TERMINATED STOPS.** Factory feature of a door frame where the stops of the door frame are terminated not more than 6 inches from the bottom of the door frame. Terminated stops are also known as "hospital stops" or "sanitary stops".		X			Clarifies and amends the list of Section 202

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	716.2.2.1.1 Smoke and draft control. The air leakage rate of the door assembly shall not exceed 3.0 cubic feet per minute per square foot (0.01524 $m^3/s \times m^2$) of door opening at 0.10 inch (24.9 Pa) of water for both the ambient temperature and elevated temperature tests. Louvers shall be prohibited. Terminated stops shall be prohibited on doors required by Section 405.4.3 to comply with Section 716.2.2.1 and prohibited on doors required by Section 3006.3 Item 3, 3007.6.3, or 3008.6.3 to comply with Section 716.2.2.1.1.					
FS62-18	**717.3.1 Damper testing.** 1. Dampers shall be listed and labeled in accordance with the standards in this section. 2. Fire dampers shall comply with the requirements of UL 555. 3. Smoke dampers shall comply with the requirements of UL 555S. 4. Combination fire/smoke dampers shall comply with the requirements of both UL 555 and UL 555S. 5. Ceiling radiation dampers shall comply with the requirements of UL 555C or shall be tested as part of a fire-resistance-rated floor/ceiling or roof/ceiling assembly in accordance with ASTM E119 or UL 263. ~~Only ceiling radiation dampers labeled for use in dynamic systems shall be installed in heating, ventilation and air-conditioning systems designed to operate with fans on during a fire.~~ 6. Corridor dampers shall comply with requirements of both UL 555 and UL 555S. Corridor dampers shall demonstrate acceptable closure performance when subjected to 150 feet per minute (0.76 mps) velocity across the face of the damper during the UL 555 fire exposure test.		X			Clarification
FS64-18	**717.6.2.1.2 Static systems.** Static ceiling radiation dampers shall be provided with systems which are not designed to operate during a fire. **Exceptions:** 1. Where a static ceiling radiation damper is installed at the opening of a duct, a smoke detector shall be installed inside the duct or outside the duct with sampling tubes protruding into the duct. The detector or tubes within the duct shall be within 5 feet (1524 mm) of the damper. Air outlets and inlets shall not be located between the detector or tubes and the damper. The detector shall be listed for the air velocity, temperature and humidity anticipated at the point where it is installed. Other than in mechanical smoke control systems, dampers shall be closed upon fan shutdown where local			X		Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	smoke detectors require a minimum velocity to operate. 2. Where a static ceiling radiation damper is installed in a ceiling, the ceiling radiation damper shall be permitted to be controlled by a smoke detection system installed within the same room or area as the ceiling radiation damper. ~~3. Where a static ceiling radiation damper is installed in an area served by the duct in which the damper will be located, the ceiling radiation damper shall be permitted to be controlled by the smoke detection system.~~ 3~~4~~. ~~Where a ceiling radiation damper is installed within a room and an occupant sensor is provided within the room served by the damper, a~~ A static ceiling radiation damper shall be permitted to be installed within a room where an occupant sensor is provided within the room that will shut down the down the system.					
FS65-18	**717.3.3.1 Fire damper ~~actuation device~~ actuation.** ~~The fire damper actuation device~~ Primary heat responsive devices used to actuate fire dampers shall meet one of the following requirements: 1. The operating temperature shall be approximately 50°F (10°C) above the normal temperature within the duct system, but not less than 160°F (71°C). 2. The operating temperature shall be not more than 350°F (177°C) where located in a smoke control system complying with Section 909.		X			Clarification
FS66-18	**Modify proposal as follows:** **717.4 Access and identification ~~and periodic inspection and testing~~.** Access, and identification and periodic inspection and testing of fire and smoke dampers shall comply with Sections 717.4.1 through ~~717.4.3~~ 717.4.2. **717.4.1 Access.** Fire and smoke dampers shall be provided with an approved means of access that is large enough to permit inspection and maintenance of the damper and its operating parts. Dampers equipped with fusible links, internal operators, or both shall be provided with an access door that is not less than 12 inches (305 mm) square or provided with a removable duct section. ~~**717.4.3 Periodic inspection and testing.** Periodic inspection and testing of fire dampers shall be in accordance with NFPA 80. Periodic inspection and testing of smoke dampers shall be in accordance with NFPA 105. Periodic inspection and testing of combination fire/smoke dampers shall be in accordance with NFPA 80 and NFPA 105.~~		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
FS67-18	**717.5.2 Fire barriers.** Ducts and air transfer openings of fire barriers shall be protected with listed fire dampers installed in accordance with their listing. Ducts and air transfer openings shall not penetrate enclosures for interior exit stairways and ramps and exit passageways, except as permitted by Sections 1023.5 and 1024.6, respectively. **Exception:** Fire dampers are not required at penetrations of fire barriers where any of the following apply: 1. Penetrations are tested in accordance with ASTM E119 or UL 263 as part of the fire-resistance-rated assembly. 2. Ducts are used as part of an approved smoke control system in accordance with Section 909 and where the use of a fire damper would interfere with the operation of a smoke control system. 3. Such walls are penetrated by <u>fully</u> ducted HVAC systems, have a required fire-resistance rating of 1 hour or less, are in areas of other than Group H and are in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. For the purposes of this exception, a <u>fully</u> ducted HVAC system shall be a duct system for conveying supply, return or exhaust air as part of the structure's HVAC system. Such a duct system shall be constructed of sheet steel not less than No. 26 gage thickness and shall be continuous from the air-handling appliance or equipment to the air outlet and inlet terminals. <u>Flexible air connectors shall be permitted in the following locations:</u> <u>3.1. Non-metal flex connections shall be permitted at the duct connection to the air handling unit or equipment located within the mechanical room in accordance with Section 603.9 of the International Mechanical Code.</u> <u>3.1. Non-metal flex connections shall be permitted from an overhead metal duct to a ceiling diffuser within the same room in accordance with Section 603.6.2 of the International Mechanical Code.</u>	X	X			Clarification
FS70-18	**717.5.3 Shaft enclosures.** Shaft enclosures that are permitted to be penetrated by ducts and air transfer openings shall be protected with listed fire and smoke dampers installed in accordance with their listing.		X			Clarifies and amends the list of Section 717

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exceptions: 1. Fire dampers are not required at penetrations of shafts where any of the following criteria are met: 1.1. Steel exhaust subducts <u>having a wall thickness of not less than 0.0187 inch (0.4712 mm)</u> are extended not less than 22 inches (559 mm) vertically in exhaust shafts, ~~provided that there is a continuous airflow upward to the outside.~~<u>and an exhaust fan is installed at the upper terminus of the shaft that is powered continuously in accordance with Section 909.11, so as to maintain a continuous upward airflow to the outdoors.</u> 1.2. Penetrations are tested in accordance with ASTM E119 or UL 263 as part of the fire-resistance-rated assembly. 1.3. Ducts are used as part of an approved smoke control system designed and installed in accordance with Section 909 and where the fire damper will interfere with the operation of the smoke control system. 1.4. The penetrations are in parking garage exhaust or supply shafts that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction. 2. In Group B and R occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, smoke dampers are not required at penetrations of shafts where all of the following criteria are met: 2.1. Kitchen, clothes dryer, bathroom and toilet room exhaust openings are installed with steel exhaust subducts, having a ~~minimum~~ wall thickness of <u>not less than</u> 0.0187-inch (0.4712 mm~~) (No. 26 gage~~). 2.2. The subducts extend not less than 22 inches (559 mm) vertically. 2.3. An exhaust fan is installed at the upper terminus of the shaft that is powered continuously in accordance with the provisions of Section 909.11, so as to maintain a continuous upward airflow to the ~~outside.~~<u>outdoors.</u> 3. Smoke dampers are not required at penetration of exhaust or supply shafts in parking garages that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction. 4. Smoke dampers are not required at penetrations of shafts where ducts are used as part of an approved mechanical smoke control system designed in accordance with Section 909 and where the smoke damper will interfere with the operation of the smoke control system.					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	5. Fire dampers and combination fire/smoke dampers are not required in kitchen and clothes dryer exhaust systems where dampers are prohibited by the International Mechanical Code. **717.5.3.1 Continuous upward airflow.** Fire dampers and smoke dampers shall not be installed in shafts that are required to maintain a continuous upward airflow path where closure of the damper would result in the loss of the airflow.					
FS72-18	**718.2.1 Fireblocking materials.** Fireblocking shall consist of the following materials: 1. Two-inch (51 mm) nominal lumber. 2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints. 3. One thickness of 0.719-inch (18.3 mm) wood structural panels with joints backed by 0.719-inch (18.3 mm) wood structural panels. 4. One thickness of 0.75-inch (19.1 mm) particleboard with joints backed by 0.75-inch (19 mm) particleboard. 5. One-half-inch (12.7 mm) gypsum board. 6. One-fourth-inch (6.4 mm) cement-based millboard. 7. Batts or blankets of mineral wool, mineral fiber or other approved materials installed in such a manner as to be securely retained in place. 8. Cellulose insulation ~~installed as tested in accordance with ASTM E119 or UL 263 for the specific application~~ tested in the form and manner intended for use to demonstrate its ability to remain in place and to retard the spread of fire and hot gases.		X			Clarification
FS73-18	**718.2.1 Fireblocking materials.** Fireblocking shall consist of the following materials: 1. Two-inch (51 mm) nominal lumber. 2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints. 3. One thickness of 0.719-inch (18.3 mm) wood structural panels with joints backed by 0.719-inch (18.3 mm) wood structural panels. 4. One thickness of 0.75-inch (19.1 mm) particleboard with joints backed by 0.75-inch (19 mm) particleboard. 5. One-half-inch (12.7 mm) gypsum board. 6. One-fourth-inch (6.4 mm) cement-based millboard. 7. Batts or blankets of mineral wool, mineral fiber or other approved materials installed in such a manner as to be securely retained in place.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	8. Cellulose insulation installed as tested for the specific application. 9. Mass timber complying with Section 2304.11.					
FS76-18	**TABLE 712.1(3)** **MINIMUM PROTECTION FOR FLOOR AND ROOF SYSTEMS** **Reason:** This is a typo. 3/8" type X boards are not readily commercially available. Generic 5/8" type X boards are readily available in the market. This change simply fixes this.		X			Clarification
FS77-18	**722.1 General.** The provisions of this section contain procedures by which the fire resistance of specific materials or combinations of materials is established by calculations. These procedures apply only to the information contained in this section and shall not be otherwise used. The calculated fire resistance of ~~concrete~~ specific materials or combinations of materials shall be established by one of the following: 1. Concrete, concrete masonry and clay masonry assemblies shall be permitted in accordance with ACI 216.1/TMS 0216. 2. Precast and precast, prestressed concrete assemblies shall be permitted in accordance with PCI 124. 3. ~~The calculated fire resistance of~~ Steel assemblies shall be permitted in accordance with Chapter 5 of ASCE 29. 4. ~~The calculated fire resistance of~~ Exposed wood members and wood decking shall be permitted in accordance with Chapter 16 of ANSI/AWC National Design Specification for Wood Construction (NDS). **722.2.3.1 Slab cover.** The minimum thickness of concrete cover to the positive moment reinforcement shall comply with Table 722.2.3(1) for reinforced concrete and Table 722.2.3(2) for prestressed concrete. These tables are applicable for solid or hollow-core one-way or two-way slabs with flat undersurfaces. These tables are applicable to slabs that are either cast in place or precast. For precast prestressed concrete not covered elsewhere, the procedures contained in PCI ~~MNL~~ 124 shall be acceptable.		X			Clarification
FS79-18	**722.2.2.1.4 Flat plate concrete slabs with uniformly spaced hollow voids.** Table 722.2.2.1 shall be used to determine the fire-resistance of 1 hour and 2 hours for flat plate concrete slabs with uniformly spaced hollow voids. The equivalent thickness of the slab shall be determined by dividing the net concrete volume of the slab by the floor area. The net concrete volume of the slab shall be equal to the volume of concrete of a solid slab minus the average concrete volume displaced by the hollow voids.		X			Necessary addition for clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
FS81-18	In the column of TABLE 722.7.1(2) that addresses 1/2 inch Type X Gypsum Board, change the protection contribution value (in minutes) to 25 instead of 30.		X			Clarification
FS84-18	**803.10 Site-fabricated stretch systems.** Where used as interior wall or interior ceiling finish materials, site-fabricated stretch systems containing all three components described in the definition in Chapter 2 shall be tested in the manner intended for use, and shall comply with the requirements of Section 803.1.1 ~~803.1.2.~~ or with the requirements of Class A in accordance with Section 803.1.2. If the materials are tested in accordance with ASTM E84 or UL 723, specimen preparation and mounting shall be in accordance with ASTM E2573. **[BF] 803.10 Site-fabricated stretch systems.** Where used as newly installed interior wall or interior ceiling finish materials, site-fabricated stretch systems containing all three components described in the definition in Chapter 2 shall be tested in the manner intended for use, and shall comply with the requirements of Section 803.1.1 or ~~803.1.2.~~ with the requirements of Class A in accordance with Section 803.1.2. If the materials are tested in accordance with ASTM E84 or UL 723, specimen preparation and mounting shall be in accordance with ASTM E2573.		X			Clarification
FS86-18	**[F] 806.9 Combustible lockers.** Where lockers constructed of combustible materials are used, the lockers shall be considered to be interior finish and shall comply with Section 803. **Exception:** Lockers constructed entirely of wood and noncombustible materials shall be permitted to be used wherever interior finish materials are required to meet a Class C classification in accordance with Section 803.1.2.		X			Clarification
FS90-18	**Revise as follows:** **909.20 Smokeproof enclosures.** Where required by Section 1023.11, a smokeproof enclosure shall be constructed in accordance with this section. A smokeproof enclosure shall consist of an interior exit stairway or ramp that is enclosed in accordance with the applicable provisions of Section 1023 and an open exterior balcony ~~or~~ ,ventilated vestibule or pressurized stair and pressurized entrance vestibule meeting the requirements of this section. Where access to the roof is required by the International Fire Code, such access shall be from the smokeproof enclosure where a smokeproof enclosure is required.	X				Clarifies and amends the list of Section 909

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	909.20.6 Pressurized stair and vestibule alternative. The provisions of Sections 909.20.6.1 through 909.20.6.3 shall apply to smokeproof enclosures using a pressurized stair and pressurized entrance vestibule. **909.20.6.1 Vestibule doors.** The door assembly from the building into the vestibule shall be a fire door assembly complying with Section 716.2.2.1. The door assembly from the vestibule to the stairway shall not have less than a 20-minute fire protection rating and meet the requirements for a smoke door assembly in accordance with Section 716.2.2.1. The door shall be installed in accordance with NFPA 105. **909.20.6.2 Pressure difference.** The stair enclosure shall be pressurized to a minimum of 0.05 inch of water gage (12.44 Pa) positive pressure relative to the vestibule with all stairway doors closed under the maximum anticipated stack pressures. The vestibule, with doors closed, shall have a minimum of 0.05 inch of water gage (12.44 Pa) positive pressure relative to the fire floor. The pressure difference across doors shall not exceed 30 lbs (133-N) maximum force to begin opening the door. **909.20.6.3 Dampered relief opening.** A controlled relief vent capable of discharging a minimum of 2,500 cfm (1180 L/s) of air at the design pressure difference shall be located in the upper portion of the pressurized exit enclosure. ~~**909.20.6**~~ **909.20.7 Ventilating equipment.** The activation of ventilating equipment required by the alternatives in Sections 909.20.4, 909.20.5 and ~~909.20.5~~ 909.20.6 shall be by smoke detectors installed at each floor level at an approved location at the entrance to the smokeproof enclosure. When the closing device for the stairway and ramp shaft and vestibule doors is activated by smoke detection or power failure, the mechanical equipment shall activate and operate at the required performance levels. Smoke detectors shall be installed in accordance with Section 907.3.					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
FS98-18	**1402.5 Water-resistive barriers.** Exterior walls on buildings of Type I, II, III or IV construction that are greater than 40 feet (12 192 mm) in height above grade plane and contain a combustible water-resistive barrier shall be tested in accordance with and comply with the acceptance criteria of NFPA 285. For the purposes of this section, fenestration products, flashing of fenestration products and water resistive barrier flashing and accessories at other locations, including through wall flashings, shall not be considered part of the water-resistive barrier. **Exceptions:** 1. Walls in which the water-resistive barrier is the only combustible component and the exterior wall has a wall covering of brick, concrete, stone, terra cotta, stucco or steel with minimum thicknesses in accordance with Table 1404.2. 2. Walls in which the water-resistive barrier is the only combustible component and the water-resistive barrier complies with the following: 2.1. 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 when tested, on specimens at the thickness intended for use, in accordance with ASTM E 1354, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2. 2.2. A flame spread index of 25 or less and a smoke-developed index of 450 or less as determined in accordance with ASTM E 84 or UL 723, with test specimen preparation and mounting in accordance with ASTM E 2404. ~~**1402.5 Vertical and lateral flame propagation.** *Exterior walls* on buildings of Type I, II, III or IV construction that are greater than 40 feet (12 192 mm) in height above grade plane and contain a combustible *water-resistive barrier* shall be tested in accordance with and comply with the acceptance criteria of NFPA 285. For the purposes of this section, *fenestration* products, flashing of *fenestration* products and *water-resistive barrier* flashing and accessories at other locations, including through wall flashings, shall not be considered part of the *water-resistive barrier*.~~		X			Clarifies and amends the list of Section 1402

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~**Exceptions:**~~ ~~1. Walls in which the *water-resistive barrier* is the only combustible component and the *exterior wall* has a wall covering of brick, concrete, stone, terra cotta, stucco or steel with minimum thicknesses in accordance with Table 1404.2.~~ ~~2. Walls in which the *water-resistive barrier* is the only combustible component and the *water-resistive barrier* has 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 has 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.~~					
FS105-18	**1402.5 Vertical and lateral flame propagation.** Exterior walls on buildings of Type I, II, III or IV construction that are greater than 40 feet (12 192 mm) in height above grade plane and contain a combustible water-resistive barrier shall be tested in accordance with and comply with the acceptance criteria of NFPA 285. Combustibility shall be determined in accordance with Section 703.5. For the purposes of this section, fenestration products, flashing of fenestration products and water-resistive-barrier flashing and accessories at other locations, including through wall flashings, shall not be considered part of the water-resistive barrier. **Exceptions:** 1. Walls in which the water-resistive barrier is the only combustible component and the exterior wall has a wall covering of brick, concrete, stone, terra cotta, stucco or steel with minimum thicknesses in accordance with Table 1404.2. 2. Walls in which the water-resistive barrier is the only combustible component and the water-resistive barrier has 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 has 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. ~~3. Water-resistive barriers complying with Section 703.5.2.~~		X			Clarification

<table>
<tr><th colspan="7">Table 1. 2021 IBC MEP Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC MEP CHANGE SUMMARY</th><th colspan="3">IBC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td>FS108-18</td><td>1403.2 Water-resistive barrier. Not fewer than one layer of <u>water-resistive barrier material</u> <s>No.15 asphalt felt, complying with ASTM D226 for Type 1 felt or other approved materials with a water resistance complying with ASTM E2556, Type I,</s> shall be attached to the studs or sheathing, with flashing as described in Section 1404.4, in such a manner as to provide a continuous water-resistive barrier behind the exterior wall veneer. <u>Water-resistive barriers shall comply with one of the following:</u>

<u>1. No. 15 felt complying with ASTM D226, Type 1,</u>
<u>2. ASTM E2556, Type I or II,</u>
<u>3. ASTM E331 in accordance with Section 1402.2, or</u>
<u>4. Other approved materials installed in accordance with the manufacturer's installation instructions.</u></td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>FS113-18</td><td><u>1403.14</u> <u>Attachments through Insulation.</u> <u>Exterior wall coverings attached to the building structure through foam plastic insulating sheathing shall comply with the attachment requirements of Section 2603.11, 2603.12, or 2603.13.</u></td><td></td><td>X</td><td></td><td></td><td>Necessary addition for clarification</td></tr>
<tr><td>FS115-18</td><td>TABLE 1404.2
MINIMUM THICKNESS OF WEATHER COVERINGS
<table>
<tr><th>COVERING TYPE</th><th>MINIMUM THICKNESS (inches)</th></tr>
<tr><td>Adhered masonry veneer</td><td></td></tr>
<tr><td>Architectureal cast stone</td><td>0.75</td></tr>
<tr><td>Other</td><td>0.25</td></tr>
<tr><td>Aluminum siding</td><td>0.019</td></tr>
<tr><td>Anchored masonry veneer</td><td></td></tr>
<tr><td>Stone (natural)</td><td>2</td></tr>
<tr><td>Architectural cast stone</td><td><s>1.25</s> <u>2.5</u></td></tr>
<tr><td>Other</td><td>2.625</td></tr>
<tr><td>Asbestos-cement boards</td><td>0.125</td></tr>
<tr><td>Asbestos shingles</td><td>0.156</td></tr>
<tr><td>Cold-rolled copperd</td><td>0.0216 nominal</td></tr>
<tr><td>Copper shinglesd</td><td>0.0162 nominal</td></tr>
<tr><td>Exterior plywood (with sheathing)</td><td>0.313</td></tr>
<tr><td>Exterior plywood (without sheathing)</td><td>See Section 2304.6</td></tr>
<tr><td>Fiber cement lap siding</td><td>0.25c</td></tr>
<tr><td>Fiber cement panel siding</td><td>0.25c</td></tr>
<tr><td>Fiberboard siding</td><td>0.5</td></tr>
<tr><td>Glass-fiber reinforced concrete panels</td><td>0.375</td></tr>
</table></td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 1. 2021 IBC MEP Changes Cost Impact

CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Hardboard sidingc | 0.25 High-yield copperd | 0.0162 nominal Lead-coated copperd | 0.0216 nominal Lead-coated high-yield copper | 0.0162 nominal Marble slabs | 1 Particleboard (with sheathing) | See Section 2304.6 Particleboard (without sheathing) | See Section 2304.6 Porcelain tile | 0.25 Steel (approved corrosion resistant) | 0.0149 Structural glass | 0.344 Stucco or exterior cement plaster | Three-coat work over: | Metal plaster base | 0.875b Unit masonry | 0.625b Cast-in-place or precast concrete | 0.625b Two-coat work over: | Unit masonry | 0.5b Cast-in-place or precast concrete | 0.375b Terra cotta (anchored) | 1 Terra cotta (adhered) | 0.25 Vinyl siding | 0.035 Wood shingles | 0.375 Wood siding (without sheathing)a | 0.5 For SI: 1 inch = 25.4 mm, 1 ounce = 28.35 g, 1 square foot = 0.093 m^2. a. Wood siding of thicknesses less than 0.5 inch shall be placed over sheathing that conforms to Section 2304.6. b. Exclusive of texture. c. As measured at the bottom of decorative grooves. d. 16 ounces per square foot for cold-rolled copper and lead-coated copper, 12 ounces per square foot for copper shingles, high-yield copper and lead-coated high-yield copper.					

Table 1. 2021 IBC MEP Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC MEP CHANGE SUMMARY</th><th colspan="3">IBC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td>FS116-18</td><td>TABLE 1404.2
MINIMUM THICKNESS OF WEATHER COVERINGS
<table>
<tr><th>COVERING TYPE</th><th>MINIMUM THICKNESS (inches)</th></tr>
<tr><td>Adhered masonry veneer
~~Architectureal cast stone~~
~~Other~~</td><td><u>0.25</u>
~~0.75~~
~~0.25~~</td></tr>
<tr><td>Aluminum siding</td><td>0.019</td></tr>
<tr><td>Anchored masonry veneer
Stone (natural)
Architectural cast stone
Other</td><td>
2.0
1.25
2.625</td></tr>
<tr><td>Asbestos-cement boards</td><td>0.125</td></tr>
<tr><td>Asbestos shingles</td><td>0.156</td></tr>
<tr><td>Cold-rolled copperd</td><td>0.0216 nominal</td></tr>
<tr><td>Copper shinglesd</td><td>0.0162 nominal</td></tr>
<tr><td>Exterior plywood (with sheathing)</td><td>0.313</td></tr>
<tr><td>Exterior plywood (without sheathing)</td><td>See Section 2304.6</td></tr>
<tr><td>Fiber cement lap siding</td><td>0.25c</td></tr>
<tr><td>Fiber cement panel siding</td><td>0.25c</td></tr>
<tr><td>Fiberboard siding</td><td>0.5</td></tr>
<tr><td>Glass-fiber reinforced concrete panels</td><td>0.375</td></tr>
<tr><td>Hardboard sidingc</td><td>0.25</td></tr>
<tr><td>High-yield copperd</td><td>0.0162 nominal</td></tr>
<tr><td>Lead-coated copperd</td><td>0.0216 nominal</td></tr>
<tr><td>Lead-coated high-yield copper</td><td>0.0162 nominal</td></tr>
<tr><td>Marble slabs</td><td>1</td></tr>
<tr><td>Particleboard (with sheathing)</td><td>See Section 2304.6</td></tr>
<tr><td>Particleboard (without sheathing)</td><td>See Section 2304.6</td></tr>
<tr><td>Porcelain tile</td><td>0.25</td></tr>
<tr><td>Steel (approved corrosion resistant)</td><td>0.0149</td></tr>
<tr><td>Structural glass</td><td>0.344</td></tr>
</table></td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	<table><tr><td>Stucco or exterior cement plaster Three-coat work over: Metal plaster base Unit masonry Cast-in-place or precast concrete Two-coat work over: Unit masonry Cast-in-place or precast concrete</td><td> 0.875b 0.625b 0.625b 0.5b 0.375b</td></tr><tr><td>Terra cotta (anchored)</td><td>1</td></tr><tr><td>Terra cotta (adhered)</td><td>0.25</td></tr><tr><td>Vinyl siding</td><td>0.035</td></tr><tr><td>Wood shingles</td><td>0.375</td></tr><tr><td>Wood siding (without sheathing)a</td><td>0.5</td></tr></table> For SI: 1 inch = 25.4 mm, 1 ounce = 28.35 g, 1 square foot = 0.093 m^2. a. Wood siding of thicknesses less than 0.5 inch shall be placed over sheathing that conforms to Section 2304.6. b. Exclusive of texture. c. As measured at the bottom of decorative grooves. d. 16 ounces per square foot for cold-rolled copper and lead-coated copper, 12 ounces per square foot for copper shingles, high-yield copper and lead-coated high-yield copper.					
FS117-18	**Delete without substitution:** ~~**1404.3 Vapor retarders.** Vapor retarders as described in Section 1404.3.3 shall be provided in accordance with Sections 1404.3.1 and 1404.3.2, or an approved design using accepted engineering practice for hygrothermal analysis.~~ **1404.3 Vapor retarders.** Vapor retarder materials shall be classified in accordance with Table 1404.3(1). A vapor retarder shall be provided on the interior side of frame walls in accordance with Table 1404.3(2) and Table 1404.3(3), or an approved design using accepted engineering practice for hygrothermal analysis. The appropriate climate zone shall be selected in accordance with Chapter 3 of the International Energy Conservation Code.		X			Clarification Clarifies and amends the list of Section 1404

~~**1404.3.1 Class I and II vapor retarders.** Class I and II vapor retarders shall not be provided on the interior side of frame walls in Zones 1 and 2. Class I vapor retarders shall not be provided on the interior side of frame walls in Zones 3 and 4 other than Marine 4. Class I or II vapor retarders shall be provided on the interior side of frame walls in Zones 5, 6, 7, 8 and Marine 4. The appropriate zone shall be selected in accordance with Chapter 3 [CE] of the International Energy Conservation Code-Commercial Provisions.~~

Exceptions:

1. Basement walls.
2. Below-grade portion of any wall.
3. Construction where ~~moisture~~ accumulation, condensation, or ~~its~~ freezing of moisture will not damage the materials.
4. ~~Conditions where Class III vapor retarders are required in Section 1404.3.2.~~

TABLE 1404.3(1)
VAPOR RETARDER MATERIALS AND CLASSES

VAPOR RETARDER CLASS	ACCEPTABLE MATERIALS
I	Sheet polyethylene, nonperforated aluminum foil, or other approved materials with a perm rating of less than or equal to 0.1
II	Kraft-faced fiberglass batts, paint, or other approved materials with a perm rating greater than 0.1 and less than or equal to 1.0
III	Latex paint, enamel paint, or other approved materials with a perm rating of greater than 1.0 and less than or equal to 10

TABLE 1404.3(2)
VAPOR RETARDER OPTIONS

CLIMATE ZONE	VAPOR RETARDER CLASS		
-	I	II	IIIa
1, 2	Not permitted	Not Permitted	Permitted
3, 4 (except Marine 4)	Not permitted	Permitted	Permitted
Marine 4, 5, 6, 7, 8	Permitted	Permitted	See Table 1404.3(3)

a. Only Class III vapor retarders shall be used on the interior side of frame walls where foam plastic insulating sheathing with a perm rating of less than 1 is applied in accordance with Table 1404.3(3) on the exterior side of the frame wall.

Table 1. 2021 IBC MEP Changes Cost Impact

CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	TABLE ~~1404.3.2~~ 1404.3(3) **CLASS III VAPOR RETARDERS**					

ZONE	CLASS III VAPOR RETARDERS PERMITTED FOR:[a,b]
Marine 4	Vented cladding over wood structural panels Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R -value ≥ R2.5 over 2 × 4 wall Continuous insulation with R -value ≥ R3.75 over 2 × 6 wall
5	Vented cladding over wood structural panels Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R -value ≥ R5 over 2 × 4 wall Continuous insulation with R -value ≥ R7.5 over 2 × 6 wall
6	Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R -value ≥ R7.5 over 2 × 4 wall Continuous insulation with R -value ≥ R11.25 over 2 × 6 wall
7 and 8	Continuous insulation with R -value ≥ R10 over 2 × 4 wall Continuous insulation with R -value ≥ R15 over 2 × 6 wall

~~For SI: 1 pound per cubic foot = 16 kg/m³.~~

a. Spray foam with a maximum permanence of 1.5 perms at the installed thickness applied to the interior cavity side of wood structural panels, fiberboard, insulating sheathing or gypsum is deemed to meet the continuous insulation requirement where the spray foam R-value meets or exceeds the specified insulating sheathing R-value.

b. Vented cladding shall include vinyl lap siding, polypropylene, or horizontal aluminum siding, brick veneer with clear airspace as specified in this code, and other approved vented claddings.

~~**1404.3.2 Class III vapor retarders.** Class III vapor retarders shall be permitted where any one of the conditions in Table 1404.3.2 is met. Only Class III vapor retarders shall be used on the interior side of frame walls where foam plastic insulating sheathing with a perm rating of less than 1 is applied in accordance with Table 1404.3.2 on the exterior side of the frame wall.~~

~~**1404.3.3 Material vapor retarder class.** The vapor retarder class shall be based on the manufacturer's certified testing or a tested assembly.~~

~~The following shall be deemed to meet the class specified:~~

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~Class I:~~ ~~Sheet polyethylene, nonperforated aluminum foil with a perm rating of less than or equal to 0.1.~~ ~~Class II:~~ ~~Kraft-faced fiberglass batts or paint with a perm rating greater than 0.1 and less than or equal to 1.0.~~ ~~Class III:~~ ~~Latex or enamel paint with a perm rating of greater than 1.0 and less than or equal to 10.0.~~ ~~**1404.3.4 Minimum clear airspaces and vented openings for vented cladding.** For the purposes of this section, vented cladding shall include the following minimum clear airspaces:~~ ~~1. Vinyl, polypropylene or horizontal aluminum siding applied over a weather-resistive barrier as specified in this chapter.~~ ~~2. Brick veneer with a clear airspace as specified in this code.~~ ~~3. Other approved vented claddings.~~					
FS118-18	**1404.3.1 Class I and II vapor retarders.** Class I and II vapor retarders shall not be provided on the interior side of frame walls in Zones 1 and 2. Class I vapor retarders shall not be provided on the interior side of frame walls in Zones 3 and 4 other than Marine 4. Class I or II vapor retarders shall be provided on the interior side of frame walls in Zones 5, 6, 7, 8 and Marine 4. The appropriate zone shall be selected in accordance with Chapter 3 [CE] of the International Energy Conservation Code-Commercial Provisions. **Exceptions:** 1. Basement walls. 2. Below-grade portion of any wall. 3. Construction where moisture or its freezing will not damage the materials. 4. Class I and II vapor retarders with vapor ~~permeability~~ permeance greater than 1 perm when measured by ASTM E96 water method (Procedure B) shall be allowed on the interior side of any frame wall in all climate zones. 5. Conditions where Class III vapor retarders are required in Section 1404.3.2.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
FS119-18	**1404.3 Vapor retarders.** Vapor retarders as described in Section ~~1404.3.3~~ 1404.3.1 shall be provided in accordance with Sections ~~1404.3.1~~ 1404.3.2 and ~~1404.3.2~~1404.3.3, or an approved design using accepted engineering practice for hygrothermal analysis. **~~1404.3.3~~ 1404.3.1 Material vapor retarder class.** The vapor retarder class shall be based on the manufacturer's certified testing or a tested assembly. The following shall be deemed to meet the class specified: Class I: Sheet polyethylene, nonperforated aluminum foil with a perm rating of less than or equal to 0.1. Class II: Kraft-faced fiberglass batts or paint with a perm rating greater than 0.1 and less than or equal to 1.0. Class III: Latex or enamel paint with a perm rating of greater than 1.0 and less than or equal to 10.0. **~~1404.3.1~~ 1404.3.2 Class I and II vapor retarders.** Class I and II vapor retarders shall not be provided on the interior side of frame walls in Zones 1 and 2. Class I vapor retarders shall not be provided on the interior side of frame walls in Zones 3 and 4 other than Marine 4. Class I or II vapor retarders shall be provided on the interior side of frame walls in Zones 5, 6, 7, 8 and Marine 4. The appropriate zone shall be selected in accordance with Chapter 3 [CE] of the International Energy Conservation Code-Commercial Provisions. **Exceptions:** 1. Basement walls. 2. Below-grade portion of any wall. 3. Construction where moisture or its freezing will not damage the materials. 4. Conditions where Class III vapor retarders are required in Section ~~1404.3.2.~~ 1404.3.3. **~~1404.3.2~~ 1404.3.3 Class III vapor retarders.** Class III vapor retarders shall be permitted where any one of the conditions in Table ~~1404.3.2~~ 1404.3.3 is met. Only Class III vapor retarders shall be used on the interior side of frame walls where foam plastic insulating sheathing with a perm rating of less than 1 is applied in accordance with Table ~~1404.3.2~~ 1404.3.3 on the exterior side of the frame wall. **TABLE ~~1404.3.2~~ 1404.3.3** **CLASS III VAPOR RETARDERS**		X			Clarification

<table>
<tr><th colspan="7">Table 1. 2021 IBC MEP Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC MEP CHANGE SUMMARY</th><th colspan="3">IBC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>
<table>
<tr><th>ZONE</th><th>CLASS III VAPOR RETARDERS PERMITTED FOR:[a]</th></tr>
<tr><td>Marine 4</td><td>Vented cladding over wood structural panels
Vented cladding over fiberboard
Vented cladding over gypsum
Continuous insulation with R -value ≥ R2.5 over 2 × 4 wall
Continuous insulation with R -value ≥ R3.75 over 2 × 6 wall</td></tr>
<tr><td>5</td><td>Vented cladding over wood structural panels
Vented cladding over fiberboard
Vented cladding over gypsum
Continuous insulation with R -value ≥ R5 over 2 × 4 wall
Continuous insulation with R -value ≥ R7.5 over 2 × 6 wall</td></tr>
<tr><td>6</td><td>Vented cladding over fiberboard
Vented cladding over gypsum
Continuous insulation with R -value ≥ R7.5 over 2 × 4 wall
Continuous insulation with R -value ≥ R11.25 over 2 × 6 wall</td></tr>
<tr><td>7 and 8</td><td>Continuous insulation with R -value ≥ R10 over 2 × 4 wall
Continuous insulation with R -value ≥ R15 over 2 × 6 wall</td></tr>
</table>
For SI: 1 pound per cubic foot = 16 kg/m^3.
a. Spray foam with a maximum permanence of 1.5 perms at the installed thickness applied to the interior cavity side of wood structural panels, fiberboard, insulating sheathing or gypsum is deemed to meet the continuous insulation requirement where the spray foam R-value meets or exceeds the specified insulating sheathing R-value.
</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FS120-18</td><td>1404.3.1 Class I and II vapor retarders. Class I and II vapor retarders shall not be provided on the interior side of frame walls in Zones 1 and 2. Class I vapor retarders shall not be provided on the interior side of frame walls in Zones 3 and 4 other than Marine 4. Class I or II vapor retarders shall be provided on the interior side of frame walls in Zones 5, 6, 7, 8 and Marine 4. Where a Class II vapor retarder is used in combination with foam plastic insulating sheathing installed as continuous insulation on the exterior side of frame walls, the continuous insulation shall comply with Table 1404.3.1 and the Class II vapor retarder shall have a vapor permeance greater than 1 perm when measured by ASTM E96 water method (Procedure B). Use of a Class I interior vapor retarder in frame walls with a Class I vapor retarder on the exterior side shall require an approved design. The appropriate zone shall be selected in accordance with Chapter 3 [CE] of the International Energy Conservation Code-Commercial Provisions.</td><td>X</td><td></td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 1. 2021 IBC MEP Changes Cost Impact

CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
FS121-18	**1404.3.1 Class I and II vapor retarders.** Class I and II vapor retarders shall not be provided on the interior side of frame walls in Zones 1 and 2. Class I vapor retarders shall not be provided on the interior side of frame walls in Zones 3 and 4 other than Marine 4. Class I or II vapor retarders shall be provided on the interior side of frame walls in Zones 5, 6, 7, 8 and Marine 4. The appropriate zone shall be selected in accordance with Chapter 3 [CE] of the International Energy Conservation Code-Commercial Provisions. **Exceptions:** 1. Basement walls. 2. Below-grade portion of any wall. 3. Construction where moisture or its freezing will not damage the materials. ~~4. Conditions where Class III vapor retarders are required in Section 1404.3.2.~~ **1404.3.2 Class III vapor retarders.** Class III vapor retarders shall be permitted ~~where~~ for any one of the conditions in Table 1404.3.2 ~~is met. Only Class III vapor retarders shall be used~~ on the ~~interior side of frame walls where foam plastic insulating sheathing with a perm rating of less than 1 is applied in accordance with Table 1404.3.2 on the~~ exterior side of ~~the~~ frame ~~wall~~ walls.	X				Clarification
FS122-18	**Modify proposal as follows:** ~~**1404.3.2.1 Foam plastic insulating sheathing for moisture control with Class III vapor retarders.** Where foam plastic insulating sheathing with a perm rating of less than 1 is installed in accordance with Table 1404.3.2 on the exterior side of the frame wall, only Class III vapor retarders shall be used on the interior side of the frame wall.~~	X				Clarification
FS125-18	**TABLE 1404.3.2** **CLASS III VAPOR RETARDERS** **ZONE** / **CLASS III VAPOR RETARDERS PERMITTED FOR:[a]** ~~Marine 4~~: Vented cladding over wood structural panels; Vented cladding over fiberboard; Vented cladding over gypsum; Continuous insulation with R-value ≥ R2.5 over 2 × 4 wall; Continuous insulation with R-value ≥ R3.75 over 2 × 6 wall			X	Minimal	Clarification

Table 1. 2021 IBC MEP Changes Cost Impact

CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	<table><tr><td>5</td><td>Vented cladding over wood structural panels Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R-value ≥ R5 over 2 × 4 wall Continuous insulation with R-value ≥ R7.5 over 2 × 6 wall</td></tr><tr><td>6</td><td>Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R-value ≥ R7.5 over 2 × 4 wall Continuous insulation with R-value ≥ R11.25 over 2 × 6 wall</td></tr><tr><td>7 and 8</td><td>Continuous insulation with R-value ≥ R10 over 2 × 4 wall Continuous insulation with R-value ≥ R15 over 2 × 6 wall</td></tr></table> For SI: 1 pound per cubic foot = 16 kg/m^3. a. Spray foam with a maximum permanence of 1.5 perms at the installed thickness applied to the interior cavity side of wood structural panels, fiberboard, insulating sheathing or gypsum is deemed to meet the continuous insulation requirement where the spray foam R-value meets or exceeds the specified insulating sheathing R-value. **1404.3.2 Class III vapor retarders.** Class III vapor retarders shall be permitted in Climate Zones 1 through 3 and where any one of the conditions in Table 1404.3.2 is met. Only Class III vapor retarders shall be used on the interior side of frame walls where foam plastic insulating sheathing with a perm rating of less than 1 is applied in accordance with Table 1404.3.2 on the exterior side of the frame wall.					
FS127-18	**TABLE 1404.3.2** **CLASS III VAPOR RETARDERS** <table><tr><th>ZONE</th><th>CLASS III VAPOR RETARDERS PERMITTED FOR:[a]</th></tr><tr><td>Marine 4</td><td>Vented cladding over wood structural panels Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R-value ≥ R2.5 over 2 × 4 wall Continuous insulation with R-value ≥ R3.75 over 2 × 6 wall</td></tr><tr><td>5</td><td>Vented cladding over wood structural panels Vented cladding over fiberboard Vented cladding over gypsum</td></tr></table>			X	Minimal	Clarification

Table 1. 2021 IBC MEP Changes Cost Impact

CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						

	Continuous insulation with R-value ≥ R5 over 2 × 4 wall Continuous insulation with R-value ≥ R7.5 over 2 × 6 wall
6	Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R-value ≥ R7.5 over 2 × 4 wall Continuous insulation with R-value ≥ R11.25 over 2 × 6 wall
7 ~~and 8~~	Continuous insulation with R-value ≥ R10 over 2 × 4 wall Continuous insulation with R-value ≥ R15 over 2 × 6 wall
8	Continuous insulation with R-value ≥ 12.5 over 2x4 wall. Continuous insulation with R-value >= 20 over 2x6 wall

For SI: 1 pound per cubic foot = 16 kg/m^3.

a. Spray foam with a maximum permanence of 1.5 perms at the installed thickness applied to the interior cavity side of wood structural panels, fiberboard, insulating sheathing or gypsum is deemed to meet the continuous insulation requirement where the spray foam R-value meets or exceeds the specified insulating sheathing R-value.

FS128-18

Revise as follows:

TABLE 1404.3.2
CLASS III VAPOR RETARDERS

ZONE	CLASS III VAPOR RETARDERS PERMITTED FOR:[a]
Marine 4	Vented cladding over wood structural panels Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R-value ≥ R2.5 over 2 × 4 wall Continuous insulation with R-value ≥ R3.75 over 2 × 6 wall
5	Vented cladding over wood structural panels Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R-value ≥ R5 over 2 × 4 wall Continuous insulation with R-value ≥ R7.5 over 2 × 6 wall
6	Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R-value ≥ R7.5 over 2 × 4 wall

				X	Minimal	Clarification

Table 1. 2021 IBC MEP Changes Cost Impact

CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	<table><tr><td></td><td>Continuous insulation with R-value ≥ R11.25 over 2 × 6 wall</td></tr><tr><td>7 ~~and 8~~</td><td>Continuous insulation with R-value ≥ R10 over 2 × 4 wall Continuous insulation with R-value ≥ R15 over 2 × 6 wall</td></tr><tr><td>8</td><td>Continuous insulation with R-value ≥ R12.5 over 2 × 4 wall Continuous insulation with R-value ≥ R20 over 2 × 6 wall</td></tr></table> For SI: 1 pound per cubic foot = 16 kg/m^3. a. Spray foam with a maximum permanence of 1.5 perms at the installed thickness applied to the interior cavity side of wood structural panels, fiberboard, insulating sheathing or gypsum is deemed to meet the continuous insulation requirement where the spray foam R-value meets or exceeds the specified insulating sheathing R-value.					
FS130-18	**TABLE 1404.3.2** **CLASS III VAPOR RETARDERS** <table><tr><th>ZONE</th><th>CLASS III VAPOR RETARDERS PERMITTED FOR:[a,b]</th></tr><tr><td>Marine 4</td><td>Vented cladding over wood structural panels Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R-value ≥ R2.5 over 2 × 4 wall Continuous insulation with R-value ≥ R3.75 over 2 × 6 wall</td></tr><tr><td>5</td><td>Vented cladding over wood structural panels Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R-value ≥ R5 over 2 × 4 wall Continuous insulation with R-value ≥ R7.5 over 2 × 6 wall</td></tr><tr><td>6</td><td>Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R-value ≥ R7.5 over 2 × 4 wall Continuous insulation with R-value ≥ R11.25 over 2 × 6 wall</td></tr><tr><td>7 and 8</td><td>Continuous insulation with R-value ≥ R10 over 2 × 4 wall Continuous insulation with R-value ≥ R15 over 2 × 6 wall</td></tr></table> For SI: 1 pound per cubic foot = 16 kg/m^3. a. Spray foam with a maximum permanence of 1.5 perms at the installed thickness applied to the interior cavity side of wood structural panels, fiberboard, insulating sheathing or gypsum is deemed to meet the continuous insulation		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	moisture control requirement where the spray foam R-value meets or exceeds the specified insulating sheathing R-value. b. The requirements in this table apply only to insulation used to control moisture in order to permit the use of Class III vapor retarders. The insulation materials used to satisfy this option also contribute to but do not supersede the thermal envelope requirements of the International Energy Conservation Code.					
FS131-18	**1404.3.3 Material vapor retarder class.** The vapor retarder class shall be based on the manufacturer's certified testing or a tested assembly. The following shall be deemed to meet the class specified: Class I: Sheet polyethylene, nonperforated aluminum foil with a perr Class II: Kraft-faced fiberglass batts or vapor retarder paint applied in instructions for a perm rating greater than 0.1 and less than Class III: Latex or enamel paint applied in accordance with the manufa greater than 1.0 and less than or equal to 10.0.		X			Clarification
FS132-18	**Modify proposal as follows:** **1404.3.4 Minimum airspaces and vented openings for vented cladding.** For the purposes of this section, vented cladding shall include the following minimum ~~clear~~ airspaces: 1. Vinyl, polypropylene or horizontal aluminum siding applied over a weather-resistive barrier as specified in this chapter. 2. Brick veneer with an airspace as specified in this code. 3. Other approved vented claddings.		X			Clarification
FS133-18	**1404.4 Flashing.** Flashing shall be installed in such a manner so as to prevent moisture from entering the wall or to redirect that moisture to the ~~exterior~~ surface of the exterior wall finish or to a water-resistive barrier complying with Section 1403.2 and that is part of a means of drainage complying with Section 1402.2. Flashing shall be installed at the perimeters of exterior door and window assemblies, penetrations and terminations of exterior wall assemblies, exterior wall intersections with roofs, chimneys, porches, decks, balconies and similar projections and at built-in gutters and similar locations where moisture could enter the wall. Flashing with projecting flanges shall be installed on both sides and the ends of copings, under sills and continuously above projecting trim. Where self-adhered membranes are used as flashings of fenestration in wall assemblies,		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	those self-adhered flashings shall comply with AAMA 711. Where fluid applied membranes are used as flashing for exterior wall openings, those fluid applied membrane flashings shall comply with AAMA 714.					
FS136-18	**EXTERIOR WALL ENVELOPE.** A system or assembly of exterior wall components, including exterior wall ~~finish~~ covering materials, that provides protection of the building structural members, including framing and sheathing materials, and conditioned interior space, from the detrimental effects of the exterior environment. **1406.2 Exterior wall ~~finish~~ covering.** MCM used as exterior wall ~~finish~~ covering or as elements of balconies and similar projections and bay and oriel windows to provide cladding or weather resistance shall comply with Sections 1406.4 through 1406.14. **1408.2 Exterior wall ~~finish~~ covering.** HPL used as exterior wall covering or as elements of balconies and similar projections and bay and oriel windows to provide cladding or weather resistance shall comply with Sections 1408.4 through 1408.14. **2602.1 Exterior ~~finish~~ wall covering and architectural trim.** See Chapter 14 for requirements for exterior wall ~~finish~~ covering and architectural trim.		X			Clarification
FS137-18	**1406.8 Fire-resistance rating.** Where MCM systems are used on exterior walls required to have a fire-resistance rating in accordance with Section 705, evidence shall be submitted to the building official that the required fire-resistance rating is maintained. **Exception:** MCM systems which are part of an exterior wall envelope not containing foam plastic insulation~~, which~~ and are installed on the outer surface of a fire-resistance-rated exterior wall in a manner such that the attachments do not penetrate through the entire exterior wall assembly, shall not be required to comply with this section.		X			Clarification
FS139-18	**1406.10 Type I, II, III and IV construction.** Where installed on buildings of Type I, II, III and IV construction, MCMs and MCM systems shall comply with Sections 1406.10.1 through ~~1406.10.4, or Section 1406.11.~~1406.10.3, for installations up to 40 feet (12 192 mm) above grade plane. Where installed on buildings of Type I, II, III and IV construction, MCMs and MCM systems shall comply with Sections 1406.10.1 through 1406.10.4, for installations greater than 40 feet (12 192 mm) above grade plane.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~**1406.11 Alternate conditions.** MCM and MCM systems shall not be required to comply with Sections 1406.10.1 through 1406.10.4 provided that such systems comply with Section 1406.11.1, 1406.11.2, 1406.11.3 or 1406.11.4.~~ ~~**1406.11.1 Installations up to 40 feet in height.** MCM shall not be installed more than 40 feet (12 190 mm) in height above grade where installed in accordance with Sections 1406.11.1.1 and 1406.11.1.2.~~ ~~**1406.11.1.1 Fire separation distance of 5 feet or less.** Where the fire separation distance is 5 feet (1524 mm) or less, the area of MCM shall not exceed 10 percent of the exterior wall surface.~~ ~~**1406.11.1.2 Fire separation distance greater than 5 feet.** Where the fire separation distance is greater than 5 feet (1524 mm), the area of exterior wall surface coverage using MCM shall not be limited.~~ ~~**1406.11.2 Installations up to 50 feet in height.** MCM shall not be installed more than 50 feet (15 240 mm) in height above grade where installed in accordance with Sections 1406.11.2.1 and 1406.11.2.2.~~ ~~**1406.11.2.1 Self ignition temperature.** MCM shall have a self-ignition temperature of 650°F (343°C) or greater when tested in accordance with ASTM D1929.~~ ~~**1406.11.2.2 Limitations.** Sections of MCM shall not exceed 300 square feet (27.9 m^2) in area and shall be separated by not less than 4 feet (1219 mm) vertically.~~ ~~**1406.11.3 Installations up to 75 feet in height (Option 1).** MCM shall not be installed more than 75 feet (22 860 mm) in height above grade plane where installed in accordance with Sections 1406.11.3.1 through 1406.11.3.5.~~ ~~**Exception**: Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall be exempt from the height limitation.~~ ~~**1406.11.3.1 Prohibited occupancies.** MCM shall not be permitted on buildings classified as Group A-1, A-2, H, I-2 or I-3 occupancies.~~					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~1406.11.3.2 Nonfire-resistance-rated exterior walls.~~ ~~MCM shall not be permitted on exterior walls required to have a fire-resistance rating by other provisions of this code.~~ **~~1406.11.3.3 Specifications.~~** ~~MCM shall be required to comply with all of the following:~~ ~~1. MCM shall have a self-ignition temperature of 650°F (343°C) or greater when tested in accordance with ASTM D1929.~~ ~~2. MCM shall conform to one of the following combustibility classifications when tested in accordance with ASTM D635:~~ ~~3. Class CC1: Materials that have a burning extent of 1 inch (25 mm) or less when tested at a nominal thickness of 0.060 inch (1.5 mm) or in the thickness intended for use.~~ ~~4. Class CC2: Materials that have a burning rate of $2^{1}/_{2}$ inches per minute (1.06 mm/s) or less when tested at a nominal thickness of 0.060 inch (1.5 mm) or in the thickness intended for use.~~ **~~1406.11.3.4 Area limitation and separation.~~** ~~The maximum area of a single MCM panel and the minimum vertical and horizontal separation requirements for MCM panels shall be as provided for in Table 1406.11.3.4. The maximum percentage of exterior wall area of any story covered with MCM panels shall not exceed that indicated in Table 1406.11.3.4 or the percentage of unprotected openings permitted by Section 705.8, whichever is smaller.~~ **~~Exception:~~** ~~In buildings provided with flame barriers complying with Section 705.8.5 and extending 30 inches (760 mm) beyond the exterior wall in the plane of the floor, a vertical separation shall not be required at the floor other than that provided by the vertical thickness of the flame barrier.~~ **~~TABLE 1406.11.3.4~~** **~~AREA LIMITATION AND SEPARATION REQUIREMENTS FOR MCM PANELS~~** ~~For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m^2.~~ ~~a. For reductions in the minimum vertical separation, see Section 1406.11.3.4.~~ **~~1406.11.3.5 Automatic sprinkler system increases.~~** ~~Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the maximum percentage area of exterior wall of any story covered with MCM panels and the~~					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~maximum square footage of a single area of MCM panels in Table 1406.11.3.4 shall be increased 100 percent. The area of MCM panels shall not exceed 50 percent of the exterior wall area of any story or the area permitted by Section 705.8 for unprotected openings, whichever is smaller.~~ ~~**1406.11.4 Installations up to 75 feet in height (Option 2).** MCM shall not be installed more than 75 feet (22 860 mm) in height above grade plane where installed in accordance with Sections 1406.11.4.1 through 1406.11.4.4.~~ ~~**Exception:** Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall be exempt from the height limitation.~~ ~~**1406.11.4.1 Minimum fire separation distance.** MCM shall not be installed on any wall with a fire separation distance less than 30 feet (9 144 mm).~~ ~~**Exception:** Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the fire separation distance shall be permitted to be reduced to not less than 20 feet (6096 mm).~~ ~~**1406.11.4.2 Specifications.** MCM shall be required to comply with all of the following:~~ ~~Class CC2:~~ ~~1. MCM shall have a self-ignition temperature of 650°F (343°C) or greater when tested in accordance with ASTM D1929.~~ ~~2. MCM shall conform to one of the following combustibility classifications when tested in accordance with ASTM D635:~~ ~~3. Class CC1: Materials that have a burning extent of 1 inch (25 mm) or less when tested at a nominal thickness of 0.060 inch (1.5 mm), or in the thickness intended for use.~~ ~~4. Materials that have a burning rate of $2^{1}/_{2}$ inches per minute (1.06 mm/s) or less when tested at a nominal thickness of 0.060 inch (1.5 mm), or in the thickness intended for use.~~ ~~**1406.11.4.3 Area and size limitations.** The aggregate area of MCM panels shall not exceed 25 percent of the area of any exterior wall face of the story on which those panels are installed. The area of a single MCM panel installed above the first story above grade plane shall not exceed 16 square feet (1.5 m^2) and the vertical dimension of a single MCM panel shall not exceed 4 feet (1219 mm).~~					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~**Exception:** Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the maximum aggregate area of MCM panels shall be increased to 50 percent of the exterior wall face of the story on which those panels are installed and there shall not be a limit on the maximum dimension or area of a single MCM panel.~~ ~~**1406.11.4.4 Vertical separations.** Flame barriers complying with Section 705.8 and extending 30 inches (762 mm) beyond the exterior wall or a vertical separation of not less than 4 feet (1219 mm) in height shall be provided to separate MCM panels located on the exterior walls at one-story intervals.~~ ~~**Exception:** Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.~~					
FS141-18	**1406.10 Type I, II, III and IV construction.** Where installed on buildings of Type I, II, III and IV construction, <u>metal composite material (</u>MCM ~~systems~~ <u>)</u> shall comply with Sections 1406.10.1 through ~~1406.10.4~~ <u>1406.10.3</u>, or Section 1406.11. **1406.10.1 Surface-burning characteristics.** MCM shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 450 when tested ~~as an assembly~~ in the maximum thickness intended for use in accordance with ASTM E84 or UL 723. **1406.10.2 Thermal barriers.** MCM shall be separated from the interior of a building by an approved thermal barrier consisting of 1/2 -inch (12.7 mm) gypsum wallboard or ~~a~~ material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275. **<u>Exceptions:</u>** <u>1. The MCM system is specifically approved based on tests conducted in accordance with NFPA 286 and with the acceptance criteria of Section 803.1.1.1, UL 1040 or UL 1715. Such testing shall be performed with the MCM in the maximum thickness intended for use. The MCM system shall include seams, joints and other typical details used in the installation and shall be tested in the manner intended for use.</u> <u>2. The MCM is used as elements of balconies and similar projections, architectural trim or embellishments.</u>		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~**1406.10.3 Thermal barrier not required.** The thermal barrier specified for MCM in Section 1406.10.2 is not required where:~~ ~~1. The MCM system is specifically approved based on tests conducted in accordance with NFPA 286 and with the acceptance criteria of Section 803.1.1.1, UL 1040 or UL 1715. Such testing shall be performed with the MCM in the maximum thickness intended for use. The MCM system shall include seams, joints and other typical details used in the installation and shall be tested in the manner intended for use.~~ ~~2. The MCM is used as elements of balconies and similar projections, architectural trim or embellishments.~~ ~~**1406.10.4**~~ **1406.10.3 Full-scale tests.** The MCM system shall be tested in accordance with, and comply with, the acceptance criteria of NFPA 285. Such testing shall be performed on the MCM system with the MCM in the maximum thickness intended for use.					
FS145-18	**1406.11.3 Installations up to 75 feet in height (Option 1).** MCM shall not be installed more than 75 feet (22 860 mm) in height above grade plane where installed in accordance with Sections 1406.11.3.1 through 1406.11.3.5. ~~**Exception:** Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall be exempt from the height limitation.~~ **1406.11.4 Installations up to 75 feet in height (Option 2).** MCM shall not be installed more than 75 feet (22 860 mm) in height above grade plane where installed in accordance with Sections 1406.11.4.1 through 1406.11.4.4. ~~**Exception:** Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall be exempt from the height limitation.~~			X	Minimal	Clarification
FS146-18	**1406.13 Foam plastic insulation.** Where MCM systems are included in an exterior wall envelope containing foam plastic insulation, the exterior wall envelope shall also comply with the requirements of Section 2603.		X			Clarification
FS147-18	**1408.10.2 Thermal barriers.** HPL shall be separated from the interior of a building by an approved thermal barrier consisting of $^1/_2$-inch (12.7 mm) gypsum wallboard or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	1408.10.3 Thermal barrier not required. The thermal barrier specified for HPL in Section 1408.10.2 is not required where: 1. The HPL system is specifically approved based on tests conducted in accordance with NFPA 286, and with the acceptance criteria of Section 803.1.2.1, or with UL 1040 or UL 1715. Such testing shall be performed with the HPL in the minimum and maximum thicknesses intended for use. The HPL system shall include seams, joints and other typical details used in the installation and shall be tested in the manner intended for use. 2. The HPL is used as elements of balconies and similar projections, architectural trim or embellishments.					
FS150-18	**1408.11 Alternate conditions.** HPL and HPL systems shall not be required to comply with Sections 1408.10.1 through 1408.10.4 provided that such systems comply with Section 1408.11.1 ~~or 1408.11.2~~. **1408.11.1 Installations up to 40 feet in height.** HPL shall ~~not~~ be ~~installed more than~~ permitted to be installed up to 40 feet (12 190 mm) in height above grade plane where installed in accordance with ~~Sections 1408.11.1.1 and 1408.11.1.2.~~ Section 1408.11.1.1 or with Section 1408.11.1.2. **1408.11.1.1 Fire separation distance of 5 feet or less.** Where the fire separation distance is 5 feet (1524 mm) or less, the area of HPL shall not exceed 10 percent of the exterior wall surface. **1408.11.1.2 Fire separation distance greater than 5 feet.** Where the fire separation distance is greater than 5 feet (1524 mm), the area of exterior wall surface coverage using HPL shall not be limited. **Delete without substitution:** ~~**1408.11.2 Installations up to 50 feet in height.** HPL shall not be installed more than 50 feet (15 240 mm) in height above grade plane where installed in accordance with Sections 1408.11.2.1 and 1408.11.2.2.~~ ~~**1408.11.2.1 Self-ignition temperature.** HPL shall have a self-ignition temperature of 650°F (343°C) or greater when tested in accordance with ASTM D1929.~~			X	Minimal	Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~**1408.11.2.2 Limitations.** Sections of HPL shall not exceed 300 square feet (27.9 m^2) in area and shall be separated by a minimum 4 feet (1219 mm) vertically.~~					
FS152-18	~~**[BF]**~~ **1505.9 Rooftop mounted photovoltaic panel systems.** Rooftop rack-mounted photovoltaic panel systems shall be tested, listed and identified with a fire classification in accordance with UL ~~1703 and UL~~ 2703. The fire classification shall comply with Table 1505.1 based on the type of construction of the building.		X			Clarification
FS153-18	**LIVE LOAD, ROOF.** A load on a roof produced: During maintenance by workers, equipment and materials; During the life of the structure by movable objects such as planters or other similar small decorative appurtenances that are not occupancy related; or By the use and occupancy of the roof such as for ~~roof gardens~~ landscaped roofs or assembly areas. ~~**[F]**~~ **905.3.8 ~~Rooftop gardens and landscaped~~ Landscaped roofs.** Buildings or structures that have ~~rooftop gardens or~~ landscaped roofs and that are equipped with a standpipe system shall have the standpipe system extended to the roof level on which the ~~rooftop garden or~~ landscaped roof is located. ~~**[BF]**~~ **1505.10 ~~Roof gardens and landscaped~~ Landscaped roofs.** ~~Roof gardens and landscaped~~ Landscaped roofs shall comply with Section 1505.1 and 1507.16 and shall be installed in accordance with ANSI/SPRI VF-~~1.~~1. **1507.16 Vegetative roofs ~~, roof gardens~~ and landscaped roofs.** Vegetative roofs~~, roof gardens~~ and landscaped roofs shall comply with the requirements of this chapter, Section 1607.13.3 and the International Fire Code. ~~**[BF]**~~ **1507.16.1 Structural fire resistance.** The structural frame and roof construction supporting the load imposed on the roof by the vegetative roof~~, roof gardens~~ or landscaped roofs shall comply with the requirements of Table ~~601.~~601. **TABLE 1607.1** **MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L0, AND MINIMUM CONCENTRATED LIVE LOADS[g]**		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact

CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (pounds)
26. Roofs		
All roof surfaces subject to maintenance workers		300
Awnings and canopies:		
Fabric construction supported by a skeleton structure	5m	
All other construction, except one-and two-family dwellings	20	
Ordinary flat, pitched, and curved roofs (that are not occupiable)	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		
All other primary roof members		
Occupiable roofs:		
~~Roof gardens~~ Landscaped roofs	100	
Assembly areas	100m	
All other similar areas	Note 1	Note 1

(Portions of table not shown remain unchanged.)

For SI: 1 inch = 25.4 mm, 1 square inch = 645.16 mm2,
1 square foot = 0.0929 m2,
1 pound per square foot = 0.0479 kN/m2, 1 pound = 0.004448 kN,
1 pound per cubic foot = 16 kg/m3.

a. Floors in garages or portions of buildings used for the storage of motor vehicles shall be designed for the uniformly distributed live loads of this table or the following concentrated loads: (1) for garages restricted to passenger vehicles accommodating not more than nine passengers, 3,000 pounds acting on an area of 41/2 inches by 41/2 inches; (2) for mechanical parking structures without slab or deck that are used for storing passenger vehicles only, 2,250 pounds per wheel.

b. The loading applies to stack room floors that support nonmobile, double-faced library book stacks, subject to the following limitations:
   1.The nominal book stack unit height shall not exceed 90 inches.
   2.The nominal shelf depth shall not exceed 12 inches for each face.
   3.Parallel rows of double-faced book stacks shall be separated by aisles not less than 36 inches wide.

c. Design in accordance with ICC 300.

d. Other uniform loads in accordance with an approved method containing provisions for truck loadings shall be considered where appropriate.

Table 1. 2021 IBC MEP Changes Cost Impact						
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		Decrease	**None**	**Increase**		
Sub Code:						
	e. The concentrated wheel load shall be applied on an area of 4.5 inches by 4.5 inches. f. The minimum concentrated load on stair treads shall be applied on an area of 2 inches by 2 inches. This load need not be assumed to act concurrently with the uniform load. g. Where snow loads occur that are in excess of the design conditions, the structure shall be designed to support the loads due to the increased loads caused by drift buildup or a greater snow design determined by the building official (see Section 1608). h. See Section 1604.8.3 for decks attached to exterior walls. i. Uninhabitable attics without storage are those where the maximum clear height between the joists and rafters is less than 42 inches, or where there are not two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses. This live load need not be assumed to act concurrently with any other live load requirements. j. Uninhabitable attics with storage are those where the maximum clear height between the joists and rafters is 42 inches or greater, or where there are two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses. The live load need only be applied to those portions of the joists or truss bottom chords where both of the following conditions are met: The attic area is accessible from an opening not less than 20 inches in width by 30 inches in length that is located where the clear height in the attic is not less than 30 inches. The slopes of the joists or truss bottom chords are not greater than two units vertical in 12 units horizontal. The remaining portions of the joists or truss bottom chords shall be designed for a uniformly distributed concurrent live load of not less than 10 pounds per square foot. k. Attic spaces served by stairways other than the pull-down type shall be designed to support the minimum live load specified for habitable attics and sleeping rooms. l. Areas of occupiable roofs, other than ~~roof gardens~~ landscaped roofs and assembly areas, shall be designed for appropriate loads as approved by the building official. Unoccupied landscaped areas of roofs shall be designed in accordance with Section 1607.13.3. m. Live load reduction is not permitted. n. Live load reduction is only permitted in accordance with Section 1607.11.1.2 or Item 1 of Section 1607.11.2. o. Live load reduction is only permitted in accordance with Section 1607.11.1.3 or Item 2 of Section 1607.11.2. **1607.13.3 Occupiable roofs.** Areas of roofs that are occupiable, such as vegetative roofs, ~~roof gardens~~ landscaped roofs or for assembly or other similar purposes, and marquees are permitted to have their uniformly distributed live loads reduced in accordance with Section 1607.11.					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	SECTION 317 **~~ROOFTOP GARDENS AND~~ LANDSCAPED ROOFS** **317.1 General.** ~~Rooftop gardens and landscaped~~ Landscaped roofs shall be installed and maintained in accordance with Sections 317.2 through 317.5 and Sections 1505 and 1507.16 of the International Building Code. **317.2 ~~Rooftop garden or landscaped~~ Landscaped roof size.** ~~Rooftop garden or landscaped~~ Landscaped roof areas shall not exceed 15,625 square feet (1450 m2) in size for any single area with a maximum dimension of 125 feet (39 m) in length or width. A minimum 6-foot-wide (1.8 m) clearance consisting of a Class A-rated roof system complying with ASTM E108 or UL 790 shall be provided between adjacent ~~rooftop gardens or~~ landscaped roof areas. **317.3 Rooftop structure and equipment clearance.** For all ~~vegetated roofing systems~~ vegetative roofs abutting combustible vertical surfaces, a Class A-rated roof system complying with ASTM E108 or UL 790 shall be achieved for a minimum 6-foot-wide (1829 mm) continuous border placed around rooftop structures and all rooftop equipment including, but not limited to, mechanical and machine rooms, penthouses, skylights, roof vents, solar panels, antenna supports and building service equipment. **317.4.3 Maintenance plan.** The fire code official is authorized to require a maintenance plan for vegetation placed on roofs due to the size of a landscaped roof ~~garden~~, materials used or where a fire hazard exists to the building or exposures due to the lack of maintenance. **504.3 Stairway access to roof.** New buildings four or more stories above grade plane, except those with a roof slope greater than four units vertical in 12 units horizontal (33.3-percent slope), shall be provided with a stairway to the roof. Stairway access to the roof shall be in accordance with Section 1011.12. Such stairway shall be marked at street and floor levels with a sign indicating that the stairway continues to the roof. Where roofs are used for ~~roof gardens~~ landscaped roofs or for other purposes, stairways shall be provided as required for such occupancy classification. **905.3.8 ~~Rooftop gardens and landscaped~~ Landscaped roofs.** Buildings or structures that have ~~rooftop gardens or~~ landscaped roofs and that are equipped with a standpipe system shall have the					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	standpipe system extended to the roof level on which the ~~rooftop garden or~~ landscaped roof is located.					
FS155-18	**SPRAY-APPLIED FOAM PLASTIC.** Single- and multi-component, spray-applied foam plastic insulation used in nonstructural applications which are installed at locations wherein the material is applied in a liquid or frothed state, permitted to free rise and cure in situ. **2603.1.1 Spray-applied foam plastic.** Single- and multiple-component spray-applied foam plastic insulation shall comply with the provisions of Section 2603 and ICC 1100-2018.		X			Necessary addition for clarification
FS158-18	**2606.7.4 Fire suppression system.** In buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, plastic light-diffusing systems shall be protected both above and below unless the sprinkler system has been specifically approved for installation only above the light-diffusing ~~system.~~ system, or the light-diffusing system is listed and labeled in accordance with UL 723S. Areas of light-diffusing systems that are protected in accordance with this section shall not be limited.		X			Clarification
FS159-18	**2607.3 Height limitation.** Light-transmitting plastics shall not be installed more than 75 feet (22 860 mm) above grade plane~~, except as allowed by Section 2607.5~~. **2607.5 Automatic sprinkler system.** Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the maximum percentage area of exterior wall in any story in light-transmitting plastic wall panels and the maximum square footage of a single area given in Table 2607.4 shall be increased 100 percent, but the area of light-transmitting plastic wall panels shall not exceed 50 percent of the wall area in any story, or the area permitted by Section 705.8 for unprotected openings, whichever is smaller. These installations shall ~~be exempt from height limitations.~~ not be installed more than 75 feet (22 860 mm) above grade plane.			X	Minimal	Clarification
FS160-18	**2610.1 Light-transmitting plastic glazing of skylight assemblies.** Skylight assemblies glazed with light-transmitting plastic shall conform to the provisions of this section and Section 2606. ~~Unit skylights glazed with light-transmitting plastic shall comply with Section 2405.5~~.		X			Clarifies and amends the list of Section 2610

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exception: Skylights in which the light-transmitting plastic conforms to the required roof-covering class in accordance with Section 1505. **2610.1.1 Unit skylights.** Unit skylights glazed with light-transmitting plastic shall comply with Section 2405.5.					
G1-18	**[BG] ATRIUM.** ~~An opening~~ A vertical space which is closed at the top connecting two or more stories ~~other than enclosed stairways, elevators, hoistways, escalators, plumbing, electrical, air-conditioning or other equipment, which is closed at the top and not defined as a mall. Stories, as used in this definition, do not include balconies within assembly groups or mezzanines that comply with Section 505~~in Groups I-2 and I-3 Occupancies or three stories in all other occupancies. **712.1.7 Atriums.** Atriums complying with Section 404 that connect two or more stories in Groups I-2 or I-3 Occupancies or three stories in other occupancies shall be permitted. **Exceptions:** 1. Atriums shall not be permitted within Group H Occupancies. 2. Balconies or stories within Groups A-1, A-4 and A-5, and mezzanines that comply with Section 505 shall not be considered a story as it applies to this section ~~In other than Group H occupancies, atriums complying with Section 404 shall be permitted~~		X			Clarification
G3-18	**EMITTANCE.** The ratio of radiant heat flux emitted by a specimen to that emitted by a blackbody at the same temperature and under the same conditions.		X			Necessary addition for clarification
G4-18	**[BE] GRADE FLOOR EMERGENCY ESCAPE AND RESCUE OPENING.** ~~A window or other~~ An emergency escape and rescue opening located such that the ~~sill height~~ bottom of the clear opening is not more than 44 inches (1118 mm) above or below the finished ground level adjacent to the opening.		X			Clarification
G5-18 Part I	**[BE] EMERGENCY ESCAPE AND RESCUE OPENING.** An operable exterior window, door or other similar device that provides for a means of escape and access for rescue in the event of an emergency. **[BE] EMERGENCY ESCAPE AND RESCUE OPENING.** An operable exterior window, door or other similar device that provides for a means of escape and access for rescue in the event of an emergency.		X			Clarification
G5-18 Part II	**EMERGENCY ESCAPE AND RESCUE OPENING.** An operable exterior window, door or other similar device that provides for a means of escape and access for rescue in the event of an emergency.		X			Clarification

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CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
G6-18	INSULATING SHEATHING A rigid panel or board insulation material having a thermal resistance of not less than R-2 of the core material with properties suitable for use on walls, floors, roofs, or foundations.		X			Necessary addition for clarification
G10-18	~~**[BF] PLASTIC, APPROVED.** Any thermoplastic, thermosetting or reinforced thermosetting plastic material that conforms to combustibility classifications specified in the section applicable to the application and plastic type.~~		X			Removes an unnecessary and potentially confusing definition of "approved plastics".
G11-18	**[BF] PLASTIC GLAZING.** Plastic materials that are glazed or set in a frame or sash or are otherwise supported.		X			Clarification
G12-18	**[BF] VAPOR PERMEABLE.** The property of having a moisture vapor permeance rating of 5 perms (2.9 × 10-10 kg/Pa × s × m^2) or greater, when tested in accordance with ~~the desiccant method using~~ Procedure A or Procedure B of ASTM E96. A vapor permeable material permits the passage of moisture vapor.		X			Clarification
G13-18	**303.1 Assembly Group A.** Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering of persons for purposes such as civic, social or religious functions; recreation, food or drink consumption or awaiting transportation. **303.1.5 Special amusement buildings.** Special amusement buildings shall comply with Section 411. **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		X			Clarifies and amends the list of Sections 304 to 312.

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CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	• 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 processing • 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 • 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 laboratries.** Higher education laboratories shall comply with Section 428. **SECTION 305** **EDUCATIONAL GROUP E** **305.3 Storm shelters in Group E occupancies.** Storm shelters shall be provided for Group E occupancies where required by Section 423.4. **SECTION 306** **FACTORY GROUP F** **306.2 Moderate-hazard factory industrial, Group F-1.** Factory industrial uses that are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following:					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	• Aircraft (manufacturing, not to include repair) • Appliances • Athletic equipment • Automobiles and other motor vehicles • Bakeries • Beverages: over 16-percent alcohol content • Bicycles • Boats • Brooms or brushes • Business machines • Cameras and photo equipment • Canvas or similar fabric • Carpets and rugs (includes cleaning) • Clothing • Construction and agricultural machinery • Disinfectants • Dry cleaning and dyeing • Electric generation plants • Electronics • Engines (including rebuilding) • Food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities more than 2,500 square feet (232 m^2) in area. • Furniture • Hemp products • Jute products • Laundries • Leather products • Machinery • Metals • Millwork (sash and door) • Motion pictures and television filming (without spectators) • Musical instruments • Optical goods • Paper mills or products • Photographic film • Plastic products • Printing or publishing • Recreational vehicles • Refuse incineration • Shoes • Soaps and detergents • Textiles					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	• Tobacco • Trailers • Upholstering • Wood; distillation • Woodworking (cabinet) **306.2.1 Aircraft manufacturing facilities.** Aicraft manufacturing facilities shall comply with Section 412.6. **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 **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 **308.3.1 Occupancy conditions.** Buildings of Group I-2 shall be classified as one of the occupancy conditions specified in Section 308.3.1.1 or 308.3.1.2 ~~.~~ and shall comply with Section 407.					

Table 1. 2021 IBC MEP Changes Cost Impact						
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		Decrease	**None**	**Increase**		
Sub Code:						
	308.4 Institutional Group I-3. Institutional Group I-3 occupancy shall include buildings and structures that are inhabited by more than five persons who are under restraint or security. A Group I-3 facility is occupied by persons who are generally incapable of self-preservation due to security measures not under the occupants' control. This group shall include, but not be limited to, the following: • Correctional centers • Detention centers • Jails • Prerelease centers • Prisons • Reformatories Buildings of Group I-3 shall be classified as one of the occupancy conditions specified in Sections 308.4.1 through 308.4.5 ~~(see Section 408.1).~~and shall comply with Section 408. **SECTION 309** **MERCANTILE GROUP M** **309.1 Mercantile Group M.** Mercantile Group M occupancy includes, among others, the use of a building or structure or a portion thereof for the display and sale of merchandise, and involves stocks of goods, wares or merchandise incidental to such purposes and accessible to the public. Mercantile occupancies shall include, but not be limited to, the following: • Department stores • Drug stores • Markets • Greenhouses for display and sale of plants that provide public access. • Motor fuel-dispensing facilities • Retail or wholesale stores • Sales rooms **309.3 Motor fuel-dispensing facilities.** Motor fuel-dispensing facilities shall comply with Section 406.7. **SECTION 310** **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					

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		Decrease	None	Increase		
Sub Code:						
	when not regulated by the International Residential Code. Group R occupancies not constructed in accordance with the International Residential Code as permitted by Sections 301.4.1 and 301.4.2 shall comply with Section 420. **SECTION 311** **STORAGE GROUP S** **311.1.2 Combustible storage.** High-piled stock or rack storage, or attic, under-floor and concealed spaces used for storage of combustible materials, shall be in accordance with Section 413. **311.2 Moderate-hazard storage, Group S-1.** Storage Group S-1 occupancies are buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following: • Aerosol products, Levels 2 and 3 • Aircraft hangar (storage and repair) • Bags: cloth, burlap and paper • Bamboos and rattan • Baskets • Belting: canvas and leather • Books and paper in rolls or packs • Boots and shoes • Buttons, including cloth covered, pearl or bone • Cardboard and cardboard boxes • Clothing, woolen wearing apparel • Cordage • Dry boat storage (indoor) • Furniture • Furs • Glues, mucilage, pastes and size • Grains • Horns and combs, other than celluloid • Leather • Linoleum • Lumber • Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.8) • Photo engravings • Resilient flooring • Self-service storage facility (mini-storage)					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	• Silks • Soaps • Sugar • Tires, bulk storage of • Tobacco, cigars, cigarettes and snuff • Upholstery and mattresses • Wax candles **311.2.1 Aircraft hangars.** Aircraft hangars used for storage or repair shall comply with Section 412.3. **311.2.2 Motor vehicle repair garages.** Motor vehicle repair garages shall comply with Section 406.8. **311.3 Low-hazard storage, Group S-2.** Storage Group S-2 occupancies include, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic trim, such as knobs, handles or film wrapping. Group S-2 storage uses shall include, but not be limited to, storage of the following: • Asbestos • Beverages up to and including 16-percent alcohol in metal, glass or ceramic containers • Cement in bags • Chalk and crayons • Dairy products in nonwaxed coated paper containers • Dry cell batteries • Electrical coils • Electrical motors • Empty cans • Food products • Foods in noncombustible containers • Fresh fruits and vegetables in nonplastic trays or containers • Frozen foods • Glass • Glass bottles, empty or filled with noncombustible liquids • Gypsum board • Inert pigments • Ivory • Meats • Metal cabinets					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	• Metal desks with plastic tops and trim • Metal parts • Metals • Mirrors • Oil-filled and other types of distribution transformers • ~~Parking~~ Public parking garages, open or enclosed • Porcelain and pottery • Stoves • Talc and soapstones • Washers and dryers **311.3.1 Public parking garages.** Public parking garages shall comply with Section 406.4 and the additional requirements of Section 406.5 for open parking garages or Section 406.6 for enclosed parking garages. **SECTION 312** **UTILITY AND MISCELLANEOUS GROUP U** **312.2 Private garages and carports.** Private garages and carports shall comply with Section 406.3. **312.3 Residential aircraft hangars.** Aircraft hangars accessory to a one- or two-family residence shall comply with Section 412.4.					
G17-18	**Revise as follows:** **306.2 Moderate-hazard factory industrial, Group F-1.** Factory industrial uses that are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following: • Aircraft (manufacturing, not to include repair) • Appliances • Athletic equipment • Automobiles and other motor vehicles • Bakeries • Beverages: over 16-percent alcohol content • Bicycles • Boats • Brooms or brushes • Business machines • Cameras and photo equipment • Canvas or similar fabric	X				Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	• Carpets and rugs (includes cleaning) • Clothing • Construction and agricultural machinery • Disinfectants • Dry cleaning and dyeing • Electric generation plants • Electronics • <u>Energy storage systems (ESS) in dedicated use buildings</u> • Engines (including rebuilding) • Food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities more than 2,500 square feet (232 m^2) in area. • Furniture • Hemp products • Jute products • Laundries • Leather products • Machinery • Metals • Millwork (sash and door) • Motion pictures and television filming (without spectators) • Musical instruments • Optical goods • Paper mills or products • Photographic film • Plastic products • Printing or publishing • Recreational vehicles • Refuse incineration • Shoes • Soaps and detergents • Textiles • Tobacco • Trailers • Upholstering • Wood; distillation • Woodworking (cabinet)					
G18-18	**Modify proposal as follows:** **306.2 Moderate-hazard factory industrial, Group F-1.** Factory industrial uses that are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following:		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	• Aircraft (manufacturing, not to include repair) • Appliances • Athletic equipment • Automobiles and other motor vehicles • Bakeries • Beverages: over 16-percent alcohol content • Bicycles • Boats • Brooms or brushes • Business machines • Cameras and photo equipment • Canvas or similar fabric • Carpets and rugs (includes cleaning) • Clothing • Construction and agricultural machinery • Disinfectants • Dry cleaning and dyeing • Electric generation plants • Electronics • Engines (including rebuilding) • Food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities more than 2,500 square feet (232 m^2) in area. • Furniture • Hemp products • Jute products • Laundries • Leather products • Machinery • Metals • Millwork (sash and door) • Motion pictures and television filming (without spectators) • Musical instruments • Optical goods • Paper mills or products • Photographic film • Plastic products • Printing or publishing • Recreational vehicles • Refuse incineration • Shoes • Soaps and detergents • Textiles					

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CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	• Tobacco • Trailers • Upholstering • <u>Water/Sewer Treatment Facilities</u> • Wood; distillation • Woodworking (cabinet) **306.3 Low-hazard factory industrial, Group F-2.** Factory industrial uses that involve the fabrication or manufacturing of noncombustible materials that during finishing, packing or processing do not involve a significant fire hazard shall be classified as F-2 occupancies and shall include, but not be limited to, the following: • Beverages: up to and including 16-percent alcohol content • Brick and masonry • Ceramic products • Foundries • Glass products • Gypsum • Ice • Metal products (fabrication and assembly) • ~~Water/Sewer Treatment Facilities~~					
G22-18	**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 or Section P2904 of the International Residential Code. **310.4.2 Lodging houses.** Owner-occupied lodging houses with five or fewer guest rooms and 10 or fewer total occupants shall be permitted to be constructed in accordance with the International Residential Code <u>provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or Section P2904 of the International Residential Code</u>.		X			Clarification
G25-18	**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		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	• 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 ~~6~~ 7 feet (~~1829~~ 2134 mm) in height • Grain silos, accessory to a residential occupancy • Livestock shelters • Private garages • Retaining walls • Sheds • Stables • Tanks • Towers					
G26-18	**SECTION 402** **COVERED MALL AND OPEN MALL BUILDINGS** **~~[F]~~ 402.7 Emergency systems.** Covered and open mall buildings, anchor buildings and associated parking garages shall be provided with emergency systems complying with Sections 402.7.1 through 402.7.5. **402.7.2 Smoke control.** ~~Where a covered mall building contains an atrium,~~ Atriums connecting three or more stories in covered mall buildings shall be provided with a smoke control system ~~shall be provided~~ in accordance with Section 909 ~~404.5~~. ~~**Exception:** A smoke control system is not required in covered mall buildings where an atrium connects only two stories.~~		X			Clarification
G27-18	~~**403.2.2 Seismic considerations.** For seismic considerations, see Chapter 16.~~		X			Removes unnecessary definition
G28-18	~~**[F]**~~**403.3.2 Water supply to required fire pumps.** In all buildings that are more than 420 feet (128 m) in building height, and buildings of Type IVA and IVB construction that are more than 120 feet in building height, required fire pumps shall be supplied by connections to not fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exception: Two connections to the same main shall be permitted provided that the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through not fewer than one of the connections. **914.3.1.2 Water supply to required fire pumps.** In all buildings that are more than 420 feet (128 m) in building height, and buildings of Type IVA and IVB construction that are more than 120 feet in building height, required fire pumps shall be supplied by connections to not fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate. **Exception:** Two connections to the same main shall be permitted provided that the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through not fewer than one of the connections.					
G29-18	**Delete without substitution:** ~~**403.5.6 Emergency escape and rescue.** Emergency escape and rescue openings specified in Section 1030 are not required.~~		X			Removes unnecessary definition
G30-18	**Revise as follows:** **404.1 General.** In other than Group H occupancies, ~~and where permitted by Section 712.1.7~~ , the provisions of Sections 404.1 through 404.10 shall apply to buildings or structures containing vertical openings defined as "Atriums." **Exception:** Vertical openings that comply with Sections 712.1.1 through 712.1.3, and Sections. 712.1.9 through 712.1.14.			X	Minimal	Clarification
G31-18	**404.1 General.** ~~In other than Group H occupancies, and where permitted by Section 712.1.7, the~~ The provisions of Sections 404.1 through 404.10 shall apply to buildings containing atriums. Atriums are not permitted in buildings or structures ~~containing vertical openings defined as "Atriums."~~classified as Group H. **404.9 Exit access travel distance.** Exit access travel distance for areas open to an atrium shall comply with the requirements of ~~this section~~ Section 1017.		X			Clarifies and amends list of atrium reuirements

Table 1. 2021 IBC MEP Changes Cost Impact

CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						

~~**404.9.1 Egress not through the atrium.** Where required access to the exits is not through the atrium, exit access travel distance shall comply with Section 1017.~~

~~**404.9.2 Exit access travel distance at the level of exit discharge.** Where the path of egress travel is through an atrium space, exit access travel distance at the level of exit discharge shall be determined in accordance with Section 1017.~~

~~**404.9.3 Exit access travel distance at other than the level of exit discharge.** Where the path of egress travel is not at the level of exit discharge from the atrium, that portion of the total permitted exit access travel distance that occurs within the atrium shall be not greater than 200 feet (60 960 mm).~~

404.10 Interior exit stairways. ~~Not greater than 50 percent~~ Discharge of interior exit stairways ~~are permitted to egress~~ through an atrium ~~on the level of exit discharge~~ shall be in accordance with Section 1028.

712.1.7 Atriums. ~~In other than Group H occupancies, atriums complying with Section 404 shall be permitted.~~ Atriums in buildings shall comply with Section 404.

TABLE 1017.2
EXIT ACCESS TRAVEL DISTANCE[a]

OCCUPANCY	WITHOUT SPRINKLERSYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200[e]	250[b]
I-1	Not Permitted	250[b]
B	200	300[c]
F-2, S-2, U	300	400[c]
H-1	Not Permitted	75[d]
H-2	Not Permitted	100[d]
H-3	Not Permitted	150[d]
H-4	Not Permitted	175[d]
H-5	Not Permitted	200[c]
I-2, I-3	Not Permitted	200[c]
I-4	150	200[c]

For SI: 1 foot = 304.8 mm.

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	a. See the following sections for modifications to exit access travel distance requirements: Section 402.8: For the distance limitation in malls. ~~Section 404.9: For the distance limitation through an atrium space.~~ Section 407.4: For the distance limitation in Group I-2. Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3. Section 411.3: For the distance limitation in special amusement buildings. Section 412.6: For the distance limitations in aircraft manufacturing facilities. Section 1006.2.2.2: For the distance limitation in refrigeration machinery rooms. Section 1006.2.2.3: For the distance limitation in refrigerated rooms and spaces. Section 1006.3.3: For buildings with one exit. Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1. Section 1029.7: For increased limitation in assembly seating. Section 3103.4: For temporary structures. Section 3104.9: For pedestrian walkways. b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2. c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. d. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.1. e. Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3. **1017.3 Measurement.** Exit access travel distance shall be measured from the most remote point of each room, area or space along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit. **Exception:** In open parking garages, exit access travel distance is permitted to be measured to the closest riser of an exit access stairway or the closest slope of an exit access ramp. **1017.3.1 Exit access stairways and ramps.** Travel distance on exit access stairways or ramps shall be included in the exit access travel distance measurement. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stair and landings. The measurement along ramps shall be made on the walking surface in the center of the ramp and landings. **1017.3.2 Atriums.** Exit acess travel distance for areas open to an atrium shall comply with the requirements of this section.					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	1017.3.2.1 Egress not through the atrium. Where required access to the exits is not through the atrium, exit access travel distance shall comply with Section 1017.2. **1017.3.2.2 Exit access travel distance at the level of exit discharge.** Where the path of egress travel is through an atrium space, exit access travel distance at the level of exit discharge shall be determined in accordance with Section 1017.2. **1017.3.2.3 Exit access travel distance at other than the level exit discharge.** Where the path of egress travel is not at the level of exit discharge from the atrium, that portion of the total permitted exit access travel distance that occurs within the atrium shall be not greater than 200 feet (60 960 mm). **1028.1 General.** Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide a direct path of egress travel to grade. The exit discharge shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required exits. **Exceptions:** 1. Not more than 50 percent of the number and minimum width or required capacity of interior exit stairways and ramps is permitted to egress through areas, including atriums, on the level of discharge provided that all of the following conditions are met: 1.1. Discharge of interior exit stairways and ramps shall be provided with a free and unobstructed path of travel to an exterior exit door and such exit is readily visible and identifiable from the point of termination of the enclosure. 1.2. The entire area of the level of exit discharge is separated from areas below by construction conforming to the fire-resistance rating for the enclosure. 1.3. The egress path from the interior exit stairway and ramp on the level of exit discharge is protected throughout by an approved automatic sprinkler system. Portions of the level of exit discharge with access to the egress path shall be either equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	path in accordance with the requirements for the enclosure of interior exit stairways or ramps. 1.4. Where a required interior exit stairway or ramp and an exit access stairway or ramp serve the same floor level and terminate at the same level of exit discharge, the termination of the exit access stairway or ramp and the exit discharge door of the interior exit stairway or ramp shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the building, whichever is less. The distance shall be measured in a straight line between the exit discharge door from the interior exit stairway or ramp and the last tread of the exit access stairway or termination of slope of the exit access ramp. 2. Not more than 50 percent of the number and minimum width or required capacity of the interior exit stairways and ramps is permitted to egress through a vestibule provided that all of the following conditions are met: 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire-resistance rating of the interior exit stairway or ramp enclosure. 2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm). 2.3. The area is separated from the remainder of the level of exit discharge by a fire partition constructed in accordance with Section 708. **Exception**: The maximum transmitted temperature rise is not required. 2.4. The area is used only for means of egress and exits directly to the outside. 3. Horizontal exits complying with Section 1026 shall not be required to discharge directly to the exterior of the building.					
G32-18	**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.	X				Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	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 2 lowest stories shall be permitted to be open to the atrium 2.2. All stories above the lowest 2 stories shall be separated from the atrium in accordance with ~~Section 404.6~~ the provision for a shaft in Section 713.4.					
G33-18	**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 the framing system deflects without breaking (loading) the glass before the sprinkler system operates; and 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. 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. A horizontal assembly is not required between the atrium and openings for escalators complying with Section 712.1.3.	X				Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	6. 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.					
G34-18	**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 ~~or a 20-minute fire protective curtain assembly~~ is provided. The glass wall ~~or fire protective curtain assembly~~ shall comply with all of the following: 1.1. Automatic sprinklers are provided along both sides of the separation wall, ~~fire protective curtain assembly~~ 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 ~~or fire protective curtain assembly~~ not greater than 6 feet (1829 mm). The sprinkler system shall be designed so that the entire surface of the glass ~~or fire protective curtain assembly~~ 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; and ~~1.3. The fire protective curtain assembly shall be installed in accordance with Section 716.4 and shall be actuated in conjunction with the atrium smoke control system, and~~ ~~1.4.~~ 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. 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.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
G35-18	**404.9 Exit access travel distance.** Exit access travel distance for areas open to an atrium shall comply with the requirements of this section. **404.10~~.1~~ Exit ~~stairs~~ stairways in an atrium.** Where an atrium contains an interior exit stairway all the following shall be met: 1. The ~~exit stair~~ entry to the exit stairway is the edge of the closest riser of the exit stairway. 2. The entry of the exit stairway shall have access from a minimum of two directions. 3. The distance between the entry to an exit ~~stair~~ stairway in an atrium, and the entrance to a minimum of one exit ~~stair~~ stairway enclosed in accordance with Section 1023.2 shall comply with the separation in Section 1007.1.1. 4. Exit access travel distance ~~within the atrium~~ shall be measured to the ~~nosing~~ closest riser of the ~~landing at the top of the stair on each level served~~ exit stairway. 5. ~~At least one exit shall not~~ Not more than 50 percent of the exit stairways shall be located in the same atrium. **404.~~10~~11 Interior exit stairways discharge.** Not greater than 50 percent of interior exit stairways are permitted to egress through an atrium on the level of exit discharge in accordance with Section 1028.		X			Clarification
G36-18	**406.2.4 Floor surfaces.** Floor surfaces shall be of concrete or similar approved noncombustible and nonabsorbent materials. The area of floor used for the parking of automobiles or other vehicles shall be sloped to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway. The surface of vehicle fueling pads in motor fuel-dispensing facilities shall be in accordance with Section 406.7.1. **Exceptions:** 1. Asphalt parking surfaces shall be permitted at ground level for public parking garages and private carports. ~~2. Floors of Group S-2 parking garages shall not be required to have a sloped surface.~~ ~~3~~2. Slip-resistant, nonabsorbent, interior floor finishes having a critical radiant flux not more than 0.45 W/cm^2, as determined by ASTM E648 or NFPA 253, shall be permitted in repair garages.		X			Clarification
G39-18	**SECTION 202 DEFINITIONS**	X				Clarification

	202 MECHANICAL-ACCESS ENCLOSED PARKING GARAGE. An enclosed parking garage ~~other than single car stacking systems~~ , which employs parking machines, lifts, elevators or other mechanical devices for vehicle moving from and to street level and in which public occupancy in the garage is prohibited in all areas except the vehicle access bay. **406.6.4 Mechanical-access garages.** Mechanical-access enclosed parking garages shall be in accordance with Sections 406.6.4.1 through 406.6.4.5. **406.6.4.1 Separation.** Mechanical-access enclosed parking garages shall be separated from other occupancies and accessory uses by not less than 2-hour fire barriers constructed in accordance with Section 707 or by not less than 2-hour horizontal assemblies constructed in accordance with Section 711, or both. **406.6.4.2 Smoke removal.** A mechanical smoke removal system, in accordance with Section 910.4, shall be provided for all areas containing an ~~enclosed~~ mechanical-access ~~parking~~ enclosed parking garage. **406.6.4.3 Fire control equipment room.** The fire control equipment, consisting of the fire alarm control unit, mechanical ventilation controls and emergency shut down switch shall be provided in a room ~~with exterior access~~ located where the equipment is able to be accessed by the fire service from a secured exterior door of the building. The room shall be a minimum of 50 square feet in size and ~~location~~ shall be in a location that is approved by the fire code official. **406.6.4.4 ~~Firefighter~~ Fire department access doors.** Access doors shall be provided ~~at the ground level for firefighter access as approved by the fire code official~~ in accordance with Section 3206.7. **406.6.4.~~5~~ 3.1 Emergency shutdown switch.** ~~A~~ The mechanical parking system shall be provided with a manually activated emergency shutdown switch ~~shall be provided~~ for use by emergency personnel. The switch shall be clearly identified and shall be in a location approved by the fire code official. **SECTION 202** **GENERAL DEFINITIONS** **MECHANICAL-ACCESS ENCLOSED PARKING GARAGE.** An enclosed parking garage, ~~other than single car stacking system,~~ which employs parking machines, lifts, elevators or other mechanical devices for vehicle moving from and to street level and in which public occupancy in the garage is prohibited in all areas except the vehicle access bay. **903.2.10.2 Mechanical-access enclosed parking garages.** An approved automatic sprinkler system shall be provided throughout					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	buildings used for the storage of motor vehicles in a mechanical-access enclosed parking garage. The portion of the building that contains the mechanical-access enclosed parking garage shall be protected with a ~~performance-based design~~ specially engineered automatic sprinkler system.					
G40-18	**407.2.5 Nursing home housing units.** In Group I-2, Condition 1 occupancies, in areas where nursing home residents are housed, shared living spaces, group meeting or multipurpose therapeutic spaces shall be permitted to be open to the corridor, where all of the following criteria are met: 1. The walls and ceilings of the space are constructed as required for corridors. 2. The spaces are not occupied as resident sleeping rooms, treatment rooms, incidental uses in accordance with Section 509, or hazardous uses. 3. The open space is protected by an automatic fire detection system installed in accordance with Section 907. 4. The corridors onto which the spaces open, in the same smoke compartment, are protected by an automatic fire detection system installed in accordance with Section 907, or the smoke compartment in which the spaces are located is equipped throughout with quick-response sprinklers in accordance with Section 903.3.2. 5. The space is arranged so as not to obstruct access to the required exits. **407.2.6 Nursing home cooking facilities.** In Group I-2, Condition 1 occupancies, rooms or spaces that contain a cooking facility with domestic cooking appliances shall be permitted to be open to the corridor where all of the following criteria are met: 1. The number of care recipients housed in the smoke compartment shall not be greater than 30. 2. The number of care recipients served by the cooking facility shall not be greater than 30. 3. Not more than one cooking facility area shall be permitted in a smoke compartment. ~~4. The types of domestic cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves.~~ ~~5~~4. The corridor shall be a clearly identified space delineated by construction or floor pattern, material or color. ~~6~~5. The space containing the domestic cooking facility shall be arranged so as not to obstruct access to the required exit.		X			Clarifies and amends the requirements list for domestic cooking appliances and exhaust

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~7~~6. ~~Domestic cooking hoods installed and constructed in accordance with Section 505 of the International Mechanical Codeshall be provided over cooktops and ranges.~~ The cooking appliance shall comply with Section 407.2.7. ~~8. Cooktops and ranges shall be protected in accordance with Section 904.13.~~ ~~9. A shut-off for the fuel and electrical power supply to the cooking equipment shall be provided in a location that is accessible only to staff.~~ ~~10. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes.~~ ~~11. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906, and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance.~~ **407.2.7 Domestic cooking appliances.** In Group I-2 occupancies, installation of cooking appliances used in domestic cooking facilities shall comply with all of the following: 1. The types of cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves. 2. Domestic cooking hoods installed and constructed in accordance with Section 505 of the International Mechanical Code shall be provided over cooktops and ranges. 3. Cooktops and ranges shall be protected in accordance with Section 904.13. 4. A shut-off for the fuel and electrical power supply to the cooking equipment shall be provided in a location that is accessible only to staff. 5. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes. 6. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906, and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance. **904.13 Domestic cooking ~~systems~~ facilities.** Cooktops and ranges installed in the following occupancies shall be protected in accordance with Section 904.13.1:					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	1. In Group I-1 occupancies where domestic cooking facilities are installed in accordance with Section 420.8 of the International Building Code. 2. In Group I-2 ~~, Condition 1~~ occupancies where domestic cooking facilities are installed in accordance with Section ~~407.2.6~~ 407.2.7 of the International Building Code. 3. In Group R-2 college dormitories where domestic cooking facilities are installed in accordance with Section 420.10 of the International Building Code.					
G41-18	**407.2.6 Nursing home cooking facilities.** In Group I-2, Condition 1 occupancies, rooms or spaces that contain a cooking facility with domestic cooking appliances shall be permitted to be open to the corridor where all of the following criteria are met: 1. The number of care recipients housed in the smoke compartment shall not be greater than 30. 2. The number of care recipients served by the cooking facility shall not be greater than 30. 3. Not more than one cooking facility area shall be permitted in a smoke compartment. 4. The types of domestic cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves. 5. The corridor shall be a clearly identified space delineated by construction or floor pattern, material or color. 6. The space containing the domestic cooking facility shall be arranged so as not to obstruct access to the required exit. 7. Domestic cooking hoods installed and constructed in accordance with Section 505 of the International Mechanical Codeshall be provided over cooktops and ranges. 8. Cooktops and ranges shall be protected in accordance with Section 904.13. 9. A shut-off for the fuel and electrical power supply to the cooking equipment shall be provided in a location that is accessible only to staff. 10. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes. 11. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906, and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Exceptions: 1. Cooktops and ranges located within smoke compartments with no patient sleeping or patient care areas are not required to comply with this section. 2. Cooktops and ranges used for care recipient training or nutritional counseling are not required to comply with Item 8 of this section.					
G42-18	**407.3 Corridor wall construction.** *Corridor* walls shall be constructed as smoke partitions in accordance with Section 710. **407.3.1 Corridor doors.** *Corridor* doors, other than those in a wall required to be rated by Section 509.4 or for the enclosure of a vertical opening or an exit, shall not have a required *fire protection rating* and shall not be required to be equipped with *self-closing* or automatic-closing devices, but shall provide an effective barrier to limit the transfer of smoke and shall be equipped with positive latching. Roller latches are not permitted. Other doors shall conform to Section 716. **407.3.1.1 Door construction.** Doors in corridors not required to have a fire protection rating shall comply with the following: 1. Solid doors shall have close fitting operational tolerances, head and jamb stops. 2. Dutch style doors shall have an astragal, rabbet or bevel at the meeting edges of the upper and lower door sections. Both the upper and lower door sections shall have latching hardware. Dutch style door shall have hardware that connects the upper and lower sections to function as a single leaf. 3. To provide make-up air for exhaust systems in accordance with Section 1020.5, Exception1, doors are permitted to have louvers or to have a clearance between the bottom of the door and the floor surface that is 2/3 inches (19.1 mm) maximum. **710.5 Openings.** Openings in smoke partitions shall comply with Sections 710.5.1 and 710.5.2. **710.5.1 Windows.** Windows in smoke partitions shall be sealed to resist the free passage of smoke or be automatic-closing upon detection of smoke. **710.5.2 Doors.** Doors in smoke partitions shall comply with Sections 710.5.2.1 through 710.5.2.3.		X			Change for more consistency with federal guidelines

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	710.5.2.1 Louvers. Doors in smoke partitions shall not include louvers. **Exception:** Where permitted in accordance with Section 407.3.1.1.					
G43-18	**407.4.4.3 Access to corridor.** Every care suite shall have a door leading directly to an exit access corridor or horizontal exit. Movement from habitable rooms within the care suite shall not require more than 100 feet (30 480 mm) of travel within the care suite to a door leading to the exit access corridor or horizontal exit. Where a care suite is required to have more than one exit access door by Section 407.4.4.5.2 or 407.4.4.6.2, the additional door shall lead directly to an exit access corridor, ~~horizontal~~ exit or an adjacent suite. ~~**Exceptions**~~ **Exception:** ~~1.~~ The distance of travel shall be permitted to be increased to 125 feet (38 100 mm) where an automatic smoke detection system is provided throughout the care suite and installed in accordance with NFPA 72. ~~2. Where two or more exit access doors are required by Section 407.4.4.5.2 or 407.4.4.6.2, not more than one of the doors shall be permitted to be an exit door leading to an exit stairway, exit ramp, exit passageway, or an exterior exit door.~~		X			Clarification
G44-18	**Revise as follows:** **407.4.4.3 Access to corridor.** Movement from habitable rooms shall not require passage through more than three doors and 100 feet (30 480 mm) distance of travel within the suite. ~~**Exception:** The distance of travel shall be permitted to be increased to 125 feet (38 100 mm) where an automatic smoke detection system is provided throughout the *care suite* and installed in accordance with NFPA 72.~~			X	Minimal	Clarification
G46-18	**407.6 Automatic-closing doors.** Automatic-closing doors with hold-open devices shall comply with Sections 709.5 and 716.2. **407.6.1 Activation of automatic-closing doors.** Automatic-closing doors on hold-open devices in accordance with Section 716.2.6.6 shall also close upon activation of a fire alarm system, an automatic sprinkler system, or both. The automatic release of the hold open device on one door shall release all such doors within the same smoke compartment.			X	Minimal	Necessary addition for clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
G48-18	**[BG] SPECIAL AMUSEMENT ~~BUILDING.~~AREA.** A special amusement ~~building~~ area is any temporary or permanent building or portion thereof that is occupied for amusement, entertainment or educational purposes and ~~that contains a device or system that conveys passengers or provides a walkway along, around or over a course in any direction so arranged that the means of egress path is not readily apparent due to visual or audio distractions or is intentionally confounded or is not readily available because of the nature of the attraction or mode of conveyance through the building or structure.~~ is arranged in a manner that: 1. Makes the means of egress path not readily apparent due to visual or audio distractions. 2. Intentionally confounds identification of the means of egress path. 3. Otherwise makes the means of egress path not readily available because of the nature of the attraction or mode of conveyance through the building or structure. **PUZZLE ROOM** A puzzle room is a type of special amusement area in which occupants are encouraged to solve a challenge to escape from a room or series of rooms. **SECTION 411** **SPECIAL AMUSEMENT ~~BUILDINGS~~ AREAS** **411.1 General.** Special amusement ~~buildings~~ areas having an occupant load of 50 or more shall comply with the requirements for the appropriate Group A occupancy and Sections 411.1 through 411.7. Special amusement ~~buildings~~ areas having an occupant load of less than 50 shall comply with the requirements for a Group B occupancy and Sections 411.1 through 411.7. **Exception:** Special amusement ~~buildings~~ areas ~~or portions thereof~~ that are without walls or a roof and constructed to prevent the accumulation of smoke need not comply with this section. ~~For flammable decorative materials, see the International Fire Code.~~ ~~**[F] 411.2 Automatic fire detection.** Special amusement buildings shall be equipped with an automatic fire detection system in accordance with Section 907.~~			X	Minimal	Improvement of amusement area section

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	411.2 Automatic sprinkler system. Buildings containing special amusement areas shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where the special amusement area is temporary, the sprinkler water supply shall be of an approved temporary means. Exception: Automatic sprinklers are not required where the total floor area of a temporary special amusement area is less than 1,000 square feet (93 m^2) and the exit access travel distance from any point in the special amusement area to an exit is less than 50 feet (15 240 mm). **411.3 Fire alarm system.** Buildings containing special amusement areas shall be equipped with an automatic smoke detection system in accordance with 907.2.12. ~~**[F] 411.4 Alarm.** Actuation of a single smoke detector, the automatic sprinkler system or other automatic fire detection device shall immediately sound an alarm at the building at a constantly attended location from which emergency action can be initiated including the capability of manual initiation of requirements in Section 907.2.11.~~ ~~**[F] 411.5**~~ **411.4 Emergency voice/alarm communications system.** An emergency voice/alarm communications system shall be provided in accordance with Sections 907.2.11 ~~and 907.5.2.2, is permitted to serve as a public address system and shall be audible throughout the entire special amusement building.~~ **411.5 Puzzle room exiting.** Puzzle room exiting shall comply with one of the following: 1. Exiting in accordance with Chapter 10, 2. An alternative design approved by the building official.. 3. Exit shall be open and readily available upon activation by the automatic fire alarm system, automatic sprinkler system, and a manual control at a constantly attended location. **411.6 Exit marking.** Exit signs shall be installed at the required exit or exit access doorways ~~of~~ serving special amusement ~~buildings~~ areas in accordance with this section and Section 1013. Approved directional exit markings shall be provided. Where mirrors, mazes or other designs are utilized that disguise the path of egress travel such that they are not apparent, approved and listed low-level exit signs that comply with Section 1013.5, and directional path markings listed in accordance with UL 1994, shall be provided and located not more					

Table 1. 2021 IBC MEP Changes Cost Impact

CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						

than 8 inches (203 mm) above the walking surface and on or near the path of egress travel. Such markings shall become visible in an emergency. The directional exit marking shall be activated by the automatic ~~fire~~ smoke detection system and the automatic sprinkler system in accordance with Section 907.2.11.

411.6.1 Photoluminescent exit signs. Where photoluminescent exit signs are installed, activating light source and viewing distance shall be in accordance with the listing and markings of the signs.

411.7 Interior finish. The interior finish in special amusement areas shall be Class A in accordance with Section 803.1.

TABLE 1017.2
EXIT ACCESS TRAVEL DISTANCE[a]

OCCUPANCY	WITHOUT SPRINKLERSYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200[e]	250[b]
I-1	Not Permitted	250[b]
B	200	300[c]
F-2, S-2, U	300	400[c]
H-1	Not Permitted	75[d]
H-2	Not Permitted	100[d]
H-3	Not Permitted	150[d]
H-4	Not Permitted	175[d]
H-5	Not Permitted	200[c]
I-2, I-3	Not Permitted	200[c]
I-4	150	200[c]

For SI: 1 foot = 304.8 mm.

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	a. See the following sections for modifications to exit access travel distance requirements: Section 402.8: For the distance limitation in malls. Section 404.9: For the distance limitation through an space. Section 407.4: For the distance limitation in Group I-2. Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3. Section ~~411.3~~ 411.2: For the distance limitation in special amusement ~~buildings.~~areas. Section 412.6: For the distance limitations in aircraft manufacturing facilities. Section 1006.2.2.2: For the distance limitation in refrigeration machinery rooms. Section 1006.2.2.3: For the distance limitation in refrigerated rooms and spaces. Section 1006.3.3: For buildings with one exit. Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1. Section 1029.7: For increased limitation in assembly seating. Section 3103.4: For temporary structures. Section 3104.9: For pedestrian walkways. b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2. c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. d. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.1. e. Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3. **914.7 Special amusement ~~buildings.~~areas.** Special amusement ~~buildings~~ areas shall comply with Sections 914.7.1 and 914.7.2. **914.7.1 Automatic sprinkler system.** ~~Special~~ Buildings containing special amusement ~~buildings~~ areas shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where the special amusement ~~building~~ area is temporary, the sprinkler water supply shall be of an approved temporary means.					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exception: Automatic sprinklers are not required where the total floor area of a temporary special amusement ~~building~~ area is less than 1,000 square feet (93 m^2) and the exit access travel distance from any point in the special amusement area to an exit is less than 50 feet (15 240 mm). **914.7.2 Automatic smoke detection.** Special amusement ~~buildings~~ areas shall be equipped with an automatic smoke detection system in accordance with Section 907.2.11. **3103.3.1 Special amusement ~~building.~~area.** Tents and other membrane structures erected as a special amusement ~~building~~ area shall be equipped with an automatic sprinkler system in accordance with Section 411.3 of the International Building Code. **~~[BG]~~ A103.1.9.12 SP-12, Special amusement ~~building.~~area.** A temporary, permanent or mobile area, building or structure that is occupied for amusement, entertainment or educational purposes and that contains a device or system that conveys passengers or provides a walkway along, around or over a course, in any direction, so arranged that means of egress are not readily apparent because of visual or audible distractions, or are intentionally confounded, or are not readily available because of the nature of the attraction or the mode of conveyance through the building or structure. It shall be assumed that: 1. Occupants, visitors and employees are awake, alert, predominantly able to exit without the assistance of others and unfamiliar with the area, building or structure. 2. Risk of injury and risk to health assumed by occupants, visitors and employees during their use of the area, building or structure are predominantly involuntary and high. 3. Public expectations regarding the protection afforded those occupying, visiting or working in such ~~a~~ an area, building ~~,~~ or structure ~~or portion thereof~~ are high.					
G49-18	**415.6.1 ~~Liquid use, dispensing and mixing rooms and r~~Rooms for flammable or combustible liquid use, dispensing or mixing in open systems.** ~~Liquid use, dispensing and mixing rooms and r~~Rooms for flammable or combustible liquid use, dispensing or mixing in open systems, where vapors are emitted, having a floor area of not more than 500 square feet (46.5 m^2) need not be located on the outer perimeter of the building where they are in accordance with the International Fire Code and NFPA 30.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	415.6.2 Liquid storage rooms and rooms for flammable or combustible liquid use in closed systems. Liquid storage rooms and rooms for flammable or combustible liquid use in closed systems~~, where no vapors are emitted~~, having a floor area of not more than 1,000 square feet (93 m^2) need not be located on the outer perimeter where they are in accordance with the International Fire Code and NFPA 30. **507.8.1.1.1 ~~Liquid use, dispensing and mixing rooms and r~~Rooms for flammable or combustible liquid use, dispensing or mixing in open systems.** ~~Liquid use, dispensing and mixing rooms and r~~Rooms for flammable or combustible liquid use, dispensing or mixing in open systems~~, where vapors are emitted, and~~ having a floor area of not more than 500 square feet (46.5 m^2) need not be located on the outer perimeter of the building where they are in accordance with the International Fire Code and NFPA 30. **507.8.1.1.2 Liquid storage rooms and rooms for flammable or combustible liquid use in closed systems.** Liquid storage rooms and rooms for flammable or combustible liquid use in closed systems~~, where no vapors are emitted~~, having a floor area of not more than 1,000 square feet (93 m^2) need not be located on the outer perimeter where they are in accordance with the International Fire Code and NFPA 30.					
G52-18	**[F] ~~415.11.3.5~~415.11.4 Emergency alarm system.** Emergency alarm systems shall be provided in accordance with this section and Sections 415.5.1 and ~~415.5.2.~~ 415.5.2. The maximum allowable quantity per control area provisions shall not apply to emergency alarm systems required for HPM. **[F] ~~415.11.3.5.1~~ 415.11.4.1 Service corridors.** An emergency alarm system shall be provided in service corridors, with not fewer than one alarm device in each service corridor. **[F] ~~415.11.3.5.2~~ 415.11.4.2 Corridors and interior exit stairways and ramps.** Emergency alarms for corridors, interior exit stairways and ramps and exit passageways shall comply with Section ~~415.5.2.~~ 415.5.2. **[F] ~~415.11.3.5.3~~ 415.11.4.3 Liquid storage rooms, HPM rooms and gas rooms.** Emergency alarms for liquid storage rooms, HPM rooms and gas rooms shall comply with Section ~~415.5.1.~~415.5.1.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	[F] ~~415.11.3.5.4~~ 415.11.4.4 Alarm-initiating devices. An approved emergency telephone system, local alarm manual pull stations, or other approved alarm-initiating devices are allowed to be used as emergency alarm-initiating devices. **[F] ~~415.11.3.5.5~~ 415.11.4.5 Alarm signals.** Activation of the emergency alarm system shall sound a local alarm and transmit a signal to the emergency control station.					
G55-18	**420.7 Group I-1 assisted living housing units.** In Group I-1 occupancies, where a fire-resistance corridor is provided in areas where assisted living residents are housed, shared living spaces, group meeting or multipurpose therapeutic spaces open to the corridor shall be in accordance with all of the following criteria: 1. The walls and ceilings of the space are constructed as required for corridors. 2. The spaces are not occupied as resident sleeping rooms, treatment rooms, incidental uses in accordance with Section 509, or hazardous uses. 3. The open space is protected by an automatic fire detection system installed in accordance with Section 907. 4. In Group I-1, Condition 1, the corridors onto which the spaces open are protected by an automatic fire detection system installed in accordance with Section 907, or the spaces are equipped throughout with quick-response sprinklers in accordance with Section 903.3.2. 5. In Group I-1, Condition 2, the corridors onto which the spaces open, in the same smoke compartment, are protected by an automatic fire detection system installed in accordance with Section 907, or the smoke compartment in which the spaces are located is equipped throughout with quick-response sprinklers in accordance with Section 903.3.2. 6. The space is arranged so as not to obstruct access to the required exits. **420.8 Group I-1 cooking facilities.** In Group I-1 occupancies, rooms or spaces that contain a cooking ~~facilities~~ facility with domestic cooking appliances shall ~~be in accordance with~~ be permitted to be open to the corridor where all of the following criteria are met: 1. In Group I-1, Condition 1 occupancies, the number of care recipients served by one cooking facility shall not be greater than 30.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	2. In Group I-1, Condition 2 occupancies, the number of care recipients served by one cooking facility and within the same smoke compartment shall not be greater than 30. ~~3. The types of domestic cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves.~~ ~~4~~3. The space containing the ~~domestic~~ cooking facilities shall be arranged so as not to obstruct access to the required exit. ~~5~~4. ~~Domestic cooking hoods installed and constructed in accordance with Section 505 of the International Mechanical Code shall be provided over cooktops or ranges.~~ The cooking appliances shall comply with Section 420.9. ~~6. Cooktops and ranges shall be protected in accordance with Section 904.13.~~ ~~7. A shutoff for the fuel and electrical supply to the cooking equipment shall be provided in a location that is accessible only to staff.~~ ~~8. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes.~~ ~~9. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906 and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance.~~ ~~**420.8.1 Cooking facilities open to the corridor.** Cooking facilities located in a room or space open to a corridor, aisle or common space shall comply with Section 420.8.~~ **420.9 Domestic cooking appliances.** In Group I-1 occupancies, installation of cooking appliance used in domestic cooking facilities shall comply with all of the following: 1. The types of cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves. 2. Domestic cooking hoods installed and constructed in accordance with Section 505 of the International Mechanical Code shall be provided over cooktops or ranges. 3. Cooktops and ranges shall be protected in accordance with Section 904.13. 4. A shutoff for the fuel and electrical supply to the cooking equipment shall be provided in a location that is accessible only to staff.					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	5. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes. 6. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906 and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance. **904.13 Domestic cooking ~~systems.~~facilities.** Cooktops and ranges installed in the following occupancies shall be protected in accordance with Section 904.13.1: 1. In Group I-1 occupancies where domestic cooking facilities are installed in accordance with Section ~~420.8~~ 420.9 of the International Building Code. 2. In Group I-2, Condition 1 occupancies where domestic cooking facilities are installed in accordance with Section 407.2.6 of the International Building Code. 3. In Group R-2 college dormitories where domestic cooking facilities are installed in accordance with Section 420.10 of the International Building Code.					
G56-18	**420.8 Group I-1 cooking facilities.** In Group I-1 occupancies, rooms or spaces that contain cooking facilities with domestic cooking appliances shall be in accordance with all of the following criteria: 1. In Group I-1, Condition 1 occupancies, the number of care recipients served by one cooking facility shall not be greater than 30. 2. In Group I-1, Condition 2 occupancies, the number of care recipients served by one cooking facility and within the same smoke compartment shall not be greater than 30. 3. The types of domestic cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves. 4. The space containing the domestic cooking facilities shall be arranged so as not to obstruct access to the required exit. 5. Domestic cooking hoods installed and constructed in accordance with Section 505 of the International Mechanical Codeshall be provided over cooktops or ranges. 6. Cooktops and ranges shall be protected in accordance with Section 904.13. 7. A shutoff for the fuel and electrical supply to the cooking equipment shall be provided in a location that is accessible only to staff.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	8. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes. 9. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906 and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance. **Exceptions:** 1. Cooking facilities provided within care recipient's individual dwelling units are not required to comply with this section. 2. Cooktops and ranges used for care recipient training or nutritional counseling are not required to comply with Item 6 of this section.					
G58-18	**422.1 General.** Occupancies classified as *ambulatory care facilities* shall comply with the provisions of Sections 422.1 through ~~422.6~~ 422.7 and other applicable provisions of this code. **422.7 Domestic cooking.** Installation of cooking appliances used in domestic cooking facilities shall comply with all of the following: 1. The types of cooking appliances permitted are limited to ovens, cooktops, ranges, warmers and microwaves 2. Domestic cooking hoods installed and constructed in accordance with Section 505 of the International Mechanical Code shall be provided over cooktops or ranges. 3. A shutoff for the fuel and electrical supply to the cooking equipment shall be provided in a location that is accessible only to staff. 4. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes. 5. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906 and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance.			X	Minimal	Update based on federal health care standards

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
G59-18	**SECTION 423** **STORM SHELTERS** **423.1 General.** This section applies to the construction of storm shelters constructed as separate detached buildings or constructed as rooms or spaces within buildings for the purpose of providing protection from storms that produce high winds, such as tornadoes and hurricanes during the storm. ~~Such structures shall be designated to be hurricane shelters, tornado shelters, or combined hurricane and tornado~~ This section specifies where storm shelters are required and provides requirements for the design and construction of storm shelters. Design of facilities for use as emergency shelters after the storm are outside the scope of ICC 500 and shall comply with Table 1604.5 as a Risk Category IV Structure. **423.2 Construction.** ~~In addition to other applicable requirements in this code, storm~~ Storm shelters shall be constructed in accordance with ~~ICC 500.~~ this code and ICC 500, and shall be designated as hurricane shelters, tornado shelters, or combined hurricane and tornado shelters. Buildings or structures that are also designated as emergency shelters shall also comply with Table 1604.5 as Risk Category IV structures. Any storm shelter not required by this section shall be permitted to be constructed provided such structures meet the requirements of this code and ICC 500. **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 an occupant load 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.		X			Improves coordination between the code and storm shelter standard

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	423.3.2 Storm shelters within host buildings. Where designated storm shelters are constructed as a room or space within a host building which will normally be occupied for other purposes, 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.					
G65-18	**423.4.1 Required occupant capacity.** The required occupant capacity of the storm shelter shall include all of the buildings on the site and shall be the greater of the following: The total occupant load of the classrooms, vocational rooms and offices in the Group E occupancy. The occupant load of ~~any~~ the largest indoor assembly space that is associated with the Group E occupancy. **Exceptions:** 1. Where a new building is being added on an existing Group E site, and where the new building is not of sufficient size to accommodate the required occupant capacity of the storm shelter for all of the buildings on the site, the storm shelter shall at a minimum accommodate the required occupant capacity for the new building. 2. Where approved by the code official, the required occupant capacity of the shelter shall be permitted to be reduced by the occupant capacity of any existing storm shelters on the site.		X			Clarification
G66-18	**424.2 Materials.** Play structures shall be constructed of noncombustible materials or of combustible materials that comply with the following: *Items 1 through 9 are unchanged by the modifications*. 10. Interior finishes for structures exceeding 600 ~~300~~ square feet (56 ~~28~~ m^2) in area or 10 feet (3048 mm) in height shall have a flame spread index not greater than that specified in Table 803.13 for the occupancy group and location designated. Interior wall and ceiling finish materials tested in accordance with NFPA 286 and meeting the acceptance criteria of Section 803.1.1.1, shall be permitted to be used where a Class A classification in accordance with ASTM E84 or UL 723 is required. **424.5.1 Design.** Play structures exceeding ~~300~~ 600 square feet (56 ~~28~~ m^2) in area or 10 feet (3048 mm) in height shall be designed in accordance with ~~Section 1601.1~~ Chapter 16.			X	Minimal	Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
G68-18	**424.5 Area limits.** Children's play structures ~~complying with Section 424.2~~ shall be not greater than 600 square feet (56 m^2) in area, unless a special investigation, acceptable to the building official, has demonstrated adequate fire safety.	X				Clarification
G69-18	**[F] 426.1 General.** The provisions of Sections 426.1.1 through 426.1.7 shall apply to buildings in which materials that produce combustible dusts are stored or handled. Buildings that store or handle combustible dusts shall comply with the applicable provisions of the International Fire Code. Where required by the fire code official, NFPA 652 and the applicable provisions of NFPA 61, NFPA 85, NFPA 120, NFPA 484, NFPA 654, NFPA 655 and NFPA 664 ~~and the International Fire Code.~~shall apply.	X				Clarification
G73-18	**503.1.4 Occupied roofs.** A roof level or portion thereof shall be permitted to be used as an occupied roof provided the occupancy of the roof is an occupancy that is permitted by Table 504.4 for the story immediately below the roof. The area of the occupied roofs shall not be included in the building area as regulated by Section 506. **Exceptions:** 1. The occupancy located on an occupied roof shall not be limited to the occupancies allowed on the story immediately below the roof where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and occupant notification ~~where required by~~ in accordance with Sections 907.5.2.1 and 907.5.2.3 is provided in the area of the occupied roof. Emergency voice/alarm communication system notification per Section 907.5.2.2 shall also be provided in the area of the occupied 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.		X			Clarification
G75-18	In Table 503.4, the value under Type IV A construction is to be 180 instead of 270 and the value under Type IV B construction is to be 120 instead of 180.		X			Clarification
G77-18	**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.		X			Clarification
G78-18	In Table 504.4, the S-1 row for Sprinklered buildings (S), 3 hours has been changed to 4 hours in the column under Type IIIB construction.	X				Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
G80-18	**TABLE 504.4 ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE**		X			Clarification
G81-18	**TABLE 504.4 ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE** **TABLE 506.2 ALLOWABLE AREA FACTOR (At = NS, S1, S13R, S13D OR SM, as applicable) IN SQUARE FEET**	X				Clarification
G83-18	**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.~~		X			Clarification
G84-18	**TABLE 506.2 ALLOWABLE AREA FACTOR (At = NS, S1, S13R, S13D OR SM, as applicable) IN SQUARE FEET**		X			Clarification
G85-18	**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: Aa = At + (NS × If) **(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.		X			Clarification

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		Decrease	None	Increase		
Sub Code:						
	= Tabular allowable area factor in accordance with Table 506.2 for 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 shall be determined by Equation 5-1. The <u>total</u> allowable area ~~per story~~ 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. = 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 ~~a floor~~ <u>each story</u> of a mixed-occupancy building shall be determined in accordance with the applicable provisions of Section 508.3.2 for non separated occupancies and 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. Aa = [At + (NS × If)] (Equation 5-3)					

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CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	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. = 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.					
G86-18	**Modify as follows:** **2018 International Building Code** **506.3 Frontage increase.** Every building shall adjoin or have access to a public way to receive an area factor increase based on frontage. Area factor increase shall be determined in accordance with Sections 506.3.1 through 506.3.3. **506.3.1 Minimum percentage of perimeter.** To qualify for an area factor increase based on frontage, a building shall have not less than 25 percent of its perimeter on a public way or open space. Such open space shall be either on the same lot or dedicated for public use and shall be accessed from a street or approved fire lane. **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 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.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	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. **506.3.3 Amount of increase.** The area factor increase based on frontage shall be determined in accordance with Table 506.3.3. **TABLE 506.3.3** **FRONTAGE INCREASE FACTOR** **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. **TABLE 506.3.3.1** **SECTION 507 BUILDINGS**					
G88-18	**TABLE 508.4** **REQUIRED SEPARATION OF OCCUPANCIES (HOURS)**		X			Clarification
G89-18	**508.4.4.1 Construction.** Required separations shall be fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. Mass timber elements serving as fire barriers or horizontal assemblies to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the building with an approved thermal barrier consisting of a minimum of $^1/_2$ inch (12.7 mm) gypsum board or a ~~noncombustible equivalent~~ material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275. **509.4.1.1 Type IV-B and IV-C construction.** Where Table 509 specifies a fire-resistance-rated separation, mass timber elements serving as fire barriers or a horizontal assembly in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an approved thermal barrier consisting of a minimum of ½ inch (12.7 mm) gypsum board or a ~~noncombustible equivalent~~ material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275. *(Portions of proposal not shown are not modified.)*		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
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		Decrease	**None**	**Increase**		
Sub Code:						
G90-18	~~**SECTION 419**~~ ~~**LIVE/WORK UNITS**~~ **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 ~~or~~ , 508.4, 508.5, or a combination of these sections. **Exceptions:** 1. Occupancies separated in accordance with Section 510. 2. Where required by Table 415.6.2, areas of Group H-1, H-2 and H-3 occupancies shall be located in a detached building or structure. ~~3. Uses within live/work units, complying with Section 419, are not considered separate occupancies.~~ ~~**419.1**~~ **508.5** ~~**General**~~ **Live/Work Units.** A live/work unit shall comply with Sections ~~419.1~~ 508.5 through ~~419.9.~~508.5.11. **Exception:** Dwelling or sleeping units that include an office that is less than 10 percent of the area of the dwelling unit are permitted to be classified as dwelling units with accessory occupancies in accordance with Section 508.2. ~~**419.1.1**~~ **508.5.1 Limitations.** All of the following shall apply to live/work areas: 1. The live/work unit is permitted to be not greater than 3,000 square feet (279 m^2) in area. 2. The nonresidential area is permitted to be not more than 50 percent of the area of each live/work unit. 3. The nonresidential area function shall be limited to the first or main floor only of the live/work unit. 4. Not more than five nonresidential workers or employees are allowed to occupy the nonresidential area at any one time.		X			Clarification

	~~419.2~~ 508.5.2 **Occupancies.** Live/work units shall be classified as a Group R-2 occupancy. Separation requirements found in Sections 420 and 508 shall not apply within the live/work unit where the live/work unit is in compliance with Section ~~419.~~ 508.5. Nonresidential uses that would otherwise be classified as either a Group H or S occupancy shall not be permitted in a live/work unit. **Exception:** Storage shall be permitted in the live/work unit provided that the aggregate area of storage in the nonresidential portion of the live/work unit shall be limited to 10 percent of the space dedicated to nonresidential activities. ~~419.3~~ 508.5.3 **Means of egress.** Except as modified by this section, the means of egress components for a live/work unit shall be designed in accordance with Chapter 10 for the function served. ~~419.3.1~~ 508.5.4 **Egress capacity.** The egress capacity for each element of the live/work unit shall be based on the occupant load for the function served in accordance with Table 1004.5. ~~419.3.2~~ 508.5.5 **Spiral stairways.** Spiral stairways that conform to the requirements of Section 1011.10 shall be permitted. ~~419.4~~ 508.5.6 **Vertical openings.** Floor openings between floor levels of a live/work unit are permitted without enclosure. ~~[F] 419.5~~ 508.5.7 **Fire protection.** The live/work unit shall be provided with a monitored fire alarm system where required by Section 907.2.9 and an automatic sprinkler system in accordance with Section 903.2.8. ~~419.6~~ 508.5.8 **Structural.** Floors within a live/work unit shall be designed for the live loads in Table 1607.1, based on the function within the space. ~~419.7~~ 508.5.9 **Accessibility.** Accessibility shall be designed in accordance with Chapter 11 for the function served. ~~419.8~~ 508.5.10 **Ventilation.** The applicable ventilation requirements of the International Mechanical Code shall apply to each area within the live/work unit for the function within that space. ~~419.9~~ 508.5.11 **Plumbing facilities.** The nonresidential area of the live/work unit shall be provided with minimum plumbing facilities as specified by Chapter 29, based on the function of the nonresidential area. Where the nonresidential area of the live/work unit is required to be accessible by Section 1107.6.2.1, the plumbing fixtures specified by Chapter 29 shall be accessible.					

Table 1. 2021 IBC MEP Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC MEP CHANGE SUMMARY</th><th colspan="3">IBC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td>G92-18</td><td>[F] TABLE 509
INCIDENTAL USES

<table><tr><th>ROOM OR AREA</th><th>SEPARATION AND/OR PROTECTION</th></tr><tr><td>Furnace room where any piece of equipment is over 400,000 Btu perhour input</td><td>1 hour or provide automatic sprinkler system</td></tr><tr><td>Rooms with boilers where the largest piece of equipment is over 15psi and 10 horsepower</td><td>1 hour or provide automatic sprinkler system</td></tr><tr><td>Refrigerant machinery room</td><td>1 hour or provide automatic sprinkler system</td></tr><tr><td>Hydrogen fuel gas rooms, not classified as Group H</td><td>1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E,I and R occupancies.</td></tr><tr><td>Incinerator rooms</td><td>2 hours and provide automatic sprinkler system</td></tr><tr><td>Paint shops, not classified as Group H, located in occupancies otherthan Group F</td><td>2 hours; or 1 hour and provide automatic sprinkler system</td></tr><tr><td>In Group E occupancies, laboratories and vocational shops notclassified as Group H</td><td>1 hour or provide automatic sprinkler system</td></tr><tr><td>In Group I-2 occupancies, laboratories not classified as Group H</td><td>1 hour and provide automatic sprinkler system</td></tr><tr><td>In ambulatory care facilities, laboratories not classified as Group H</td><td>1 hour or provide automatic sprinkler system</td></tr></table></td><td>X</td><td></td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 1. 2021 IBC MEP Changes Cost Impact							
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY		IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
			Decrease	None	Increase		
Sub Code:							
	Laundry rooms over 100 square feet	1 hour or provide automatic sprinkler system					
	In Group I-2, laundry rooms over 100 square feet	1 hour					
	Group I-3 cells and Group I-2 patient rooms equipped with paddedsurfaces	1 hour					
	In Group I-2, physical plant maintenance shops	1 hour					
	In ambulatory care facilities or Group I-2 occupancies, waste andlinen collection rooms with containers that have an aggregate volume of 10 cubic feet or greater	1 hour					
	In other than ambulatory care facilities and Group I-2 occupancies, waste and linen collection rooms over 100 square feet	1 hour or provide automatic sprinkler system					
	In ambulatory care facilities or Group I-2 occupancies, storage rooms greater than 100 square feet	1 hour					
	~~Stationary storage battery systems having an energy capacity greater than the threshold quantity specified in Table 1206.2 of the International Fire Code~~	~~1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies.~~					
	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.					

Table 1. 2021 IBC MEP Changes Cost Impact						
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Sub Code:						
	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.					
G95-18	**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 all of the following conditions are met: 1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 3 hours. Where vertical offsets are provided as part of a *horizontal assembly*, the vertical offset and the structure supporting the vertical offset shall have a *fire-resistance rating* of not less than 3 hours. 2. The building below, including the *horizontal assembly*, 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: 1. The building above the *horizontal assembly* is not required to be of Type I construction; 2. The enclosure connects fewer than four *stories*; and 3. The enclosure opening protectives above the *horizontal assembly* have a *fire protection rating* of not less than 1 hour. <u>4. Interior exit stairways located within the Type IA building are permitted to be of combustible materials where both of the following requirements are met:</u> <u>4.1. The building above the Type IA building is of Type III, IV, or V construction.</u> <u>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.</u>	X				Clarification

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		Decrease	**None**	**Increase**		
Sub Code:						
	5. The building or buildings above the *horizontal assembly* shall be permitted to have multiple Group A occupancy uses, each with an *occupant load* of less 300, or Group B, M, R or S occupancies. ~~5.~~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. ~~6.~~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*. **1011.7 Stairway construction.** *Stairways* shall be built of materials consistent with the types permitted for the type of construction of the building, except that wood *handrails shall be permitted for all types of construction*. **Exceptions:** 1. Wood handrails shall be permitted in all types of construction. 2. Interior exit stairway in accordance with Section 510.2 **1023.2 Construction.** Enclosures for interior exit *stairways* and *ramps* shall be constructed as *fire barriers* in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. *Interior exit stairway* and *ramp* enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the interior exit *stairways* or *ramps* shall include any *basements*, but not any *mezzanines*. *Interior exit stairways* and *ramps* shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. **Exceptions:** 1. *Interior exit stairways* and *ramps* in Group I-3 occupancies in accordance with the provisions of Section 408.3.8. 2. *Interior exit stairways* within an *atrium* enclosed in accordance with Section 404.6. 3. Interior exit stairway in accordance with Section 510.2.					
G96-18	**510.3 Group S-2 enclosed parking garage with Group S-2 open parking garage above.** A Group S-2 enclosed parking garage with not more than one *story above grade plane* and located below a Group S-2 open *parking garage* shall be classified as a separate and distinct	X				Clarification

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		Decrease	None	Increase		
Sub Code:						
	building for the purpose of determining the type of construction where all of the following conditions are met: 1. The allowable area of the building shall be such that the sum of the ratios of the actual area divided by the allowable area for each separate occupancy shall not exceed 1. 2. The Group S-2 enclosed parking garage is of Type I or II construction and is at least equal to the *fire-resistance*requirements of the Group S-2 *open parking garage*. 3. The height and the number of tiers of the Group S-2 *open parking garage* shall be limited as specified in Table 406.5.4. 4. The floor assembly separating the Group S-2 enclosed parking garage and Group S-2 *open parking garage* shall be protected as required for the floor assembly of the Group S-2 enclosed parking garage. Openings between the Group S-2 enclosed parking garage and Group S-2 *open parking garage*, except *exit* openings, shall not be required to be protected. 5. The Group S-2 enclosed parking garage is used exclusively for the parking or storage of private motor vehicles, but shall be permitted to contain an office, waiting room and toilet room having a total area of not more than 1,000 square feet (93 m^2) and mechanical equipment rooms ~~incidental to~~ associated with the operation of the building.					
G98-18	**Revise as follows:** **510.5 Group R-1 and R-2 buildings of Type IIIA construction.** ~~The height limitation for~~ For buildings of Type IIIA construction in Groups R-1 and R-2 the maximum allowable height in Table 504.3 shall be increased ~~to six stories and 75 feet (22 860 mm)~~ by 10 feet and the maximum allowable number of stories in Table 504.4 shall be increased by one where the first floor assembly above the basement 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 m2).		X			Clarification
G99-18	**510.8 Group B or M buildings with Group S-2 open parking garage above.** Group B or M occupancies located below a Group S-2*open parking garage* of a lesser type of construction shall be considered as a separate and distinct building from the Group S-2 *open parking garage* for the purpose of determining the type of construction where all of the following conditions are met: 1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 2 hours.	X				Clarification

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		Decrease	**None**	**Increase**		
Sub Code:						
	2. The occupancies in the building below the *horizontal assembly* are limited to Groups B and M. 3. The occupancy above the *horizontal assembly* is limited to a Group S-2 *open parking garage*. 4. The building below the *horizontal assembly* is of Type IA construction. **Exception:** The building below the *horizontal assembly* shall be permitted to be of Type IB or II construction, but not less than the type of construction required for the Group S-2 *open parking garage* above, where the building below is not greater than *one story* in height above grade plane. 5. The height and area of the building below the *horizontal assembly* does not exceed the limits set forth in Section 503. 6. The height and area of the Group S-2 *open parking garage* does not exceed the limits set forth in Section 406.5. The height, in both feet and *stories*, of the Group S-2 *open parking garage* shall be measured from *grade plane* and shall include the building below the *horizontal assembly*. 7. *Exits* serving the Group S-2 *open parking garage* ~~discharge directly~~ shall discharge at grade with direct and unobstructed access to a street or *public way* and are separated from the building below the *horizontal assembly* by 2-hour *fire barriers* constructed in accordance with Section 707 or 2-hour horizontal assemblies constructed in accordance with Section 711, or both.					
G103-18	**[BG] PRIMARY STRUCTURAL FRAME.** The primary structural frame shall include all of the following structural members: 1. The columns. 2. Structural members having direct connections to the columns, including girders, beams, trusses and spandrels. 3. Members of the floor construction and roof construction having direct connections to the columns. 4. ~~Bracing members~~ Members that are essential to the vertical stability of the primary structural frame under gravity ~~loading shall be considered part of the primary structural frame whether or not the bracing member carries gravity loads.~~loading.		X			Clarification

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		Decrease	None	Increase		
Sub Code:						
	[BG] SECONDARY <u>STRUCTURAL</u> MEMBERS. The following structural members shall be considered secondary members and not part of the primary structural frame: 1. Structural members not having direct connections to the columns. 2. Members of the floor construction and roof construction not having direct connections to the columns. 3. Bracing members ~~other than those~~ that are <u>not designated as</u> part of ~~the~~ <u>a</u> primary structural frame <u>of bearing wall.</u> **TABLE 601** **FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)** **704.4 Protection of secondary <u>structural</u> members.** Secondary <u>structural</u> members that are required to have protection to achieve a fire-resistance rating shall be protected by individual encasement protection.					
G108-18	**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 or 703.3. 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 703.8 and comply with 722.7. Cross-laminated timber shall be labeled as conforming to <u>PRG 320 - 18 as referenced in Section 2303.1.4.</u> ~~the heat performance requirements of Section 6.1.3.4 of DOC PS1 and have no delamination in any specimen, except where occurring at a localized characteristic when permitted in the product standard.~~ Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
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		Decrease	None	Increase		
Sub Code:						
	Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT Construction in accordance with Section 602.4.4 **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 as determined in Section 722.7.1. All 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 E 84 or UL 723. The ASTM E 1354 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. **602.4.1.2.1 Protection time.** Noncombustible protection shall contribute a time equal to or greater than times assigned in Table 722.7.1(1~~a~~), but not less than 80 minutes. The use of materials and their respective protection contributions listed in Table 722.7.1(2~~b~~) shall be permitted to be used for compliance with Section 722.7.1. **602.4.2.1 Exterior protection.** The outside face of exterior walls of mass timber construction shall be protected with non-combustible protection with a minimum assigned time of 40 minutes as determined in Section 722.7.1~~(a)~~. All 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 E 84 or UL 723. The ASTM E 1354 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. **602.4.2.2.1 Protection time.** Noncombustible protection shall contribute a time equal to or greater than times assigned in Table 722.7.1(1~~a~~), but not less than 80 minutes. The use of materials and their respective protection contributions listed in Table 722.7.1(2~~b~~) shall be permitted to be used for compliance with Section 722.7.1.					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with non-combustible protection with a minimum assigned time of 40 minutes as determined in Section 722.7.1~~(a)~~. All 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 E 84 or UL 723. The ASTM E 1354 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. **602.4.3.5 Concealed spaces.** Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the International Mechanical Code, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with noncombustible protection with a minimum assigned time of 40 minutes as determined in Section 722.7.1~~(a)~~. **602.4.3.6 Shafts.** Shafts shall be permitted in accordance with Section 713 and Section 718. Shafts and elevator hoistway and interior exit stairway enclosures shall be protected with noncombustible protection with a minimum assigned time of 40 minutes as determined in Section 722.7.1~~(a)~~, on both the inside of the shaft and the outside of the shaft.					
G109-18	**602.4.3 Concealed spaces.** Concealed spaces shall not contain combustible materials other that building elements and electrical, mechanical, fireprotection, or plumbing materials and equipment <u>permitted in plenums in accordance with Section 602 of the International Mechanical code</u>. Concealed spaces.....		X			Clarification
G110-18	**602.4.1 Fire-retardant-treated wood in exterior walls.** Fire-retardant-treated wood framing and sheathing complying with Section 2303.2 shall be permitted within exterior wall assemblies ~~not less than 6 ianches (152 mm) in thickness~~ with a 2-hour rating or less. **602.4.2 Cross-laminated timber in exterior walls.** Cross-laminated timber <u>not less than 4 inches (102 mm) in thickness</u> complying with Section 2303.1.4 shall be permitted within exterior wall assemblies ~~not less than 6 inches (152 mm) in thickness~~ with a 2-hour rating or		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	less, provided the exterior surface of the cross-laminated timber is protected by one the following: 1. Fire-retardant-treated wood sheathing complying with Section 2303.2 and not less than $^{15}/_{32}$ inch (12 mm) thick; 2. Gypsum board not less than $^{1}/_{2}$ inch (12.7 mm) thick; or 3. A noncombustible material.					
G111-18	**602.4.2 Cross-laminated timber in exterior walls.** Cross-laminated timber complying with Section 2303.1.4 shall be permitted within exterior wall assemblies not less than 6 inches (152 mm) in thickness with a 2-hour rating or ~~less, provided the~~ less. Heavy timber structural members appurtenant to the CLT exterior wall shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the exterior wall. The exterior surface of the cross-laminated ~~timber is~~ timber and heavy timber elements shall be protected by one the following: 1. Fire-retardant-treated wood sheathing complying with Section 2303.2 and not less than $^{15}/_{32}$ inch (12 mm) thick; 2. Gypsum board not less than $^{1}/_{2}$ inch (12.7 mm) thick; or 3. A noncombustible material.		X			Clarification
G112-18	**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* 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 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. **Exception:** 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).			X	Minimal	Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	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. 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, 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.					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	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 602.4.3 and 705.2.3.1. 20. Aggregates, component materials and admixtures as permitted by Section 703.2.2. 21. Sprayed fire-resistant materials and intumescent and mastic fire-resistant coatings, determined on the basis of *fire resistance* tests in accordance with Section 703.2 and installed in accordance with Sections 1705.14 and 1705.15, 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.					
G113-18	**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 shall be permitted in: 1.1. Nonbearing partitions where the required fire-resistance rating is 2 hours or less. 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).			X	Minimal	Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	2. Group I-2, ~~combustible~~ roof construction <u>containing fire-retardant-treated-wood</u> shall be covered by minimum of a Class A roof covering or roof assembly, and ~~shall be separated from the story below by a horizontal assembly with~~ <u>the roof assembly shall have</u> a fire-resistance rating ~~of not less than 2 hours~~<u>if required by the construction type</u>. 1.4. Balconies, porches, decks and exterior stairways not used as required exits on buildings three stories or less above g rade 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. 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, 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.					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	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 602.4.3 and 705.2.3.1. 20. Aggregates, component materials and admixtures as permitted by Section 703.2.2. 21. Sprayed fire-resistant materials and intumescent and mastic fire-resistant coatings, determined on the basis of fire resistance tests in accordance with Section 703.2 and installed in accordance with Sections 1705.14 and 1705.15, 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.					
G114-18	**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 shall be permitted in: 1.1. Nonbearing partitions where the required fire-resistance rating is 2 hours or less. 1.2. Nonbearing exterior walls where fire-resistance-rated construction is not required.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	1.3. Roof construction, including girders, trusses, framing and decking. **Exception:** 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). 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. 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, 1-hour fire-resistance-rated construction or of wood panels or similar light construction up to 6 feet (1829 mm) in height.					

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	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 602.4.3 and 705.2.3.1. 20. Aggregates, component materials and admixtures as permitted by Section 703.2.2. 21. Sprayed fire-resistant materials and intumescent and mastic fire-resistant coatings, determined on the basis of fire resistance tests in accordance with Section 703.2 and installed in accordance with Sections 1705.14 and 1705.15, 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. 27. Wood nailers for parapet flashing and roof cants.					
G119-18	**VAPOR DIFFUSION PORT.** An assembly constructed or installed within a roof assembly at an opening in the roof deck to convey water vapor from an unvented attic to the outside atmosphere. **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	X				Allows for the use of lower cost alternatives

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	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 ~~be located in accordance with the following:~~<u>comply with either Item 5.1 or 5.2, and additionally Item 5.3</u> 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-values 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-values 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					

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		Decrease	None	Increase		
Sub Code:						
	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. 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 (305mm) 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 ≥ 1:600 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 ≥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 ≥3:12 (vertical/horizontal). 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 ≥50 CFM (23.6 L/s) per 1000 ft^2 of ceiling.					

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		Decrease	None	Increase		
Sub Code:						
	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 preformed 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.					
G122-18	**Revise as follows:** **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. ~~such as halls, *corridors*, *stairways* or *service areas*.~~			X		Clarification
G123-18	**Modify proposal 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.....		X			Clarification
G126-18	**Modify proposal 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.....		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
G127-18	**SECTION 1207** **ENHANCED CLASSROOM ACOUSTICS** **1207.1 General.** Enhanced classroom acoustics, where required in this section, shall comply with Section 808 of ICC A117.1. **1207.2 Where required.** In Group E occupancies, enhanced classroom acoustics shall be provided in all classrooms with a volume of 20,000 cubic feet or less.			X	Minimal	Necessary addition for clarification
G128-18	**1207.4 Efficiency dwelling units.** An efficiency living unit shall conform to the requirements of the code except as modified herein: 1. The unit shall have a living room of not less than 220 square feet (20.4 m^2) of floor area. ~~An additional 100 square feet (9.3 m^2) of floor area shall be provided for each occupant of such unit in excess of two.~~ 2. The unit shall be provided with a separate closet. 3. The unit shall be provided with a kitchen sink, cooking appliance and refrigeration facilities, each having a clear working space of not less than 30 inches (762 mm) in front. Light and *ventilation* conforming to this code shall be provided. 4. The unit shall be provided with a separate bathroom containing a water closet, lavatory and bathtub or shower.		X			Clarification
G129-18	**1207.4 Efficiency dwelling units.** An efficiency living unit shall conform to the requirements of the code except as modified herein: 1. The unit shall have a living room of not less than ~~220~~ 190 square feet (~~20.4~~ 17.7 m^2) of floor area. An additional 100 square feet (9.3 m^2) of floor area shall be provided for each occupant of such unit in excess of two. 2. The unit shall be provided with a separate closet. 3. The unit shall be provided with a kitchen sink, cooking appliance and refrigeration facilities, each having a clear working space of not less than 30 inches (762 mm) in front. Light and ventilation conforming to this code shall be provided. 4. The unit shall be provided with a separate bathroom containing a water closet, lavatory and bathtub or shower.		X			Clarification
G130-18 Part I	**1207.4 Efficiency dwelling units.** An efficiency ~~living~~ dwelling unit shall conform to the requirements of the code except as modified herein: 1. The unit shall have a living room of not less than ~~220~~ 190 square feet (~~20.4~~ 17.6 m^2) of floor area. An additional ~~100~~ 70	X				Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	square feet (~~9.3~~ 6.5 m^2) of floor area shall be provided for each occupant of such unit in excess of two. 2. The unit shall be provided with a separate closet. 3. ~~The~~ For other than Accessible, Type A and Type B dwelling units, the unit shall be provided with a kitchen sink, cooking appliance and ~~refrigeration facilities~~ refrigerator, each having a clear working space of not less than 30 inches (762 mm) in front. Light and ventilation conforming to this code shall be provided. 4. The unit shall be provided with a separate bathroom containing a water closet, lavatory and bathtub or shower.					
G131-18	**DWELLING UNIT, EFFICIENCY.** A dwelling unit where all permanent provisions for living, sleeping, eating and cooking are contained in a single room. **1207.4 Efficiency dwelling units.** ~~An efficiency living unit~~ Efficiency dwelling units shall conform to the requirements of the code except as modified herein: 1. The unit shall have a living room of not less than 220 square feet (20.4 m^2) of floor area. An additional 100 square feet (9.3 m^2) of floor area shall be provided for each occupant of such unit in excess of two. 2. The unit shall be provided with a separate closet. 3. The unit shall be provided with a kitchen sink, cooking appliance and refrigeration facilities, each having a clear working space of not less than 30 inches (762 mm) in front. Light and ventilation conforming to this code shall be provided. 4. The unit shall be provided with a separate bathroom containing a water closet, lavatory and bathtub or shower.		X			Provides needed definition for consistent enforcement & understanding
G132-18	**[P] 1209.3 Privacy.** Public restrooms shall be visually screened from outside entry or exit doorways to ensure user privacy within the restroom. This provision shall also apply where mirrors would compromise personal privacy. Privacy at water closets and urinals shall be provided in accordance with Sections 1209.3.1 and 1209.3.2. **Exception:** Visual screening shall not be required for single-occupant toilet rooms with a lockable door.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
G133-18	**[P] 2903** **INSTALLATION OF FIXTURES** **[P] 2903.1 Setting.** Fixtures shall be set level and in proper alignment with reference to adjacent walls. **[P] 2903.1.1 Water closets, urinals, lavatories and bidets.** A water closet, urinal, lavatory or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition, vanity or other obstruction. Where partitions or other obstructions do not separate adjacent fixtures, fixtures shall not be set closer than 30 inches (762 mm) center to center between adjacent fixtures. There shall be not less than a 21-inch (533 mm) clearance in front of a water closet, urinal, lavatory or bidet to any wall, fixture or door. Water closet compartments shall be not less than 30 inches (762 mm) in width and not less than 60 inches (1524 mm) in depth for floor-mounted water closets and not less than 30 inches (762 mm) in width and 56 inches (1422 mm) in depth for wall-hung water closets. **Exception:** An accessible children's water closet shall be set not closer than 12 inches (305 mm) from its center to the required partition or to the wall on one side. **[P] 2903.1.2 Public Lavatories.** In employee and public toilet rooms, the required lavatory shall be located in the same room as the required water closet. **[P] 2903.1.3 Location of fixtures and piping.** Piping, fixtures or equipment shall not be located in such a manner as to interfere with the normal operation of windows, doors or other means of egress openings. **[P] 2903.1.4 Water closet compartment.** Each water closet utilized by the public or employees shall occupy a separate compartment with walls or partitions and a door enclosing the fixtures to ensure privacy. **Exceptions:** 1. Water closet compartments shall not be required in a single-occupant toilet room with a lockable door. 2. Toilet rooms located in child day care facilities and containing two or more water closets shall be permitted to have one water closet without an enclosing compartment.		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	3. This provision is not applicable to toilet areas located within Group I-3 housing areas. **[P] 2903.1.5 Urinal Partitions.** Each urinal utilized by the public or employees shall occupy a separate area with walls or partitions to provide privacy. The horizontal dimension between walls or partitions at each urinal shall be not less than 30 inches (762 mm). The walls or partitions shall begin at a height not greater than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal not less than 18 inches (457 mm) or to a point not less than 6inches (152 mm) beyond the outermost front lip of the urinal measured from the finished backwall surface, whichever is greater. **Exceptions:** 1. Urinal partitions shall not be required in a single-occupant or family/assisted-use toilet room with a lockable door. 2. Toilet rooms located in child day care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.					
G136-18	**SECTION 202** **DEFINITIONS** **~~[BG]~~ PENTHOUSE.** An enclosed, unoccupied rooftop structure used for sheltering mechanical and electrical equipment, tanks, elevators and related machinery, stairways and vertical shaft openings. **503.1.4 Occupied roofs.** A roof level or portion thereof shall be permitted to be used as an occupied roof provided the occupancy of the roof is an occupancy that is permitted by Table 504.4 for the story immediately below the roof. The area of the occupied roofs shall not be included in the *building area* as regulated by Section 506. An occupied roof shall not be included in the building height or number of stories as regulated by Section 504 provided the penthouses and other enclosed roof structures comply with Section 1510. **Exceptions:** 1. The occupancy located on an occupied roof shall not be limited to the occupancies allowed on the *story* immediately below the roof where the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 and occupant notification in		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	accordance with Section 907.5 is provided in the area of the occupied roof. 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. **SECTION 1510** **ROOFTOP STRUCTURES** **[BG] 1510.1 General.** The provisions of this section shall govern the construction of rooftop structures. **1510.1.1 Area limitation.** The aggregate area of penthouses and other enclosed rooftop structures shall not exceed one-third the area of the supporting roof deck. Such penthouses and other enclosed rooftop structures shall not be required to be included in determining the building area or number of stories as regulated by Section 503.1. The area of such penthouses shall not be included in determining the fire area specified in Section 901.7. **[BG] 1510.2 Penthouses.** Penthouses in compliance with Sections 1510.2.1 through 1510.2.5 shall be considered as a portion of the story directly below the roof deck on which such penthouses are located. Other penthouses shall be considered as an additional story of the building. **[BG] 1510.2.1 Height above roof deck.** Penthouses constructed on buildings of other than Type I construction shall not exceed 18 feet (5486 mm) in height above the roof deck as measured to the average height of the roof of the penthouse. Penthouses located on the roof of buildings of Type I construction shall not be limited in height. **Exception:** Where used to enclose tanks or elevators that travel to the roof level, penthouses shall be permitted to have a maximum height of 28 feet (8534 mm) above the roof deck. ~~**[BG]**~~ **1510.2.2 Use limitations.** Penthouses shall not be used for purposes other than the shelter of mechanical or electrical equipment, tanks, elevators and related machinery, stairways or vertical shaft openings in the roof assembly, including ancillary spaces used to access elevators and stairways.					
G138-18	**3001.2 Emergency elevator communication systems for the deaf, hard of hearing and speech impaired.** An emergency two-way communication system shall be ~~provided~~ provided. The system shall provide visible text and audible modes that:			X	Minimal	Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	1. ~~Is a visual and text-based and a video-based 24/7 live interactive system.~~ When operating in each mode, includes a live interactive system that allows back and forth conversation between the elevator occupants and emergency personnel: 2. Is ~~fully accessible by the deaf, hard of hearing and speech impaired, and shall include voice-only options for hearing individuals.3.Has the ability to communicate with emergency personnel utilizing existing video conferencing technology, chat/text software or other approved technology.~~ operational when the elevator is operational; and 3. Allows elevator occupants to select the text-based or audible mode depending on their communication needs to interact with emergency personnel.					
G142-18	**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. **~~Exception~~ 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.	X				Clarification
G143-18	**Revise as follows:** **3005.4 Machine rooms, control rooms, machinery spaces, and control spaces.** ~~Elevator machine rooms, control rooms, control spaces and machinery spaces outside of but attached to a hoistway that have openings into the hoistway~~ The following rooms and spaces shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or ~~both.~~ both: 1. Machine rooms 2. Control rooms 3. Control spaces 4. Machinery spaces outside of the hoistway enclosure The fire-resistance rating shall be not less than the required rating of the hoistway enclosure served by the machinery. Openings in the fire		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	barriers shall be protected with assemblies having a fire protection rating not less than that required for the hoistway enclosure doors. **Exceptions:** 1. For other than fire service access elevators and occupant evacuation elevators, where machine rooms, machinery spaces, control rooms and control spaces do not abut and do not have openings to the hoistway enclosure they serve, the fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both, shall be permitted to be reduced to a 1-hour fire-resistance rating. 2. For other than fire service access elevators and occupant evacuation elevators, in buildings four stories or less above grade plane where machine room, machinery spaces, control rooms and control spaces do not abut and do not have openings to the hoistway enclosure they serve, the machine room, machinery spaces, control rooms and control spaces are not required to be fire-resistance rated.					
G146-18	**3102.3 Type of construction.** Noncombustible membrane structures shall be classified as Type IIB construction. Noncombustible frame or cable-supported structures covered by an *approved* membrane in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported structures covered by an *approved* membrane in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other membrane structures shall be classified as Type V construction. **Exception:** Plastic less than 30 feet (9144 mm) above any floor used in greenhouses, where occupancy by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701. **3102.6.1.1 Membrane.** A membrane meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a skylight on buildings of Type IIB, III, IV-HT and V construction, provided that the membrane is not less than 20 feet (6096 mm) above any floor, balcony or gallery.		X			Clarification
G147-18	**3103.1 General.** The provisions of Sections 3103.1 through 3103.4 shall apply to structures erected for a period of less than 180 days. ~~Tents~~ Special event structures, tents, umbrella structures and other membrane structures erected for a period of less than 180 days shall		X			Clarification

Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	also comply with the International Fire Code. Those erected for a longer period of time shall comply with applicable sections of this code.					
G148-18	**3111.1.1 Wind resistance.** Rooftop-mounted photovoltaic ~~panels and modules~~ (PV) panel systems and solar thermal collectors shall be designed in accordance with Section 1609. **3111.2 Solar thermal systems.** Solar thermal systems shall be designed and installed in accordance with ~~Section 2606.12~~this section, the International Plumbing Code, the International Mechanical Code and the International Fire Code. Where light-transmitting plastic covers are used, solar thermal collectors shall be designed in accordance with Section 2606.12. **3111.3.2 Fire classification.** Rooftop-mounted photovoltaic (PV) panel systems shall have a fire classification in accordance with Section 1505.9. ~~Building-integrated photovoltaic systems~~ BIPV systems installed as the roof covering shall have a fire classification in accordance with Section 1505.8. **3111.3.3 Building-integrated photovoltaic (BIPV) systems.** ~~Building-integrated photovoltaic systems that serve as roof coverings~~ BIPV systems installed as the roof covering shall be designed and installed in accordance with Section ~~1507.18.~~1507.		X			Clarification
G149-18	**3101.1 Scope.** The provisions of this chapter shall govern special building construction including membrane structures, temporary structures, pedestrian walkways and tunnels, automatic vehicular gates, awnings and canopies, marquees, signs, towers, antennas, relocatable buildings, swimming pool enclosures and safety devices, ~~and~~ solar energy systems, and public use restroom buildings on publicly owned lands in flood hazard areas. **SECTION ~~3112~~ 3114** **PUBLIC USE RESTROOM BUILDINGS IN FLOOD HAZARD AREAS**	X				Clarification

	~~3112~~ 3114.1 General. ~~Public use restroom buildings that contain toilet rooms, bathrooms, showers and changing rooms, and those portions of buildings that contain~~ For the purpose of this section, public restroom buildings are located on publicly owned lands in flood hazard areas and intended for public use. Public restroom buildings and portions of other buildings that contain public restrooms, are limited to toilet rooms, bathrooms, showers and changing rooms~~, and where such~~. Public restroom buildings and portions of buildings ~~are intended for public use and located on publicly owned lands in flood hazard areas,~~ that contain public restrooms shall comply with the requirements of this section. Public use restrooms that are not elevated or dry floodproofed in accordance with Section 1612 shall comply with Section ~~3112~~ 3114.2. Portions of buildings that include uses other than public use toilet rooms, bathrooms, showers and changing rooms shall comply with Section 1612. **~~3112.2~~ 3114.2 Flood resistance.** Public use restrooms ~~that are located~~ on publicly owned lands in flood hazard areas shall comply with the requirements of ASCE 24, except for elevation requirements, and shall comply with all of the following criteria: 1. The building footprint is not more than 1,500 square feet. 2. Located, designed and constructed to resist the effects of flood hazards and flood loads to minimize flood damage from a combination of wind and water loads associated with the base flood. 3. Anchored to prevent flotation, collapse or lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy during conditions of the base flood. 4. Constructed of flood damage-resistant materials. 5. Where enclosed by walls, the walls have flood openings. 6. Mechanical and electrical systems are located above the base flood elevation. 7. Plumbing fixtures and plumbing connections are located above the base flood elevation. 8. An emergency plan, approved by the jurisdiction, is submitted to the building official where the building design ~~specifies~~ documents specify implementation of protection measures prior to the onset of flooding conditions. **Exceptions:** 1. Minimum necessary electric ~~service~~ equipment required to address health, life safety and electric code requirements is permitted below the base flood elevation in accordance with ASCE 24 provisions for electric elements installed below the minimum elevations. 2. Plumbing fixtures and connections are permitted below the base flood elevation provided the fixtures and connections are designed and installed to minimize or eliminate infiltration of floodwaters into the sanitary sewage system and discharges from sanitary sewage systems into floodwaters.					

Table 1. 2021 IBC MEP Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC MEP CHANGE SUMMARY</th><th colspan="3">IBC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td>G151-18</td><td>3114.1 General. The provisions of Section 3114 and 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.
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.
4. Intermodal shipping containers <u>housing or supporting experimental equipment are exempt from the requirements of Section 3114 provided they comply with all of the following:</u>
<u>4.1. Such units shall be single stand-alone units supported at grade level and used as experimental equipment or apparatuses. only for occupancies as specified under Risk Category I in Table 1604.5;</u>
<u>4.2. Such units are located a minimum of 8 feet from adjacent structures, and are not connected to a fuel gas system or fuel gas utility; and</u>
<u>4.3 .In hurricane-prone regions and flood hazard areas, such units are designed in accordance with the applicable provisions of Chapter 16</u>

TABLE 3114.8.5.3
ALLOWABLE SHEAR VALUES FOR INTERMODAL SHIPPING CONTAINER CORRUGATED STEEL <s>SIDING SHEAR</s> WALLS FOR WIND OR SEISMIC LOADING
<table><tr><th>CONTAINER DESIGNATION [b]</th><th>CONTAINER DIMENSION (Nominal Length)</th><th>CONTAINER DIMENSION (Nominal Height)</th><th colspan="2">ALLOWABLE SHEAR VALUES (PLF)[a, c]</th><th></th></tr><tr><td></td><td></td><td></td><td>Side</td><td>End</td><td></td></tr></table></td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 1. 2021 IBC MEP Changes Cost Impact

CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT: Decrease	IBC COST IMPACT: None	IBC COST IMPACT: Increase	ESTIMATED AMOUNT*	BENEFIT OF CHANGE
Sub Code:						

			Wall	Wall	
1EEE	45 feet (13.7 M)	9.5 feet (2896 mm)	75	843	
1EE		8.6 feet (2591 mm)			
1AAA	40 feet (12.2 M)	9.5 feet (2896 mm)	84		
1AA		8.5 feet (2592 mm)			
1A		8.0 feet (2438 mm)			
1AX					
1BBB	30 feet (9.1 M)	9.5 feet (2896 mm)	112		
1BB		8.5 feet (2591 mm)			
1B		8.0 feet (2438 mm)			
1BX					
1CC	20 feet (9.1 M)	8.5 feet (2591 mm)	168		
1C		8.0 feet (2438 mm)			
1CX					
1D	10 feet (3.0 M)	8.0 feet (2438 mm)	337		
1DX					

a. The allowable shear for the side walls and end walls of the intermodal shipping containers are derived from ISO 1496-1 and reduced by a factor of safety of 5.

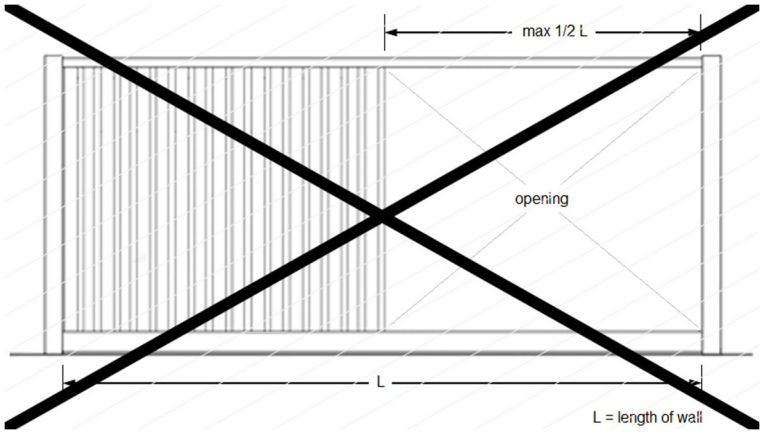
Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	b. Container designation type is derived from ISO 668. c. Limitations of Sections 3114.8.5.1 shall apply **3114.8.4.2 Seismic design parameters.** The seismic force-resisting system shall be designed and detailed in accordance with one of the following: 1. Where all or portions of the corrugated steel container sides are considered to be the seismic force-resisting system, design and detailing shall be in accordance with the ASCE 7 Table 12.2-1 requirements for light-frame bearing-wall systems with shear panels of all other materials, 2. Where portions of the corrugated steel container sides are retained, but are not considered to be the seismic force-resisting system, an independent seismic force-resisting system shall be selected, designed and detailed in accordance with ASCE 7 Table 12.2-1, or 3. Where portions of the corrugated steel container sides are retained and integrated into a seismic force-resisting system other than as permitted by Section 3114.4.2 Item 1, seismic design parameters shall be developed from testing and analysis in accordance with Section 104.11 and ASCE 7 Section 12.2.1.1 or 12.2.1.2.  					

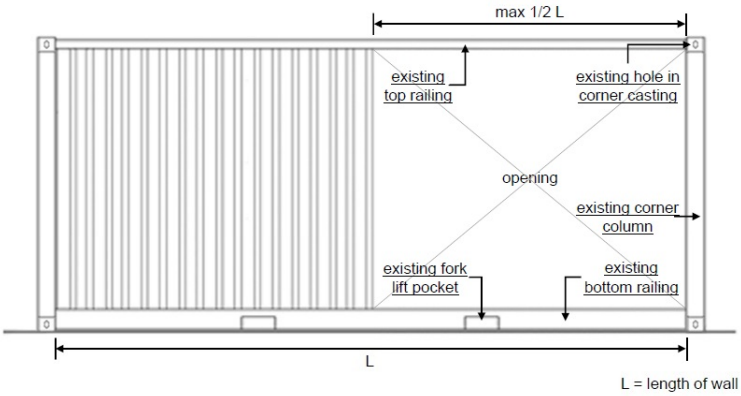
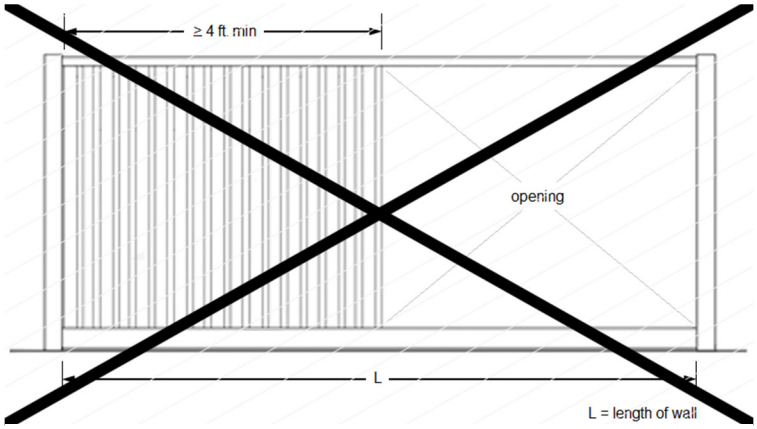
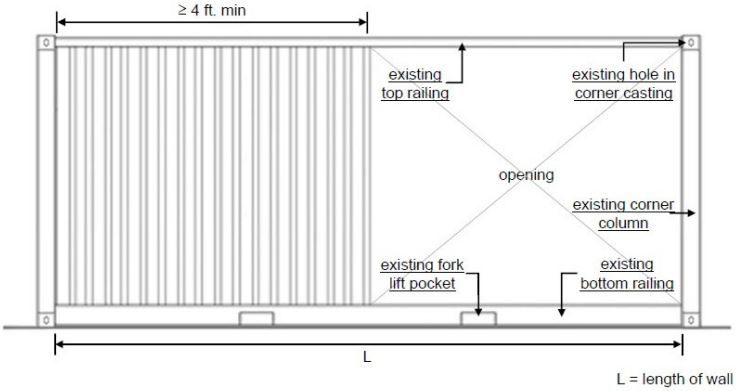
Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	 **FIGURE 3114.8.5.3(1)** **BRACING UNIT DISTRIBUTION--MAXIMUM LINEAR LENGTH**   **3114.8.5.3(2)** **Bracing Unit Distribution -- Minimum Linear Length**					

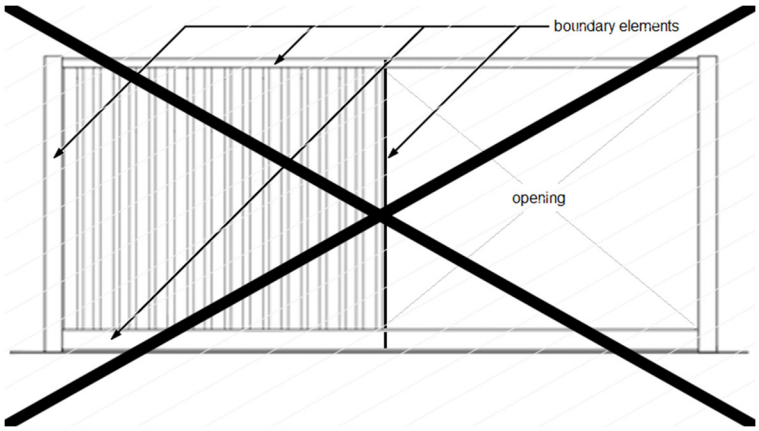
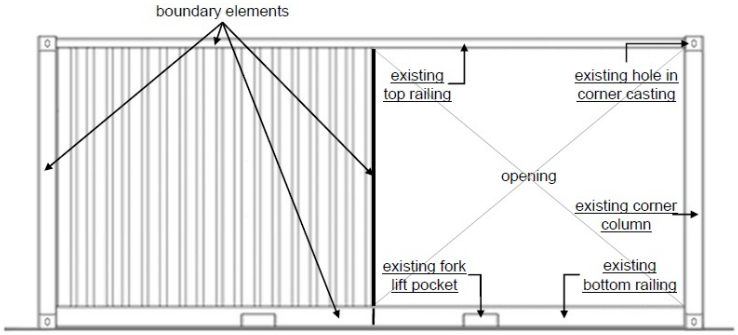
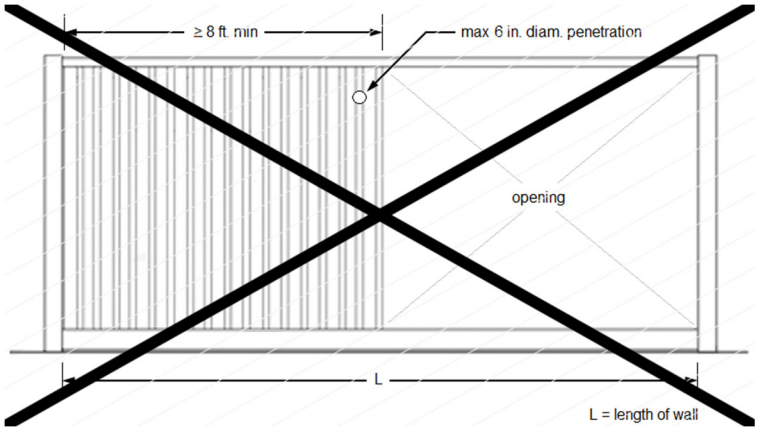
Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	2021 IBC MEP CHANGE SUMMARY	IBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	  **FIGURE 3114.8.5.3(3)** **BRACING UNIT DISTRIBUTION -- BOUNDARY ELEMENTS** 					

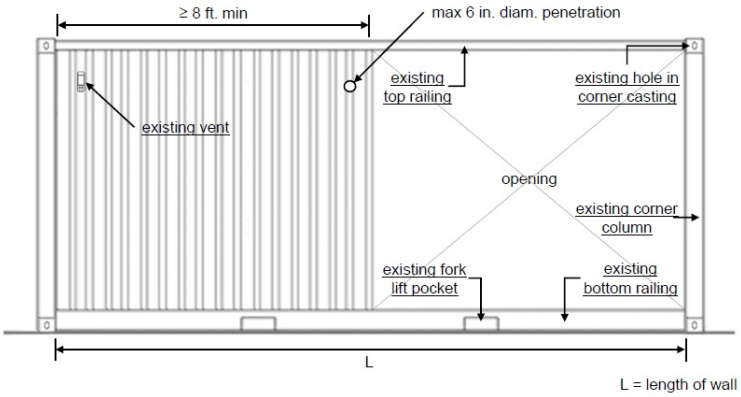
Table 1. 2021 IBC MEP Changes Cost Impact						
CODE CHANGE #	**2021 IBC MEP CHANGE SUMMARY**	**IBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	 **FIGURE 3114.8.5.3(4)** **BRACING UNIT DISTRIBUTION -- PENETRATION LIMITATIONS**					
G152-18	**D102.2.5 Structural fire rating.** Walls, floors, roofs and their supporting structural members shall be not less than 1-hour fire-resistance-rated construction. **Exceptions:** 1. Buildings of Type IV-HT construction. 2. Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1. 3. Automobile parking structures. 4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm). 5. Partitions complying with Section 603.1, Item 11.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
ADM1-19 Part I	**Modify proposal as follows:** **[A] CHANGE OF OCCUPANCY.** A change in the use of a building or a portion of a building that results in any of the following: 1. A change of occupancy classification. 2. A change from one group to another group within an occupancy classification. 3. Any change in use within a group for which there is a change in application of ~~the requirements the *International Building Code*~~ code requirements.		X			Clarification
ADM3-19 Part I	**Modify as follows:** **2018 International Existing Building Code** **[A] CHANGE OF OCCUPANCY.** Any of the following shall be considered as a change of occupancy where the current IBC requires a greater degree of safety, accessibility, structural strength, fire protection, means of egress, ventilation or sanitation than is existing in the current building or structure: 1. Any change in the occupancy classification of a building or structure. 2. Any change in the purpose of, or a change in the level of activity within, a building or structure. 3. A change of use. **[A] CHANGE OF USE.** A change in the use of a building or a portion of a building, within the same group classification, for which there is a change in application of code requirements.		X			Clarification
ADM5-19 Part I	**Modify as follows:** **[RB] TOWNHOUSE.** A *building* that contains three or more attached *townhouse units.* ~~constructed in a group, and used, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or that are occupied for living purposes.~~		X		-	Clarification
ADM6-19	**2018 International Mechanical Code** **Revise as follows:** **[A] 101.2 Scope.** This code shall regulate the design, installation, maintenance, *alteration* and inspection of mechanical systems that are permanently installed and utilized to provide control of environmental conditions and related processes within buildings.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	This code shall also regulate those mechanical systems, system components, *equipment* and appliances specifically addressed herein. The installation of fuel gas distribution piping and *equipment*, fuel gas-fired appliances and fuel gas-fired *appliance* venting systems shall be regulated by the International Fuel Gas Code. **Exception:** Detached one- and two-family dwellings and ~~multiple single-family dwellings (~~ townhouses) not more than three stories ~~high~~ 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, shall comply with this code or the International Residential Code. **2018 International Plumbing Code** **Revise as follows:** **[A] 101.2 Scope.** The provisions of this code shall apply to the erection, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of plumbing systems within this jurisdiction. This code shall regulate nonflammable medical gas, inhalation anesthetic, vacuum piping, nonmedical oxygen systems and sanitary and condensate vacuum collection systems. The installation of fuel gas distribution piping and equipment, fuel-gas-fired water heaters and water heater venting systems shall be regulated by the International Fuel Gas Code. Provisions in the appendices shall not apply unless specifically adopted. **Exception:** Detached one- and two-family dwellings and ~~multiple single-family dwellings (~~ townhouses) not more than three stories ~~high~~ 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, shall comply with this code or the International Residential Code. **2018 International Existing Building Code** **Revise as follows:** **[A] 101.2 Scope.** The provisions of the this code shall apply to the *repair*, *alteration*, *change of occupancy*, *addition* to and relocation of *existing buildings*.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exception: Detached one- and two-family dwellings and ~~multiple single-family *dwellings*~~ (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, shall comply with this code or the International Residential Code. **2018 International Fuel Gas Code** **Revise as follows:** **[A] 101.2 Scope.** This code shall apply to the installation of fuel-gas *piping* systems, fuel gas appliances, gaseous hydrogen systems and related accessories in accordance with Sections 101.2.1 through 101.2.5. **Exception:** Detached one- and two-family dwellings and ~~multiple single-family dwellings (~~ townhouses) not more than three stories ~~high~~ 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, shall comply with this code or the International Residential Code.					
ADM8-19	**Modify proposal as follows:** **101.2.1 Application of fire code.** Where work regulated by this code is also regulated by the construction requirements for existing buildings in Chapter 11 of the *International Fire Code* ~~shall be applied prior to the provisions of this code~~ such work shall comply with applicable requirements in both codes.		X			Clarification
ADM9-19 Part I	**2018 International Building Code** **Revise as follows:** **[A] 101.3 ~~Intent.~~ Purpose.** The purpose of this code is to establish the minimum requirements to provide a reasonable level of safety, ~~public~~ health and general welfare through structural strength, *means of egress* ~~facilities~~, stability, sanitation, ~~adequate~~ light and ventilation, energy conservation, and safety to life and property from fire, explosion and other hazards, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations. **2018 International Fire Code**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Revise as follows: **[A] 101.3 ~~Intent.~~ Purpose.** The purpose of this code is to establish the minimum requirements consistent with nationally recognized good practice for providing a reasonable level of life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations. **2018 International Existing Building Code** **Revise as follows:** **[A] 101.3 ~~Intent.~~ Purpose.** The ~~intent~~ purpose of this code is to provide flexibility to permit the use of alternative approaches to achieve compliance with minimum requirements to ~~safeguard the public~~ provide a reasonable level of safety, health, ~~safety~~ and general welfare insofar as they are affected by the *repair*, *alteration*, *change of occupancy*, *addition* and relocation of *existing buildings*. **2018 International Plumbing Code** **Revise as follows:** **101.3 ~~Intent.~~ Purpose.** The purpose of this code is to establish minimum ~~standards~~ requirements to provide a reasonable level of safety, health, property protection and ~~public~~ general welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of plumbing equipment and systems. **2018 International Mechanical Code** **Revise as follows:** **[A] 101.3 ~~Intent.~~ Purpose.** The purpose of this code is to establish minimum ~~standards~~ requirements to provide a reasonable level of safety, health, property protection and ~~public~~ general welfare by regulating and controlling the design, construction, installation,					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	quality of materials, location, operation and maintenance or use of mechanical equipment or systems. **2018 International Private Sewage Disposal Code** **Revise as follows:** **[A] 101.6 ~~Intent.~~ Purpose.** The purpose of this code is to establish minimum ~~standards~~ requirements to provide a reasonable level of safety health, property protection and ~~public~~ general welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of *private sewage disposal systems*. **2018 International Fuel Gas Code** **Revise as follows:** **[A] 101.4 ~~Intent.~~ Purpose.** The purpose of this code is to establish minimum ~~standards~~ requirements to provide a reasonable level of safety, health, property protection and ~~public~~ general welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of fuel gas equipment or systems. **2018 International Swimming Pool and Spa Code** **Revise as follows:** **[A] 101.3 ~~Intent.~~ Purpose.** The purpose of this code is to establish minimum ~~standards~~ requirements to provide a reasonable level of safety ~~and protection of health~~, health, property protection and ~~public~~ general welfare by regulating and controlling the design, construction, installation, quality of materials, location and maintenance or use of pools and spas. **2018 International Property Maintenance Code** **Revise as follows:** **[A] 101.3 ~~Intent.~~ Purpose.** ~~This code shall be construed to secure its expressed intent, which is to ensure public~~ The purpose of this code					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	is to establish minimum requirements to provide a reasonable level of health, safety and general welfare insofar as they are affected by the continued *occupancy* and maintenance of structures and *premises*. Existing structures and *premises* that do not comply with these provisions shall be altered or repaired to provide a reasonable minimum level of health, safety and ~~safety~~ general welfare as required herein. **2018 International Zoning Code** **Revise as follows:** **[A] 101.2 ~~Intent.~~ Purpose.** The purpose of this code is to ~~safeguard the health, property and public~~ establish minimum requirements to provide a reasonable level of health, safety, property protection and welfare by controlling the design, location, use or occupancy of all buildings and structures through the regulated and orderly development of land and land uses within this jurisdiction. **2018 International Wildland-Urban Interface Code** **Revise as follows:** **[A] 101.3 ~~Objective.~~ Purpose.** The ~~objective~~ purpose of this code is to establish minimum regulations consistent with nationally recognized good practice for the safeguarding of life and for property protection. Regulations in this code are intended to mitigate the risk to life and structures from intrusion of fire from wildland fire exposures and fire exposures from adjacent structures and to mitigate structure fires from spreading to wildland fuels. The extent of this regulation is intended to be tiered commensurate with the relative level of hazard present. The unrestricted use of property in *wildland-urban interface areas* is a potential threat to life and property from fire and resulting erosion. Safeguards to prevent the occurrence of fires and to provide adequate fire protection facilities to control the spread of fire in *wildland-urban interface areas* shall be in accordance with this code. This code shall supplement the jurisdiction's building and fire codes, if such codes have been adopted, to provide for special regulations to mitigate the fire- and life-safety hazards of the *wildland-urban interface areas*.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	2018 International Code Council Performance Code **Revise as follows:** **[A] 101.4 ~~Intent.~~ Purpose.** **[A] 101.4.1 Building.** ~~To~~ The purpose of this code is to provide an acceptable level of health, safety, and general welfare and to limit damage to property from events that are expected to impact buildings and structures. Accordingly, Part II of this code intends buildings and structures to provide for the following: 1. An environment free of unreasonable risk of death and injury from fires. 2. A structure that will withstand loads associated with normal use and of the severity associated with the location in which the structure is constructed. 3. Means of egress and access for normal and emergency circumstances. 4. Limited spread of fire both within the building and to adjacent properties. 5. Ventilation and sanitation facilities to maintain the health of the occupants. 6. Natural light, heating, cooking and other amenities necessary for the well being of the occupants. 7. Efficient use of energy. 8. Safety to fire fighters and emergency responders during emergency operations.					
ADM9-19 Part IV	**Modify proposal as follows:** **R101.3 Purpose.** The purpose of this code is to establish minimum requirements to provide a reasonable level of safety, health and general welfare through affordability, structural strength, means of egress, stability, sanitation, light and ventilation, energy conservation and safety to life and property from fire~~, explosions~~ and other hazards and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations.		X			Clarification
ADM10-19 Part I	**2018 International Building Code** **Revise as follows:**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] 101.3 Intent. The purpose of this code is to establish the minimum requirements to provide a reasonable level of safety, public health and general welfare through structural strength, *means of egress* facilities, stability, sanitation, adequate light and ventilation, energy conservation~~,~~ and ~~safety to life~~ for providing a reasonable level of life safety and property protection from the hazards of fire, explosion ~~and other hazards~~ or dangerous conditions, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations. **2018 International Existing Building Code** **Revise as follows:** **[A] 101.3 Intent.** The intent of this code is to provide flexibility to permit the use of alternative approaches to achieve compliance with minimum requirements to safeguard the public health, safety ~~and~~, property protection and welfare insofar as they are affected by the *repair*, *alteration*, *change of occupancy*, *addition* and relocation of *existing buildings*. **2018 International Swimming Pool and Spa Code** **Revise as follows:** **[A] 101.3 Intent.** The purpose of this code is to establish minimum standards to provide a reasonable level of safety, ~~and protection of~~ health, property protection and public welfare by regulating and controlling the design, construction, installation, quality of materials, location and maintenance or use of pools and spas. **2018 International Property Maintenance Code** **Revise as follows:** **[A] 101.3 Intent.** This code shall be construed to secure its expressed intent, which is to ensure public health, safety, property protection and welfare insofar as they are affected by the continued *occupancy* and maintenance of structures and *premises*. Existing structures and *premises* that do not comply with these provisions shall be altered or repaired to provide a minimum level of health and safety as required herein. **2018 International Zoning Code**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Revise as follows: **[A] 101.2 Intent.** The purpose of this code is to safeguard the health, property protection and public welfare by controlling the design, location, use or occupancy of all buildings and structures through the regulated and orderly development of land and land uses within this jurisdiction.					
ADM14-19	**Modify proposal as follows:** **[A] 102.3 Application of other codes.** ~~Where structural engineering analysis is used to determine if an unsafe structural condition exists, the nominal strengths, nominal loads, load effects, required strengths and limit states shall be in accordance with the regulation or code under which the structure was constructed.~~ ~~**Exceptions:**~~ ~~1. If the regulation or code under which the structure was constructed is not known, it shall be permitted to apply any regulation or code that the code official determines to be representative of the requirements under which the structure was constructed.~~ ~~2. If applying currently adopted code provisions indicates that there is not an unsafe structural condition, it shall be permitted to apply currently adopted code provisions.~~ Repairs, additions or alterations to a structure, or changes of *occupancy*, shall be done in accordance with the procedures and provisions of the *International Building Code, International Existing Building Code, International Energy Conservation Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, International Residential Code, International Plumbing Code* and NFPA 70. Nothing in this code shall be construed to cancel, modify or set aside any provision of the *International Zoning Code*. **102.6 Structural analysis.** Where structural analysis is used to determine if an unsafe structural condition exists, the analysis shall be permitted to use nominal strengths, nominal loads, load effects, required strengths and limit states in accordance with the requirements under which the structure was constructed or in accordance with any subsequent requirement.		X			Improves the application and clarifies the language.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the International Building Code , International Existing Building Code , International Fire Code , International Fuel Gas Code , International Mechanical Code , International Plumbing Code , International Residential Code , International Zoning Code or NFPA 70, such terms shall have the meanings ascribed to them as stated in those codes. **Exception:** When used within this code, the terms *unsafe* and *dangerous* shall have only the meanings ascribed to them in this code and shall not have the meanings ascribed to them by the *International Existing Building Code*.					
ADM16-19 Part I	**2018 International Building Code** **Revise as follows:** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~ CODE COMPLIANCE AGENCY** **[A] 103.1 Creation of ~~enforcement~~ agency.** The ~~Department of Building Safety~~ [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the building official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The *building official* shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the building official shall have the authority to appoint a deputy building official, ~~the~~ other related technical officers, inspectors~~, plan examiners~~ and other employees. Such employees shall have powers as delegated by the building official. ~~For the maintenance of existing properties, see the International Property Maintenance Code.~~ **2018 International Fire Code** **Revise as follows:** **SECTION 103** **~~DEPARTMENT OF FIRE PREVENTION~~ CODE COMPLIANCE AGENCY**			X	Minimal	Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] 103.1 ~~General.~~ Creation of agency. The ~~department of fire prevention is established within the jurisdiction under the direction of the *fire code official*.~~ [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the fire code official. The function of the ~~department~~ agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The *fire code official* shall be appointed by the chief appointing authority of the jurisdiction.~~; and the *fire code official* shall not be removed from office except for cause and after full opportunity to be heard on specific and relevant charges by and before the appointing authority.~~ **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the fire code official shall have the authority to appoint a deputy fire code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the fire code official. **[A] ~~103.4~~ 104.7 Liability.** The *fire code official*, member of the board of appeals, officer or employee charged with the enforcement of this code, while acting for the jurisdiction, in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.7.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representatives of the jurisdiction until the final termination of the proceedings. The fire code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code; and any officer of the department of fire prevention, acting in good faith and without malice, shall be free from liability for acts performed under any of its					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	provisions or by reason of any act or omission in the performance of official duties in connection therewith. **2018 International Plumbing Code** **Revise as follows:** **SECTION 103** **~~DEPARTMENT OF PLUMBING INSPECTION~~ CODE COMPLIANCE AGENCY** **103.1 ~~General.~~ Creation of agency.** The ~~department of plumbing inspection~~ [INSERT NAME OF DEPARTMENT] is hereby created and the ~~executive~~ official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction. **103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official. **~~103.4~~ 104.8 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. **~~103.4.1~~ 104.8.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representative of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Mechanical Code** **Revise as follows:** **SECTION 103** **~~DEPARTMENT OF MECHANICAL INSPECTION~~ CODE COMPLIANCE AGENCY** **[A] 103.1 ~~General.~~ Creation of agency.** The ~~department of mechanical inspection~~ [INSERT NAME OF DEPARTMENT] is hereby created and the ~~executive~~ official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official. **[A] ~~103.4~~ 104.8 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.8.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Fuel Gas Code** **Revise as follows:** **SECTION 103 (IFGC)** ~~**DEPARTMENT OF INSPECTION**~~ **CODE COMPLIANCE AGENCY** **[A] 103.1 ~~General.~~ Creation of agency.** The ~~Department of Inspection~~ [INSERT NAME OF DEPARTMENT] is hereby created and the ~~executive~~ official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official. **[A] ~~103.4~~ 104.8 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.8.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	2018 International Existing Building Code **Revise as follows:** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~CODE COMPLIANCE AGENCY** **[A] 103.1 Creation of ~~enforcement~~ agency.** The ~~Department of Building Safety~~ [INSERT NAME OF DEPARTMENT] is hereby created , and the official ~~incharge~~ in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The *code official* shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, ~~the~~ other related technical officers, inspectors~~, plan examiners,~~ and other employees. Such employees shall have powers as delegated by the code official. **2018 International Swimming Pool and Spa Code** **Revise as follows:** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~CODE COMPLIANCE AGENCY** **[A] 103.1 Creation of ~~enforcement~~ agency.** The ~~department of building safety~~ [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of ~~the~~ this jurisdiction and with the concurrence of the appointing					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	authority, the code official shall have the authority to appoint a deputy code official, ~~the~~ other related technical officers, inspectors~~,~~ ~~plans examiners~~ and other employees. Such employees shall have powers as delegated by the code official. **[A] ~~103.4~~ 104.8 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.8.1 Legal defenses.** Any suit or criminal complaint instituted against an officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for cost in any action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Property Maintenance Code** **Revise as follows:** **SECTION 103** **~~DEPARTMENT OF PROPERTY MAINTENANCE INSPECTION~~ CODE COMPLIANCE AGENCY** **[A] 103.1 ~~General.~~ Creation of agency.** The ~~department of property maintenance inspection~~ [INSERT NAME OF DEPARTMENT] is hereby created and the ~~executive~~ official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The *code official* shall be appointed by the chief appointing authority of the jurisdiction.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	[A] 103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy ~~(s).~~ code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official. **[A] ~~103.4~~ 104.7 Liability.** The *code official*, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction, in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.7.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representative of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Private Sewage Disposal Code** **Revise as follows:** **SECTION 103** **~~DEPARTMENT OFPRIVATE SEWAGE DISPOSAL INSPECTION~~ CODE COMPLIANCE AGENCY** **[A] 103.1 ~~General.~~ Creation of agency.** The ~~Department of Private Sewage Disposal Inspection~~ [INSERT NAME OF DEPARTMENT] is hereby created and the ~~executive~~ official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] 103.3 Deputies. In accordance with the prescribed procedures of ~~the~~ this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official. **[A] ~~103.4~~ 104.7 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.7.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Wildland-Urban Interface Code** **Revise as follows:** **SECTION 103** **~~ENFORCEMENT~~ CODE COMPLIANCE AGENCY** **[A] 103.1 Creation of ~~enforcement~~ agency.** The ~~department of~~ [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	authority, the code official shall have the authority to appoint a ~~deputy(s).~~ deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official.					
ADM16-19 Part III	**2018 International Green Construction Code** **Add new text as follows:** **SECTION 103** **CODE COMPLIANCE AGENCY** 103.1 **Creation of agency.** The [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the *authority having jurisdiction (AHJ)*. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. 103.2 **Appointment.** The *authority having jurisdiction (AHJ)* shall be appointed by the chief appointing authority of the jurisdiction. 103.3 **Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the *authority having jurisdiction (AHJ)* shall have the authority to appoint a deputy *authority having jurisdiction (AHJ),* other related technical officers, inspectors and other employees as shall be necessary. Such employees shall have powers as delegated by the *authority having jurisdiction (AHJ)*.		X			Necessary addition for clarification
ADM18-19	**2018 International Existing Building Code** **Revise as follows:** **[A] 104.2.1 Determination of substantially improved or substantially damaged existing buildings and structures in flood hazard areas.** For applications for reconstruction, rehabilitation, repair, *alteration*, *addition* or other improvement of *existing buildings* or structures located in *flood hazard areas*, the building official shall determine where the proposed work constitutes *substantial improvement* or repair of *substantial damage*. Where the building official determines that the proposed work constitutes *substantial improvement* or repair of *substantial damage*, and where required by this code, the building official shall require the building to meet the requirements of Section 1612 of the *International Building Code* or Section R322 of the *International Residential Code*, as applicable.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	[A] 109.3.3 Lowest floor elevation. For *additions* and *substantial improvements* to *existing buildings* in *flood hazard areas*, on placement of the lowest floor, including basement, and prior to further vertical construction, the elevation documentation required in the *International Building Code* or *International Residential Code*, as applicable, shall be submitted to the *code official*. **2018 International Building Code** **[A] 104.2.1 Determination of substantially improved or substantially damaged existing buildings and structures in flood hazard areas.** For applications for reconstruction, rehabilitation, *repair*, *alteration*, *addition* or other improvement of existing buildings or structures located in *flood hazard areas*, the *building official* shall determine if the proposed work constitutes substantial improvement or *repair* of *substantial damage*. Where the *building official* determines that the proposed work constitutes *substantial improvement* or *repair* of *substantial damage*, and where required by this code, the *building official* shall require the building to meet the requirements of Section 1612 or Section R322 of the *International Residential Code*, as applicable. **[A] 110.3.3 Lowest floor elevation.** In *flood hazard areas*, upon placement of the lowest floor, including the *basement*, and prior to further vertical construction, the elevation certification required in Section or *International Residential Code*, as applicable, shall be submitted to the *building official*.					
ADM19-19	**Modify proposal as follows:** **[A] 104.11 Alternative materials, design and methods of construction and equipment.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed ~~design~~ alternative meets all of the following: 1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code, 2. The material, method or work offered is, for the purpose		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	intended, not less than the equivalent of that prescribed in this code as it pertains to the following: 2.1. Quality 2.2. Strength 2.3. Effectiveness 2.4. Fire resistance 2.5. Durability 2.6. Safety Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved.					
ADM24-19 Part II	**2018 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. ~~One~~- Other than storm shelters, one-story detached accessory structures, provided that the floor area does not exceed 200 square feet (18.58 m2). 2. Fences not over 7 feet (2134 mm) high. 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 m2) in area, that			X		Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	are not more than 30 inches (762 mm) above grade at any point, are not attached to a dwelling and do not serve the exit door required by Section R311.4. 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					

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		Decrease	None	Increase		
Sub Code:						
	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.					
ADM25-19	**2018 International Existing Building Code** **Revise as follows:** **[A] 105.7.14 High-piled combustible storage.** A construction permit is required for the installation of or modification to a structure ~~exceeding~~ with more than 500 square feet (46 m^2), including aisles, ~~for~~ of high- piled combustible storage. Maintenance performed in accordance with this code is not considered to be a modification and does not require a construction permit. **105.6.22 High-piled storage.** An operational permit is required to use a building or portion thereof with more than 500 square feet (46 m^2), including aisles, of *high-piled combustible storage*.		X			Clarification
ADM27-19	**2018 International Mechanical Code** **Add new text as follows:** **SECTION 107** **FEES** **Revise as follows:** **[A] ~~106.5~~ 107.1 ~~Fees.~~ Payment of fees.** A permit shall not be ~~issued~~ valid until the fees prescribed ~~in~~ ~~Section 106.5.2~~ by law have been paid.~~, nor shall an~~ An amendment to a permit shall not be released until the additional fee, if any~~, due to an increase of the mechanical system~~, has been paid. **Add new text as follows:** 107.2 **Schedule of permit fees.** Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority.		X			Correlates all the I-Codes together and makes it easier to understand where the requirements are located.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Delete without substitution: ~~**[A] 106.5.2 Fee schedule.** The fees for mechanical work shall be as indicated in the following schedule.~~ ~~[JURISDICTION TO INSERT APPROPRIATE SCHEDULE]~~ **Add new text as follows:** **Permit valuations.** The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as mechanical equipment and permanent systems. If, in the opinion of the code official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the code official. Final building permit valuation shall be set by the code official. **Revise as follows:** **[A] ~~106.5.1~~ 107.4 Work commencing before permit issuance.** Any person who commences any work on a mechanical system before obtaining the necessary permits shall be subject to ~~100 percent of the usual permit fee~~ a fee established by the code official that shall be in addition to the required permit fees. **Add new text as follows:** 107.5 **Related fees.** The payment of the fee for the construction, alteration, removal or demolition for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law. **Delete without substitution:** ~~**[A] 106.5.3 Fee refunds.** The code official shall authorize the refunding of fees as follows.~~ ~~1. The full amount of any fee paid hereunder that was erroneously paid or collected.~~					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~2. Not more than [SPECIFY PERCENTAGE] percent of the permit fee paid where work has not been done under a permit issued in accordance with this code.~~ ~~3. Not more than [SPECIFY PERCENTAGE] percent of the plan review fee paid where an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any plan review effort has been expended.~~ ~~The code official shall not authorize the refunding of any fee paid, except upon written application filed by the original permittee not later than 180 days after the date of fee payment.~~ **Add new text as follows:** 107.6 **Refunds.** The code official is authorized to establish a refund policy. **2018 International Plumbing Code** **Add new text as follows:** **SECTION 107** **FEES** **Revise as follows:** ~~**106.6**~~ **107.1** ~~**Fees.**~~ **Payment of fees.** A permit shall not be ~~issued~~ valid until the fees prescribed ~~in Section 106.6.2~~ by law have been paid.~~,~~ ~~and an~~ An amendment to a permit shall not be released until the additional fee, if any~~, due to an increase of the plumbing systems~~, has been paid. **Add new text as follows:** **107.2 Schedule of permit fees.** Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority. **Delete without substitution:** ~~**106.6.2 Fee schedule.** The fees for all plumbing work shall be as indicated in the following schedule:~~					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~[JURISDICTION TO INSERT APPROPRIATE SCHEDULE]~~ **Revise as follows:** ~~**106.6.1**~~ **107.4 Work commencing before permit issuance.** Any person who commences any work on a ~~plumbing~~ mechanical system before obtaining the necessary permits shall be subject to ~~100 percent of the usual permit~~ a fee established by the code official that shall be in addition to the required permit fees. **Add new text as follows:** **107.5 Related fees.** The payment of the fee for the construction, alteration, removal or demolition for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law. **Delete without substitution:** ~~106.6.3 **Fee refunds.** The code official shall authorize the refunding of fees as follows:~~ ~~1. The full amount of any fee paid hereunder that was erroneously paid or collected.~~ ~~2. Not more than [SPECIFY PERCENTAGE] percent of the permit fee paid where work has been done under a permit issued in accordance with this code.~~ ~~3. Not more than [SPECIFY PERCENTAGE] percent of the plan review fee paid where an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any plan review effort has been expended.~~ ~~The code official shall not authorize the refunding of any fee paid except upon written application filed by the original permittee not later than 180 days after the date of fee payment.~~ **Add new text as follows:** **107.6 Refunds.** The code official is authorized to establish a refund policy.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	2018 International Property Maintenance Code **Add new text as follows:** **SECTION 104** **FEES** **Revise as follows:** **[A] ~~103.5~~ 104.1 Fees.** The fees for activities and services performed by the department in carrying out its responsibilities under this code shall be as ~~indicated in the following schedule~~ established by the applicable governing authority. ~~[JURISDICTION TO INSERT APPROPRIATE SCHEDULE.]~~ **Add new text as follows:** **104.2 Refunds.** The code official is authorized to establish a refund policy. **2018 International Fuel Gas Code** **Add new text as follows:** **SECTION 107** **FEES** **Revise as follows:** **[A] ~~106.6~~ 107.1 ~~Fees.~~ Payment of fees.** A permit shall not be ~~issued~~ valid until the fees prescribed ~~in Section 106.6.2~~ by law have been paid.~~, nor shall an~~ An amendment to a permit shall not be released until the additional fee, if any~~, due to an increase of the installation~~, has been paid. **Add new text as follows:** 107.2 **Schedule of permit fees.** Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Delete without substitution: ~~**[A] 106.6.2 Fee schedule.** The fees for work shall be as indicated in the following schedule.~~ ~~[JURISDICTION TO INSERT APPROPRIATE SCHEDULE]~~ **Add new text as follows:** 107.3 **Permit valuations.** The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as plumbing equipment and permanent systems. If, in the opinion of the code official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the code official. Final building permit valuation shall be set by the code official. **Revise as follows:** **[A] ~~106.6.1~~ 107.4 Work commencing before permit issuance.** Any person who commences any work on ~~an installation~~ a mechanical system before obtaining the necessary permits shall be subject to ~~100 percent of the usual permit fee~~ a fee established by the code official that shall be in addition to the required permit fees. **Add new text as follows:** 107.5 **Related fees.** The payment of the fee for the construction, alteration, removal or demolition for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law. **Delete without substitution:** ~~**[A] 106.6.3 Fee refunds.** The code official shall authorize the refunding of fees as follows.~~ ~~1. The full amount of any fee paid hereunder that was erroneously paid or collected.~~ ~~2. Not more than [SPECIFY PERCENTAGE] percent of the permit~~					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~fee paid where work has not been done under a permit issued in accordance with this code.~~ ~~3. Not more than [SPECIFY PERCENTAGE] percent of the plan review fee paid where an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any plan review effort has been expended.~~ ~~The code official shall not authorize the refunding of any fee paid, except upon written application filed by the original permittee not later than 180 days after the date of fee payment.~~ **Add new text as follows:** 107.6 **Refunds.** The code official is authorized to establish a refund policy. **2018 International Swimming Pool and Spa Code** **Add new text as follows:** **SECTION 106 FEES** **Revise as follows:** **[A] ~~105.6~~106.1 ~~Fees.~~ Payment of fees.** A permit shall not be valid until the fees prescribed by law have been paid. An amendment to a permit shall not be released until the additional fee, if any, has been paid. **Delete without substitution:** **~~[A] 105.6.2 Fee schedule.~~** ~~The fees for work shall be as indicated in the following schedule:~~ ~~[JURISDICTION TO INSERT APPROPRIATE SCHEDULE]~~ **Add new text as follows:** 106.2 **Schedule of permit fees.** Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority.					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	106.3 **Permit valuations.** The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as mechanical equipment and permanent systems. If, in the opinion of the code official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the code official. Final building permit valuation shall be set by the code official. **Revise as follows:** **[A] ~~105.6.1~~ 106.4 Work commencing before permit issuance.** Any person who commences any work on a mechanical system before obtaining the necessary permits shall be subject to a fee ~~as indicated in the adopted fee schedule and would~~ established by the code official that shall be in addition to the required permit fees. **Add new text as follows:** **106.5 Related fees.** The payment of the fee for the construction, alteration, removal or demolition for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law. **Delete without substitution:** ~~**[A] 105.6.3 Fee refunds.** The code official shall authorize the refunding of fees as follows:~~ ~~1. The full amount of any fee paid hereunder that was erroneously paid or collected.~~ ~~2. Not more than [SPECIFY PERCENTAGE] percent of the permit fee paid when no work has been done under a permit issued in accordance with this code.~~ ~~3. Not more than [SPECIFY PERCENTAGE] percent of the plan review fee paid when an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any plan review effort has been expended.~~					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~The code official shall not authorize the refunding of any fee paid except upon written application filed by the original permittee not later than 180 days after the date of fee payment.~~ **Add new text as follows:** **106.6 Refunds.** The code official is authorized to establish a refund policy.					
ADM28-19	**2018 International Building Code** **Revise as follows:** **SECTION 107** **~~SUBMITTAL~~ CONSTRUCTION DOCUMENTS** **2018 International Fire Code** **Revise as follows:** **SECTION 106** **CONSTRUCTION DOCUMENTS** **Delete without substitution:** ~~**[A] 105.4 Construction documents.** Construction documents shall be in accordance with Sections 105.4.1 through 105.4.6.~~ **Revise as follows:** **[A] ~~105.4.1~~106.1 Submittals.** *Construction documents* and supporting data shall be submitted in two or more sets with each application for a permit and in such form and detail as required by the *fire code official*. The *construction documents* shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. **Exception:** The *fire code official* is authorized to waive the submission of *construction documents* and supporting data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of *construction documents* is not necessary to obtain compliance with this code.		X			Provides for consistency.

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~105.4.1.1~~ 106.2 Examination of documents. The *fire code official* shall examine or cause to be examined the accompanying *construction documents* and shall ascertain by such examinations whether the work indicated and described is in accordance with the requirements of this code. **[A] ~~105.4.2~~ 106.2.1 Information on construction documents.** *Construction documents* shall be drawn to scale on suitable material. Electronic media documents are allowed to be submitted where *approved* by the *fire code official*. *Construction documents* shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations as determined by the *fire code official*. **[A] ~~105.4.2.1~~ 106.2.2 Fire protection system shop drawings.** Shop drawings for the fire protection system(s) shall be submitted to indicate compliance with this code and the *construction documents*, and shall be *approved* prior to the start of installation. Shop drawings shall contain all information as required by the referenced installation standards in Chapter 9. **[A] ~~105.4.3~~ 106.2.3 Applicant responsibility.** It shall be the responsibility of the applicant to ensure that the *construction documents* include all of the fire protection requirements and the shop drawings are complete and in compliance with the applicable codes and standards. **[A] ~~105.4.4~~ 106.2.4 Approved documents.** *Construction documents approved* by the *fire code official* are approved with the intent that such *construction documents* comply in all respects with this code. Review and approval by the *fire code official* shall not relieve the applicant of the responsibility of compliance with this code. **[A] ~~105.4.4.1~~ 106.2.4.1 Phased approval.** The *fire code official* is authorized to issue a permit for the construction of part of a structure, system or operation before the *construction documents* for the whole structure, system or operation have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such permit for parts of a structure, system or operation shall proceed at the holder's own risk with the building operation					

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		Decrease	None	Increase		
Sub Code:						
	and without assurance that a permit for the entire structure, system or operation will be granted. **[A] ~~105.4.5~~ 106.3 Amended construction documents.** Work shall be installed in accordance with the *approved construction documents*, and any changes made during construction that are not in compliance with the *approved construction documents* shall be resubmitted for approval as an amended set of *construction documents*. **[A] ~~105.4.6~~ 106.4 Retention of construction documents.** One set of *construction documents* shall be retained by the *fire code official* for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of *approved construction documents* shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. **2018 International Plumbing Code** **Revise as follows:** **SECTION 107** **CONSTRUCTION DOCUMENTS** **~~106.3.1~~ 107.1 Construction documents.** Construction documents, engineering calculations, diagrams and other such data shall be submitted in two or more sets with each application for a permit. The code official shall require construction documents, computations and specifications to be prepared and designed by a registered design professional where required by state law. Construction documents shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. Construction documents for buildings more than two stories in height shall indicate where penetrations will be made for pipes, fittings and components and shall indicate the materials and methods for maintaining required structural safety, fire-resistance rating and fireblocking. **Exception:** The code official shall have the authority to waive the submission of construction documents, calculations or other data if the nature of the work applied for is such that reviewing of construction documents is not necessary to determine compliance with this code.					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~106.5.6~~ 107.2 Retention of construction documents. One set of *approved* construction documents shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of *approved* construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. **2018 International Mechanical Code** **Revise as follows:** **SECTION 107** **CONSTRUCTION DOCUMENTS** **[A] ~~106.3.1~~ 107.1 Construction documents.** *Construction documents*, engineering calculations, diagrams and other data shall be submitted in two or more sets with each application for a permit. The code official shall require *construction documents*, computations and specifications to be prepared and designed by a *registered design professional* where required by state law. Where special conditions exist, the code official is authorized to require additional *construction documents* to be prepared by a *registered design professional*. *Construction documents* shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. *Construction documents* for buildings more than two stories in height shall indicate where penetrations will be made for mechanical systems, and the materials and methods for maintaining required structural safety, fire-resistance rating and fireblocking. **Exception:** The code official shall have the authority to waive the submission of *construction documents*, calculations or other data if the nature of the work applied for is such that reviewing of *construction documents* is not necessary to determine compliance with this code. **[A] ~~106.4.6~~ 107.2 Retention of construction documents.** One set of *approved construction documents* shall be retained by the code					

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		Decrease	None	Increase		
Sub Code:						
	official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of *approved construction documents* shall be returned to the applicant, and said set shall be kept on the site of the building or job at all times during which the work authorized thereby is in progress. **2018 International Fuel Gas Code** **Revise as follows:** **SECTION 107** **CONSTRUCTION DOCUMENTS** **[A] ~~106.3.1~~ 107.1 Construction documents.** *Construction documents*, engineering calculations, diagrams and other data shall be submitted in two or more sets with each application for a permit. The code official shall require *construction documents*, computations and specifications to be prepared and designed by a registered design professional where required by state law. *Construction documents* shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. *Construction documents* for buildings more than two stories in height shall indicate where penetrations will be made for installations and shall indicate the materials and methods for maintaining required structural safety, fire- resistance rating and fireblocking. **Exception:** The code official shall have the authority to waive the submission of *construction documents*, calculations or other data if the nature of the work applied for is such that reviewing of *construction documents* is not necessary to determine compliance with this code. **[A] ~~106.5.6~~ 107.2 Retention of construction documents.** One set of *approved construction documents* shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of *approved construction documents* shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. **2018 International Swimming Pool and Spa Code**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Revise as follows: **SECTION 106** **CONSTRUCTION DOCUMENTS** **[A] ~~105.3~~ 106.1 Construction documents.** Construction documents, engineering calculations, diagrams and other such data shall be submitted in two or more sets with each application for a permit. The code official shall require construction documents, computations and specifications to be prepared and designed by a registered design professional where required by state law. Construction documents shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. **[A] ~~105.5.6~~ 106.2 Retention of construction documents.** One set of *approved* construction documents shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One **set of *approved* construction documents shall be returned to the** applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. **2018 International Private Sewage Disposal Code** **Revise as follows:** **SECTION 107** **CONSTRUCTION DOCUMENTS** **[A] ~~106.2.1~~ 107.1 Construction documents.** An application for a permit shall be accompanied by not less than two copies of construction documents drawn to scale, with sufficient clarity and detail dimensions showing the nature and character of the work to be performed. Specifications shall include pumps and controls, dose volume, elevation differences (vertical lift), pipe friction loss, pump performance curve, pump model and pump manufacturer. The code official is permitted to waive the requirements for filing construction documents where the work involved is of a minor nature. Where the quality of the materials is essential for conformity to this code, specific information shall be given to establish such quality, and this code shall not be cited, or the term "legal" or its equivalent used as a substitute for specific information.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~106.3.6~~ 107.2 Retention of construction documents. One set of approved construction documents shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of approved construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. **2018 International Wildland-Urban Interface Code** **Revise as follows:** **SECTION 108** **~~PLANS AND SPECIFICATIONS~~ CONSTRUCTION DOCUMENTS**					
ADM29-19	**2018 International Building Code** **Revise as follows:** **[A] 107.2.4 Exterior wall envelope.** *Construction documents* for all buildings shall describe the *exterior wall envelope* in sufficient detail to determine compliance with this code. The *construction documents* shall provide details of the *exterior wall envelope* as required, including flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves or parapets, means of drainage, water-resistive ~~membrane~~ barrier and details around openings. The *construction documents* shall include manufacturer's installation instructions that provide supporting documentation that the proposed penetration and opening details described in the *construction documents* maintain the weather resistance of the *exterior wall envelope*. The supporting documentation shall fully describe the *exterior wall* system that was tested, where applicable, as well as the test procedure used. **2018 International Existing Building Code** **Revise as follows:** **[A] 106.2.4 Exterior wall envelope.** Construction documents for work affecting the exterior wall envelope shall describe the exterior wall envelope in sufficient detail to determine compliance with this code.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	The construction documents shall provide details of the exterior wall envelope as required, including windows, doors, flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves or parapets, means of drainage, water-resistive ~~membrane~~ barrier, and details around openings. The construction documents shall include manufacturer's installation instructions that provide supporting documentation that the proposed penetration and opening details described in the construction documents maintain the wind and weather resistance of the exterior wall envelope. The supporting documentation shall fully describe the exterior wall system that was tested, where applicable, as well as the test procedure used.					
ADM30-19	**2018 International Building Code** **Revise as follows:** **[A] 107.2.5 Exterior balconies and elevated walking surfaces.** Where balconies or other elevated walking surfaces ~~are exposed to water from direct or blowing rain, snow, or irrigation~~ have *weather-exposed surfaces*, and the structural framing is protected by an impervious moisture barrier, the *construction documents* shall include details for all elements of the impervious moisture barrier system. The *construction documents* shall include manufacturer's installation instructions. **2018 International Existing Building Code** **Revise as follows:** **[A] 106.2.5 Exterior balconies and elevated walking surfaces.** Where the scope of work involves balconies or other elevated walking surfaces ~~exposed to water from direct or blowing rain, snow or irrigation~~ have *weather-exposed surfaces*, and the structural framing is protected by an impervious moisture barrier, the construction documents shall include details for all elements of the impervious moisture barrier system. The construction documents shall include manufacturer's installation instructions.		X			Clarification
ADM31-19 Part I	**2018 International Plumbing Code** **Add new text as follows:** **SECTION 108**		X			Provides consistency through the I-Codes by using standard

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	NOTICE OF APPROVAL **Revise as follows:** ~~**107.5**~~ **108.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. ~~**107.5.1**~~ **108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure, premise or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. **2018 International Mechanical Code** **Add new text as follows:** **SECTION 108** **NOTICE OF APPROVAL** **Revise as follows:** **[A]** ~~**107.4**~~ **108.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A]** ~~**107.4.1**~~ **108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, on the basis of incorrect information supplied, or where it is determined that the building or structure, premise or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. **2018 International Fuel Gas Code** **Add new text as follows:** **SECTION 108**					terminology and it is also consistent with previous actions.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	NOTICE OF APPROVAL **Revise as follows:** **[A] ~~107.4~~ 108.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A] ~~107.4.1~~ 108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, or on the basis of incorrect information supplied or where it is determined that the building or structure, premise, or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. **2018 International Swimming Pool and Spa Code** **Add new text as follows:** **SECTION 107** **NOTICE OF APPROVAL** **Revise as follows:** **[A] ~~106.17~~ 107.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A] ~~106.17.1~~ 107.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, or on the basis of the incorrect information supplied, or where it is determined that the building or structure, premise, system or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. **2018 International Private Sewage Disposal Code** **Add new text as follows:** **SECTION 108**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	NOTICE OF APPROVAL **Revise as follows:** **[A] ~~107.7~~ 108.1 Approval.** After the prescribed inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A] ~~107.7.1~~ 108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, on the basis of incorrect information supplied, or where it is determined that the building or structure, premise or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.					
ADM31-19 Part II	**2018 International Plumbing Code** **Add new text as follows:** **SECTION 108** **NOTICE OF APPROVAL** **Revise as follows:** **~~107.5~~ 108.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **~~107.5.1~~ 108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure, premise or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. **2018 International Mechanical Code** **Add new text as follows:** **SECTION 108** **NOTICE OF APPROVAL**		X			Provides consistency through the I-Codes by using standard terminology and it is also consistent with previous actions.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Revise as follows: **[A] ~~107.4~~ 108.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A] ~~107.4.1~~ 108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, on the basis of incorrect information supplied, or where it is determined that the building or structure, premise or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. **2018 International Fuel Gas Code** **Add new text as follows:** **SECTION 108** **NOTICE OF APPROVAL** **Revise as follows:** **[A] ~~107.4~~ 108.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A] ~~107.4.1~~ 108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, or on the basis of incorrect information supplied or where it is determined that the building or structure, premise, or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. **2018 International Swimming Pool and Spa Code** **Add new text as follows:** **SECTION 107** **NOTICE OF APPROVAL**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Revise as follows: **[A] ~~106.17~~ 107.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A] ~~106.17.1~~ 107.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, or on the basis of the incorrect information supplied, or where it is determined that the building or structure, premise, system or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. **2018 International Private Sewage Disposal Code** **Add new text as follows:** **SECTION 108** **NOTICE OF APPROVAL** **Revise as follows:** **[A] ~~107.7~~ 108.1 Approval.** After the prescribed inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A] ~~107.7.1~~ 108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, on the basis of incorrect information supplied, or where it is determined that the building or structure, premise or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.					
ADM31-19 Part III	**2018 International Energy Conservation Code** **Add new text as follows:** **SECTION R106** **NOTICE OF APPROVAL** **Revise as follows:**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~**R105.7**~~ **R106.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the *code official*. ~~**R105.7.1**~~ **R106.2 Revocation.** The *code official* is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the *building* or structure, premise, or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.					
ADM33-19 Part I	**Modify proposal as follows:** **2018 International Fire Code** **106.3 Permit valuations.** The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. If, in the opinion of the ~~building~~ fire code official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the ~~building~~ fire code official. Final ~~building~~ permit valuation shall be set by the ~~building~~ fire code official.		X			Clarification
ADM33-19 Part IV	**2018 International Green Construction Code** **Add new text as follows:** **SECTION 107** **FEES** 107.1 **Payment of fees.** A *permit* shall not be valid until the fees prescribed by law have been paid, nor shall an amendment to a *permit* be released until the additional fee, if any, has been paid. 107.2 **Schedule of permit fees.** Where a *permit* is required, a fee for each *permit* shall be paid as required, in accordance with the schedule as established by the applicable governing authority. 107.3 **Permit valuations.** The applicant for a *permit* shall provide an		X			Necessary addition for clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	estimated *permit* value at time of application. *Permit* valuations shall include total value of work, including materials and labor, for which the *permit* is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. If, in the opinion of the *building official*, the valuation is underestimated on the application, the *permit* shall be denied, unless the applicant can show detailed estimates to meet the approval of the *building official*. Final building *permit* valuation shall be set by the *building official*. 107.4 **Work commencing before permit issuance.** Any person who commences any work before obtaining the necessary *permits* shall be subject to a fee established by the *building official* that shall be in addition to the required *permit* fees. 107.5 **Related fees.** The payment of the fee for the construction, *alteration*, removal or demolition for work done in connection to or concurrently with the work authorized by a *permit* shall not relieve the applicant or holder of the *permit* from the payment of other fees that are prescribed by law. 107.6 **Refunds.** The *building official* is authorized to establish a refund policy.					
ADM34-19	**2018 International Existing Building Code** **Add new text as follows:** **109.3.10 Flood hazard documentation.** Where a building is located in a flood hazard area, documentation of the elevation of the lowest floor as required in the *International Building Code* or the *International Residential Code*, as applicable, shall be submitted to the building official prior to the final inspection.		X			Necessary addition for clarification
ADM35-19	**2018 International Building Code** **Add new text as follows:** **110.3.5 Type IV-A, IV-B, and IV-C connection protection inspection.** In buildings of Type IV-A, IV-B, and IV-C Construction, where connection fire resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.1, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.		X			Necessary addition for clarification
ADM36-19	**2018 International Building Code**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Revise as follows: **[A] 110.3.6 Weather-exposed balcony and walking surface waterproofing.** Where balconies or other elevated walking surfaces ~~are exposed to water from direct or blowing rain, snow or irrigation,~~ have *weather-exposed surfaces*, and the structural framing is protected by an impervious moisture barrier, all elements of the impervious moisture barrier system shall not be concealed until inspected and *approved*. **Exception:** Where *special inspections* are provided in accordance with Section 1705.1.1, Item 3. **2018 International Existing Building Code** **Revise as follows:** **[A] 109.3.6 Weather-exposed balcony and walking surface waterproofing.** Where the scope of work involves balconies or other elevated walking surfaces ~~exposed to water from direct or blowing rain, snow or irrigation,~~ have *weather-exposed surfaces*, and the structural framing is protected by an impervious moisture barrier, all elements of the impervious moisture barrier system shall not be concealed until inspected and *approved*. **Exception:** Where special inspections are provided in accordance with Section 1705.1.1, Item 3, of the International Building Code.					
ADM38-19 Part I	**2018 International Building Code** **Revise as follows:** **SECTION 111** **CERTIFICATE OF OCCUPANCY** **[A] 111.1 Change of occupancy.** A building or structure shall not be used or occupied in whole or in part, and a change of occupancy of a building or structure or portion thereof shall not be made, until the *building official* has issued a certificate of occupancy therefor as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Certificates presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exception: Certificates of occupancy are not required for work exempt from *permits* in accordance with Section 105.2. **[A] 111.2 Certificate issued.** After the *building official* inspects the building or structure and does not find violations of the provisions of this code or other laws that are enforced by the department ~~of building safety~~, the *building official* shall issue a certificate of occupancy that contains the following: 1. The ~~building~~ *permit* number. 2. The address of the structure. 3. The name and address of the *owner* or the owner's authorized agent. 4. A description of that portion of the structure for which the certificate is issued. 5. A statement that the described portion of the structure has been inspected for compliance with the requirements of this code ~~for the occupancy and division of occupancy and the use for which the proposed occupancy is classified~~. 6. The name of the *building official*. 7. The edition of the code under which the *permit* was issued. 8. The use and occupancy, in accordance with the provisions of Chapter 3. 9. The type of construction as defined in Chapter 6. 10. The design *occupant load*. 11. ~~If~~ Where an *automatic sprinkler system* is provided, and whether the sprinkler system is required. 12. Any special stipulations and conditions of the building *permit*. **[A] 111.3 Temporary occupancy.** The *building official* is authorized to issue a temporary certificate of occupancy before the completion of the entire work covered by the *permit*, provided that such portion or portions shall be occupied safely. The *building official* shall set a time period during which the temporary certificate of occupancy is valid. **[A] 111.4 Revocation.** The *building official* is authorized to, in writing, suspend or revoke a certificate of occupancy or completion issued under the provisions of this code, in writing, wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of ~~any ordinance or regulation or any of~~ the provisions of this code or other ordinance of the jurisdiction.		-			

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	2018 International Existing Building Code **Revise as follows:** **SECTION 110** **CERTIFICATE OF OCCUPANCY** **[A] 110.1 Change of occupancy.** ~~Altered areas of a building and relocated buildings~~ A structure shall not be used or occupied in whole or in part, and a *change of occupancy* of a ~~building~~ structure or portion thereof shall not be made until the *code official* has issued a certificate of occupancy therefor as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Certificates presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid. **Exception:** Certificates of occupancy are not required for work exempt from permits in accordance with Section 105.2. **[A] 110.2 Certificate issued.** After the *code official* inspects the ~~building~~ structure and does not find violations of the provisions of this code or other laws that are enforced by the ~~Department of Building Safety~~ department, the *code official* shall issue a certificate of occupancy that contains the following: 1. The ~~building~~ permit number. 2. The address of the structure. 3. The name and address of the owner or the owner's authorized agent. 4. A description of that portion of the structure for which the certificate is issued. 5. A statement that the described portion of the structure has been inspected for compliance with the requirements of this code for the occupancy and division of occupancy and the use for which the proposed occupancy is classified. 6. The name of the *code official*. 7. The edition of the code under which the permit was issued. 8. The use and occupancy in accordance with the provisions of the International Building Code . 9. The type of construction as defined in the International Building Code .					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	10. The design occupant load and any impact the *alteration* has on the design occupant load of the area not within the scope of the work. 11. ~~If fire protection systems are provided, whether the fire protection systems are required.~~ Where an automatic sprinkler system is provided, and whether an automatic sprinkler system is required. 12. Any special stipulations and conditions of the building permit. **[A] 110.3 Temporary occupancy.** The *code official* is authorized to issue a temporary certificate of occupancy before the completion of the entire work covered by the permit, provided that such portion or portions shall be occupied safely. The *code official* shall set a time period during which the temporary certificate of occupancy is valid. **[A] 110.4 Revocation.** The *code official* is authorized ~~to, in writing,~~ to suspend or revoke a certificate of occupancy or completion issued under the provisions of this code, in writing, wherever the certificate is issued in error or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of ~~any ordinance or regulation or any of~~ the provisions of this code or other ordinance of the jurisdiction.					
ADM38-19 Part II	**2018 International Residential Code** **Revise as follows:** **SECTION R110** **CERTIFICATE OF OCCUPANCY** **R110.1 ~~Use and~~ Change of occupancy.** A building or structure shall not be used or occupied in whole or in part, and a *change of occupancy* ~~or change of use~~ of a building or structure or portion thereof shall not be made, until the *building official* has issued a certificate of occupancy therefor as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the *jurisdiction*. Certificates presuming to give authority to violate or cancel the provisions of this code or other ordinances of the *jurisdiction* shall not be valid. **Exceptions:** 1. Certificates of occupancy are not required for work exempt from permits under Section R105.2.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	2. Accessory buildings or structures. **R110.2 Change in use.** Changes in the character or use of an existing structure shall not be made except as specified in Sections 407 and 408 of the International Existing Building Code. **R110.3 Certificate issued.** After the *building official* inspects the building or structure and does not find violations of the provisions of this code or other laws that are enforced by the department ~~of building safety~~, the *building official* shall issue a certificate of occupancy containing the following: 1. The ~~building~~ *permit* number. 2. The address of the structure. 3. The name and address of the owner or the owner's authorized agent. 4. A description of that portion of the structure for which the certificate is issued. 5. A statement that the described portion of the structure has been inspected for compliance with the requirements of this code. 6. The name of the *building official*. 7. The edition of the code under which the *permit* was issued. 8. ~~If~~ Where an automatic sprinkler system is provided and whether the sprinkler system is required. 9. Any special stipulations and conditions of the building *permit*. **R110.4 Temporary occupancy.** The *building official* is authorized to issue a temporary certificate of occupancy before the completion of the entire work covered by the *permit*, provided that such portion or portions shall be occupied safely. The *building official* shall set a time period during which the temporary certificate of occupancy is valid. **R110.5 Revocation.** The *building official* ~~shall, in writing,~~ is authorized to suspend or revoke a certificate of occupancy or completion issued under the provisions of this code, in writing, wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of ~~any ordinance or regulation or any of the provisions of this code.~~ the provisions of this code or other ordinance of the jurisdiction.					
ADM39-19 Part I	**Modify proposal as follows:**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	2018 International Building Code **[A] 112.2 Temporary connection.** The building official shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, power, water system or ~~power~~ sewer system for the purpose of testing systems or for use under a temporary approval. **2018 International Plumbing Code** **108.2 Temporary connection.** The code official shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, power, water system or ~~power~~ sewer system for the purpose of testing plumbing systems or for use under a temporary approval. **2018 International Mechanical Code** **[A] 108.2 Temporary connection.** The code official shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, power, water system or ~~power~~ sewer system for the purpose of testing systems or for use under a temporary approval. **2018 International Fuel Gas Code** **[A] 108.2 Temporary connection.** The code official shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, power, water system or ~~power~~ sewer system for the purpose of testing systems or for use under a temporary approval. **2018 International Existing Building Code** **[A] 111.2 Temporary connection.** The *code official* shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, power water system or ~~power~~ sewer system for the purpose of testing systems or for use under a temporary approval. **2018 International Private Sewage Disposal Code** **[A] 108.2 Temporary connection.** The code official shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, power, water system or ~~power~~ sewer system for the purpose of testing systems or for use under a temporary approval. **2018 International Wildland-Urban Interface Code**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	113.2 Temporary connection. The code official shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, power, water system or ~~power~~ sewer system for the purpose of testing systems or for use under a temporary approval. **2018 International Swimming Pool and Spa Code** **[A] 107.2 Temporary connection.** The code official shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, power, water system or ~~power~~ sewer system for the purpose of testing systems or for use under a temporary approval.					
ADM40-19 Part I	**2018 International Building Code** **Revise as follows:** **SECTION 113** **~~BOARD~~ MEANS OF APPEALS** **[A] 113.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the building official. **[A] 113.2 Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an ~~equally good~~ equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code or interpret the administration of this code. **[A] 113.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **Add new text as follows:**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	113.4 Administration. The building official shall take immediate action in accordance with the decision of the board. **2018 International Existing Building Code** **Revise as follows:** **SECTION 112** **~~BOARD~~ MEANS OF APPEALS** **[A] 112.1 General.** In order to hear and decide appeals of orders, decisions , or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing ~~body~~ authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the building official. **[A] 112.2 Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply , or an ~~equally good~~ equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code or interpret the administration of this code. **[A] 112.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **Add new text as follows:** **113.4 Administration.** The code official shall take immediate action in accordance with the decision of the board. **2018 International Fire Code** **Revise as follows:**				-	

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	SECTION 109 **~~BOARD~~ MEANS OF APPEALS** **[A] 109.1 Board of appeals established.** In order to hear and decide appeals of orders, decisions or determinations made by the fire code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing ~~body~~ authority and shall hold office at its pleasure. ~~The *fire code official* shall be an ex officio member of said board but shall not have a vote on any matter before the board.~~ The board shall adopt rules of procedure for conducting its business , and shall render all decisions and findings in writing to the appellant with a duplicate copy to the fire code official. **[A] 109.2 Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted ~~hereunder~~ thereunder have been incorrectly interpreted~~;~~ the provisions of this code do not fully apply , or an equivalent ~~method of protection or safety~~ or better form of construction is proposed. The board shall not have authority to waive requirements of this code or interpret the administration of this code. **[A] 109.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to hazards of fire, explosions, hazardous conditions or *fire protection systems*, and are not employees of the jurisdiction. **Add new text as follows:** **109.4 Administration.** The fire code official shall take immediate action in accordance with the decision of the board. **2018 International Wildland-Urban Interface Code** **Revise as follows:** **SECTION 106** **MEANS OF APPEALS** **[A] 106.1 General.** ~~To determine the suitability of alternative materials and methods and to provide for reasonable interpretations~~	-				

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~of the provisions~~ In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby ~~is~~ created a board of ~~appeals consisting of five members who are qualified by experience and training to pass judgment on pertinent matters. The code official, *building official* and fire chief shall be ex officio members, and the code official shall act as secretary of the board. The~~ appeals. The board of appeals shall be appointed by the ~~legislative body~~ applicable governing authority and shall hold office at ~~their discretion.~~ its pleasure. The board shall adopt ~~reasonable~~ rules ~~and regulations~~ of procedure for conducting its ~~investigations~~ business and shall render all decisions and findings in writing to the ~~code official,~~ appellant with a duplicate copy to the ~~applicant~~ code official. **[A] 106.2 Limitations of authority.** ~~The board of appeals shall not have authority relative to interpretation of the administrative provisions of this code and~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code or interpret the administration of this code. **Add new text as follows:** 106.3 **Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. **Revise as follows:** 106.4 **Administration.** The code official shall take immediate action in accordance with the decision of the board. **2018 International Plumbing Code** **Revise as follows:** **SECTION 109** **MEANS OF ~~APPEAL~~ APPEALS**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Add new text as follows: **109.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **Revise as follows:** ~~**109.1**~~**109.2 ~~Application for appeal.~~ Limitations on authority.** ~~Any person shall have the right to appeal a decision of the code official to the board of appeals.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply , or an ~~equally good~~ equivalent or better form of construction is proposed. The ~~application shall be filed on a form obtained from the code official within 20 days after the notice was served.~~ board shall not have authority to waive requirements of this code or interpret the administration of this code. 109.3 **Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. 109.4 **Administration.** The code official shall take immediate action in accordance with the decision of the board. **SECTION 110** **BOARD OF APPEALS** ~~**109.2**~~ **110.1 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed. **2018 International Mechanical Code**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Revise as follows: **SECTION 109** **MEANS OF ~~APPEAL~~ APPEALS** **Add new text as follows:** **109.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **Revise as follows:** **[A] ~~109.1~~ 109.2 ~~Application for appeal.~~ Limitations on authority.** ~~A person shall have the right to appeal a decision of the code official to the board of appeals.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply , or an ~~equally good~~ equivalent or better form of construction is proposed. The ~~application shall be filed on a form obtained from the code official within 20 days after the notice was served.~~ board shall not have authority to waive requirements of this code or interpret the administration of this code. **Delete without substitution:** **~~[A] 109.1.1 Limitation of authority.~~** ~~The board of appeals shall not have authority relative to interpretation of the administration of this code nor shall such board be empowered to waive requirements of this code.~~ **Add new text as follows:** 109.3 **Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. **Revise as follows:**		-			

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	109.4 **Administration** The code official shall take immediate action in accordance with the decision of the board. **SECTION 110** **BOARD OF APPEALS** **[A] ~~109.2~~ 110.1 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years; one for 4 years; one for 3 years; one for 2 years; and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed. **2018 International Fuel Gas Code** **Revise as follows:** **SECTION 109 (IFGC)** **MEANS OF APPEAL** **109.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **[A] ~~109.1~~109.2 ~~Application for appeal.~~ Limitations on authority.** ~~A person shall have the right to appeal a decision of the code official to the board of appeals.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an ~~equally good~~ equivalent or better form of construction is proposed. The ~~application shall be filed on a form obtained from the code official within 20 days after the notice was served.~~ board shall not have authority to waive requirements of this code or interpret the administration of this code. 109.3 **Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	of the jurisdiction. 109.4 **Administration.** The code official shall take immediate action in accordance with the decision of the board. **SECTION 110** **BOARD OF APPEALS** **[A] ~~109.2~~ 110.1 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years; one for 4 years; one for 3 years; one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed. **2018 International Swimming Pool and Spa Code** **Revise as follows:** **SECTION 108** **MEANS OF APPEAL** **108.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **[A] ~~108.1~~ 108.2 ~~Application for appeal.~~ Limitations on authority.** ~~Any person shall have the right to appeal a decision of the code official to the board of appeals.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted ~~there under~~ thereunder have been incorrectly interpreted, the provisions of this code do not fully apply , or an ~~equally good~~ equivalent or better form of construction is proposed. The ~~application shall be filed on a form obtained from the code official within 20 days after the notice was served.~~ board shall not have authority to waive requirements of this code or interpret the administration of this code. 108.3 **Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees				-	

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	of the jurisdiction. 108.4 **Administration.** The code official shall take immediate action in accordance with the decision of the board. **SECTION 109** **BOARD OF APPEALS** **[A] ~~108.2~~ 109.1 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed. **2018 International Property Maintenance Code** **Revise as follows:** **SECTION 111** **MEANS OF APPEAL** **111.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **[A] ~~111.1~~111.2 ~~Application for appeal.~~ Limitations on authority.** ~~Any person directly affected by a decision of the *code official* or a notice or order issued under this code shall have the right to appeal to the board of appeals, provided that a written application for appeal is filed within 20 days after the day the decision, notice or order was served.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply~~, or the~~ or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code ~~are adequately satisfied by other means.~~ or interpret the administration of this code.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	111.3 **Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. 111.4 **Administration.** The code official shall take immediate action in accordance with the decision of the board. **[A] ~~111.8~~ 111.5 Stays of enforcement.** Appeals of notice and orders (other than *Imminent Danger* notices) shall stay the enforcement of the notice and order until the appeal is heard by the appeals board. **SECTION 112** **BOARD OF APPEALS** **[A] ~~111.2~~ 112.1 Membership of board.** The board of appeals shall consist of not less than three members who are qualified by experience and training to pass on matters pertaining to property maintenance and who are not employees of the jurisdiction. The *code official* shall be an ex-officio member but shall not vote on any matter before the board. The board shall be appointed by the chief appointing authority and shall serve staggered and overlapping terms. **2018 International Private Sewage Disposal Code** **Revise as follows:** **SECTION 109** **MEANS OF APPEAL** **109.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **[A] ~~109.1~~ 109.2 ~~Application for appeal.~~ Limitations on authority.** ~~Any person shall have the right to appeal a decision of the code official to the board of appeals.~~ An application for appeal shall be based on a					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	claim that the true intent of this code or the rules legally adopted thereunder ~~has~~ have been incorrectly interpreted, the provisions of this code do not fully apply or an ~~equally good~~ equivalent or better form of construction is proposed. The ~~application shall be filed on a form obtained from the code official within 20 days after the notice was served.~~ board shall not have authority to waive requirements of this code or interpret the administration of this code. **109.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. **109.4 Administration.** The code official shall take immediate action in accordance with the decision of the board. **SECTION 110** **BOARDS OF APPEALS** **[A] ~~109.2~~ 110.1 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed.					
ADM40-19 Part IV	**2018 International Energy Conservation Code** **Revise as follows:** **SECTION R109** **~~BOARD~~ MEANS OF APPEALS** **R109.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. ~~The *code official* shall be an ex officio member of said board but shall not have a vote on any matter before the board.~~ The board of appeals shall be appointed by the applicable governing ~~body~~ authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **R109.2 Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an ~~equally good~~ equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code or interpret the administration of this code. **R109.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. **Revise as follows:** **R109.4 Administration.** The code official shall take immediate action in accordance with the decision of the board.					
ADM40-19 Part V	**2018 International Energy Conservation Code** **Revise as follows:** **SECTION 108** **~~BOARD~~ MEANS OF APPEALS** **108.1 General.** ~~Appeals~~ In order to hear and decide appeals of orders, decisions or determinations made by the authority having jurisdiction relative to the application and interpretation of this code, there shall be ~~made to a Board of Appeals as determined by the~~ and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the authority having jurisdiction. **108.2 Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted there under have been incorrectly interpreted, the provisions of this code do not fully apply or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code or interpret the administration of this code. **108.3 Qualifications.** The ~~members of the~~ board of appeals ~~related to interpretation of this code shall be~~ shall consist of members who are qualified by experience and training ~~in the matters covered by this code and shall not be~~ to pass on matters pertaining to building construction and are not employees of the jurisdiction.		X			Provides consistency to the IgCC with regards to the appeals process as it is addressed in other codes.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Add new text as follows: **108.4 Administration.** The authority having jurisdiction shall take immediate action in accordance with the decision of the board.					
ADM41-19 Part I	**2018 International Building Code** **Revise as follows:** **SECTION 115** **STOP WORK ORDER** **[A] 115.1 Authority.** Where the *building official* finds any work regulated by this code being performed in a manner ~~either~~ contrary to the provisions of this code or in a dangerous or unsafe manner, the *building official* is authorized to issue a stop work order. **[A] 115.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property ~~involved~~, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work ~~will be permitted~~ is authorized to resume. **115.3 Emergencies.** Where an emergency exists, the building official shall not be required to give a written notice prior to stopping the work. **[A] ~~115.3~~115.4 ~~Unlawful continuance.~~ Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to ~~penalties as prescribed by law.~~fines established by the authority having jurisdiction. **2018 International Fire Code** **Revise as follows:** **SECTION 112** **STOP WORK ORDER**		X			Standardizes the language and requirements for a stop work order throughout the family of I-Codes.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] 112.1 ~~Order.~~ Authority. Where the *fire code official* finds any work regulated by this code being performed in a manner contrary to the provisions of this code, or in a dangerous or unsafe manner, the *fire code official* is authorized to issue a stop work order. **[A] 112.2 Issuance.** ~~A~~ The stop work order shall be in writing and shall be given to the owner of the property, ~~or to~~ the owner's authorized agent, or ~~to~~ the person ~~doing~~ performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work is authorized to resume. **[A] 112.3 Emergencies.** Where an emergency exists, the fire code official shall not be required to give a written notice prior to stopping the work. **[A] 112.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be ~~liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~ subject to fines established by the authority having jurisdiction. **2018 International Plumbing Code** **Revise as follows:** **SECTION 108** **VIOLATIONS** **Delete without substitution:** ~~**108.5 Stop work orders.** Upon notice from the code official, work on any plumbing system that is being performed contrary to the provisions of this code or in a dangerous or unsafe manner shall immediately cease. Such notice shall be in writing and shall be given to the owner of the property, or to the owner's authorized agent, or to the person performing the work. The notice shall state the conditions under which work is authorized to resume. Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. Any person who shall continue any work in or about the structure after having been served with a stop work order, except such work as that person is directed to~~					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~perform to remove a violation or unsafe condition, shall be liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~ **Add new text as follows:** **SECTION 109** **STOP WORK ORDER** 109.1 **Authority.** Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. 109.2 **Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. 109.3 **Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. 109.4 **Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having jurisdiction. **2018 International Mechanical Code** **Revise as follows:** **SECTION 108** **VIOLATIONS** **Delete without substitution:** ~~**[A] 108.5 Stop work orders.** Upon notice from the code official that mechanical work is being performed contrary to the provisions of this code or in a dangerous or unsafe manner, such work shall immediately cease. Such notice shall be in writing and shall be given to the owner of the property, or to the owner's authorized agent, or~~					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~to the person doing the work. The notice shall state the conditions under which work is authorized to resume. Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. Any person who shall continue any work on the system after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable for a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~ **Add new text as follows:** **SECTION 109** **STOP WORK ORDER** 109.1 **Authority.** Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. 109.2 **Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. 109.3 **Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. 109.4 **Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having jurisdiction. **2018 International Fuel Gas Code** **Revise as follows:** **SECTION 108 (IFGC)** **VIOLATIONS**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Delete without substitution: ~~**[A] 108.5 Stop work orders.** Upon notice from the code official that work is being performed contrary to the provisions of this code or in a dangerous or unsafe manner, such work shall immediately cease. Such notice shall be in writing and shall be given to the owner of the property, the owner's authorized agent, or the person doing the work. The notice shall state the conditions under which work is authorized to resume. Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. Any person who shall continue any work on the system after having been served with a stop-work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable for a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~ **Add new text as follows:** **SECTION 109** **STOP WORK ORDER** 109.1 **Authority.** Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. 109.2 **Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. 109.3 **Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. 109.4 **Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	jurisdiction. **2018 International Existing Building Code** **Revise as follows:** **SECTION 114** **STOP WORK ORDER** **[A] 114.1 Authority.** Where the *code official* finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a *dangerous* or *unsafe* manner, the *code official* is authorized to issue a stop work order. **[A] 114.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property ~~involved~~, the owner's authorized agent or ~~to~~ the person ~~doing~~ performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work ~~will be permitted~~ is authorized to resume. **Add new text as follows:** **114.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. **Revise as follows:** **[A] ~~114.3~~ 114.4 ~~Unlawful continuance.~~ Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to ~~penalties as prescribed by law.~~ fines established by the authority having jurisdiction. **2018 International Swimming Pool and Spa Code** **Revise as follows:** **SECTION 107** **VIOLATIONS**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Delete without substitution: ~~**[A] 107.5 Stop work orders.** Upon notice from the code official, work on any system that is being performed contrary to the provisions of this code or in a dangerous or unsafe manner shall immediately cease. Such notice shall be in writing and shall be given to the owner of the property, or to the owner's authorized agent, or to the person performing the work. The notice shall state the conditions under which work is authorized to resume. Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. Any person who shall continue any work in or about the structure after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~ **Add new text as follows:** **SECTION 108** **STOP WORK ORDER** 108.1 **Authority.** Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. 108.2 **Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. 108.3 **Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. 108.4 **Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having jurisdiction.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	2018 International Property Maintenance Code **Revise as follows:** **SECTION 112** **STOP WORK ORDER** **[A] 112.1 Authority.** ~~Whenever~~ Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. **[A] 112.2 Issuance.** ~~A~~ The stop work order shall be in writing and shall be given to the owner of the property, ~~to~~ the owner's authorized agent, or ~~to~~ the person ~~doing~~ performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. **[A] 112.3 Emergencies.** Where an emergency exists, the *code official* shall not be required to give a written notice prior to stopping the work. **[A] 112.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be ~~liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~ subject to fines established by the authority having jurisdiction. **2018 International Private Sewage Disposal Code** **Revise as follows:** **SECTION 108** **VIOLATIONS** **Delete without substitution:** ~~**[A] 108.5 Stop work orders.** Upon notice from the code official, work on any private sewage disposal system that is being performed contrary to the provisions of this code or in a dangerous or unsafe manner shall immediately cease. Such notice shall be in writing and~~					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~shall be given to the owner of the property, to the owner's authorized agent or to the person performing the work. The notice shall state the conditions under which work is authorized to resume. Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. Any person who shall continue any work on the system after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~ **Add new text as follows:** **SECTION 109** **STOP WORK ORDER** 109.1 **Authority.** Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. 109.2 **Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. 109.3 **Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. 109.4 **Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having jurisdiction. **2018 International Wildland-Urban Interface Code** **Revise as follows:** **SECTION 114** **STOP WORK ORDER**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	[A] 114.1 Authority. Where the code official finds any work regulated by this code being performed in a manner ~~either~~ contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. **[A] 114.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property ~~involved~~, ~~to~~ the owner's authorized agent or ~~to~~ the person ~~doing~~ performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work ~~will be permitted~~ is authorized to resume. **[A] 114.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. **[A] 114.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be ~~liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~ subject to fines established by the authority having jurisdiction.					
ADM41-19 Part II	**2018 International Residential Code** **Revise as follows:** **SECTION R114** **STOP WORK ORDER** **R114.1 ~~Notice to owner or the owner's authorized agent.~~ Authority.** ~~Upon notice from~~ Where the building official ~~that work on any building or structure is being executed~~ finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in ~~an~~ a dangerous or unsafe ~~and dangerous~~ manner, ~~such work shall be immediately stopped. The stop work order shall be in writing and shall be given to the owner of the property involved, or to the owner's authorized agent or to the person performing the work and shall state the conditions under which work will be permitted to resume.~~ the building official is authorized to issue a stop work order.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	R114.2 Issuance. The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. **Add new text as follows:** **R114.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. **Revise as follows:** ~~**R114.2**~~ **R114.3** ~~**Unlawful continuance.**~~ **Failure to comply.** Any person who shall continue any work ~~in or about the structure~~ after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to ~~penalties as prescribed by law.~~ fines established by the authority having jurisdiction.					
ADM41-19 Part III	**2018 International Energy Conservation Code** **Add new text as follows:** **APPENDIX CA** **BOARD OF APPEALS-COMMERCIAL** **SECTION CA101** **GENERAL** **CA101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section C109 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **CA101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for		X			Necessary addition for clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **CA101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **CA101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **CA101.3 Membership of board.** The board shall consist of five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **CA101.3.1 Qualifications.** The board shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **CA101.3.2 Alternate members.** The chief appointing authority is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **CA101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **CA101.3.4 Chairperson.** The board shall annually select one of its members to serve as chairperson.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	CA101.3.5 Secretary. The chief appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **CA101.3.6 Conflict of interest.** A member with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **CA101.3.7 Compensation of members.** Compensation of members shall be determined by law. **CA101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **CA101.4 Rules and procedures.** The board shall establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **CA101.5 Notice of meeting.** The board shall meet upon notice from the chairperson, within 10 days of the filing of an appeal or at stated periodic intervals. **CA101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **CA101.5.2 Quorum.** Three members of the board shall constitute a quorum. **CA101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	CA101.6 Legal counsel. The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **CA101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **CA101.7.1 Resolution.** The decision of the board shall be by resolution. Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **CA101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **CA101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer.					
ADM41-19 Part IV	**2018 International Energy Conservation Code** **Revise as follows:** **SECTION R108** **STOP WORK ORDER** **R108.1 Authority.** Where the code official finds any work regulated by this code being performed in a manner ~~either~~ contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. **R108.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property ~~involved~~, ~~to~~ the owner's authorized agent, or ~~to~~ the person ~~doing~~ performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work ~~will be permitted~~ is authorized to resume.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	R108.3 Emergencies. Where an emergency exists, the *code official* shall not be required to give a written notice prior to stopping the work. **R108.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to ~~a fine as set~~ fines established by the ~~applicable governing~~ authority having jurisdiction.					
ADM42-19	**Modify proposal as follows:** **2018 International Fire Code** **[A] 111.1 General.** If during the inspection of a premises, a structure, or any building system, in whole or in part, constitutes a clear and inimical threat to human life, safety or health, the *fire code official* shall issue such notice or orders to remove or remedy the conditions as shall be deemed necessary in accordance with this section, and shall refer the building to the building official ~~structure or equipment department~~ for any repairs, *alterations*, remodeling, removing or demolition required.		X			Clarification
ADM43-19 Part I	**2018 International Building Code** **APPENDIX B** **BOARD OF APPEALS** **Revise as follows:** **SECTION B101** **GENERAL** **Delete without substitution:** ~~**[A] B101.1 Application.** Applications for appeal shall be obtained from the building official. Applications shall be filed within 20 days after notice has been served.~~ **Add new text as follows:** **B101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section		X			Standardizes the language across the I-Codes and gives appropriate guidance to establish a board of appeals

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	113 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the building official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **B101.2 Application for appeal.** Any person shall have the right to appeal a decision of the building official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the building official within 20 days after the notice was served. **B101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **B101.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **Revise as follows:** **[A] ~~B101.2~~ B101.3 Membership of board.** The board ~~of appeals~~ shall consist of ~~persons~~ five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. ~~as follows:~~ ~~1. One for 5 years; one for 4 years; one for 3 years; one for 2 years; and one for 1 year.~~ ~~2. Thereafter, each new member shall serve for 5 years or until a successor has been appointed.~~ ~~The building official shall be an ex officio member of said board but shall have no vote on any matter before the board.~~					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	[A] ~~B101.2.2~~ B101.3.1 Qualifications. The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction ~~one from each of the following professions or disciplines:~~ ~~1. Registered design professional with architectural experience or a builder or superintendent of building construction with not fewer than 10 years of experience, 5 of which shall have been in responsible charge of work.~~ ~~2. Registered design professional with structural engineering experience.~~ ~~3. Registered design professional with mechanical and plumbing engineering experience or a mechanical contractor with not fewer than 10 years of experience, 5 of which shall have been in responsible charge of work.~~ ~~4. Registered design professional with electrical engineering experience or an electrical contractor with not fewer than 10 years of experience, 5 of which shall have been in responsible charge of work.~~ ~~5. Registered design professional with fire protection engineering experience or a fire protection contractor with not fewer than 10 years of experience, 5 of which shall have been in responsible charge of work.~~ **[A] ~~B101.2.1~~ B101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years,~~ the same term or until a successor has been appointed. **Add new text as follows:** **B101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **Revise as follows:** **[A] ~~B101.2.4~~ B101.3.4 Chairperson.** The board shall annually select one of its members to serve as chairperson.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~B101.2.6~~ B101.3.5 Secretary. The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~B101.2.5~~ B101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest.** A member ~~shall not hear an appeal in which that member has a~~ with any personal, professional or financial ~~interest.~~ interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~B101.2.7~~ B101.3.7 Compensation of members.** Compensation of members shall be determined by law. **Add new text as follows:** **B101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **Revise as follows:** **[A] ~~B101.2.3~~ B101.4 Rules and procedures.** The board ~~is authorized to~~ shall establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **[A] ~~B101.3~~ B101.5 Notice of meeting.** The board shall meet upon notice from the chairperson, within 10 days of the filing of an appeal or at stated periodic meetings. **[A] ~~B101.3.1~~ B101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the building official and any person whose interests are affected shall be given an opportunity to be heard.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Add new text as follows: **B101.5.2 Quorum.** Three members of the board shall constitute a quorum. **Delete without substitution:** ~~**[A] B101.3.2 Procedure.** The board shall adopt and make available to the public through the secretary procedures under which a hearing will be conducted. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be received.~~ **Revise as follows:** **[A] ~~B101.3.3~~ B101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **Add new text as follows:** **B101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **Revise as follows:** **[A] ~~B101.4~~ B101.7 Board decision.** The board shall modify or reverse the decision of the *building official* by a concurring vote of two-thirds of its members. The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **[A] ~~B101.4.1~~ B101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the ~~*building*~~ code *official*.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~B101.4.2~~ B101.7.2 Administration. The *building official* shall take immediate action in accordance with the decision of the board. **Add new text as follows:** **B101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Existing Building Code** **Add new text as follows:** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 112. The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.2.2 Stays of enforcement. Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3 Membership of board.** The board shall consist of five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **A101.3.1 Qualifications.** The board shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **A101.3.2 Alternate members.** The chief appointing authority is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **A101.3.4 Chairperson.** The board shall annually select one of its members to serve as chairperson. **A101.3.5 Secretary.** The chief appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **A101.3.6 Conflict of interest.** A member with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.3.7 Compensation of members. Compensation of members shall be determined by law. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **A101.4 Rules and procedures.** The board shall establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **A101.5 Notice of meeting.** The board shall meet upon notice from the chairperson, within 10 days of the filing of an appeal or at stated periodic intervals. **A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.7.1 Resolution. The decision of the board shall be by resolution. Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Fire Code** **APPENDIX A** **BOARD OF APPEALS** **Revise as follows:** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of ~~the International Fire Code~~ this code pursuant to the provisions of Section ~~108 of the International Fire Code.~~ 109. The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the fire code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **Add new text as follows:** **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the fire code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	on a form obtained from the fire code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A102.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **Delete without substitution:** ~~**A101.2 Membership.** The membership of the board shall consist of five voting members having the qualifications established by this section. Members shall be nominated by the fire code official or the chief administrative officer of the jurisdiction, subject to confirmation by a majority vote of the governing body. Members shall serve without remuneration or compensation, and shall be removed from office prior to the end of their appointed terms only for cause.~~ ~~**A101.2.1 Design professional.** One member shall be a practicing design professional registered in the practice of engineering or architecture in the state in which the board is established.~~ ~~**A101.2.2 Fire protection engineering professional.** One member shall be a qualified engineer, technologist, technician or safety professional trained in fire protection engineering, fire science or fire technology. Qualified representatives in this category shall include fire protection contractors and certified technicians engaged in fire protection system design.~~ ~~**A101.2.3 Industrial safety professional.** One member shall be a registered industrial or chemical engineer, certified hygienist, certified safety professional, certified hazardous materials manager or comparably qualified specialist experienced in chemical process safety or industrial safety.~~ ~~**A101.2.4 General contractor.** One member shall be a contractor regularly engaged in the construction, alteration, maintenance, repair or remodeling of buildings or building services and systems regulated by the code.~~					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~**A101.2.5 General industry or business representative.** One member shall be a representative of business or industry not represented by a member from one of the other categories of board members described in Sections A101.2.1 through A101.2.4.~~ **Revise as follows:** **A101.3 ~~Terms~~ Membership of ~~office.~~ board.** ~~Members shall be appointed for terms of 4 years. Members shall not be reappointed to serve more than two consecutive full terms.~~ The board shall consist of five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The fire code official shall be an ex officio member of said board but shall not vote on any matter before the board. **Delete without substitution:** ~~**A101.3.1 Initial appointments.** Of the members first appointed, two shall be appointed for a term of 1 year, two for a term of 2 years, one for a term of 3 years.~~ **Add new text as follows:** **A101.3.1 Qualifications.** The board shall consist of members who are qualified by experience and training to pass on matters pertaining to hazards of fire, explosions, hazardous conditions or fire protection systems, and are not employees of the jurisdiction. **A101.3.2 Alternate members.** The chief appointing authority is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **Revise as follows:** ~~**A101.3.2**~~ **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments					

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		Decrease	None	Increase		
Sub Code:						
	are required to be made. ~~Members appointed to fill a vacancy in an unexpired term shall be eligible for reappointment to two full terms.~~ **Add new text as follows:** **A101.3.4 Chairperson.** The board shall annually select one of its members to serve as chairperson. **Revise as follows:** **~~A101.5~~ A101.3.5 Secretary ~~of board.~~** The *~~fire code official~~* ~~shall act as secretary of the board and shall keep~~ chief appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all ~~its~~ proceedings, which shall set forth the reasons for ~~its decisions~~ the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **Delete without substitution:** **~~A101.9 Decisions.~~** ~~Every decision shall be promptly filed in writing in the office of the fire code official and shall be open to public inspection. A certified copy shall be sent by mail or otherwise to the appellant, and a copy shall be kept publicly posted in the office of the fire code official for 2 weeks after filing.~~ **Revise as follows:** **~~A101.8~~ A101.3.6 Conflict of interest.** ~~Members with a material~~ A member with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **Add new text as follows:** **A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **Revise as follows:** **~~A101.3.3~~ A101.3.8 Removal from ~~office~~ the board.** ~~Members~~ A member shall be removed from ~~office~~ the board prior to the end of their terms only for ~~cause. Continued absence of any member~~ cause. Any member with continued absence from regular ~~meetings~~ meeting		-			

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	of the board ~~shall,~~ may be removed at the discretion of the ~~applicable governing body, render any such member liable to immediate removal from office.~~ chief appointing authority. **~~A101.10~~ A101.4 ~~Procedures.~~ Rules and procedures.** The board shall ~~be operated in accordance with the Administrative Procedures Act of the state in which it is established or shall establish rules and regulations for its own procedure not inconsistent~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **~~A101.7~~A101.5 ~~Meetings.~~ Notice of meetings.** The board shall meet ~~at regular intervals, to be determined by the chairman. In any event, the board shall meet~~ upon notice from the chairperson, within 10 days ~~after notice of appeal has been received.~~ the filing of an appeal or at stated periodic intervals. **Add new text as follows:** **A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the fire code official and any person whose interests are affected shall be given an opportunity to be heard. **Revise as follows:** **~~A101.4~~ A101.5.2 Quorum.** Three members of the board shall constitute a quorum. ~~In varying the application of any provisions of this code or in modifying an order of the *fire code official*, affirmative votes of the majority present, but not less than three, shall be required.~~ **Add new text as follows:** **A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **Revise as follows:**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.6 Legal counsel. The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for ~~consideration.~~ consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **Add new text as follows:** **A101.7 Board decision.** The board shall only modify or reverse the decision of the fire code official by a concurring vote of three or more members. **A101.7.1 Resolution.** The decision of the board shall be by resolution. Every decision shall be promptly filed in writing in the office of the fire code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the fire code official. **A101.7.2 Administration.** The fire code official shall take immediate action in accordance with the decision of the board. **A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Fuel Gas Code** **Add new text as follows:** **APPENDIX A** **BOARD OF APPEALS** **A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 109 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **Revise as follows:** **[A] ~~109.2~~ A101.3 Membership of board.** The board ~~of appeals~~ shall consist of five voting members appointed by the chief appointing authority ~~as follows: one for 5 years; one for 4 years; one for 3 years; one for 2 years and one for 1 year. Thereafter, each new~~ of the jurisdiction. Each member shall serve for ~~5~~ [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **[A] ~~109.2.1~~ A101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction.~~one from each of the following professions or disciplines.~~ ~~1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~2. Registered design professional with structural engineering or architectural experience.~~ ~~3. Registered design professional with fuel gas and plumbing engineering experience; or a fuel gas contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~4. Registered design professional with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~5. Registered design professional with fire protection engineering experience; or a fire protection contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ **[A] ~~109.2.2~~ A101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years,~~ the same term or until a successor has been appointed. **Add new text as follows:** **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **Revise as follows:** **[A] ~~109.2.3~~ A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. **[A] ~~109.2.5~~ A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~109.2.4~~ A101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest. A member ~~shall not hear an appeal in which that member has a~~ with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~109.2.6~~ A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **Add new text as follows:** **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **Revise as follows:** **[A] ~~109.4.1~~ A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. **[A] ~~109.3~~ A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within 10 days of the filing of an appeal, or at stated periodic ~~meetings.~~ intervals. **Add new text as follows:** **[A] A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **Revise as follows:**					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~109.5~~ A101.5.3 Postponed hearing. ~~Where~~ When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **Add new text as follows:** **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **Revise as follows:** **[A] ~~109.6~~ A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **[A] ~~109.6.1~~ A101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **[A] ~~109.6.2~~ A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **[A] ~~109.7~~ A101.8 Court review.** Any person, whether or not a previous party ~~to~~ of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Mechanical Code** **Add new text as follows:** **APPENDIX A** **BOARD OF APPEALS**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	SECTION A101 **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 109 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **Revise as follows:** **[A] ~~109.2~~ A101.3 Membership of board.** The board ~~of appeals~~ shall consist of five voting members appointed by the chief appointing authority ~~as follows: one for 5 years; one for 4 years; one for 3 years; one for 2 years; and one for 1 year. Thereafter, each new~~ of the jurisdiction. Each member shall serve for ~~5~~ [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board.					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~109.2.1~~ A101.3.1 Qualifications. The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. ~~one from each of the following professions or disciplines.~~ ~~1. *Registered design professional* who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~2. *Registered design professional* with structural engineering or architectural experience.~~ ~~3. *Registered design professional* with mechanical and plumbing engineering experience; or a mechanical contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~4. *Registered design professional* with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~5. *Registered design professional* with fire protection engineering experience; or a fire protection contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ **[A] ~~109.2.2~~ A101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years,~~ the same term or until a successor has been appointed. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **[A] ~~109.2.3~~ A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. **[A] ~~109.2.5~~ A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all					

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		Decrease	None	Increase		
Sub Code:						
	proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~109.2.4~~ A101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest.** A member ~~shall not hear an appeal in which that member has a~~ with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~109.2.6~~ A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **Add new text as follows:** **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **Revise as follows:** **[A] ~~109.4.1~~ A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. **[A] ~~109.3~~ A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within 10 days of the ~~filing~~ of an appeal, or at stated periodic ~~meetings.~~ intervals. **Add new text as follows:** **[A] A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard.					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.5.2 Quorum. Three members of the board shall constitute a quorum. **Revise as follows:** **[A] ~~109.5~~ A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **Add new text as follows:** **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **Revise as follows:** **[A] ~~109.6~~ A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **[A] ~~109.6.1~~ A101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **[A] ~~109.6.2~~ A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **[A] ~~109.7~~ A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Plumbing Code**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Add new text as follows: **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section XXX (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **Revise as follows:** ~~109.2~~ **A101.3 Membership of board.** The board ~~of appeals~~ shall consist of five voting members appointed by the chief appointing authority ~~as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new~~ of the jurisdiction. Each member shall serve for ~~5~~ [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. ~~109.2.1~~ **A101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. ~~one from each of the following professions or disciplines:~~ ~~1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~2. Registered design professional with structural engineering or architectural experience.~~ ~~3. Registered design professional with mechanical and plumbing engineering experience; or a mechanical and plumbing contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~4. Registered design professional with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~5. Registered design professional with fire protection engineering experience; or a fire protection contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~109.2.2~~ **A101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years~~ the same term or until a successor has been appointed. **Add new text as follows:** **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made.					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Revise as follows: ~~109.2.3~~ **A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. **~~109.2.5~~ A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **~~109.2.4~~ A101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest.** A member ~~shall not hear an appeal in~~ ~~which that member has~~ with any personal, professional or financial ~~interest.~~ interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **~~109.2.6~~ A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **Add new text as follows:** **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **Revise as follows:** **~~109.4.1~~ A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. ~~109.3~~ **A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within 10 days of the filing of an appeal or at stated periodic ~~meetings.~~ intervals.					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
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Sub Code:						
	~~109.4~~ **A101.5.1 Open hearing.** ~~Hearings~~ All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **Add new text as follows:** **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **Revise as follows:** ~~109.5~~ **A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **Add new text as follows:** **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **Revise as follows:** ~~109.6~~ **A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. ~~109.6.1~~ **A101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. ~~109.7~~ **A101.8 Court review.** Any person, whether or not a previous					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Private Sewage Disposal Code** **Add new text as follows:** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 109 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board.					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
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	Revise as follows: **[A] ~~109.2~~ A101.3 Membership of board.** The board ~~of appeals~~ shall consist of five voting members appointed by the chief appointing authority ~~as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new~~ of the jurisdiction. Each member shall serve for ~~5~~ [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **[A] ~~109.2.1~~ A101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. ~~one from each of the following professions or disciplines.~~ ~~1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~2. Registered design professional with structural engineering or architectural experience.~~ ~~3. Registered design professional with mechanical and plumbing engineering experience; or a mechanical and plumbing contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~4. Registered design professional with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~5. Registered design professional with fire protection engineering experience; or a fire protection contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ **[A] ~~109.2.2~~ A101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years~~ the same term or until a successor has been appointed.					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Add new text as follows: **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **Revise as follows:** **[A] ~~109.2.3~~ A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. **[A] ~~109.2.5~~ A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~109.2.4~~ A101.3.6 ~~Disqualification~~ Conflict of ~~a member.~~ interest.** A member ~~shall not hear an appeal in which that member has~~ with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~109.2.6~~ A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **Add new text as follows:** **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **Revise as follows:** **[A] ~~109.4.1~~ A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. **[A] ~~109.3~~ A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within 10 days of the filing of an appeal or at stated periodic ~~meetings.~~ intervals. **Add new text as follows:** **[A] A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **Revise as follows:** **[A] ~~109.5~~ A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **Add new text as follows:** **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **Revise as follows:** **[A] ~~109.6~~ A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **[A] ~~109.6.1~~ A101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be					

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Sub Code:						
	furnished to the appellant or the appellant's representative and to the code official. **[A] ~~109.6.2~~ A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **[A] ~~109.7~~ A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Property Maintenance Code** **Add new text as follows:** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served.					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.2.1 Limitation of authority. The board shall not have authority to waive requirements of this code or interpret the administration of this code. **Revise as follows:** **[A] ~~111.8~~ A101.2.2 Stays of enforcement.** Appeals of notice and orders ~~(other~~, other than Imminent Danger ~~notices)~~ notices, shall stay the enforcement of the notice and order until the appeal is heard by the ~~appeals~~ board. **[A] ~~111.2~~A101.3 Membership of board.** The board ~~of appeals~~ shall consist of ~~not less than three members who are qualified by experience and training to pass on matters pertaining to property maintenance and who are not employees of the jurisdiction. The~~ five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ~~ex-officio~~ ex officio member of said board but shall not vote on any matter before the board. ~~The board shall be appointed by the chief appointing authority, and shall serve staggered and overlapping terms.~~ **Add new text as follows:** **A101.3.1 Qualifications.** The board shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **Revise as follows:** **[A] ~~111.2.1~~ A101.3.2 Alternate members.** The chief appointing authority ~~shall appoint not less than~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **Add new text as follows:**					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.3.3 Vacancies. Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **Revise as follows:** **[A] ~~111.2.2~~ A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. **[A] ~~111.2.4~~ A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified ~~person~~ clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~111.2.3~~ A101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest.** A member ~~shall not hear an appeal in which that member has a~~ with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~111.2.5~~ A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **Add new text as follows:** **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **Revise as follows:** **[A] ~~111.4.1~~ A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented.					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
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Sub Code:						
	[A] ~~111.3~~ A101.5 Notice of meeting. The board shall meet upon notice from the ~~chairman~~ chairperson, within ~~20~~ 10 days of the~~~~ filing of an appeal, or at stated periodic ~~meetings.~~ intervals. **Add new text as follows:** **[A] A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **Revise as follows:** **[A] ~~111.5~~ A101.5.3 Postponed hearing.** When ~~the full board is~~ five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **Add new text as follows:** **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **Revise as follows:** **[A] ~~111.6~~ A101.7 Board decision.** The board shall only modify or reverse the decision of the code official ~~only~~ by a concurring vote of ~~a majority of the total number of appointed board~~ three or more members. **[A] ~~111.6.1~~ A101.7.1 ~~Records and copies.~~ Resolution.** The decision of the board shall be ~~recorded. Copies shall be~~ by resolution. Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official.					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~111.6.2~~ A101.7.2 Administration. The code official shall take immediate action in accordance with the decision of the board. **[A] ~~111.7~~ A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Swimming Pool and Spa Code** **Add new text as follows:** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 108 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code.					

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		Decrease	None	Increase		
Sub Code:						
	A101.2.2 Stays of enforcement. Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **Revise as follows:** **[A] ~~108.2~~ A101.3 Membership of board.** The board ~~of appeals~~ shall consist of five voting members appointed by the chief appointing authority ~~as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new~~ of the jurisdiction. Each member shall serve for ~~5~~ [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **[A] ~~108.2.1~~ A101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. ~~one from each of the following professions or disciplines:~~ ~~1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~2. Registered design professional with structural engineering or architectural experience.~~ ~~3. Registered design professional with mechanical and plumbing engineering experience; or a mechanical and plumbing contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~4. Registered design professional with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~5. Registered design professional with pool or spa experience; or a contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~108.2.2~~ A101.3.2 Alternate members. The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years~~ the same term or until a successor has been appointed. **Add new text as follows:** **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **Revise as follows:** **[A] ~~108.2.3~~ A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. **[A] ~~108.2.5~~ A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~108.2.4~~ A101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest.** A member ~~shall not hear an appeal in which that member has~~ with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~108.2.6~~ A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **Add new text as follows:** **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority.					

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		Decrease	None	Increase		
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	Revise as follows: **[A] ~~108.4.1~~A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. **[A] ~~108.3~~A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within 10 days of the filing of an appeal or at stated periodic ~~meetings.~~ intervals. **[A] ~~108.4~~A101.5.1 Open hearing.** ~~Hearings~~ All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **Add new text as follows:** **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **Revise as follows:** **[A] ~~108.5~~ A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **Add new text as follows:** **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **Revise as follows:**					

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		Decrease	None	Increase		
Sub Code:						
	[A] ~~108.6~~ A101.7 Board decision. The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **[A] ~~108.6.1~~ A101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **[A] ~~108.6.2~~ A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **[A] ~~108.7~~ A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Wildland-Urban Interface Code** **Revise as follows:** **SECTION 106** **APPEALS** **[A] 106.1 General.** ~~To determine the suitability of alternative materials and methods and to provide for reasonable interpretations of the provisions of this code, there shall be and hereby is created a board of appeals consisting of five members who are qualified by experience and training to pass judgment on pertinent matters.~~ The ~~code official, *building official* and fire chief shall be ex officio members, and the code official shall act as secretary of the board. The~~ board ~~of appeals~~ shall ~~be appointed by the legislative body and shall hold office at their discretion. The board shall~~ adopt reasonable rules and regulations for conducting its investigations and shall render decisions and findings in writing to the code official, with a duplicate copy to the applicant. **Add new text as follows:**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	APPENDIX A **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 106 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the building official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3 Membership of board.** The board shall consist of five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.3.1 Qualifications. The board shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **A101.3.2 Alternate members.** The chief appointing authority is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **A101.3.4 Chairperson.** The board shall annually select one of its members to serve as chairperson. **A101.3.5 Secretary.** The chief appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **A101.3.6 Conflict of interest.** A member with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **A101.4 Rules and procedures.** The board shall establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
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Sub Code:						
	not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **A101.5 Notice of meeting.** The board shall meet upon notice from the chairperson, within 10 days of the filing of an appeal or at stated periodic intervals. **A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **A101.7.1 Resolution.** The decision of the board shall be by resolution. Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall					

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CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer.					
ADM43-19 Part II	**2018 International Residential Code** **Add new text as follows:** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section R112 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the building official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the building official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3 Membership of board.** The board shall consist of five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's		X			Necessary addition for clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	terms shall be staggered at intervals, so as to provide continuity. The building official shall be an ex officio member of said board but shall not vote on any matter before the board. **A101.3.1 Qualifications.** The board shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **A101.3.2 Alternate members.** The chief appointing authority is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **A101.3.4 Chairperson.** The board shall annually select one of its members to serve as chairperson. **A101.3.5 Secretary.** The chief appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **A101.3.6 Conflict of interest.** A member with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority.					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.4 Rules and procedures. The board shall establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **A101.5 Notice of meeting.** The board shall meet upon notice from the chairperson, within 10 days of the filing of an appeal or at stated periodic intervals. **A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **A101.7 Board decision.** The board shall only modify or reverse the decision of the building official by a concurring vote of three or more members. **A101.7.1 Resolution.** The decision of the board shall be by resolution. Every decision shall be promptly filed in writing in the office of the building official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the building official. **A101.7.2 Administration.** The building official shall take immediate action in accordance with the decision of the board.					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.8 Court review. Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer.					
ADM43-19 Part III	**2018 International Energy Conservation Code** **Add new text as follows:** **APPENDIX CA** **BOARD OF APPEALS** **SECTION CA101** **GENERAL** **CA101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section C109 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **CA101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **CA101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **CA101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **CA101.3 Membership of board.** The board shall consist of five voting		X			Necessary addition for clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **CA101.3.1 Qualifications.** The board shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **CA101.3.2 Alternate members.** The chief appointing authority is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **CA101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **CA101.3.4 Chairperson.** The board shall annually select one of its members to serve as chairperson. **CA101.3.5 Secretary.** The chief appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **CA101.3.6 Conflict of interest.** A member with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **CA101.3.7 Compensation of members.** Compensation of members shall be determined by law. **CA101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
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Sub Code:						
	member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **CA101.4 Rules and procedures.** The board shall establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **CA101.5 Notice of meeting.** The board shall meet upon notice from the chairperson, within 10 days of the filing of an appeal or at stated periodic intervals. **CA101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **CA101.5.2 Quorum.** Three members of the board shall constitute a quorum. **CA101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **CA101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **CA101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **CA101.7.1 Resolution.** The decision of the board shall be by resolution. Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official.					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
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Sub Code:						
	CA101.7.2 Administration. The code official shall take immediate action in accordance with the decision of the board. **CA101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer.					
ADM43-19 Part IV	**2018 International Energy Conservation Code** **Add new text as follows:** **APPENDIX RA** **BOARD OF APPEALS** **SECTION RA101** **GENERAL** **RA101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section C109 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **RA101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **RA101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code.		X			Necessary addition for clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	RA101.2.2 Stays of enforcement. Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **RA101.3 Membership of board.** The board shall consist of five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **RA101.3.1 Qualifications.** The board shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **RA101.3.2 Alternate members.** The chief appointing authority is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **RA101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **RA101.3.4 Chairperson.** The board shall annually select one of its members to serve as chairperson. **RA101.3.5 Secretary.** The chief appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **RA101.3.6 Conflict of interest.** A member with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters.					

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		Decrease	None	Increase		
Sub Code:						
	RA101.3.7 Compensation of members. Compensation of members shall be determined by law. **RA101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **RA101.4 Rules and procedures.** The board shall establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **RA101.5 Notice of meeting.** The board shall meet upon notice from the chairperson, within 10 days of the filing of an appeal or at stated periodic intervals. **RA101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **RA101.5.2 Quorum.** Three members of the board shall constitute a quorum. **RA101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **RA101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **RA101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **RA101.7.1 Resolution.** The decision of the board shall be by resolution. Every decision shall be promptly filed in writing in the					

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	office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **RA101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **RA101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer.					
ADM44-19	**Further modify as follows:** **2018 International Building Code** **O101.1 Introduction.** The following administrative provisions are excerpted from the ICC Performance Code for Buildings and Facilities~~. These~~ and can be used in conjunction with the Alternate Methods provisions in Chapter 1, or for a review of submittals ~~such as those in Section 909 or elsewhere~~ requiring a rational analysis or performance-based design. These provisions ~~to~~ provide ~~a~~ ~~recognized~~ an established framework for the code official in terms of the design expertise needed, the necessary submittals, a review framework and related items. ~~While not every step is required in every instance, these model provisions serve as the starting point for the formulation of an effective submittal and corresponding thorough review.~~		X			Clarification
ADM46-19 Part I	**2018 International Building Code** **[A] 107.1 General.** Submittal documents consisting of *construction documents*, statement of *special inspections*, geotechnical report and other data shall be submitted in two or more sets, or in a digital format where allowed by the building official, with each *permit* application. The *construction documents* shall be prepared by a *registered design professional* where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the *building official* is authorized to require additional *construction documents* to be prepared by a *registered design professional*. **Exception:** The *building official* is authorized to waive the submission of *construction documents* and other data not required		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	to be prepared by a *registered design professional* if it is found that the nature of the work applied for is such that review of *construction documents* is not necessary to obtain compliance with this code. **2018 International Fire Code** **[A] 105.4.2 Information on construction documents.** *Construction documents* shall be drawn to scale on suitable material. ~~Electronic media documents~~ Documents in a digital format are allowed to be submitted where *approved* by the *fire code official*. *Construction documents* shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations as determined by the *fire code official*. **2018 International Existing Building Code** **[A] 106.1 General.** Submittal documents consisting of construction documents, special inspection and structural observation programs, investigation and evaluation reports, and other data shall be submitted in two or more sets, or in a digital format where allowed by the building official, with each application for a permit. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the *code official* is authorized to require additional construction documents to be prepared by a registered design professional. **Exception:** The *code official* is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that reviewing of construction documents is not necessary to obtain compliance with this code. **2018 International Plumbing Code** **[A] 106.3.1 Construction documents.** Construction documents, engineering calculations, diagrams and other such data shall be submitted in two or more sets, or in a digital format where allowed by the building official, with each application for a permit. The code official shall require construction documents, computations and specifications to be prepared and designed by a registered design professional where required by state law. Construction documents					

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		Decrease	None	Increase		
Sub Code:						
	shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. Construction documents for buildings more than two stories in height shall indicate where penetrations will be made for pipes, fittings and components and shall indicate the materials and methods for maintaining required structural safety, fire-resistance rating and fireblocking. **Exception:** The code official shall have the authority to waive the submission of construction documents, calculations or other data if the nature of the work applied for is such that reviewing of construction documents is not necessary to determine compliance with this code. **2018 International Mechanical Code** **[A] 106.3.1 Construction documents.** *Construction documents*, engineering calculations, diagrams and other data shall be submitted in two or more sets, or in a digital format where allowed by the building official, with each application for a permit. The code official shall require *construction documents*, computations and specifications to be prepared and designed by a *registered design professional* where required by state law. Where special conditions exist, the code official is authorized to require additional *construction documents* to be prepared by a *registered design professional*. *Construction documents* shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. *Construction documents* for buildings more than two stories in height shall indicate where penetrations will be made for mechanical systems, and the materials and methods for maintaining required structural safety, fire- resistance rating and fireblocking. **Exception:** The code official shall have the authority to waive the submission of *construction documents*, calculations or other data if the nature of the work applied for is such that reviewing of *construction documents* is not necessary to determine compliance with this code. **2018 International Fuel Gas Code**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] 106.3.1 Construction documents. *Construction documents*, engineering calculations, diagrams and other data shall be submitted in two or more sets, or in a digital format where allowed by the building official, with each application for a permit. The code official shall require *construction documents*, computations and specifications to be prepared and designed by a registered design professional where required by state law. *Construction documents* shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. *Construction documents* for buildings more than two stories in height shall indicate where penetrations will be made for installations and shall indicate the materials and methods for maintaining required structural safety, fire-resistance rating and fireblocking. **Exception:** The code official shall have the authority to waive the submission of *construction documents*, calculations or other data if the nature of the work applied for is such that reviewing of *construction documents* is not necessary to determine compliance with this code. **2018 International Swimming Pool and Spa Code** **[A] 105.3 Construction documents.** Construction documents, engineering calculations, diagrams and other such data shall be submitted in two or more sets, or in a digital format where allowed by the building official, with each application for a permit. The code official shall require construction documents, computations and specifications to be prepared and designed by a registered design professional where required by state law. Construction documents shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. **2018 International Private Sewage Disposal Code** **[A] 106.2.1 Construction documents.** An application for a permit shall be accompanied by not less than two copies of construction documents drawn to scale, or in a digital format where allowed by the building official, with sufficient clarity and detail dimensions showing the nature and character of the work to be performed. Specifications shall include pumps and controls, dose volume, elevation differences (vertical lift), pipe friction loss, pump performance curve, pump model and pump manufacturer. The code official is permitted to					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	waive the requirements for filing construction documents where the work involved is of a minor nature. Where the quality of the materials is essential for conformity to this code, specific information shall be given to establish such quality, and this code shall not be cited, or the term "legal" or its equivalent used as a substitute for specific information. **2018 International Wildland-Urban Interface Code** **[A] 108.1 General.** Plans, engineering calculations, diagrams and other data shall be submitted in not fewer than two sets, or in a digital format where allowed by the building official, with each application for a permit. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the code official is authorized to require additional documents to be prepared by a registered design professional. **Exception:** Submission of plans, calculations, construction inspection requirements and other data, if it is found that the nature of the work applied for is such that reviewing of plans is not necessary to obtain compliance with this code.					
ADM46-19 Part II	**2018 International Residential Code** **Revise as follows:** **R106.1 Submittal documents.** Submittal documents consisting of *construction documents*, and other data shall be submitted in two or more sets, or in a digital format where allowed by the building official, with each application for a *permit.* The *construction documents* shall be prepared by a registered *design professional* where required by the statutes of the *jurisdiction* in which the project is to be constructed. Where special conditions exist, the *building official* is authorized to require additional *construction documents* to be prepared by a registered *design professional*. **Exception:** The *building official* is authorized to waive the submission of *construction documents* and other data not required to be prepared by a registered *design professional* if it is found that the nature of the work applied for is such that reviewing of *construction documents* is not necessary to obtain compliance with this code.		X			Clarification

<table>
<tr><th colspan="7">Table 2. 2021 IEBC Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IEBC CHANGE SUMMARY</th><th colspan="3">IEBC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td>ADM46-19 Part III</td><td>2018 International Energy Conservation Code

Revise as follows:

C103.1 General. Construction documents and other supporting data shall be submitted in one or more sets<u>, or in a digital format where allowed by the building official,</u> with each application for a permit. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the code official is authorized to require necessary construction documents to be prepared by a registered design professional.

Exception: The code official is authorized to waive the requirements for construction documents or other supporting data if the code official determines they are not necessary to confirm compliance with this code.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>ADM46-19 Part IV</td><td>2018 International Energy Conservation Code

Revise as follows:

R103.1 General. Construction documents, technical reports and other supporting data shall be submitted in one or more sets<u>, or in a digital format where allowed by the building official,</u> with each application for a permit. The construction documents and technical reports shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.
Where special conditions exist, the code official is authorized to require necessary construction documents to be prepared by a registered design professional.

Exception: The code official is authorized to waive the requirements for construction documents or other supporting data if the code official determines they are not necessary to confirm compliance with this code.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>ADM47-16</td><td>Further modify as follows:

<table><tr><td>ASTM Standard Reference Number</td><td>ASTM Title</td><td>Referenced in Code(s):</td></tr></table></td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 2. 2021 IEBC Changes Cost Impact

CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	E136—~~2016A~~ 2019 — Standard Test Method for Assessing Combustibility of ~~Behavior of~~ Materials Using ~~in~~ a Vertical Tube Furnace at 750°C — IBC **Further modify as follows:** **NSF** — **NSF** **Standard Reference Number** — **Title** — **Referenced in Code(s):** 61--2017 61--2018 — Drinking Water System Components—Health Effects — IRC IPC **Modify as follows:** **SMACNA** — **SMACNA** **Standard Reference Number** — **Title** — **Referenced in Code(s):** ANSI/SMACNA-~~1999~~ 2013 — Standard Specification for Composite Steel Joists, CJ-Series — IMC ANSI/SMACNA-~~2004~~ 2011 — Rectangular Industrial Duct Construction Standards — IMC					
EB8-19	**2018 International Existing Building Code** **SECTION 301** **ADMINISTRATION** **Delete without substitution:** ~~**301.5 Compliance with accessibility.** Accessibility requirements for *existing buildings* shall comply with the 2009 edition of ICC A117.1.~~ **SECTION 305** **ACCESSIBILITY FOR EXISTING BUILDINGS** **305.1 Scope.** The provisions of Sections 305.1 through 305.9 apply to maintenance, *change of occupancy*, *additions* and *alterations* to *existing buildings*, including those identified as *historic buildings*.		X			Makes reference to A117.1 more consistent with how standards are referenced within the I-Codes.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Add new text as follows: **305.2 Design.** Buildings and facilities shall be designed and constructed to be *accessible* in accordance with this code and the alteration and existing building provisions in ICC A117.1, as applicable. **Revise as follows:** **305.8.2 Elevators.** Altered elements of existing elevators shall comply with ASME A17.1 ~~and ICC A117.1~~. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator. **305.8.3 Platform lifts.** Platform (wheelchair) lifts ~~complying with ICC A117.1 and~~ installed in accordance with ASME A18.1 shall be permitted as a component of an accessible route.					
EB9-19	**Modify proposal as follows:** **301.3.3 Alteration, addition or change of occupancy.** The alteration, addition or change of occupancy of all existing buildings shall comply with one of the methods listed in Section 301.3.1, 301.3.2 or 301.3.3 as selected by the applicant. Sections 301.3.1 through shall not be applied in combination with each other. **Exception:** Subject to the approval of the *code official*, *alterations* complying with the laws in existence at the time the building or the affected portion of the building was built shall be considered in compliance with the provisions of this code. New structural members added as part of the *alteration* shall comply with the International Building Code. This exception shall not apply to the following: 1. Alterations for ~~that constitute~~ accessibility improvements, which shall comply with required by Section 305. 2. Alterations that constitute substantial improvement in flood hazard areas, which shall comply with Section 503.2, 701.3 or 1301.3.3. 3. Structural provisions of Section 303, Chapter 5 or to the structural provisions of Sections 706, 806 and. 906		X			Clarification
EB10-19	**2018 International Existing Building Code** **Revise as follows:**		X			Added bleachers as a necessary reference

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	CHAPTER 3 **PROVISIONS FOR ALL COMPLIANCE METHODS** **SECTION 301** **ADMINISTRATION** **301.1 General.** The *repair*, *alteration*, *change of occupancy*, *addition* or relocation of all *existing buildings* shall comply with Section 301.2, 301.3, or 301.4. **Add new text as follows:** **301.1.1 Bleachers, grandstands and folding and telescopic seating.** Existing bleachers, grandstands and folding and telescopic seating shall comply with ICC 300. **Revise as follows:** **CHAPTER 4** **REPAIRS** **SECTION 401** **GENERAL** **401.1 Scope.** *Repairs* shall comply with the requirements of this chapter. *Repairs* to *historic buildings* need only comply with Chapter 12. **Add new text as follows:** **401.1.1 Bleachers, grandstands and folding an telescopic seating.** Repairs to existing bleachers, grandstands and folding and telescopic seating shall comply with ICC 300. **Revise as follows:** **CHAPTER 5** **PRESCRIPTIVE COMPLIANCE METHOD** **SECTION 501** **GENERAL**					within the IEBC for all compliance methods.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	501.1 Scope. The provisions of this chapter shall control the *alteration, addition* and *change of occupancy* of *existing buildings* and structures, including *historic buildings* and structures as referenced in Section 301.3.2. ~~**Exception:** Existing bleachers, grandstands and folding and telescopic seating shall comply with ICC 300.~~ **CHAPTER 14** **RELOCATED OR MOVED BUILDINGS** **SECTION 1401** **GENERAL** **1401.1 Scope.** This chapter provides requirements for relocated or moved structures, including *relocatable buildings* as defined in Chapter 2. **Add new text as follows:** **1401.1.1 Bleachers, grandstands and folding an telescopic seating.** Relocated or moved bleachers, grandstands and folding and telescopic seating shall comply with ICC 300.					
EB11-19	**Modify proposal as follows:** **302.3.1 Additional codes in healthcare.** In existing Group I-2 occupancies, ambulatory healthcare facilities, outpatient clinics and hyperbaric facilities, alterations, repairs, additions and changes of occupancy to, or relocation of, existing buildings and structures shall also comply with ~~the provisions for alterations, repairs, additions and changes of occupancy in~~ NFPA 99.		X			Clarification
EB12-19	**Modify proposal as follows:** ~~**302.5.2 Replacement of exterior wall covering or exterior wall envelope** . Materials and methods of application used to add or replace an *exterior wall covering* or *exterior wall envelope* shall comply with the requirements of Chapter 14 and Chapter 26 of the *International Building Code.*~~ **SECTION 306** **ADDITIONS AND REPLACEMENTS OF EXTERIOR WALL COVERINGS AND EXTERIOR WALL ENVELOPES**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	306.1 General. The provisions of Section 306 apply to all alterations, repairs, additions, relocations of structures and changes of occupancy regardless of compliance method. **306.2 Additions and replacements.** Where an exterior wall covering or exterior wall envelope is added or replaced, the materials and methods used shall comply with the requirements for new construction in Chapter 14 and Chapter 26 of the International Building Code if the added or replaced exterior wall covering or exterior wall envelope involves two or more contiguous stories and comprises more than 15% of the total wall area on any side of the building.					
EB14-19	**2018 International Existing Building Code** **Add new text as follows:** **SECTION 303** **STORM SHELTERS** **303.1 Storm shelters.** This section applies to the construction of storm shelters constructed as rooms or spaces within *existing buildings* for the purpose of providing protection during storms that produce high winds, such as tornadoes and hurricanes. Such structures shall be designated to be hurricane shelters, tornado shelters, or combined hurricane and tornado shelters. Such structures shall be constructed in accordance with this code and ICC 500. **SECTION 502** **ADDITIONS** **Delete without substitution:** ~~**502.8 Additions to Group E facilities.** For *additions* to Group E occupancies, storm shelters shall be provided in accordance with Section 1106.1.~~ ~~**SECTION 1106**~~ ~~**STORM SHELTERS**~~ **Revise as follows:** **303.2 Addition to a Group E occupancy.** Where an *addition* is added to an existing Group E occupancy located in an area where the			X		Moved all storm shelter requirements to Chapter 3 due to their importance and to simplify their application by having all the requirements in one location.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	shelter design wind speed for tornados is 250 mph in accordance with Figure 304.2(1) of ICC 500 and the occupant load in the *addition* is 50 or more, the *addition* shall have a storm shelter constructed in accordance with ICC 500. **Exceptions:** ~~1.Group E day care facilities.~~ ~~2.Group E occupancies accessory to places of religious worship.~~ ~~3.Additions meeting the requirements for shelter design in ICC 500.~~ **303.2.1 Required occupant capacity.** The required occupant capacity of the storm shelter shall include all buildings on the site, and shall be the greater of the following: 1. The total occupant load of the classrooms, vocational rooms and offices in the Group E occupancy. 2. The occupant load of any indoor assembly space that is associated with the Group E occupancy. **Exceptions:** ~~1. Where an addition is being added on an existing Group E site, and where the addition is not of sufficient size to accommodate the required occupant capacity of the storm shelter for all of the buildings on site, the storm shelter shall at a minimum accommodate the required capacity for the addition.~~ ~~2. Where approved by the code official, the required occupant capacity of the shelter shall be permitted to be reduced by the occupant capacity of any existing storm shelters on the site.~~ **303.2.2 Location.** Storm shelters shall be located within the buildings they serve, or shall be located where the maximum distance of travel from not fewer than one exterior door of each building to a door of the shelter serving that building does not exceed 1,000 feet (305 m). **SECTION 1301** **GENERAL**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	1301.2.3 Additions. *Additions* to *existing buildings* shall comply with the requirements of the International Building Code or the International Residential Code for new construction. The combined height and area of the *existing building* and the new *addition* shall not exceed the height and area allowed by Chapter 5 of the International Building Code. Where a fire wall that complies with Section 706 of the International Building Code is provided between the *addition* and the *existing building*, the *addition* shall be considered a separate building. **Delete without substitution:** ~~**1301.2.3.1 Additions to Group E facilities.** For additions to Group E occupancies, storm shelters shall be provided in accordance with Section 1106.1.~~					
EB17-19	**2018 International Existing Building Code** **CHAPTER 3** **PROVISIONS FOR ALL COMPLIANCE METHODS** **Revise as follows:** **SECTION 301** ~~**ADMINISTRATION**~~ **SCOPE** **301.1 ~~General~~ Applicability.** The *repair*, *alteration*, *change of occupancy*, *addition* or relocation of all *existing buildings* shall comply with Section 301.2, 301.3, or 301.4. The provisions of Sections 302 through 305 shall apply to all alterations, repairs, additions, relocation of structures and changes of occupancy regardless of compliance method. **SECTION 302** **GENERAL PROVISIONS** **Delete without substitution:** ~~**302.1 Applicability.** The provisions of Section 302 apply to all *alterations*, *repairs*, *additions*, relocations of structures and *changes of occupancy* regardless of compliance method.~~ **SECTION 503**		X			Makes the links to the appropriate sections much cleaner.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	ALTERATIONS **Revise as follows:** **503.1 General.** ~~Except as provided by Section 302.4, 302.5 or this section, *alterations*~~ Alterations to any building or structure shall comply with the requirements of the International Building Code for new construction. *Alterations* shall be such that the *existing building* or structure is not less complying with the provisions of the International Building Code than the *existing building* or structure was prior to the *alteration*. **Exceptions:** 1. An existing stairway shall not be required to comply with the requirements of Section 1011 of the International Building Code where the existing space and construction does not allow a reduction in pitch or slope. 2. Handrails otherwise required to comply with Section 1011.11 of the International Building Code shall not be required to comply with the requirements of Section 1014.6 of the International Building Code regarding full extension of the handrails where such extensions would be hazardous because of plan configuration. 3. Where provided in below-grade transportation stations, existing and new escalators shall have a clear width of less than 32 inches (815 mm).					
EB20-19	**2018 International Existing Building Code** **SECTION 305** **ACCESSIBILITY FOR EXISTING BUILDINGS** **Revise as follows:** **305.6 Alterations.** A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of the International Building Code, ICC A117.1 and the provisions of Sections 305.6.1 through 305.6.19, unless *technically infeasible*. Where compliance with this section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible. ~~**Exceptions:**~~		X			Provides a structure and format of the provisions by pulling requirements out of an exception and providing lead in language to the allowances or requirements as applicable.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	1. ~~The altered element or space is not required to be on an accessible route, unless required by Section 305.7.~~ 2. ~~Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing facilities.~~ 3. ~~The *alteration* to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.~~ 4. ~~Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in *existing buildings* and facilities undergoing *alterations* where the *work area* is 50 percent or less of the aggregate area of the building.~~ **305.7 <u>305.6.1</u> Alterations affecting an area containing a primary function.** Where an *alteration* affects the accessibility to, or contains an area of *primary function*, the route to the *primary function* area shall be *accessible*. The accessible route to the *primary function* area shall include toilet facilities and drinking fountains serving the area of *primary function*. **Exceptions:** 1. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of primary function. 2. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets and signs. 3. This provision does not apply to alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials. 4. This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of a facility. 5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units. **Add new text as follows:** <u>305.6.2 **Accessible route.** The altered element or space is not required to be on an accessible route, unless required by Section 305.6.1.</u>					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	305.6.3 **Accessible means of egress.** Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing facilities. 305.6.4 **Alteration of Type A units.** The *alteration* to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit. 305.6.5 **Type B units.** Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in *existing buildings* and facilities undergoing *alterations* where the *work area* is 50 percent or less of the aggregate area of the building. **Delete without substitution:** ~~305.8 **Scoping for alterations.** The provisions of Sections 305.8.1 through 305.8.15 shall apply to *alterations* to *existing buildings* and *facilities.*~~ **Revise as follows:** ~~305.8.1~~ **305.6.6 Entrances.** Where an *alteration* includes alterations to an entrance that is not accessible, and the *facility* has an *accessible* entrance, the altered entrance is not required to be *accessible* unless required by Section ~~305.7.~~ 305.6.1. Signs complying with Section 1111 of the International Building Code shall be provided. ~~305.8.2~~ **305.6.7 Elevators.** Altered elements of existing elevators shall comply with ASME A17.1 and ICC A117.1. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator. ~~305.8.3~~ **305.6.8 Platform lifts.** Platform (wheelchair) lifts complying with ICC A117.1 and installed in accordance with ASME A18.1 shall be permitted as a component of an accessible route. ~~305.8.4~~ **305.6.9 Stairways and escalators in existing buildings.** Where an escalator or stairway is added where none existed previously and major structural modifications are necessary for installation, an accessible route shall be provided between the levels					

Table 2. 2021 IEBC Changes Cost Impact

CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	served by the escalator or stairways in accordance with Section 1104.4 of the International Building Code. ~~305.8.5~~ **305.6.10 Ramps.** Where slopes steeper than allowed by Section 1012.2 of the International Building Code are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table ~~305.8.5~~ 305.6.10.					

TABLE ~~305.8.5~~305.6.10

RAMPS

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

For SI: 1 inch = 25.4 mm.

Add new text as follows:

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

Revise as follows:

~~305.8.6~~ **305.6.11.1 Accessible dwelling or sleeping units.** Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered or added, the requirements of Section 1107 of the International Building Code for Accessible units apply only to the quantity of spaces being altered or added.

~~305.8.7~~ **305.6.11.2 Type A dwelling or sleeping units.** Where more than 20 Group R-2 dwelling or sleeping units are being altered or added, the requirements of Section 1107 of the International Building Code for Type A units apply only to the quantity of the spaces being altered or added.

~~305.8.8~~ **305.6.11.3 Type B dwelling or sleeping units.** Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being added. Where Group I-1, I- 2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered and where the

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	work area is greater than 50 percent of the aggregate area of the building, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being altered. ~~305.8.9~~ **305.6.12 Jury boxes and witness stands.** In *alterations*, accessible wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to be located outside these spaces where the ramp or lift access restricts or projects into the required means of egress. ~~305.8.10~~ **305.6.13 Toilet rooms.** Where it is *technically infeasible* to alter existing toilet and bathing rooms to be *accessible*, an *accessible* family or assisted-use toilet or bathing room constructed in accordance with Section 1109.2.1 of the International Building Code is permitted. The family or assisted- use toilet or bathing room shall be located on the same floor and in the same area as the existing toilet or bathing rooms. At the inaccessible toilet and bathing rooms, directional signs indicating the location of the nearest family or assisted-use toilet room or bathing room shall be provided. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1. ~~305.8.11~~ **305.6.14 Additional toilet and bathing facilities.** In assembly and mercantile occupancies, where additional toilet fixtures are added, not fewer than one accessible family or assisted-use toilet room shall be provided where required by Section 1109.2.1 of the International Building Code. In recreational facilities, where additional bathing rooms are being added, not fewer than one family or assisted-use bathing room shall be provided where required by Section 1109.2.1 of the International Building Code. ~~305.8.12~~ **305.6.15 Dressing, fitting and locker rooms.** Where it is *technically infeasible* to provide accessible dressing, fitting or locker rooms at the same location as similar types of rooms, one accessible room on the same level shall be provided. Where separate-sex facilities are provided, accessible rooms for each sex shall be provided. Separate-sex facilities are not required where only unisex rooms are provided. **305.6.16 Fuel dispensers.** Operable parts of replacement fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum,					

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		Decrease	None	Increase		
Sub Code:						
	measuring from the surface of the vehicular way where fuel dispensers are installed on existing curbs. ~~305.8.13~~ **305.6.17 Thresholds.** The maximum height of thresholds at doorways shall be 3/4 inch (19.1 mm). Such thresholds shall have beveled edges on each side. ~~305.8.14~~ **305.6.18 Amusement rides.** Where the structural or operational characteristics of an amusement ride are altered to the extent that the amusement ride's performance differs from that specified by the manufacturer or the original design, the amusement ride shall comply with requirements for new construction in Section 1110.4.8 of the International Building Code. ~~305.9~~ **305.6.19 Historic buildings.** These provisions shall apply to *facilities* designated as historic structures that undergo *alterations* or a *change of occupancy*, unless *technically infeasible*. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the *facility*, as determined by the authority having jurisdiction, the alternative requirements of Sections ~~305.9.1~~ 305.6.19.1 through ~~305.9.4~~ 305.6.19.4 for that element shall be permitted. **Exception:** Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in historic buildings. ~~305.9.1~~ **305.6.19.1 Site arrival points.** Not fewer than one accessible route from a site arrival point to an accessible entrance shall be provided. ~~305.9.2~~ **305.6.19.2 Multiple-level buildings and facilities.** An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided. **305.6.19.3 Entrances.** Not fewer than one main entrance shall be accessible. **Exception:** If a public entrance cannot be made accessible, an accessible entrance that is unlocked while the building is occupied shall be provided; or, a locked accessible entrance with a notification system or remote monitoring shall be provided.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Signs complying with Section 1111 of the International Building Code shall be provided at the public entrance and the accessible entrance. **<u>305.6.19.4</u> Toilet and bathing facilities.** Where toilet rooms are provided, not fewer than one accessible family or assisted-use toilet room complying with Section 1109.2.1 of the International Building Code shall be provided.					
EB21-19	**Modify proposal as follows:** **305.1 Scope.** The provisions of Sections 305.1 through 305.9 apply to <u>maintenance and</u> repair, *change of occupancy*, *additions* and *alterations* to *existing buildings*, including those identified as *historic buildings*. **305.2 <u>Maintenance and repair</u> ~~Repair~~ of facilities.** A *facility* that is constructed or altered to be *accessible* shall be maintained *accessible* during occupancy.		X			Clarification
EB22-19	**Modify proposal as follows:** **305.2 Maintenance of facilities.** A *facility* that is constructed or altered to be *accessible* shall be maintained *accessible* during occupancy. Required accessible means of egress shall be maintained ~~at all times~~ during construction, demolition, remodeling or *alterations* and *additions* to any <u>occupied</u> building. **Exception:** Existing means of egress need not be maintained where *approved* temporary means of egress and accessible means of egress systems and facilities are provided. **305.6 Alterations.** A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of the International Building Code, unless *technically infeasible*. Where compliance with this section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible. **Exceptions:** 1. The altered element or space is not required to be on an accessible route, unless required by Section 305.7. 2. Accessible means of egress required by Chapter 10 of the International Building Code are not required to be added in existing facilities. 3. The *alteration* to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	4. Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in *existing buildings* and facilities undergoing *alterations* where the *work area* is 50 percent or less of the aggregate area of the building.					
EB23-19	**2018 International Existing Building Code** **SECTION 305** **ACCESSIBILITY FOR EXISTING BUILDINGS** **305.2 Maintenance of facilities.** A *facility* that is constructed or altered to be *accessible* shall be maintained *accessible* during occupancy. **Add new text as follows:** **305.2.1 Prohibited reduction in accessibility.** An alteration that decreases or has the effect of decreasing accessibility of a building, facility or element, thereof, below the requirements for new construction at the time of the alteration is prohibited. The number of accessible elements need not exceed that required for new construction at the time of alteration. **Revise as follows:** **305.3 Extent of application.** An *alteration* of an existing *facility* shall not impose a requirement for greater accessibility than that which would be required for new construction. ~~*Alterations* shall not reduce or have the effect of reducing accessibility of a *facility* or portion of a *facility.*~~		X			Correlates with the requirements of the federal regulations which would not allow the reduction of accessibility.
EB25-19	**2018 International Existing Building Code** **Revise as follows:** **305.4 Change of occupancy.** *Existing buildings* that undergo a change of group or occupancy shall comply with this ~~section~~ Sections 305.6, 305.7 and 305.8. **Exception:** Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in *existing buildings* and facilities undergoing a *change of occupancy* in conjunction with *alterations* where the *work area* is 50 percent or less of the aggregate area of the building.	X				The 20% requirement will address accessibility needs.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Delete without substitution: ~~305.4.1 **Partial change of occupancy.** Where a portion of the building is changed to a new occupancy classification, any *alterations* shall comply with Sections 305.6, 305.7 and 305.8.~~ ~~305.4.2 **Complete change of occupancy.** Where an entire building undergoes a *change of occupancy*, it shall comply with Section 305.4.1 and shall have all of the following accessible features:~~ ~~1. Not fewer than one accessible building entrance.~~ ~~2. Not fewer than one accessible route from an accessible building entrance to *primary function* areas.~~ ~~3. Signage complying with Section 1111 of the International Building Code.~~ ~~4. Accessible parking, where parking is being provided.~~ ~~5. Not fewer than one accessible passenger loading zone, where loading zones are provided.~~ ~~6. Not fewer than one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.~~ ~~Where it is *technically infeasible* to comply with the new construction standards for any of these requirements for a change of group or occupancy, Items 1 through 6 shall conform to the requirements to the maximum extent technically feasible.~~ ~~**Exception:** The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.~~					
EB28-19	**2018 International Existing Building Code** **Revise as follows:** **305.6 Alterations.** A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of the International Building Code, unless *technically infeasible*. Where compliance with this section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible. **Exceptions:** ~~1. The altered element or space is not required to be on an accessible route, unless required by Section 305.7.~~ ~~2. Accessible means of egress required by Chapter 10 of the~~		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact

CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~International Building Code are not required to be provided in existing facilities.~~ ~~3. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.~~ ~~4. Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing buildings and facilities undergoing alterations where the work area is 50 percent or less of the aggregate area of the building.~~					
EB30-19	**2018 International Existing Building Code** **Revise as follows:** **305.8.4 Stairways and escalators in existing buildings.** Where an escalator or stairway is added where none existed previously and major structural modifications are necessary for installation, an accessible route ~~shall be provided between the levels served by the escalator or stairways in accordance~~ complying with Section 1104.4 of the International Building Code is required between levels served by such escalator or stairway.		X			Clarification
EB31-19	**2018 International Existing Building Code** **SECTION 305** **ACCESSIBILITY FOR EXISTING BUILDINGS** **Delete without substitution:** **305.8.4 ~~Ramps.~~** ~~Where slopes steeper than allowed by Section 1012.2 of the International Building Code are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table 305.8.5.~~ **~~TABLE 305.8.5~~** **~~RAMPS~~** ~~SLOPE | MAXIMUM~~ ~~Steeper than 1:10 but not steeper than 1:8 | 3 inches~~ ~~Steeper than 1:12 but not steeper than 1:10 | 6 inches~~ ~~For SI: 1 inch = 25.4 mm.~~ **~~305.8.9 Jury boxes and witness stands.~~** ~~In *alterations*, accessible wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to~~		X			Removes an unnecessary definition.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~be located outside these spaces where the ramp or lift access restricts or projects into the required means of egress.~~ ~~305.8.13 **Fuel dispensers.** Operable parts of replacement fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum, measuring from the surface of the vehicular way where fuel dispensers are installed on existing curbs.~~ ~~**Thresholds.** The maximum height of thresholds at doorways shall be 3/4 inch (19.1 mm). Such thresholds shall have beveled edges on each side.~~					-
EB32-19	**2018 International Existing Building Code** **Revise as follows:** **305.8.10 Toilet rooms.** Where it is *technically infeasible* to alter existing toilet ~~and bathing~~ rooms to be *accessible,* ~~an *accessible*~~ one accessible single user toilet room or one *accessible* family or assisted-use toilet ~~or bathing~~ room constructed in accordance with Section 1109.2.1 of the International Building Code is permitted. ~~The family or assisted-use toilet or bathing~~ This toilet room shall be located on the same floor and in the same area as the existing toilet ~~or bathing~~ rooms. At the inaccessible toilet ~~and bathing~~ rooms, directional signs indicating the location of the nearest ~~family or assisted-use~~ such toilet room ~~or bathing~~ room shall be provided. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1. **Add new text as follows:** **305.8.11 Bathing rooms.** Where it is *technically infeasible* to alter existing bathing rooms to be *accessible*, one *accessible* single user bathing room or one accessible family or assisted-use bathing room constructed in accordance with Section 1109.2.1 of the *International Building Code* is permitted. This accessible bathing room shall be located on the same floor and in the same area as the existing bathing rooms. At the inaccessible bathing rooms, directional signs indicating the location of the nearest such bathing room shall be provided. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Revise as follows: **305.9.4 Toilet ~~and bathing~~ facilities.** Where toilet rooms are provided, not fewer than one accessible single user toilet room or one accessible family or assisted-use toilet room complying with Section 1109.2.1 of the International Building Code shall be provided. **Add new text as follows:** **305.9.5 Bathing facilities.** Where bathing rooms are provided, not fewer than one accessible single user bathing room or one *accessible* family or assisted-use bathing rooms complying with Section 1109.2.1 of the *International Building Code* shall be provided.					
EB34-19	**2018 International Existing Building Code** **Add new text as follows:** **305.8.2 Accessible route.** Exterior accessible routes, including curb ramps, shall be not less than 36 inches (914 mm) minimum in width. **Revise as follows:** **305.9.1 Site arrival points.** Not fewer than one exterior accessible route, including curb ramps from a site arrival point to an accessible entrance shall be provided and shall not be less then 36 inches (914 mm) minimum in width.		X			Necessary since existing buildings were not addressed in A117.1 for this issue.
EB36-19	**2018 International Existing Building Code** **Revise as follows:** **305.9 Historic buildings.** These provisions shall apply to *facilities* designated as historic structures that undergo *alterations* or a *change of occupancy*, unless *technically infeasible*. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the *facility*, as determined by the authority having jurisdiction, the alternative requirements of Sections 305.9.1 through 305.9.4 for that element shall be permitted. **~~Exception:~~ Exceptions:** 1. The altered element or space is not required to be on an		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	accessible route, unless required by Sections 305.9.1 or 305.9.2. 2. The *alteration* to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit. 3. Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in historic buildings.					
EB37-19	**2018 International Existing Building Code** **Revise as follows:** **305.9 Historic ~~buildings~~ structures.** ~~These provisions shall apply to *facilities* designated as historic structures that undergo *alterations* or a *change of occupancy*, unless *technically infeasible*.~~ Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the ~~*facility*~~ historic structure, as determined by the authority having jurisdiction, the alternative requirements of Sections 305.9.1 through 305.9.4 for that element shall be permitted. ~~**Exception:** Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in historic buildings.~~ **305.9.1 Site arrival points.** Not fewer than one accessible route from a site arrival point to an accessible entrance shall be provided. **305.9.2 Multiple-level buildings and facilities.** An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided. **Revise as follows:** **305.9.3 Entrances.** ~~Not fewer than one main entrance shall be accessible.~~ ~~**Exception:** If a public~~ Where an entrance cannot be made accessible in accordance with Section 305.8.1, an accessible entrance that is unlocked while the building is occupied shall be provided; or, a locked accessible entrance with a notification system or remote monitoring shall be provided.		X			Clarifies that historic buildings need to comply with accessibility requirements where technically feasible

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Signs complying with Section 1111 of the International Building Code shall be provided at the public ~~entrance~~ entrances and the accessible entrance. **305.9.4 Toilet and bathing facilities.** Where toilet rooms are provided, not fewer than one accessible family or assisted-use toilet room complying with Section 1109.2.1 of the International Building Code shall be provided. **Add new text as follows:** **305.9.5 Type B units.** Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in historic buildings.					
EB40-19	**Further modify as follows:** **2018 International Existing Building Code** **306.1 Smoke Alarms.** Where an alteration, addition, change of occupancy or relocation of a building is made to an existing building or structure of a Group R and I-1 occupancies, the existing building shall be provided with smoke alarms in accordance with Section 1103.8 of the International Fire Coed or Section R314 of the International Residential Code. **Exception:** Work classified as Level 1 Alterations in accordance with Chapter 7. **307.1 Carbon monoxide detection.** Where an addition, alteration, change of occupancy or relocation of a building is made to Group I-1, I-2, I-4 and R occupancies and classrooms of Group E occupancies, the existing building shall be provided with carbon monoxide detection in accordance with Section 1103.9 of the International Fire Code or Section R315 of the International Residential Code. **Exceptions:** 1. Work involving the exterior surfaces of buildings, such as the replacement of roofing or siding, the addition or r eplacement of windows or doors, or the addition of porches or decks. 2. Installation, alteration or repairs of plumbing or mechanical systems, other than fuel-burning appliances.	X				Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	3. Work classified as Level 1 Alterations in accordance with Chapter 7.					
EB44-19	**2018 International Existing Building Code** **Revise as follows:** **[BS] 405.2.4 Substantial structural damage to gravity load-carrying components.** Gravity load- carrying components that have sustained *substantial structural damage* shall be rehabilitated to comply with the applicable provisions for dead, live, and ~~live~~ snow loads in the International Building Code. ~~Snow loads shall be considered if the *substantial structural damage* was caused by or related to snow load effects.~~ Undamaged gravity load-carrying components that receive dead, live or snow loads from rehabilitated components shall also be rehabilitated if required to comply with the design loads of the *rehabilitation* design.			X		Clarification
EB46-19	**2018 International Existing Building Code** **Delete and substitute as follows:** ~~**406.1.4 Group I-2 receptacles.** Receptacles in patient bed locations of Group I-2 that are not "hospital grade" shall be replaced with "hospital grade" receptacles, as required by NFPA 99 and Article 517 of NFPA 70.~~ **406.1.4 Healthcare facilities.** Portions of electrical systems being repaired in Group I-2, ambulatory care facilities and outpatient clinics shall comply with NFPA 99 requirements for repairs. **Add new text as follows:** **408.3 Healthcare facilities.** Portions of Medical Gas systems being repaired in Group I-2, ambulatory care facilities and outpatient clinics shall comply with NFPA 99 requirements for repairs.		X			Necessary to link with the required regulations for healthcare occupancies which requires compliance with NFPA 99 for repairs of electrical and medical gas systems.
EB47-19	**Further modify as follows:** **2018 International Existing Building Code** **Attendant-to-patient ratio.** Evaluate the attendant-to-patient ratio for each compartment under Section 1301.6.21.3. Under the categories and occupancies in Table 1301.6.21.3 determine the appropriate value and enter that value in Table 1301.7 under Safety Parameter 1301.6.21.3, Attendant-to-patient Ratio, for means of		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact

CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	egress and general safety. **TABLE 1301.6.21.3** **ATTENDANT-TO-PATIENT RATIO VALUES** **OCCUPANCY** / **CATEGORI** / a / b / c I-2 / 1 / 2 / 3 **Categories.** The categories for attendant-to-care recipient concentrations are: 1. Category a - attendant-to-care recipient concentration is 1:5 or no care recipients. 2. Category b - attendant-to-care recipient concentration is 1:6 to 1:10. 3. Category c - attendant-to-care recipient concentration is greater than 1:10 ~~or no care recipients~~.					
EB49-19	**2018 International Existing Building Code** **Add new text as follows:** **501.3 Healthcare facilities.** In Group I-2 facilities, ambulatory care facilities and outpatient clinics, any altered or added portion of an existing electrical or medical gas systems shall be required to meet installation and equipment requirements in NFPA 99. **SECTION 706** **ELECTRICAL** **706.1 Healthcare facilities.** In Group I-2 facilities, ambulatory care facilities and outpatient clinics, any altered, portion of an existing electrical systems shall be required to meet installation and equipment requirements in NFPA 99 **807.3 Healthcare facilities.** In Group I-2 facilities, ambulatory care facilities and outpatient clinics, any added portion of an existing electrical systems shall be required to meet installation and equipment requirements in NFPA 99. **809.2 Healthcare facilities.** In Group I-2 facilities, ambulatory care facilities and outpatient clinics, any added portion of an existing medical gas systems shall be required to meet installation and equipment requirements in NFPA 99.		X			Necessary addition for clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
EB51-19	**2018 International Existing Building Code** **SECTION 502** **ADDITIONS** **502.8 Additions to Group E facilities.** For *additions* to Group E occupancies, storm shelters shall be provided in accordance with Section 1106.1. **Add new text as follows:** **502.9 Enhanced classroom acoustics.** In Group E occupancies, enhanced classroom acoustics shall be provided in all classrooms in the addition with a volume of 20,000 cubic feet (565 m^3) or less. Enhanced classroom acoustics shall comply with the reverberation time in Section 808 of ICC A117.1. **SECTION 503** **ALTERATIONS** **Add new text as follows:** **503.17 Enhanced classroom acoustics.** In Group E occupancies, where the work area exceeds 50 percent of the building area, enhanced classroom acoustics shall be provided in all classrooms with a volume of 20,000 cubic feet (565 m^3) or less. Enhanced classroom acoustics shall comply with the reverberation time in Section 808 of ICC A117.1. **SECTION 506** **CHANGE OF OCCUPANCY** **Add new text as follows:** **506.5 Enhanced classroom acoustics.** In Group E occupancies, where the work area exceeds 50 percent of the building area, enhanced classroom acoustics shall be provided in all classrooms with a volume of 20,000 cubic feet (565 m^3) or less. Enhanced classroom acoustics shall comply with the reverberation time in Section 808 of ICC A117.1. **SECTION 903** **BUILDING ELEMENTS AND MATERIALS**			X		Necessary addition for clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Add new text as follows: **903.4 Enhanced classroom acoustics.** In Group E occupancies, where the work area is a Level 3 alteration, enhanced classroom acoustics shall be provided in all classrooms with a volume of 20,000 cubic feet (565 m^3) or less. Enhanced classroom acoustics shall comply with the reverberation time in Section 808 of ICC A117.1. **SECTION 1011** **CHANGE OF OCCUPANCY CLASSIFICATION** **Interior finish.** In areas of the building undergoing the change of occupancy classification, the interior finish of walls and ceilings shall comply with the requirements of the International Building Code for the new occupancy classification. **Add new text as follows:** **Enhanced classroom acoustics.** In Group E occupancies, where the work area is a Level 3 alteration, enhanced classroom acoustics shall be provided in all classrooms with a volume of 20,000 cubic feet (565 m^3) or less. Enhanced classroom acoustics shall comply with the reverberation time in Section 808 of ICC A117.1. **SECTION 1101** **GENERAL** **Other work.** Any *repair* or *alteration* work within an *existing building* to which an *addition* is being made shall comply with the applicable requirements for the work as classified in Chapter 6. **Add new text as follows:** **Enhanced classroom acoustics.** In Group E occupancies, enhanced classroom acoustics shall be provided in all classrooms in the addition with a volume of 20,000 cubic feet (565 m^3) or less. Enhanced classroom acoustics shall comply with the reverberation time in Section 808 of ICC A117.1.					
EB54-19	**Modify proposal as follows:** **[BS] 503.4 Existing structural elements carrying lateral load.** Except as permitted by Section 503.13, where the *alteration* increases design lateral loads, results in a prohibited structural	X				Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	irregularity as defined in ASCE 7, or decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall meet the requirements of Sections 1609 and 1613 of the International Building Code. Reduced seismic forces shall be permitted. **Exceptions:** 1. Any existing lateral load-carrying structural element whose demand-capacity ratio with the *alteration* considered is not more than 10 percent greater than its demand-capacity ratio with the *alteration* ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613 of the International Building Code. Reduced seismic forces shall be permitted. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of *additions* and *alterations* since original construction. 2. Buildings in which the increase in the demand capacity ratio is due entirely to the addition of roof top supported mechanical equipment individually having an operating weight less than 400 lb and when the total additional weight of all roof top equipment placed after initial construction of the building is less than 10% of the roof ~~design~~ dead load. For purposes of this exception roof shall mean the roof level above a particular story. 3. ~~Replacement of rooftop mechanical equipment where the new equipment has an operating weight equal to or less that the existing equipment to be replaced.~~					
EB57-19	**Modify proposal as follows:** **[BS] 503.12 Roof diaphragms resisting wind loads in high-wind regions.** Where the intended *alteration* requires a permit for reroofing and involves removal of roofing materials from more than 50 percent of the roof diaphragm of a building or section of a building located where the ultimate design wind speed is greater than 115 mph (51 m/s) in accordance with Figure 1609.3(1) of the International Building Code or in a special wind region as defined in Section 1609 of the International Building Code, roof diaphragms, connections of the roof diaphragm to roof framing members, and roof-to-wall connections shall be evaluated for the wind loads		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	specified in Section 1609 of the International Building Code, including wind uplift. If the diaphragms and connections in their current condition are not capable of resisting 75 percent of those wind loads, they shall be replaced or strengthened in accordance with the loads specified in Section 1609 of the International Building Code. **Exception:** Buildings that have been designed to comply with the wind load provisions in ASCE 7-88 or later editions ~~up to and including ASCE 7-2016.~~ **[BS] 706.3.2 Roof diaphragms resisting wind loads in high-wind regions.** Where roofing materials are removed from more than 50 percent of the roof diaphragm or section of a building located where the ultimate design wind speed, *Vult*, determined in accordance with Figure 1609.3(1) of the International Building Code, is greater than 115 mph (51 m/s) or in a special wind region, as defined in Section 1609 of the International Building Code, roof diaphragms, connections of the roof diaphragm to roof framing members, and roof-to-wall connections shall be evaluated for the wind loads specified in the International Building Code, including wind uplift. If the diaphragms and connections in their current condition are not capable of resisting 75 percent of those wind loads, they shall be replaced or strengthened in accordance with the loads specified in the International Building Code. **Exception:** Buildings that have been designed to comply with the wind load provisions in ASCE 7-88 or later editions ~~up to and including ASCE 7-2016~~.					
EB58-19	**Modify proposal as follows:** **[BS] 503.12 Roof diaphragms resisting wind loads in high-wind regions.** Where the intended *alteration* requires a permit for reroofing and involves removal of roofing materials from more than 50 percent of the roof diaphragm of a building or section of a building located where the ultimate design wind speed is greater than 130 mph (58 m/s) in accordance with Figure 1609.3(1) of the International Building Code, ~~and is in a hurricane-prone region as defined in Section 202 of the International Building Code~~, roof diaphragms, connections of the roof diaphragm to roof framing members, and roof-to-wall connections shall be evaluated for the wind loads specified in Section 1609 of the International Building Code, including wind uplift. If the diaphragms and connections in their current condition are not capable of resisting 75 percent of those wind loads, they shall be replaced or strengthened in	X				Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	accordance with the loads specified in Section 1609 of the International Building Code. **[BS] 706.3.2 Roof diaphragms resisting wind loads in high-wind regions.** Where roofing materials are removed from more than 50 percent of the roof diaphragm or section of a building located where the ultimate design wind speed, *Vult*, determined in accordance with Figure 1609.3(1) of the International Building Code, is greater than 130 mph (58 m/s) ~~and is in a hurricane-prone region, as defined in Section 202 of the International Building Code~~, roof diaphragms, connections of the roof diaphragm to roof framing members, and roof-to-wall connections shall be evaluated for the wind loads specified in the International Building Code , including wind uplift. If the diaphragms and connections in their current condition are not capable of resisting 75 percent of those wind loads, they shall be replaced or strengthened in accordance with the loads specified in the International Building Code.					
EB59-19	**2018 International Existing Building Code** **Add new text as follows:** **503.16 Smoke compartments.** In Group I-2 occupancies where the alteration is on a story used for sleeping rooms for more than 30 care recipients, the story shall be divided into not less than two compartments by smoke barrier walls in accordance with Section 407.5 of the International Building Code as required for new construction. **Revise as follows:** **802.3 Smoke compartments.** In Group I-2 occupancies where the *work area* is on a story used for sleeping rooms for more than 30 ~~patients~~ care recipients, the story shall be divided into not less than two compartments by smoke barrier walls in accordance with Section 407.5 of the International Building Code as required for new construction.		X			Addresses smoke compartments within the prescriptive method to be consistent with the work area methods.
EB60-19	**2018 International Existing Building Code** **Revise as follows:** **503.16 Refuge areas.** Where *alterations* affect the configuration of an area utilized as a refuge area, the capacity of the refuge area shall not be reduced below the required capacity of the refuge area for		X			Makes the language consistent within the prescriptive and work area method.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	horizontal exits in accordance with Section 1026.4 of the International Building Code. Where the horizontal exit also forms a smoke compartment, the capacity of the refuge area for Group I-1, I-2 and I-3 occupancies and Group B ambulatory care facilities shall not be reduced below that required in Sections ~~503.16.1 through 503.16.3.~~407.5.3, 408.6.2, 420.6.1 and 422.3.2 of the International Building Code as applicable. **Delete without substitution:** ~~503.16.1 **Smoke compartments.** In Group I-2 and I-3 occupancies, the required capacity of the refuge areas for smoke compartments in accordance with Sections 407.5.1 and 408.6.2 of the International Building Code shall be maintained.~~ ~~503.16.2 **Ambulatory care.** In ambulatory care facilities required to be separated by Section 422.2 of the International Building Code, the required capacity of the refuge areas for smoke compartments in accordance with Section 422.3.2 of the International Building Code shall be maintained.~~ ~~503.16.3 **Horizontal exits.** The required capacity of the refuge area for horizontal exits in accordance with Section 1026.4 of the International Building Code shall be maintained.~~ **Revise as follows:** **805.10 Refuge areas.** Where *alterations* affect the configuration of an area utilized as a refuge area, the capacity of the refuge area shall not be reduced below the required capacity of the refuge area for horizontal exits in accordance with Section 1026.4 of the International Building Code. Where the horizontal exit also forms a smoke compartment, the capacity of the refuge area for Group I-1, I-2 and I-3 occupancies and Group B ambulatory care facilities shall not be reduced below that required in Sections ~~805.10.1 and 805.10.2.~~407.5.3, 408.6.2, 420.6.1 and 422.3.2 of the International Building Code as applicable. **Delete without substitution:** ~~805.10.1 **Capacity.** The required capacity of refuge areas shall be in~~					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~accordance with Sections 805.10.1.1 through 805.10.1.3.~~ ~~805.10.1.1 **Group I-2.** In Group I-2 occupancies, the required capacity of the refuge areas for smoke compartments in accordance with Section 407.5.1 of the International Building Code shall be maintained.~~ ~~805.10.1.2 **Group I-3.** In Group I-3 occupancies, the required capacity of the refuge areas for smoke compartments in accordance with Section 408.6.2 of the International Building Code shall be maintained.~~ ~~805.10.1.3 **Ambulatory care.** In ambulatory care facilities required to be separated by Section 422.2 of the International Building Code, the required capacity of the refuge areas for smoke compartments in accordance with Section 422.3.2 of the International Building Code shall be maintained.~~ ~~**805.10.2 Horizontal exits.** The required capacity of the refuge area for horizontal exits in accordance with Section 1026.4 of the International Building Code shall be maintained.~~					
EB62-19	**2018 International Existing Building Code** **Add new text as follows:** **503.17 Locking arrangements in educational occupancies.** In Group E occupancies, Group B educational occupancies and Group I-4 occupancies, egress doors with locking arrangements designed to keep intruders from entering the room shall comply with Section 1010.1.4.4 of the International Building Code. **704.2 Locking arrangements in educational occupancies.** In Group E occupancies, Group B educational occupancies and Group I-4 occupancies, egress doors with locking arrangements designed to keep intruders from entering the room shall comply with Section 1010.1.4.4 of the International Building Code.		X			Necessary addition for clarification
EB63-19 Part I	**Modify proposal as follows:** **505.3 Replacement window for emergency escape and rescue openings.** Where windows are required to provide *emergency escape* and *rescue openings* in Group R-2 and R-3 occupancies and one- and two-family dwellings and townhouses regulated by the International Residential Code, replacement windows shall be exempt from the		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	requirements of Sections 1030.2 and 1030.3 ~~1030.4~~ of the International Building Code and Sections R310.3 and R310.5 ~~R310.2 and R310.4~~ of the International Residential Code, provided that the replacement window meets the following conditions: 1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window. 2. Where the replacement of the window is part of a *change of occupancy* it shall comply with Section 1011.4.6. **505.3.1 Control devices.** ~~Emergency escape and rescue openings with w~~Window opening control devices or fall prevention devices complying with ASTM F2090, shall be permitted for use on windows required to provide *emergency escape and rescue openings* and after operation to release the control device allowing the window to fully open, shall not reduce the net clear opening area of the window unit. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools. **702.5 Replacement window for emergency escape and rescue openings.** Where windows are required to provide emergency escape and rescue openings in Group R-2 and R-3 occupancies and one- and two-family dwellings and townhouses regulated by the International Residential Code , replacement windows shall be exempt from the requirements of Sections 1030.2 and 1030.3 ~~1030.4~~ of the International Building Code and Sections R310.3 and R310.5 ~~R310.2 and R310.4~~ of the International Residential Code, provided that the replacement window meets the following conditions: 1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. 2. Where the replacement window is part of a *change of occupancy* it shall comply with Section 1011.4.6. **702.5.1 Control devices.** ~~Emergency escape and rescue openings with~~ Window opening control devices or fall prevention devices complying with ASTM F2090 shall be permitted for use on windows required to provide *emergency escape and rescue openings* and after					

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CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	operation to release the control device allowing the window to fully open, shall not reduce the net clear opening area of the window unit. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools.					
EB63-19 Part II	**Modify proposal as follows:** **AJ102.4.3 Replacement windows for emergency escape and rescue openings**. Where windows are required to provide emergency escape and rescue openings, replacement windows shall be exempt from Sections R310.2 and R310.4 provided that the replacement window meets the following conditions: 1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window. 2. Where the replacement window is not part of a change of occupancy. Window opening control devices and fall prevention devices complying with ASTM F2090 shall be permitted for use on windows serving as a required emergency escape and rescue opening.		X			Clarification
EB64-19	**2018 International Existing Building Code** **Revise as follows:** **505.1 Replacement ~~glass~~ windows.** The installation or replacement of ~~glass~~ windows shall be as required for new installations.		X			Clarification
EB65-19	**Modify proposal as follows:** **505.2 Replacement window opening control devices**. In Group R-2 or R-3 buildings containing dwelling units, and one- and two- family dwellings and townhouses regulated by the International Residential Code, window opening control devices complying with ASTM F2090 shall be installed where an existing window~~, including the sash and glazed portion,~~ is replaced and where all of the following apply to the replacement window: 1. The window is operable. 2. One of the following applies: 2.1 The window replacement includes replacement of the sash and frame.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	2.2 The window replacement includes the sash only when the existing frame remains. ~~2~~3. One of the following applies: ~~2.1~~3.1. In Group R-2 or R-3 buildings containing dwelling units, the top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor. ~~2.~~23.2. In one- and two-family dwellings and townhouses regulated by the International Residential Code, the top of the sill of the window opening is at a height less than 24 inches (610 mm) above the finished floor. ~~3~~.4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position. ~~4.5.~~ The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm). The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1030.2 of the International Building Code. **Exceptions:** 1. Operable windows where the top of the sill of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F2006. . 2. Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F2090.					
EB69-19	**2018 International Existing Building Code** **Revise as follows:** **506.4.3 Seismic loads (seismic force-resisting system).** Where a *change of occupancy* results in a building being assigned to a higher *risk category*, or where the change is from a Group S or Group U occupancy to any occupancy other than Group S or Group U, the building shall satisfy the requirements of Section 1613 of the International Building Code for the new *risk category* using full seismic forces.			X		Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exceptions: 1. Where the area of the new occupancy is less than 10 percent of the building area, the occupancy is not changing from a Group S or Group U occupancy, and the new occupancy is not assigned to *Risk Category* IV, compliance with this section is not required. The cumulative effect of occupancy changes over time shall be considered. 2. Where a change of use results in a building being reclassified from *Risk Category* I or II to Risk Category III and the seismic coefficient, SDS, is less than 0.33, compliance with this section is not required. 3. Unreinforced masonry bearing wall buildings assigned to *Risk Category* III and to Seismic Design Category A or B, shall be permitted to use Appendix Chapter A1 of this code. 4. Where the change is from a Group S or Group U occupancy and there is no change of risk category, use of reduced seismic forces shall be permitted. **[BS]1006.3 Seismic loads.** Where a *change of occupancy* results in a building being assigned to a higher risk category, or where the change is from a Group S or Group U occupancy to any occupancy other than Group S or Group U, the building shall satisfy the requirements of Section 1613 of the International Building Code for the new risk category using full seismic forces. **Exceptions:** 1. Where a change of use results in a building being reclassified from Risk Category I or II to Risk Category III and the seismic coefficient, SDS, is less than ~~0.33.~~0.33, compliance with this section is not required. 2. Where the area of the new occupancy is less than 10 percent of the building area, the occupancy is not changing from a Group S or Group U occupancy, and the new occupancy is not assigned to Risk Category ~~IV.~~ IV, compliance with this section is not required. The cumulative effect of occupancy changes over time shall be considered. 3. Unreinforced masonry bearing wall buildings assigned to Risk Category III and to Seismic Design Category A or B shall be permitted to use Appendix Chapter A1 of this code. 4. Where the change is from a Group S or Group U occupancy and there is no change of risk category, use of reduced					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	seismic forces shall be permitted.					
EB70-19	**2018 International Existing Building Code** **Revise as follows:** **603.1 Scope.** Level 2 *alterations* include the ~~reconfiguration of space, the~~ addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional ~~equipment.~~ equipment; and shall apply where the work area is equal to or less than 50 percent of the building area.		X			Clarification
EB71-19	**2018 International Existing Building Code** **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. Sidewalks and driveways not more than 30 inches(762 mm) above grade and not over any basement or story below and that are not part of an accessible route. 2. Painting, papering, tiling, carpeting, cabinets, counter tops, and similar finish work. 3. Temporary motion picture, television, and theater stage sets and scenery. 4. Shade cloth structures constructed for nursery or agricultural purposes, and not including service systems. 5. Window awnings supported by an exterior wall of Group R-3 or Group U occupancies. 6. ~~Movable~~ Non-fixed and moveable cases, counters, and partitions not over ~~69~~ 5 feet and 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	X				Aligns the IEBC with the IBC for aspects of a building that are not regulated such as counters or furniture

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	this code shall not apply to electrical equipment used for radio and television transmissions, but do apply to equipment and wiring for power supply, 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 (746 W) or less. **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 that such *repairs* do not involve or require the replacement or rearrangement of valves, pipes, or fixtures.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	603.1 Scope. Level 2 *alterations* include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment. **Exception:** The movement or addition of non-fixed and movable fixtures, cases, racks, counters and partitions not over 5 feet 9 inches (1753mm) in height shall not be considered a Level 2 alteration. **SECTION 704** **MEANS OF EGRESS** **704.1 General.** *Alterations* shall be done in a manner that maintains the level of protection provided for the means of egress. **Add new text as follows:** **704.2 Casework.** Addition, alteration or reconfiguration of non-fixed and movable cases, counters, and partitions not over 5 feet 9 inches (1753 mm) in height shall maintain the required means of egress path. 801.3 **System installations.** Requirements related to work area are not applicable where the Level 2 alteration alterations are limited solely to one or more of the following: 1. Mechanical systems, electrical systems, fire protection systems and abatement of hazardous materials. 2. Windows, hardware, operating controls, electrical outlets and signs. 3. Alterations undertaken for the primary purpose of increasing the accessibility of a facility.					
EB72-19	**2018 International Existing Building Code** **Delete without substitution:** ~~**SECTION 608 RELOCATED BUILDINGS**~~ ~~608.1 **Scope.** Relocated building provisions shall apply to relocated or moved buildings.~~		X			Removes an unnecessary definition.

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CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~608.2 Application.~~ ~~Relocated buildings shall comply with the provisions of Chapter 14.~~					
EB73-19	**Modify proposal as follows:** **702.4 Window opening control devices on replacement windows.** In Group R-2 or R-3 buildings containing dwelling units and one- and two-family dwellings and townhouses regulated by the International Residential Code, window opening control devices complying with ASTM F2090 shall be installed where an existing window~~, including the sash and glazed portion,~~ is replaced and where all of the following apply to the replacement window: 1. The window is operable. 2.<u>One of the following applies:</u> <u>2.1 The window replacement includes replacement of the sash and frame.</u> <u>2.2 The window replacement includes the sash only when the existing frame remain</u> ~~2~~3. One of the following applies: ~~2.1~~3.1. In Group R-2 or R-3 buildings containing dwelling units, the top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor. ~~2.2~~.3.2. In one- and two-family dwellings and townhouses regulated by the International Residential Code, the top sill of the window opening is at a height less than 24 inches (610 mm) above the finished floor. ~~3.~~4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position. ~~4.~~ 5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm). The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1030.2 of the International Building Code. **Exceptions:** 1. Operable windows where the top of the sill of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	room, space or building, and that are provided with window fall prevention devices that comply with ASTM F2006. 2. Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F2090.					
EB74-19	**2018 International Existing Building Code** **SECTION 704** **MEANS OF EGRESS** **704.1 General.** *Alterations* shall be done in a manner that maintains the level of protection provided for the means of egress. **Add new text as follows:** **704.1.1 Projections in Nursing Home Corridors.** In Group I-2, Condition 1 occupancies, where the corridor is at least 96 inches wide, projections into the corridor width are permitted in accordance with Section 407.4.3 of the International Building Code. **SECTION 805** **MEANS OF EGRESS** **805.1 Scope.** The requirements of this section shall be limited to *work areas* that include exits or corridors shared by more than one tenant within the *work area* in which Level 2 *alterations* are being performed, and where specified they shall apply throughout the floor on which the *work areas* are located or otherwise beyond the *work area*. **805.2 General.** The means of egress shall comply with the requirements of this section. **Exceptions:** 1. Where the work area and the means of egress serving it complies with NFPA 101. 2. Means of egress complying with the requirements of the building code under which the building was constructed shall be considered to be compliant means of egress if, in the opinion of the code official, they do not constitute a distinct hazard to life. **Add new text as follows:**		X			Provides consistency with IBC for areas of rest for occupants without compromising safety for Group I-2 occupancies.

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	805.3 Group I-2. In Group I-2 occupancies, in areas where corridors are used for movement of care recipients in beds, the clear width of ramps and corridors shall be not less than 48 inches (1219 mm).					
EB75-19	**2018 International Existing Building Code** **Revise as follows:** **[BS] ~~705.2~~ 1501.2.1 Structural and construction 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. **~~1511.2~~ 3301.2.1. Structural and construction 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.		X			Clarification
EB78-19	**Modify proposal as follows:** **802.4 Interior finish.** The interior finish of walls and ceilings in exits and corridors in any *work area* shall comply with the requirements of the *International Building Code*. **Exception:** Existing interior finish materials that do not comply with the requirements of the International Building Code shall be permitted to be treated with an *approved* fire-retardant coating in accordance with the manufacturer's instructions to achieve the required ~~fire performance~~ classification. Compliance with this section shall be demonstrated by testing the fire-retardant coating on the same material and achieving the required performance. Where the same material is not available, testing on a similar material shall be permitted.			X	$4.00 per Sqft. of surface area	Clarification
EB79-19	**Modify proposal as follows:** **802.4 Interior finish.** The interior finish and trim of walls and ceilings in exits and corridors in any *work area* shall comply with the requirements of the International Building Code. Existing materials that do not comply with the requirements of the International Building Code shall be permitted to be treated with an *approved* fire-retardant coating in accordance with the manufacturer's instructions to achieve the required ~~fire performance~~ classification.			X	$4.00 per Sqft. of surface area	Clarification
EB81-19	**2018 International Existing Building Code**		X			Provides for a more

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		Decrease	None	Increase		
Sub Code:						
	Revise as follows: **803.2.2 Groups A, B, E, F-1, H, II-1, I-3, I-4, M, R-1, R-2, R-4, S-1 and S-2.** In buildings with occupancies in Groups A, B, E, F-1, H, H-1, I-3, I-4, M, R-1, R-2, R-4, S-1 and S-2, *work areas* that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection where both of the following conditions occur: 1. The work area is required to be provided with automatic sprinkler protection in accordance with the International Building Code as applicable to new construction. 2. The work area exceeds 50 percent of the floor area. **Exception:** If the building does not have sufficient municipal water supply for design of a fire sprinkler system available to the floor without installation of a new fire pump, *work areas* shall be protected by an automatic smoke detection system throughout all occupiable spaces other than sleeping units or individual dwelling units that activates the occupant notification system in accordance with Sections 907.4, 907.5 and 907.6 of the International Building Code. **803.2.2.1 Mixed uses.** In *work areas* containing mixed uses, one or more of which requires automatic sprinkler protection in accordance with Section 803.2.2, such protection shall not be required throughout the *work area* provided that the uses requiring such protection are separated from those not requiring protection by fire-resistance-rated construction having a minimum 2-hour rating for Group H and a minimum 1-hour rating for all other occupancy groups. **Add new text as follows:** **803.2.2.2 Group I-2.** In Group I-2 occupancies, an automatic sprinkler system installed in accordance with Section 903.3.1.1 of the International Fire Code shall be provided in the following: 1. In Group I-2, Condition 1, throughout the work area . 2. In Group I-2, Condition 2, throughout the work area where the work area is 50 percent or less of the smoke compartment. 3. In Group I-2, Condition 2, throughout the smoke compartment in which the work occurs where the work area exceeds 50					reasonable planned installation of sprinklers over time for Group I-2 occupancies

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	percent of the smoke compartment.					
EB83-19	**Modify proposal as follows:** **904.1.4 Groups A, B, E, F-1, H, I I-1, I-3, I-4, M, R-1, R-2, R-4, S-1 and S-2.** In buildings with occupancies in Groups A, B, E, F-1, H, I I-1, I-3, I-4, M, R-1, R-2, R-4, S-1 work areas shall be provided with automatic sprinkler protection where all of the following conditions occur: 1. The *work area* is required to be provided with automatic sprinkler protection in accordance with the *International Building Code* as applicable to new construction; and 2. The building site has sufficient municipal water supply for design and installation of an automatic sprinkler system. **Exception:** If the building site does not have sufficient municipal water supply for design of an automatic sprinkler system, work areas shall be protected by an automatic smoke detection system throughout all occupiable spaces other than sleeping units or individual dwelling units that activates the occupant notification system in accordance with Sections 907.4, 907.5 and 907.6 of the International Building Code. 904.1.4.1 **Group I-2** In Group I-2 occupancies, an automatic sprinkler system installed in accordance with Section 903.3.1.1 of the *International Fire Code* shall be provided in the following: 1. In Group I-2, Condition 1, throughout the work area. 2. In Group I-2, Condition 2, throughout the work area where the work area is 50 percent or less of the smoke compartment. 3. In Group I-2, Condition 2, throughout the smoke compartment in which the work occurs where the work area exceeds 50 percent of the smoke compartment.			X		Clarification
EB86-19	**2018 International Existing Building Code** **Revise as follows:** **803.4.1.2 Group I-1.** ~~A~~ An automatic fire alarm system shall be installed in *work areas* of Group I-1 ~~residential care/assisted living~~ facilities as required by Chapter 11 of the International Fire Code for existing Group I-1 occupancies.		X			Clarification

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		Decrease	**None**	**Increase**		
Sub Code:						
	803.4.1.3Group I-2. ~~A~~ An automatic fire alarm system shall be installed throughout Group I-2 occupancies as required by Chapter 11 of the International Fire Code.					
EB87-19	**Modify proposal as follows:** **Categories.** The categories for automatic sprinkler system protection are: 1. Category a-An approved automatic sprinkler system is required throughout; an approved automatic sprinkler system is not provided. 2. Category b—An approved automatic sprinkler system is required in a ~~fire area or~~ compartment portion of a building; an approved automatic sprinkler system sprinkler is not provided; the sprinkler system design is not adequate for the hazard protected in accordance with Chapter 9 of the International Building Code. 3. Category c—An approved automatic sprinkler system is not required; none are provided. 4. Category d—An approved automatic sprinkler system is required in a ~~fire area or compartment~~ portion of a building; an approved automatic sprinkler system is provided in a ~~fire area or compartment~~ portion of the building in accordance with Chapter 9 of the International Building Code. 5. Category e—An approved automatic sprinkler system is required throughout; an approved automatic sprinkler system is provided throughout in accordance with Chapter 9 of the International Building Code. 6. Category f—An approved automatic sprinkler system is not required throughout; an approved automatic sprinkler system is provided throughout in accordance with Chapter 9 of the International Building Code.		X			Clarification
EB88-19	**2018 International Existing Building Code** **Revise as follows:** **805.4.1.2 Group I-2.** In ~~buildings of~~ Group I-2 ~~occupancy, any patient sleeping room or suite of patient rooms greater than 1,000 square feet (93 m^2)~~ within the ~~*work area* shall have not fewer than two egress doorways.~~, Condition 2, work areas that include altered care suites shall comply with Sections 407.4.4 through 407.4.4.6.2 of the International Building Code.		X			Clarification
EB89-19	**2018 International Existing Building Code**		X			Clarification

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		Decrease	None	Increase		
Sub Code:						
	Revise as follows: **805.4.4 Panic and fire exit hardware.** In any *work area*, and in the egress path from any *work area* to the exit discharge, in buildings or portions thereof of Group A assembly occupancies with an occupant load greater than 100, all required exit doors equipped with latching devices shall be equipped with *approved* panic ~~hardware.~~ or fire exit hardware in accordance with Section 1010.1.10 of the International Building Code.					
EB90-19	**Modify proposal as follows:** **805.5.3 Other corridor openings.** In any *work area*, unless ~~otherwise~~ protected ~~or fire-resistant rated~~ in accordance with Section 716 of the IBC, any other sash, grille, or opening in a corridor and any window in a corridor not opening to the outside air shall be sealed with materials consistent with the corridor construction.	X				Clarification
EB91-19	**2018 International Existing Building Code** **Revise as follows:** **805.6 Dead-end corridors.** Dead-end corridors in any *work area* shall not exceed 35 feet (10 670 mm). In Group I-2 occupancies, dead-end corridors shall not exceed 30 feet (9144 mm). **Exceptions:** 1. Where dead-end corridors of greater length are permitted by the International Building Code . 2. In other than Group A, I-2 and H occupancies, the maximum length of an existing dead-end corridor shall be 50 feet (15 240 mm) in buildings equipped throughout with an automatic fire alarm system installed in accordance with the International Building Code . 3. In other than Group A, I-2 and H occupancies, the maximum length of an existing dead-end corridor shall be 70 feet (21 356 mm) in buildings equipped throughout with an automatic sprinkler system installed in accordance with the International Building Code . 4. In other than Group A, I-2 and H occupancies, the maximum length of an existing, newly constructed, or extended dead-end corridor shall not exceed 50 feet (15 240 mm) on floors equipped with an automatic sprinkler system installed in accordance with the International Building Code .			X	Minimal	Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
EB92-19	**2018 International Existing Building Code** **Delete without substitution:** ~~**SECTION 809**~~ ~~**PLUMBING**~~ ~~**809.1 Minimum fixtures.** Where the occupant load of the story is increased by more than 20 percent, plumbing fixtures for the story shall be provided in quantities specified in the International Plumbing Code based on the increased occupant load.~~ **Revise as follows:** **1009.1 Increased demand.** Where the occupancy of an *existing building* or part of an *existing building* is changed such that the new occupancy is subject to increased or different plumbing fixture requirements or to increased water supply requirements in accordance with the International Plumbing Code, the new occupancy shall comply with the intent of the respective International Plumbing Code provisions. **Exception:** Only where the occupant load of the story is increased by more than 20 percent, plumbing fixtures for the story shall be provided in quantities specified in the International Plumbing Code based on the increased occupant load.	X				Removes an unnecessary definition.
EB94-19	**Modify as follows:** **2018 International Existing Building Code** **SECTION 905** **MEANS OF EGRESS** **905.1 General.** The means of egress shall comply with the requirements of Section 805 except as specifically required in Sections 905.2 and 905.3. **905.2 Means-of-egress lighting.** Means of egress from the highest *work area* floor to the floor of exit discharge shall be provided with artificial lighting within the exit enclosure in accordance with the requirements of the International Building Code. **905.3 Exit signs.** Means of egress from the highest *work area* floor to the floor of exit discharge shall be provided with exit signs in			X	$2.00 per Sqft. of surface area	Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	accordance with the requirements of the International Building Code. **905.4 Two-way communications systems.** In buildings with elevator service , a two way communication systems ~~shall~~ be provided where required by in accordance with Section 1009.8 of the International Building Code. **SECTION 503** **ALTERATIONS** **503.17 Two-way communications systems.** Where the work area for alterations exceeds 50 percent of the building area and the building has elevator service, a two way communication systems shall be provided where required by in accordance with Section 1009.8 of the International Building Code.			-		
EB96-19	**2018 International Existing Building Code** **Revise as follows:** **Compliance with the building code.** Where ~~the character or use of~~ an *existing building* or part of an *existing building* ~~is changed~~ undergoes a *change of occupancy* to one of the ~~following~~ special use or occupancy categories as ~~defined~~ described in Chapter 4 in the International Building Code, the building shall comply with all of the ~~applicable~~ requirements of Chapter 4 of the International Building Code applicable to the special use or occupancy: ~~1. Covered and open mall buildings.~~ ~~2. Atriums.~~ ~~3. Motor vehicle-related occupancies.~~ ~~4. Aircraft-related occupancies.~~ ~~5. Motion picture projection rooms.~~ ~~6. Stages and platforms.~~ ~~7. Special amusement buildings.~~ ~~8. Incidental use areas.~~ ~~9. Hazardous materials.~~ ~~10. Ambulatory care facilities.~~ ~~11. Group I-2 occupancies.~~		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~**Underground buildings**~~ **Incidental uses.** ~~An underground building in which there is a change of~~ Where a portion of a building undergoes a *change of occupancy* to one of the incidental uses listed in Table 509 of the International Building Code, the incidental use shall comply with ~~the requirements~~ Section 509 of the International Building Code applicable to ~~underground structures~~ the incidental use.					
EB97-19	**2018 International Existing Building Code** **Revise as follows:** **Compliance with the building code.** Where the character or use of an *existing building* or part of an *existing building* is changed to one of the following special use or occupancy categories as defined in the International Building Code, the building shall comply with all of the applicable requirements of the International Building Code: 1. Covered and open mall buildings. 2. Atriums. 3. Motor vehicle-related occupancies. 4. Aircraft-related occupancies. 5. Motion picture projection rooms. 6. Stages and platforms. 7. Special amusement buildings. 8. Incidental use areas. 9. Hazardous materials. 10. Ambulatory care facilities. 11. ~~Group I-2 occupancies.~~ **Add new text as follows:** **Change of occupancy in Healthcare.** Where a change of occupancy occurs to a Group I-2 or I-1 facility, the work area with the change of occupancy shall comply with the International Building Code. **Exception:** A change in use or occupancy in the following cases shall not be required to meet the International Building Code: 1. Group I-2 Condition 2 to Group I-2 Condition 1 2. Group I-2 to ambulatory healthcare. 3. Group I-2 to Group I-1 4. Group I-1 Condition 2 to a Group I-1 Condition 1		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
EB98-19	**2018 International Existing Building Code** **Add new text as follows:** **1002.2 Storage.** In Group I-2 occupancies, equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, where a room 250 ft2(23.2m2) or less undergoes a change in occupancy to a storage room, the room shall be separated from the remainder of the building by construction capable of resisting the passage of smoke in accordance with Section 509.4.2 of the International Building Code.		X			Necessary addition for clarification
EB99-19	**2018 International Existing Building Code** **Revise as follows:** **Special occupancies.** Where the occupancy of an *existing building* or part of an *existing building* is changed to one of the following special occupancies as described in NFPA 70, the electrical wiring and equipment of the building or portion thereof that contains the proposed occupancy shall comply with the applicable requirements of NFPA 70 ~~whether or not a *change of occupancy* group is involved~~. Health care facilities, including Group I-2, ambulatory healthcare facilities and outpatient clinics, shall also comply with the applicable requirements of NFPA 99: 1. Hazardous locations. 2. Commercial garages, repair and storage. 3. Aircraft hangars. 4. Gasoline dispensing and service stations. 5. Bulk storage plants. 6. Spray application, dipping and coating processes. 7. Health care facilities, including Group I-2, ambulatory healthcare facilities and outpatient clinics. 8. Places of assembly. 9. Theaters, audience areas of motion picture and television studios, and similar locations. 10. Motion picture and television studios and similar locations. 11. Motion picture projectors. 12. Agricultural buildings.		X			Clarification
EB100-19	**2018 International Existing Building Code** **Revise as follows:**		X			Clarification

<table>
<tr><th colspan="7">Table 2. 2021 IEBC Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IEBC CHANGE SUMMARY</th><th colspan="3">IEBC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>1009.5 Group I-2. If the occupancy group is changed to Group I-2, the plumbing system and medical gas system shall comply with the applicable requirements of the International Plumbing Code.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>EB101-19 Part I</td><td>2018 International Existing Building Code

Revise as follows:

SECTION 1011
CHANGE OF OCCUPANCY CLASSIFICATION

Means of egress, general. Hazard categories in regard to life safety and means of egress shall be in accordance with Table 1011.4.

TABLE 1011.4
MEANS OF EGRESS HAZARD CATEGORIES
<table><tr><th>RELATIVE HAZARD</th><th>OCCUPANCY CLASSIFICATIONS</th></tr><tr><td>1 (Highest Hazard)</td><td>H</td></tr><tr><td>2</td><td>I-2; I-3; I-4</td></tr><tr><td>3</td><td>A; E; I-1; M; R-1; R-2; R-4, Condition 2</td></tr><tr><td>4</td><td>B; F-1; R-3; R-4, Condition 1; S-1</td></tr><tr><td>5 (Lowest Hazard)</td><td>F-2; S-2; U</td></tr></table>
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 1011.4, 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</td><td>X</td><td></td><td></td><td></td><td>Aligns detailed requirements for emergency escape and rescue openings with the IBC and IRC.</td></tr>
</table>

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	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 805.5.1, 805.5.2 and 805.5.3. 6. Existing dead-end corridors shall comply with the requirements in Section 805.6. 7. An ~~existing operable window with clear opening area not less than 4 square feet (0.38 m^2) and minimum opening height and width of 22 inches (559 mm) and 20 inches (508 mm), respectively~~ operable window complying with Section 1011.4.6, shall be accepted as an emergency escape and rescue opening. **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 1011.4, 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. **Exception:** 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. **Egress capacity.** Egress capacity shall meet or exceed the occupant load as specified in the International Building Code for the new occupancy. **Handrails.** Existing stairways shall comply with the handrail requirements of Section 805.9 in the area of the *change of occupancy* classification. **Guards.** Existing guards shall comply with the requirements in Section 805.11 in the area of the *change of occupancy* classification. **Add new text as follows:** **Existing emergency escape and rescue openings.** Where a change of					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	occupancy would require emergency escape and rescue opening in accordance with Section 1030.1 of the International Building Code, operable windows serving as the emergency escape and rescue opening shall comply with the following: 1. An existing operable window shall provide a minimum net clear opening of 4 square feet (0.38 m^2) with a minimum net clear opening height of 22 inches (559 mm) and a minimum net clear opening width of 20 inches (508 mm). 2. A replacement window where such window complies with both of the following: 2.1. The replacement window meets the size requirements in Item 1. 2.2. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window. **Revise as follows:** **SECTION 506** **CHANGE OF OCCUPANCY** **506.3 Stairways.** An existing stairway shall not be required to comply with the requirements of Section 1011 of the International Building Code where the existing space and construction does not allow a reduction in pitch or slope. **Add new text as follows:** **506.4 Existing Emergency escape and rescue openings.** Where a change of occupancy would require emergency escape and rescue opening in accordance with Section 1030.1 of the International Building Code, operable windows serving as the emergency escape and rescue opening shall comply with the following: 1. An existing operable window shall provide a minimum net clear opening of 4 square feet (0.38 m^2) with a minimum net clear opening height of 22 inches (559 mm) and a minimum net clear opening width of 20 inches (508 mm). 2. A replacement window where such window complies with both					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	of the following: 2.1. The replacement window meets the size requirements in Item 1. 2.2. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.					
EB101-19 Part II	**2018 International Existing Building Code** **Revise as follows:** **SECTION R310** **EMERGENCY ESCAPE AND RESCUE OPENINGS** **~~R310.5~~ R310.8 Dwelling additions.** Where dwelling additions contain sleeping rooms, an emergency escape and rescue opening shall be provided in each new sleeping room. Where dwelling additions have basements, an emergency escape and rescue opening shall be provided in the new basement. **Exceptions:** 1. An emergency escape and rescue opening is not required in a new basement that contains a sleeping room with an emergency escape and rescue opening. 2. An emergency escape and rescue opening is not required in a new basement where there is an emergency escape and rescue opening in an existing basement that is accessed from the new basement. 3. An operable window complying with Section 310.9.1 shall be acceptable as an emergency escape and rescue opening. **~~R310.6~~ R310.9 Alterations or repairs of existing basements.** ~~An emergency escape and rescue opening is not required where existing basements undergo alterations or repairs.~~ **~~Exception:~~** New sleeping rooms created in an existing basement shall be provided with emergency escape and rescue openings in accordance with Section R310.1. Other than new sleeping rooms, where existing basements undergo alterations or repairs an emergency escape and rescue opening is not required.	X				Aligns detailed requirements for emergency escape and rescue openings with the IBC and IRC

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exception: An operable window complying with Section 310.9.1 shall be acceptable as an emergency escape and rescue opening. **Add new text as follows:** **R310.9.1 Existing Emergency escape and rescue openings.** Where a change of occupancy would require emergency escape and rescue opening in accordance with Section 310.1, operable windows serving as the emergency escape and rescue opening shall comply with the following: 1. An existing operable window shall provide a minimum net clear opening of 4 square feet (0.38 m2) with a minimum net clear opening height of 22 inches (559 mm) and a minimum net clear opening width of 20 inches (508 mm). 2. A replacement window where such window complies with both of the following: 2.1. The replacement window meets the size requirements in Item 1. 2.2. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.					
EB102-19	**Modify proposal as follows:** **Fire sprinkler system.** Where a change in occupancy classification occurs or where there is a *change of occupancy* within a space where there is a different fire protection system threshold requirement in Chapter 9 of the International Building Code that requires an automatic fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9 of the International Building Code The installation of the automatic sprinkler system shall be required within the area of the change of occupancy and areas of the building not separated horizontally and vertically from the change of occupancy by one of the following: 1. Non rated permanent partition or horizontal assemblies 2. Fire Partition 3. Smoke Partition 4. Smoke Barrier 5. Fire Barrier 6. Fire wall		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exceptions: 1. An automatic sprinkler system shall not be required in a one or two family dwelling constructed in accordance with the IRC. 2. Automatic sprinkler system shall not be required in a townhouse constructed in accordance with the IRC. 3. The townhouse shall be separated from adjoining units in accordance with Section R302.2 of the International Residential Code.					
EB106-19	**Modify proposal as follows:** **1104.1 Smoke alarms in existing portions of a building.** Where an *addition* is made to a building or structure of a Group R or I-1 occupancy, the *existing building* shall be provided with smoke alarms as required by Section 907.2.10 of the International Fire Code or Section R314 of the International Residential Code as applicable. **1105.1 Carbon monoxide alarms in existing portions of a building.** Where an *addition* is made to a building or structure of a Group I-1, I-2, I-4 or R occupancy, the *existing building* shall be equipped with carbon monoxide alarms in accordance with Section 915 of the International Fire Code or Section R315 of the International Residential Code as applicable.		X			Clarification
EB107-19	**2018 International Existing Building Code** **SECTION 1106** **STORM SHELTERS** **Addition to a Group E occupancy.** Where an *addition* is added to an existing Group E occupancy located in an area where the shelter design wind speed for tornados is 250 mph in accordance with Figure 304.2(1) of ICC 500 and the occupant load in the *addition* is 50 or more, the *addition* shall have a storm shelter constructed in accordance with ICC 500. **Exceptions:** 1. Group E day care facilities. 2. Group E occupancies accessory to places of religious worship. 3. Additions meeting the requirements for shelter design in ICC 500.		X			Provides a reference back to Section 423.3 for occupancy classification.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Revise as follows: **Required occupant capacity.** The required occupant capacity of the storm shelter shall include all buildings on the site, and shall be the greater of the following: 1. The total occupant load of the classrooms, vocational rooms and offices in the Group E occupancy. 2. The occupant load of ~~any~~ the largest indoor assembly space that is associated with the Group E occupancy. **Exceptions:** 1. Where an *addition* is being added on an existing Group E site, and where the *addition* is not of sufficient size to accommodate the required occupant capacity of the storm shelter for all of the buildings on-site, the storm shelter shall at a minimum accommodate the required capacity for the addition. 2. Where *approved* by the *code official*, the required occupant capacity of the shelter shall be permitted to be reduced by the occupant capacity of any existing storm shelters on the site. **Location.** Storm shelters shall be located within the buildings they serve, or shall be located where the maximum distance of travel from not fewer than one exterior door of each building to a door of the shelter serving that building does not exceed 1,000 feet (305 m). **Add new text as follows:** **Occupancy classification.** The occupancy classification for storm shelters shall be determined in accordance with Section 423.3 of the International Building Code.					
EB108-19	**2018 International Existing Building Code** **SECTION 1106** **STORM SHELTERS** **Revise as follows:** **Addition to a Group E occupancy.** Where an *addition* is added to an existing Group E occupancy located in an area where the shelter design wind speed for tornados is 250 mph in accordance with Figure	X				Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	304.2(1) of ICC 500 and the occupant load in the *addition* is 50 or more, the *addition* shall have a storm shelter constructed in accordance with ICC 500. **Exceptions:** 1. Group E day care facilities. 2. Group E occupancies accessory to places of religious worship. 3. Additions meeting the requirements for shelter design in ICC 500. **Required occupant capacity.** The required occupant capacity of the storm shelter shall include all buildings on the site, and shall be the ~~greater of the following:~~ 1. ~~The~~ total occupant load of the classrooms, vocational rooms and offices in the Group E occupancy. 2. ~~The occupant load of any indoor assembly space that is associated with the Group E occupancy.~~ **Exceptions:** 1. Where an *addition* is being added on an existing Group E site, and where the *addition* is not of sufficient size to accommodate the required occupant capacity of the storm shelter for all of the buildings on-site, the storm shelter shall at a minimum accommodate the required capacity for the addition. 2. Where *approved* by the *code official*, the required occupant capacity of the shelter shall be permitted to be reduced by the occupant capacity of any existing storm shelters on the site.					
EB109-19	**2018 International Existing Building Code** **Delete without substitution:** ~~**Location.** Storm shelters shall be located within the buildings they serve, or shall be located where the maximum distance of travel from not fewer than one exterior door of each building to a door of the shelter serving that building does not exceed 1,000 feet (305 m).~~	X				Removes an unnecessary definition.
EB110-19	**2018 International Existing Building Code** **Revise as follows:**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	1201.3 Special occupancy exceptions—museums. Where a building in Group R-3 is used for Group A, B or M purposes such as museum tours, exhibits, and other public assembly activities, or for museums less than 3,000 square feet (279 m^2), the *code official* ~~may~~ is authorized to determine that the occupancy is Group B where life safety conditions can be demonstrated in accordance with Section 1201.2. Adequate means of egress in such buildings, which ~~may include~~ includes, but are not limited to a means of maintaining doors in an open position to permit egress, a limit on building occupancy to an occupant load permitted by the means of egress capacity, a limit on occupancy of certain areas or floors, or supervision by a person knowledgeable in the emergency exiting procedures, shall be provided.					
EB112-19	**Modify proposal as follows:** **1204.9 Interior finish.** Where interior finish materials are required to comply with the fire test requirements of Section 803.1 of the *International Building Code*, existing nonconforming materials shall be permitted to be surfaced with an *approved* fire-retardant coating to achieve the required ~~fire performance~~ classification. Compliance with this section shall be demonstrated by testing the fire-retardant coating on the same material and achieving the required fire classification. If the same material is not available, it shall be permitted to test on a similar material. **Exception:** Existing nonconforming materials need not be surfaced with an *approved* fire-retardant coating where the building is equipped throughout with an automatic sprinkler system installed in accordance with the *International Building Code* and the nonconforming materials can be substantiated as being historic in character.		X			Clarification
EB114-19	**Modify proposal as follows:** **1301.2 Applicability.** *Existing buildings* in which there is work involving *additions*, *alterations* or *changes of occupancy* shall be made to conform to the requirements of this chapter or the provisions of Chapters 6 through 10. The provisions of Sections 1301.2.1 through 1301.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, I-2, M, R and S. These provisions shall also apply to Group U occupancies ~~only where~~ when such occupancies are undergoing a change of occupancy or a partial change in occupancy with separations in		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	accordance with Section 1301.2.2. These provisions shall not apply to buildings with occupancies in Group H, I-1, I-3, or I-4.					
EB115-19	**2018 International Existing Building Code** **Revise as follows:** **Scope.** The provisions of this chapter shall apply to the *alteration*, *addition* and *change of occupancy* of *existing structures*, including historic structures, as referenced in Section 301.3.3. The provisions of this chapter are intended to maintain or increase the current degree of public safety, health and general welfare in *existing buildings* while permitting, *alteration*, *addition* and *change of occupancy* without requiring full compliance with the prescriptive method of Chapter 5 or the work area method of Chapters 6 through 12, except where compliance with other provisions of this code is specifically required in this chapter.		X			Clarification
EB116-19	**2018 International Existing Building Code** **Revise as follows:** **Applicability.** *Existing buildings* in which there is work involving *additions*, *alterations* or *changes of occupancy* shall be made to conform to the requirements of this chapter or the provisions of Chapters 6 through 10. The provisions of Sections 1301.2.1 through ~~1301.2.5~~ 1301.2.6 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, I-2, M, R and S. These provisions shall not apply to buildings with occupancies in Group H or I-1, I-3 or I-4. **Add new text as follows:** **1301.2.6 Plumbing Fixtures.** Plumbing fixtures shall be provided in accordance with Section 1009 for a *Change of Occupancy* and Section 809 for *Alterations*. Plumbing fixtures for *additions* shall be in accordance with the *International Plumbing Code*.			X	Minimal	Provides a good addition to the performance method.
EB117-19	**2018 International Existing Building Code** **Revise as follows:** **1301.2.2 Partial change in occupancy.** Where a portion of the building is changed to a new occupancy classification and that portion is separated from the remainder of the building with fire barrier or horizontal assemblies having a fire-resistance rating as	X				Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	required by Table 508.4 of the International Building Code or Section R302 of the International Residential Code for the separate occupancies, or with *approved* compliance alternatives, the portion changed shall be made to conform to the provisions of this section. Only the portion separated shall be required to be evaluated for compliance. Where a portion of the building is changed to a new occupancy classification and that portion is not separated from the remainder of the building with fire barriers or horizontal assemblies having a fire-resistance rating as required by Table 508.4 of the International Building Code or Section R302 of the International Residential Code for the separate occupancies, or with *approved* compliance alternatives, the provisions of this section which apply to each occupancy shall apply to the entire building. Where there are conflicting provisions, those requirements which secure the greater public safety shall apply to the entire building or structure.					
EB119-19	**2018 International Existing Building Code** **Revise as follows:** **Building area.** The value for building area shall be determined by the formula in Section 1301.6.2.2. Section 506 of the International Building Code and the formula in Section 1301.6.2.1 shall be used to determine the allowable area of the building. ~~Subtract the actual building area from the allowable area and divide by 1,200 square feet (112 m^2)~~. Enter the area value and its sign (positive or negative) in Table 1301.7 under Safety Parameter 1301.6.2, Building Area, for fire safety, means of egress and general safety. In determining the area value, the maximum permitted positive value for area is 50 percent of the fire safety score as listed in Table 1301.8, Mandatory Safety Scores. Group I-2 occupancies shall be scored zero. **Allowable area formula.** The following formula shall be used in computing allowable area: $A_a = A_t + (NS \times I_f)$ **(Equation 13-3)** where: A_a = Allowable building area per story (square feet). A_t = Tabular allowable area factor (NS, S1, S13R, or SM value, as applicable) in accordance with Table 506.2 of the International Building Code.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	NS = Tabular allowable area factor in accordance with Table 506.2 of the International Building Code for a nonsprinklered building (regardless of whether the building is sprinklered). *If* = Area factor increase due to frontage as calculated in accordance with Section 506.3 of the International Building Code. **Area formula.** The following ~~formula~~ formulas shall be used in computing the area value. ~~Determine~~ Equation 13-4 shall be used for a single occupancy buildings and Equation 13-5 shall be used for multiple occupancy buildings.Determine the area value for each occupancy floor area on a floor-by- floor basis. For ~~each~~ multiple occupancy ~~, choose~~ buildings the minimum area value of the set of values obtained for the particular occupancy shall be used as the area value for that occupancy. For single occupancy buildings: Area value*i* = (Allowable area-Actual area)/1200 square feet **(Equation 13-4)** For multiple occupancy buildings: $$\text{Area value}_i = \frac{\text{Allowable area}_i}{1200\,\text{square feet}}\left[1 - \left(\frac{\text{Actual area}_i}{\text{Allowable area}_i} + \ldots + \frac{\text{Actual area}_n}{\text{Allowable area}_n}\right)\right]$$ **(Equation ~~13-4~~ 13-5)** where: *i* = Value for an individual separated occupancy on a floor. *n* = Number of separated occupancies on a floor.					
EB120-19	**2018 International Existing Building Code** **Revise as follows:** **Compartmentation.** Evaluate the compartments created by fire barriers or horizontal assemblies which comply with Sections ~~1301.6.3.1 and~~ 1301.6.3.2 and 1301.6.3.3 and which are exclusive of the wall elements considered under Sections 1301.6.4 and 1301.6.5. Conforming compartments shall be figured as the net area and do not include shafts, chases, stairways, walls, or columns. Using Table 1301.6.3, determine the appropriate compartmentation value (CV)	X				Adds linear interpolation which is necessary and cleans up the ranges to fix a gap between category a and b.

Table 2. 2021 IEBC Changes Cost Impact

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		Decrease	None	Increase		
Sub Code:						

and enter that value into Table 1301.7 under Safety Parameter 1301.6.3, Compartmentation, for fire safety, means of egress, and general safety.

TABLE 1301.6.3
COMPARTMENTATION VALUES

OCCUPAN	CATEGORIE –				
	a ~~Compartment size equal to or greater than 15,000 square feet~~	b ~~Compartment size of 10,000 square feet~~	c ~~Compartment size of 7,500 square feet~~	d ~~Compartment size of 5,000 square feet~~	e ~~Compartment size of 2,500 square feet or less~~
A-1, A-3	0	6	10	14	18
A-2	0	4	10	14	18
A-4, B, E, S-2	0	5	10	15	20
F, M, R, S-1	0	4	10	16	22

For SI: 1 square foot = 0.0929 m^2.

a. For compartment sizes between categories, the compartmentation value shall be obtained by linear interpolation.

Add new text as follows:

Categories. The categories for compartment separations are:

1. Category a-compartment size of 15,000 square feet or more.
2. Category b-maximum compartment size of 10,000 square feet.
3. Category c-maximum compartment size of 7,500 square feet.
4. Category d-maximum compartment size of 5,000 square feet.
5. Category e-maximum compartment size of 2,500 square feet.

Revise as follows:

1301.6.3.2 Wall construction. A wall used to create separate compartments shall be a fire barrier conforming to Section 707 of the International Building Code with a fire-resistance rating of not less than 2 hours. Where the building is not divided into more than one compartment, the compartment size shall be taken as the total floor

<table>
<tr><th colspan="7">Table 2. 2021 IEBC Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IEBC CHANGE SUMMARY</th><th colspan="3">IEBC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>area on all floors. Where there is more than one compartment within a story, each compartmented area on such story shall be provided with a horizontal exit conforming to Section 1026 of the International Building Code. The fire door serving as the horizontal exit between compartments shall be so installed, fitted, and gasketed that such fire door will provide a substantial barrier to the passage of smoke.

<u>1301.6.3.3</u> Floor/ceiling construction. A floor/ceiling assembly used to create compartments shall conform to Section 711 of the International Building Code and shall have a fire-resistance rating of not less than 2 hours.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>EB122-19</td><td>2018 International Existing Building Code

Revise as follows:

TABLE 1301.6.3
COMPARTMENTATION VALUES
<table>
<tr><th>OCCUPAN</th><th colspan="5">CATEGORIE</th></tr>
<tr><td></td><td>a Compartment size equal to or greater than 15,000square feet</td><td>b Compartment size of 10,000 square feet</td><td>c Compartment size of 7,500 square feet</td><td>d Compartment size of 5,000 square feet</td><td>e Compartment size of 2,500 square feet or less</td></tr>
<tr><td>A-1, A-3</td><td>0</td><td>6</td><td>10</td><td>14</td><td>18</td></tr>
<tr><td>A-2</td><td>0</td><td>4</td><td>10</td><td>14</td><td>18</td></tr>
<tr><td>A-4, B, E, S-2</td><td>0</td><td>5</td><td>10</td><td>15</td><td>20</td></tr>
<tr><td>F, M, R, S-1</td><td>0</td><td>4</td><td>10</td><td>16</td><td>22</td></tr>
<tr><td>I-2</td><td>0</td><td>2</td><td>8</td><td>10</td><td>14</td></tr>
</table>
For SI: 1 square foot = 0.0929 m^2.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>EB124-19</td><td>2018 International Existing Building Code

Revise as follows:

1301.6.4 Tenant and dwelling unit separations. Evaluate the fire-resistance rating of floors and walls separating tenants, including dwelling units, and not evaluated under Sections 1301.6.3 and 1301.6.5. Group I-2 occupancies shall evaluate the rating of the separations between patient sleeping rooms.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Under the categories and occupancies in Table 1301.6.4, determine the appropriate value and enter that value in Table 1301.7 under Safety Parameter 1301.6.4, Tenant and Dwelling Unit Separation, for fire safety, means of egress, and general safety. The value shall be zero for single tenant buildings, and buildings without dwelling units.					
EB125-19	**2018 International Existing Building Code** **Revise as follows:** **Categories.** The categories for corridor walls are: 1. Category a—No fire partitions; incomplete fire partitions; no doors; or doors not self-closing. 2. Category b—Less than 1-hour fire-resistance rating or not constructed in accordance with Section 708.4 of the International Building Code. 3. Category c—1-hour to less than 2-hour fire-resistance rating, with doors conforming to Section 716 of the International Building Code or without corridors as permitted by Section 1020 of the International Building Code to be without a fire-resistance rating. 4. Category d—2-hour or greater fire-resistance rating, with doors conforming to Section 716 of the International Building Code.	X				Clarification
EB127-19	**2018 International Existing Building Code** **Revise as follows:** **Categories.** The categories for HVAC systems are: 1. Category a—Plenums not in accordance with Section 602 of the International Mechanical Code. - 10 points. 2. Category b—Air movement in egress elements not in accordance with Section 1020.5 of the International Building Code. -5 points. 3. Category c—Both Categories a and b are applicable. -15 points. 4. Category d—Compliance of the HVAC system with Section 1020.5 of the International Building Code and Section 602 of the International Mechanical Code. 0 points. 5. Category e—Systems serving one story; or a central boiler/chiller system without ductwork connecting two or more stories. ; or where systems have no ductwork. +5 points.	X				Clarification
EB130-19	**2018 International Existing Building Code**	X				Clarification

Table 2. 2021 IEBC Changes Cost Impact

CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Revise as follows: **Mixed occupancies.** For mixed occupancies, the following provisions shall apply: 1. Where the separation between mixed occupancies does not qualify for any category indicated in Section 1301.6.16, the mandatory safety scores for the occupancy with the lowest general safety score in Table 1301.8 shall be utilized (see Section 1301.6). 2. Where the separation between mixed occupancies qualifies for any category indicated in Section 1301.6.16, the mandatory safety scores for each occupancy shall be placed against the evaluation scores for the appropriate occupancy. An evaluation is not required for areas of the building with separated occupancies in accordance with Table 508.4 of the International Building Code in which there are no alterations or change of occupancy.					
EB131-19	**Modify proposal as follows:** **TABLE 1301.6.20** **SMOKE COMPARTMENTATION VALUES** **OCCUPANCY** / **CATEGORIES[a]** A, B, E, F, M, R and S: 0 / 0 / 0 / 0 I-2: 0 / ~~-10~~ -10 / ~~-10~~ NP / ~~NP~~ For SI: 1 square foot = 0.093 m^2. NP = Not Permitted. a. For areas between categories, the smoke compartmentation value shall be obtained by linear interpolation. **Categories.** Categories for smoke compartment size are: 1. Category a-Smoke compartment complies with IBC Section 407.5. ~~size is equal to or less than 22,500 square feet (2092 m^2) in a Group I-2, Condition 1 occupancy; or less that 40,000 square feet (3716 m^2) in a Group I-2, Condition 2 occupancy as prescribed by IBC 407.5.1.~~ 2. Category b-Smoke compartments are provided but do not comply with IBC Section 407.5. ~~size is greater than 22,500 square feet (2092 m^2) in a Group I-2, Condition 1 occupancy.~~ 3. Category c-Smoke compartments are not provided. ~~Compartment size is greater than 40,000 square feet (3716 m^2) in a Group I-2, Condition 2 occupancy.~~ 4. ~~Category d-Smoke compartments are not provided.~~		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
EB132-19	**Modify proposal as follows:** **atient ability, concentration, smoke compartment location and ratio to attendant.** In I-2 occupancies, the ability of patients, their concentration and ratio to attendants shall be evaluated and applied in accordance with this section. Evaluate each smoke compartment using the categories in Sections 1301.6.21.1, 1301.6.21.2 and 1301.6.21.3 and enter the value in Table 1301.7. To determine the safety factor, multiply the three values together; if the ~~sum~~ product is less than 6 ~~9 or greater~~, compliance has failed.		X			Clarification
EB136-19	**2018 International Existing Building Code** **Revise as follows:** **[BS] A106.2.2.2 Concrete masonry units and structural clay load-bearing tile.** Grouted or ungrouted hollow concrete masonry units shall be tested in accordance with ASTM C140. Grouted or ungrouted structural clay load-bearing tile shall be tested in accordance with ASTM C34 C67. **Add new text as follows:** **ASTM** C67-14:Test Methods of Sampling and Testing Brick and Structural Clay Tile		X			Corrects a reference to the appropriate reference standard.
EB137-19	**2018 International Existing Building Code** **Revise as follows:** **[BS] ~~A106.2.2.~~2 A106.2.3.1 Concrete masonry units and structural clay load-bearing tile.** Grouted or ungrouted hollow concrete masonry units shall be tested in accordance with ASTM C140. Grouted or ungrouted structural clay load-bearing tile shall be tested in accordance with ASTM C34.		X			Clarification
EB138-19	**2018 International Existing Building Code** **Revise as follows:** **[BS] A106.2.3.1 In-place mortar joint shear tests.** Mortar joint shear test values, v_{to}, shall be obtained by one of the following: 1. ASTM C1531. 2. For masonry walls that have high shear strength mortar, or		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	where in-place testing is not practical because of crushing or other failure mode of the masonry, alternative procedures for testing shall be used in accordance with Section A106.2.3.2. **[BS] A106.2.3.2 Alternative test procedures for testing masonry.** The ~~tensile-splitting~~ splitting tensile strength of existing masonry, f_{sp}, or the prism strength of existing masonry, f'_m, is permitted to be determined in accordance with ASTM C496 and calculated by the following equation: $f_{sp} = \frac{0.494P}{a_n}$ **(Equation A1-1)**					
EB139-19	**2018 International Existing Building Code** **Revise as follows:** **[BS] A106.2.3.6 Minimum quality of masonry.** Where the alternative procedures of Section A106.2.3.2 are used to determine masonry quality, the following minimums apply: 1. The minimum average value of ~~tensile-splitting~~ splitting tensile strength, f_{sp}, as calculated by Equation A1-1 shall be 50 pounds per square inch (344.7 kPa). 2. Individual unreinforced masonry walls with average ~~tensile-splitting~~ splitting tensile strength of less than 50 pounds per square inch (344.7 kPa) shall be pointed and retested. 3. The lower-bound mortar strength f_{spL} is defined as the mean minus one standard deviation $P\ D+L$ of the ~~tensile-splitting~~ splitting tensile test values f_{sp}.		X			Clarification
EB140-19	**2018 International Existing Building Code** **Revise as follows:** **[BS] A202.1 Scope.** The provisions of this chapter shall apply to wall anchorage systems that resist out- of-plane forces and to collectors in existing reinforced concrete or reinforced masonry buildings with flexible diaphragms. Wall anchorage systems that were designed and constructed in accordance with the 1997 *Uniform Building Code*~~,~~ ~~1999 *BOCA National Building Code*, 1999 *Standard Building Code*~~ or the 2000 ~~and~~ or subsequent editions of the International Building Code shall be deemed to comply with these provisions.		X			Clarification
EB141-19	**Modify proposal as follows:**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	CROSSTIE. A member or group of members continuous across the main diaphragm that connects opposite wall lines and transfers out-of-plane wall anchorage forces into the diaphragm. **STRUT.** A member or group of members continuous across a subdiaphragm that transfers out-of-plane wall anchorage forces into the subdiaphragm.					
EB142-19	**Modify proposal as follows:** **WALL SEGMENT** Any length of concrete ~~or reinforced masonry~~ wall with continuous horizontal reinforcing and not interrupted or intersected by a pilaster or vertical construction joint, or any length of reinforced masonry wall with continuous horizontal reinforcing and not interrupted or intersected by a pilaster or vertical control joint.		X			Clarification
EB143-19	**2018 International Existing Building Code** **Revise as follows:** **[BS] A205.1 General.** The seismic-resisting elements specified in this chapter shall comply with applicable provisions of Section 1613 of the International Building Code and Chapter 12 of ASCE 7, except as modified herein. **[BS] A206.1 Reinforced concrete and reinforced masonry wall anchorage.** Concrete and masonry walls shall be anchored to all floors and roofs that provide lateral support for the ~~wall.~~ wall in accordance with ASCE 7 Section 12.11.2. The anchorage shall provide a ~~positive~~ direct connection ~~between the wall and floor or roof construction~~ capable of resisting 75 percent of the ~~horizontal~~ forces specified in ~~Section 1613 of the International Building Code.~~ASCE 7 Section 12.11.2.1. **Exceptions:** 1. Existing walls need not be evaluated or retrofitted for bending between anchors. 2. Work required by this chapter need not consider shrinkage, thermal changes, or differential settlement. **[BS] A206.2 ~~Special~~ Additional requirements for wall anchorage systems.** The wall anchorage system shall comply with the requirements of this section and of ASCE 7 Section 12.11.2.2.		X			Provides coordination with ASCE 7 and cleans up the language.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	The steel elements of the wall anchorage system shall be designed in accordance with the International Building Code without the use of the 1.33 short duration allowable stress increase where using allowable stress design. Wall anchors shall be provided to resist out-of-plane forces, independent of existing shear anchors. Expansion anchors are only allowed with special inspection and *approved* testing for seismic loading. Attaching the edge of plywood sheathing to steel ledgers is not considered compliant with the positive anchoring requirements of this chapter. Attaching the edge of steel decks to steel ledgers is not considered as providing the positive anchorage of this chapter unless testing or analysis is performed to establish shear values for the attachment perpendicular to the edge of the deck. Where steel decking is used as a wall anchor system, the existing connections shall be subject to field verification and the new connections shall be subject to special inspection. **Exception:** Existing cast-in-place shear anchors are allowed to be used as wall anchors if the tie element can be readily attached to the anchors, and if the engineer or architect can establish tension values for the existing anchors through the use of *approved* as-built plans or testing and through analysis showing that the bolts are capable of resisting the total shear load (including dead load) while being acted on by the maximum tension force caused by an earthquake. Criteria for analysis and testing shall be determined by the building official. **[BS] A206.3 Development of ~~anchor loads~~ anchorage forces into the diaphragm.** Development of ~~anchor loads~~ the required anchorage forces into roof and floor diaphragms shall comply with the requirements of this section and of ASCE 7 Section 12.11.2.2. ~~Section 1613 of the International Building Code using horizontal forces that are 75 percent of those used for new construction.~~ ~~In wood diaphragms, anchorage shall not be accomplished by use of toenails or nails subject to withdrawal. Wood ledgers, top plates or framing shall not be used in cross-grain bending or cross-grain~~					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~tension. The continuous ties required in Section 1613 of the International Building Code shall be in addition to the diaphragm sheathing.~~Lengths of development of anchor loads in wood diaphragms shall be based on existing field nailing of the sheathing unless existing edge nailing is positively identified on the original construction plans or at the site. **Exception:** If continuously tied girders are present, the maximum spacing of the continuity ties is the greater of the girder spacing or 24 feet (7315 mm). **[BS] A206.4 Anchorage at pilasters.** ~~Anchorage at pilasters shall be designed for the tributary wall anchoring load per Section A206.1, considering the wall as a two-way slab. The edges of the two-way slab shall be considered to be fixed where there is continuity at pilasters and shall be considered to be pinned at roof and floor.~~ **Where pilasters are present, the wall anchorage system shall comply with the requirements of this section and of ASCE 7 Section 12.11.2.2.7. The pilasters or the walls immediately adjacent to the pilasters shall be anchored directly to the roof framing such that the existing vertical anchor bolts at the top of the pilasters are bypassed without permitting tension or shear failure at the top of the pilasters.** ~~The minimum anchorage force at a floor or roof between the pilasters shall be that specified in Section A206.1.~~ **Exception:** If existing vertical anchor bolts at the top of the pilasters are used for the anchorage, additional exterior confinement shall be provided as required to resist the total anchorage force. **Delete without substitution:** ~~**[BS] A206.5 Symmetry.** Symmetry of wall anchorage and continuity connectors about the minor axis of the framing member is required.~~ ~~**Exception:** Eccentricity shall be allowed where it can be shown that all components of forces are positively resisted. The resistance must be supported by calculations or tests.~~ **[BS] A206.8 Collectors.** ~~If collectors are not present~~ Collectors designed in accordance with this section shall be provided at reentrant corners ~~or~~ and at interior shear ~~walls, they shall be provided.~~ walls. Existing or					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	new collectors shall ~~be designed for~~ have the capacity ~~required~~ to develop into the diaphragm a force equal to the lesser of the rocking or shear capacity of the reentrant wall or the tributary shear based on 75 percent of the ~~horizontal~~ diaphragm design forces specified in ~~Chapter 16 of the International Building Code.~~ ASCE 7 Section 12.10. The capacity of the collector need not exceed the capacity of the diaphragm to deliver loads to the collector. A connection shall be provided from the collector to the reentrant wall to transfer the full collector ~~force (load).~~ internal force. If a truss or beam other than a rafter or purlin is supported by the reentrant wall or by a column integral with the reentrant wall, then an independent secondary column is required to support the roof or floor members whenever rocking or shear capacity of the reentrant wall is less than the tributary shear.					
EB144-19	**2018 International Existing Building Code** **Delete without substitution:** ~~**[BS] A205.2 Alterations and repairs.** *Alterations* and *repairs* required to meet the provisions of this chapter shall comply with applicable structural requirements of the building code unless specifically modified in this chapter.~~ **Revise as follows:** **[BS] A205.3 Requirements for plans.** The plans shall accurately reflect the results of the engineering investigation and design and shall show all pertinent dimensions and sizes for plan review and construction. The following shall be provided: 1. Floor plans and roof plans shall show existing framing construction, diaphragm construction, proposed wall anchors, cross-ties and collectors. Existing nailing, anchors, cross-ties and collectors shall be shown on the plans if they are considered part of the lateral force-resisting systems. 2. ~~At elevations where there are *alterations* or damage, details shall show roof and floor heights, dimensions of openings, location and extent of existing damage and proposed *repair*.~~ 3. Typical wall panel details and sections with panel thickness, height, pilasters and location of anchors shall be provided. 4. Details shall include existing and new anchors and the method of developing anchor forces into the diaphragm framing, existing and new cross-ties, and existing and new or improved support of roof and floor girders at pilasters or walls.		X			Removes provisions that are unnecessary and outside the scope of Chapter A2.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	5. The basis for design and the building code used for the design shall be stated on the plans.					
EB145-19	**Further modify as follows:** **2018 International Existing Building Code** **[BS] A205.4 Structural observation.** Structural observation in accordance with Section 1704.6 of the International Building Code is required, regardless of seismic design category, height, or other conditions. Structural observation shall include visual observation of work for conformance to the *approved* construction documents and confirmation of existing conditions assumed during design. ~~**A205.5 Contractor responsibility.** Contractor responsibility shall be in accordance with Section 1704.4 of the International Building Code.~~ ~~**A205.6**~~ **A205.5 Testing and Inspection.** Structural testing and inspection for new construction materials, submittals, reports, and certificates of compliance, shall be in accordance with Sections 1704 and 1705 of the International Building Code. Work done to comply with this chapter shall not be eligible for Exception 1 to International Building Code Section 1704.2, or Exception 2 to International Building Code Section 1705.~~12, or the Exception to International Building Code Section 1705.12.2.~~		X			Clarification
EB146-19	**Modify proposal as follows:** ~~**A205.4.3 Testing to establish adequacy of existing steel deck connections.** Testing shall show that the existing construction can sustain a test load of 1.5 times the design load without noticeable deformation or damage to the deck, to the fasteners, or to any part of the existing load path. Three tests of each existing detail type shall be tested, and all three shall satisfy the requirement. Prior to testing, the design professional shall submit a test plan for code official approval including the findings of condition assessment, the expected locations of each detail type in question, the locations of the proposed tests, and the test procedure and criteria. After testing, the design professional shall submit a report of the satisfactory testing showing the test results and the design strengths derived from them.~~ **[BS]A206.2 Special requirements for wall anchorage systems.** The steel elements of the wall anchorage system shall be designed in accordance with the International Building Code without the use of		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	the 1.33 short duration allowable stress increase where using allowable stress design. Wall anchorage shall not be provided ~~solely~~ by fastening the edge of plywood sheathing to steel ledgers. Wall anchorage shall not be provided ~~solely~~ by fastening the edge of steel decking to steel ledgers ~~unless testing in accordance with Section A205.4.3 establishes~~ analysis demonstrates acceptable capacity. The existing connections shall be subject to field verification and the new connections shall be subject to special inspection. New wall anchors shall be provided to resist the full wall anchorage design force independent of existing shear or tension anchors. **Exception:** Existing cast-in-place anchors shall be permitted as part of the wall anchorage system if the tie element can be readily attached to the anchors, and if the anchors are capable of resisting the total vertical and lateral shear load (including dead load) while being acted on by the maximum wall anchorage tension force caused by an earthquake. Acceptable tension values for the existing anchors shall be established by testing in accordance with Section A205.4.2.					
EB147-19	**Modify proposal as follows:** **A205.4.1 Additional special inspection.** In addition to the requirements of International Building Code Section 1705.12, special inspection shall be required for: 1. Installation of continuity connectors along the length of crossties, to ~~ensure properly sized fastener holes and adequate crosstie stiffness~~ compliance with Section A206.2. This inspection may be periodic special inspection. **[BS] A206.2 Special requirements for wall anchorage systems.** The steel elements of the wall anchorage system shall be designed in accordance with the International Building Code without the use of the 1.33 short duration allowable stress increase where using allowable stress design. The wall anchorage system, excluding subdiaphragms and existing roof or floor framing members, shall be ~~stiff enough~~ designed and installed to limit the relative movement between the wall and the diaphragm to no more than 1/8" before engagement of the anchors~~, when subject to the wall anchorage design forces~~.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Wall anchors shall be provided to resist out-of-plane forces, independent of existing shear anchors. Expansion anchors are only allowed with special inspection and *approved* testing for seismic loading. Attaching the edge of plywood sheathing to steel ledgers is not considered compliant with the positive anchoring requirements of this chapter. Attaching the edge of steel decks to steel ledgers is not considered as providing the positive anchorage of this chapter unless testing or analysis is performed to establish shear values for the attachment perpendicular to the edge of the deck. Where steel decking is used as a wall anchor system, the existing connections shall be subject to field verification and the new connections shall be subject to special inspection. **Exception:** Existing cast-in-place shear anchors are allowed to be used as wall anchors if the tie element can be readily attached to the anchors, and if the engineer or architect can establish tension values for the existing anchors through the use of *approved* as-built plans or testing and through analysis showing that the bolts are capable of resisting the total shear load (including dead load) while being acted on by the maximum tension force caused by an earthquake. Criteria for analysis and testing shall be determined by the building official.					
EB148-19	**Modify proposal as follows:** **2018 International Existing Building Code** **A206.1.1 Seismicity parameters, Site Class, and geologic hazards**. For any site designated as Site Class E, the value of F_a shall be taken as ~~1.3~~ 1.2. Site-specific procedures are not required for compliance with this chapter. Mitigation of existing geologic site hazards such as liquefiable soil, fault rupture, or landslide is not required for compliance with this chapter.		X			Clarification
EB149-19	**Modify as follows:** **2018 International Existing Building Code** **[BS] A206.2 Special requirements for wall anchorage systems.** The steel elements of the wall anchorage system shall be designed in		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	accordance with the International Building Code without the use of the 1.33 short duration allowable stress increase where using allowable stress design. Where new members are added as crossties, they shall be spaced no more than 24 feet (7315 mm) apart. Where existing girders are used as crossties, their actual spacing shall be deemed adequate even where the spacing exceeds 24 feet (7315 mm), as long as the girders are provided with ~~adequate~~ continuity connectors as required. Wall anchors shall be provided to resist out-of-plane forces, independent of existing shear anchors. Expansion anchors are only allowed with special inspection and *approved* testing for seismic loading. Attaching the edge of plywood sheathing to steel ledgers is not considered compliant with the positive anchoring requirements of this chapter. Attaching the edge of steel decks to steel ledgers is not considered as providing the positive anchorage of this chapter unless testing or analysis is performed to establish shear values for the attachment perpendicular to the edge of the deck. Where steel decking is used as a wall anchor system, the existing connections shall be subject to field verification and the new connections shall be subject to special inspection. **Exception:** Existing cast-in-place shear anchors are allowed to be used as wall anchors if the tie element can be readily attached to the anchors, and if the engineer or architect can establish tension values for the existing anchors through the use of *approved* as-built plans or testing and through analysis showing that the bolts are capable of resisting the total shear load (including dead load) while being acted on by the maximum tension force caused by an earthquake. Criteria for analysis and testing shall be determined by the building official.					
EB150-19	**2018 International Existing Building Code** **Revise as follows:** **[BS] A206.2 Special requirements for wall anchorage systems.** ~~The steel elements of the wall anchorage system shall be designed in accordance with the International Building Code without the use of~~		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~the 1.33 short duration allowable stress increase where using allowable stress design.~~ Wall anchors shall be provided to resist out-of-plane forces, independent of existing shear anchors. Expansion anchors are only allowed with special inspection and *approved* testing for seismic loading. Attaching the edge of plywood sheathing to steel ledgers is not considered compliant with the positive anchoring requirements of this chapter. Attaching the edge of steel decks to steel ledgers is not considered as providing the positive anchorage of this chapter unless testing or analysis is performed to establish shear values for the attachment perpendicular to the edge of the deck. Where steel decking is used as a wall anchor system, the existing connections shall be subject to field verification and the new connections shall be subject to special inspection. **Exception:** Existing cast-in-place shear anchors are allowed to be used as wall anchors if the tie element can be readily attached to the anchors, and if the engineer or architect can establish tension values for the existing anchors through the use of *approved* as-built plans or testing and through analysis showing that the bolts are capable of resisting the total shear load (including dead load) while being acted on by the maximum tension force caused by an earthquake. Criteria for analysis and testing shall be determined by the building official.					
EB151-19	**2018 International Existing Building Code** **Revise as follows:** **[BS] A401.2 Scope.** The provisions of this chapter ~~shall~~ apply to ~~all~~ existing ~~Occupancy Group R-1 and R-2~~ buildings of wood construction ~~or portions thereof~~ that contain residential occupancy and are assigned to Risk Category II, and where the structure has a soft, weak, or open-front wall line, and there exists one or more stories above.		X			Clarification
EB153-19	**2018 International Existing Building Code** **Revise as follows:** **[BS] A403.2 Scope of analysis.** This chapter requires the *alteration, repair*, replacement or *addition* of structural elements and their connections to meet the strength and stiffness requirements herein.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	The lateral load-path analysis shall include the resisting elements and connections from the wood diaphragm immediately above any soft, weak or open-front wall lines to the foundation soil interface or to the uppermost story of a podium structure comprised of steel, masonry, or concrete structural systems that supports the upper, wood-framed structure. Stories above the uppermost story with a soft, weak, or open- front wall line shall be considered in the analysis but need not be modified. The lateral load-path analysis for added structural elements shall include evaluation of the allowable soil-bearing and lateral pressures in accordance with the building code. Where any portion of a building within the scope of this chapter is constructed on or into a slope steeper than one unit vertical in three units horizontal (33-percent slope), the lateral force-resisting system at and below the base level diaphragm shall be analyzed for the effects of concentrated lateral forces at the base caused by this hillside condition. ~~**Exception:** Where an open-front, weak or soft wall line exists because of parking at the ground floor of a two-story building and the parking area is less than 20 percent of the ground floor area, then only the wall lines in the open, weak or soft directions of the enclosed parking area need comply with the provisions of this chapter.~~					
EB154-19	**2018 International Existing Building Code** **Delete without substitution:** ~~**[BS] GROUND FLOOR.** Any floor whose elevation is immediately accessible from an adjacent grade by vehicles or pedestrians. The ground floor portion of the structure does not include any floor that is completely below adjacent grades.~~ **Revise as follows:** **[BS] A403.2 Scope of analysis.** This chapter requires the *alteration, repair*, replacement or *addition* of structural elements and their connections to meet the strength and stiffness requirements herein. The lateral load-path analysis shall include the resisting elements and connections from the wood diaphragm immediately above any soft, weak or open-front wall lines to the foundation soil interface or to the uppermost story of a podium structure comprised of steel, masonry, or concrete structural systems that supports the upper, wood-framed structure. Stories above the uppermost story with a soft, weak, or open- front wall line shall be considered in the analysis but		X			Deletes the term 'Ground Floor' and replaces it with improved wording to clarify the intent of the provisions.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	need not be modified. The lateral load-path analysis for added structural elements shall include evaluation of the allowable soil-bearing and lateral pressures in accordance with the building code. Where any portion of a building within the scope of this chapter is constructed on or into a slope steeper than one unit vertical in three units horizontal (33-percent slope), the lateral force-resisting system at and below the base level diaphragm shall be analyzed for the effects of concentrated lateral forces at the base caused by this hillside condition. **Exception:** Where an open-front, weak or soft wall line exists because of parking at ~~the ground floor~~ ~~of~~ grade in a two-story building and the parking area is less than 20 percent of the ground floor area, then only the wall lines in the open, weak or soft directions of the enclosed parking area need comply with the provisions of this chapter. **[BS] A404.1 Limitation.** These prescriptive measures shall apply only to two-story buildings and only where deemed appropriate by the *code official*. These prescriptive measures rely on rotation of the second floor diaphragm to distribute the seismic load between the side and rear walls ~~of the~~ around a ground floor open area. In the absence of an existing floor diaphragm of wood structural panel or diagonal sheathing at the top of the first story, a new wood structural panel diaphragm of minimum thickness of $^3/_4$ inch (19.1 mm) and with 10d common nails at 6 inches (152 mm) on center shall be applied.					
EB155-19	**2018 International Existing Building Code** **Revise as follows:** **[BS] A403.3 Design base shear and design parameters.** The design base shear in a given direction shall be permitted to be 75 percent of the value required for similar new construction in accordance with the building code. The value of *R* used in the design of the strengthening of any story shall not exceed the lowest value of *R* used in the same direction at any story above. The system overstrength factor, Δ 0, and the deflection amplification factor, C_d, shall be not less than the largest respective value corresponding to the *R* factor being used in the direction under consideration. **Exceptions:**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	1. For structures assigned to Seismic Design Category B, values of *R*, *Δ* and *C d* shall be permitted to be based on the seismic force-resisting system being used to achieve the required strengthening. 2. For structures assigned to Seismic Design Category C or D, values of *R*, *Δ* and *C d* shall be permitted to be based on the seismic force-resisting system being used to achieve the required strengthening, provided that when the strengthening is complete, the strengthened structure will not have an extreme weak story irregularity defined as Type 5b in ASCE 7, Table 12.3-2. 3. For structures assigned to Seismic Design Category E, values of *R*, *Δ* and *C d* shall be permitted to be based on the seismic force-resisting system being used to achieve the required strengthening, provided that when the strengthening is complete, the strengthened structure will not have an extreme soft story, a weak story, or an extreme weak story irregularity defined, respectively, as Types 1b, 5a and 5b in ASCE 7, Table 12.3-2. 4. For retrofit systems involving different seismic force-resisting systems in the same direction within the same story, resisting elements are permitted to be designed using the least value of *R* for the different structural systems found in each independent line of resistance if the following conditions are met: (1) The building is assigned to Risk Category I or II (2) The building height is no more than four stories above grade plane, and (3) the seismic force- resisting systems of the retrofitted building comprise only wood structural panel shear walls, steel moment-resisting frames, steel cantilever columns, and steel braced frames. Values for *Cd* and *Ω0* shall be consistent with the *R* value used.					
EB156-19	**Modify proposal as follows:** **2018 International Existing Building Code** **[BS] A403.3 Design base shear and design parameters.** The design base shear in a given direction shall be permitted to be 75 percent of the value required for similar new construction in accordance with the building code. The value of *R* used in the design of the strengthening of any story shall not exceed the lowest value of *R* used in the same direction at any story above. The system overstrength factor, ~~*Δ0*~~ *Ω0*, and the deflection amplification factor, *C d*, shall be not less than the largest respective value corresponding to the *R* factor being used in the direction under consideration.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Exceptions: 1. For structures assigned to Seismic Design Category B, values of R, ~~Δ_0~~ Ω_0 and C_d shall be permitted to be based on the seismic force-resisting system being used to achieve the required strengthening. 2. For structures assigned to Seismic Design Category C or D, values of R, ~~Δ_0~~ Ω_0 and C_d shall be permitted to be based on the seismic force-resisting system being used to achieve the required strengthening, provided that when the strengthening is complete, the strengthened structure will not have an extreme weak story irregularity defined as Type 5b in ASCE 7, Table 12.3-2. 3. For structures assigned to Seismic Design Category E, values of R, ~~Δ_0~~ Ω_0 and C_d shall be permitted to be based on the seismic force-resisting system being used to achieve the required strengthening, provided that when the strengthening is complete, the strengthened structure will not have an extreme soft story, a weak story, or an extreme weak story irregularity defined, respectively, as Types 1b, 5a and 5b in ASCE 7, Table 12.3-2. 4. With reference to ASCE 7 Table 12.2-1, ~~building height limitations on seismic force-resisting systems are not applicable~~ ordinary, intermediate, and special steel systems and all light-frame systems shall be permitted without limitation where those systems are used only for retrofit to comply with the requirements of this Chapter.					
EB157-19	**2018 International Existing Building Code** **Revise as follows:** **[BS] A403.3 Design base shear and design parameters.** The design base shear in a given direction shall be permitted to be 75 percent of the value required for similar new construction in accordance with the building code. The value of R used in the design of the strengthening of any story shall not exceed the lowest value of R used in the same direction at any story above. The system overstrength factor, ~~Δ_0~~ Ω_0, and the deflection amplification factor, C_d, shall be not less than the largest respective value corresponding to the R factor being used in the direction under consideration. **Exceptions:** 1. For structures assigned to Seismic Design Category B, values		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	of *R*, ~~Δ~~ Ω0 and *Cd* shall be permitted to be based on the seismic force-resisting system being used to achieve the required strengthening. 2. For structures assigned to Seismic Design Category C or D, values of *R*, ~~Δ~~ Ω0 and *Cd* shall be permitted to be based on the seismic force-resisting system being used to achieve the required strengthening, provided that when the strengthening is complete, the strengthened structure will not have an extreme weak story irregularity defined as Type 5b in ASCE 7, Table 12.3-2. 3. For structures assigned to Seismic Design Category E, values of *R*, ~~Δ~~ Ω0 and *Cd* shall be permitted to be based on the seismic force-resisting system being used to achieve the required strengthening, provided that when the strengthening is complete, the strengthened structure will not have an extreme soft story, a weak story, or an extreme weak story irregularity defined, respectively, as Types 1b, 5a and 5b in ASCE 7, Table 12.3-2. **[BS] A407.1 Structural observation, testing and inspection.** Structural observation, in accordance with Section ~~1709~~ 1704.6 of the International Building Code, shall be required for all structures in which seismic retrofit is being performed in accordance with this chapter. Structural observation shall include visual observation of work for conformance to the *approved* construction documents and confirmation of existing conditions assumed during design. Structural testing and inspection for new construction materials shall be in accordance with the building code, except as modified by this chapter. **[BS] A406.3.2 Framing plan elements.** The framing plan shall include the length, location and material of shear walls; the location and material of frames; references ~~on~~ or details for the column-to-beam connectors, beam-to-wall connections and shear transfers at floor and roof diaphragms; and the required nailing and length for wall top plate splices. **[BS] A406.3.3 Shear wall schedule, notes and details.** Shear walls shall have a referenced schedule on the plans that includes the correct shear wall capacity in pounds per foot (N/m); the required fastener type, length, gage and head size; and a complete specification for the sheathing material and its thickness. The schedule shall also show the required location of 3-inch (76 mm)					_ _-

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	nominal or two 2-inch (51 mm) nominal edge members; the spacing of shear transfer elements such as framing anchors or added sill plate nails; the required hold-down with its bolt, screw or nail sizes; and the dimensions, lumber grade and species of the attached framing member. Notes shall show required edge distance for fasteners ~~on~~ of structural wood panels and framing members; required flush nailing at the plywood surface; limits of mechanical penetrations; and the sill plate material assumed in the design. The limits of mechanical penetrations shall be detailed showing the maximum notching and drilled hole sizes.					
EB158-19	**Modify proposal as follows:** **2018 International Existing Building Code** **[BS] WEAK WALL LINE.** A wall line in a story where the story strength is less than 80 percent of the story above in the direction under consideration. **403.3.1 Expected story strength.** Despite any other requirement of Section A403.3 or A403.4, the total expected strength of retrofit elements added to any story need not exceed 1.7 times the expected strength of the story immediately above in a two-story building, or 1.3 times the expected strength of the story immediately above in a three-story or taller building, as long as the retrofit elements are located symmetrically about the center of mass of the story above or so as to minimize torsion in the retrofitted story. Calculation of expected story strength and identification of irregularities in Section A403.3 shall be based on the expected strength of all wall lines, even if sheathed with nonconforming materials. The strength of a wall line above the retrofitted story shall be permitted to be reduced to account for inadequate load path or overturning resistance.		X			Clarification
EB159-19	**Modify proposal as follows:** **2018 International Existing Building Code** **A403.3.1 Seismicity parameters, Site Class, and geologic hazards.** For any site designated as Site Class E, the value of F_a shall be taken as ~~1.3~~ 1.2. Site-specific procedures are not required for compliance with this chapter. Mitigation of existing geologic site hazards such as liquefiable soil, fault rupture, or landslide is not required for compliance with this chapter.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
EB160-19	**Replace the proposal as follows:** **[BS] A403.7 Collector elements.** Collector elements shall be provided ~~that can~~ to transfer the seismic forces ~~originating in other portions of the building to~~ between the elements within the scope of Section A403.2 ~~that provide resistance to those forces~~.		X			Clarification
EB161-19	**Further modify as follows:** **2018 International Existing Building Code** **[BS] A403.8 Floor diaphragms.** Floor diaphragms within the scope of Section A403.2 shall be shown to have adequate strength at the following locations: 1. For straight lumber sheathed diaphragms without integral hardwood flooring Throughout the diaphragm. The code official is authorized to waive the requirement where it is shown that the condition occurs in areas small enough not to affect overall building performance ~~only in relatively small portions of each residential unit~~. 2. For all other diaphragms: At locations where forces are transferred between the diaphragm and each new or strengthened vertical element of the seismic force-resisting system. Collector elements shall be provided where needed to distribute the transferred force over a greater length of diaphragm. **Exception:** Where the existing vertical elements of the seismic force-resisting system are shown to comply with this chapter, diaphragms need not be evaluated.		X			Clarification
EB162-19	**Modify the proposal as follows:** **[BS] A403.9 Wood-framed shear walls.** Wood-framed shear walls shall have strength and stiffness sufficient to resist the seismic loads and shall conform to the requirements of this section. Where new sheathing is applied to existing studs to create new wood- framed shear walls, the new wall elements shall be ~~designed as~~ considered bearing wall systems for purposes of determining seismic design parameters.		X			Clarification
EB163-19	**Modify as follows:** **2018 International Existing Building Code**		X			Clarification

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CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	A403.10 Steel retrofit systems. Steel retrofit systems shall have strength and stiffness sufficient to resist the seismic loads and shall conform to the requirements of this section. **A403.10.1 Special moment frames.** Steel special moment frames shall comply with all applicable provisions of AISC 341, except that the "strong-column/weak-beam" provision of AISC 341, Section E3.4a is waived for columns that carry no gravity load. ~~Proprietary frame systems that qualify as special moment frames shall be permitted.~~ ~~**A403.10.2 Intermediate or ordinary moment frames.** Steel intermediate or ordinary moment frames shall comply with all applicable provisions of AISC 341.~~ ~~**A403.10.3 Cantilevered column systems.** Steel special or ordinary cantilevered column systems shall comply with all applicable provisions of AISC 341.~~ ~~**A403.10.4**~~ **A403.10.2 Inverted moment frame systems**. Cantilevered column systems shall be permitted to be designed as inverted special, intermediate, or ordinary moment frames, with corresponding moment frame seismic design coefficients, where the system satisfies the following conditions: 1. The columns carry no gravity load. 2. The columns are configured in pairs or larger groups connected by a continuous reinforced concrete foundation or grade beam. 3. The foundation or grade beam shall be designed to resist the expected plastic moment at the base of each column, computed as $R_y F_y Z$ in accordance with AISC 341. 4. The flexibility of the foundation or grade beam, considering cracked section properties of the reinforced concrete, shall be included in computing the deformation of the steel frame system. 5. The column height shall be taken as twice the actual height when checking lateral torsional buckling.					
EB164-19	**Modify as follows:** **2018 International Existing Building Code** **[BS] A406.1 General.** The plans shall show all information necessary		X			Clarification -

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	for plan review and for construction,and shall accurately reflect ~~the results of~~ the design, ~~and shall otherwise comply with all requirements established by the code official~~. The plans shall contain a note that states that this retrofit was designed in compliance with the criteria of this chapter.					
EB165-19	**2018 International Existing Building Code** **Revise as follows:** **[BS] A407.1 Structural ~~observation, testing and inspection~~ observation.** Structural observation , in accordance with Section ~~1709~~ 1704.6 of the International Building Code ~~, shall be required for all structures in which seismic retrofit is being performed in accordance with this chapter.~~ is required, regardless of seismic design category, height, or other conditions. Structural observation shall include visual observation of work for conformance to the *approved* construction documents and confirmation of existing conditions assumed during design. ~~Structural testing and inspection for new construction materials shall be in accordance with the building code, except as modified by this chapter.~~ **Add new text as follows:** **A407.2 Contractor responsibility.** Contractor responsibility shall be in accordance with Section 1704.4 of the International Building Code. **A407.3 Testing and inspection.** Structural testing and inspection for new construction materials, submittals, reports, and certificates of compliance, shall be in accordance with Sections 1704 and 1705 of the International Building Code. Work done to comply with this chapter shall not be eligible for Exceptions 1, 2, or 3 of International Building Code Section 1704.2 or for the Exception to International Building Code Section 1705.12.2.		X			Corrects a code reference and clarifies that typical quality assurance provisions from IBC Chapter 17 apply to Chapter A4 projects.
G1-18	**Replace as follows:** **2018 International Building Code** **[BG] ATRIUM.** ~~An opening~~ A vertical space which is closed at the top connecting two or more stories ~~other than enclosed stairways, elevators, hoistways, escalators, plumbing, electrical, air-conditioning or other equipment, which is closed at the top and not defined as a~~		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~mall. Stories, as used in this definition, do not include balconies within assembly groups or mezzanines that comply with Section 505~~in Groups I-2 and I-3 Occupancies or three stories in all other occupancies. **712.1.7 Atriums.** Atriums complying with Section 404 that connect two or more stories in Groups I-2 or I-3 Occupancies or three stories in other occupancies shall be permitted. **Exceptions:** 1. Atriums shall not be permitted within Group H Occupancies. 2. Balconies or stories within Groups A-1, A-4 and A-5, and mezzanines that comply with Section 505 shall not be considered a story as it applies to this section ~~In other than Group H occupancies, atriums complying with Section 404 shall be permitted~~					
G3-18	**2018 International Building Code** **Add new definition as follows:** **EMITTANCE.** The ratio of radiant heat flux emitted by a specimen to that emitted by a blackbody at the same temperature and under the same conditions.		X			Necessary addition for clarification
G4-18	**2018 International Building Code** **Revise as follows:** **[BE] GRADE FLOOR EMERGENCY ESCAPE AND RESCUE OPENING.** ~~A window or other~~ An emergency escape and rescue opening located such that the ~~sill height~~ bottom of the clear opening is not more than 44 inches (1118 mm) above or below the finished ground level adjacent to the opening.		X			Clarification
G5-18 Part I	**2018 International Building Code** **Revise as follows:** **[BE] EMERGENCY ESCAPE AND RESCUE OPENING.** An operable exterior window, door or other similar device that provides for a means of escape and access for rescue in the event of an emergency.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	2018 International Fire Code **[BE] EMERGENCY ESCAPE AND RESCUE OPENING.** An operable exterior window, door or other similar device that provides for a means of escape and access for rescue in the event of an emergency.					
G5-18 Part II	**Modify proposal as follows:** **EMERGENCY ESCAPE AND RESCUE OPENING.** An operable exterior window, door or other similar device that provides for a means of escape and access for rescue in the event of an emergency.		X			Clarification
G6-18	**2018 International Building Code** **Add new definition as follows:** INSULATING SHEATHING A rigid panel or board insulation material having a thermal resistance of not less than R-2 of the core material with properties suitable for use on walls, floors, roofs, or foundations.		X			Necessary addition for clarification
G10-18	**2018 International Building Code** **Delete without substitution:** ~~**[BF] PLASTIC, APPROVED.** Any thermoplastic, thermosetting or reinforced thermosetting plastic material that conforms to combustibility classifications specified in the section applicable to the application and plastic type.~~		X			Removes an unnecessary definition.
G11-18	**2018 International Building Code** **Revise as follows:** **[BF] PLASTIC GLAZING.** Plastic materials that are glazed or set in a frame or sash or are otherwise supported.		X			Clarification
G12-18	**2018 International Building Code** **Revise as follows:** **[BF] VAPOR PERMEABLE.** The property of having a moisture vapor permeance rating of 5 perms ($2.9 \times 10\text{-}10$ kg/Pa × s × m^2) or greater, when tested in accordance with ~~the desiccant method using~~ Procedure A or Procedure B of ASTM E96. A vapor permeable material permits the passage of moisture vapor.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
G13-18	**2018 International Building Code** **303.1 Assembly Group A.** Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering of persons for purposes such as civic, social or religious functions; recreation, food or drink consumption or awaiting transportation. **Add new text as follows:** **303.1.5 Special amusement buildings.** Special amusement buildings shall comply with Section 411. **SECTION 304** **BUSINESS GROUP B** **Revise as follows:** **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 • 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 processing • 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 • Motor vehicle showrooms • Post offices • Print shops		X			Makes code easier to use

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	• 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). **Add new text as follows:** **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 laboratries.** Higher education laboratories shall comply with Section 428. **SECTION 305** **EDUCATIONAL GROUP E** **305.3 Storm shelters in Group E occupancies.** Storm shelters shall be provided for Group E occupancies where required by Section 423.4. **SECTION 306** **FACTORY GROUP F** **Revise as follows:** **306.2** **Moderate-hazard factory industrial, Group F-1.** Factory industrial uses that are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following: • Aircraft (manufacturing, not to include repair) • Appliances • Athletic equipment • Automobiles and other motor vehicles • Bakeries					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	• Beverages: over 16-percent alcohol content • Bicycles • Boats • Brooms or brushes • Business machines • Cameras and photo equipment • Canvas or similar fabric • Carpets and rugs (includes cleaning) • Clothing • Construction and agricultural machinery • Disinfectants • Dry cleaning and dyeing • Electric generation plants • Electronics • Engines (including rebuilding) • Food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities more than 2,500 square feet (232 m^2) in area. • Furniture • Hemp products • Jute products • Laundries • Leather products • Machinery • Metals • Millwork (sash and door) • Motion pictures and television filming (without spectators) • Musical instruments • Optical goods • Paper mills or products • Photographic film • Plastic products • Printing or publishing • Recreational vehicles • Refuse incineration • Shoes • Soaps and detergents • Textiles • Tobacco • Trailers • Upholstering • Wood; distillation • Woodworking (cabinet)					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Add new text as follows: **306.2.1 Aircraft manufacturing facilities.** Aicraft manufacturing facilities shall comply with Section 412.6. **SECTION 308** **INSTITUTIONAL GROUP I** **Revise as follows:** **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 **308.3 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 **308.3.1 Occupancy conditions.** Buildings of Group I-2 shall be classified as one of the occupancy conditions specified in Section 308.3.1.1 or 308.3.1.2 .and shall comply with Section 407. **308.4 Institutional Group I-3.** Institutional Group I-3 occupancy	-				

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	shall include buildings and structures that are inhabited by more than five persons who are under restraint or security. A Group I-3 facility is occupied by persons who are generally incapable of self-preservation due to security measures not under the occupants' control. This group shall include, but not be limited to, the following: • Correctional centers • Detention centers • Jails • Prerelease centers • Prisons • Reformatories Buildings of Group I-3 shall be classified as one of the occupancy conditions specified in Sections 308.4.1 through 308.4.5 ~~(see Section 408.1).~~and shall comply with Section 408. **SECTION 309** **MERCANTILE GROUP M** **Add new text as follows:** **309.1 Mercantile Group M.** Mercantile Group M occupancy includes, among others, the use of a building or structure or a portion thereof for the display and sale of merchandise, and involves stocks of goods, wares or merchandise incidental to such purposes and accessible to the public. Mercantile occupancies shall include, but not be limited to, the following: • Department stores • Drug stores • Markets • Greenhouses for display and sale of plants that provide public access. • Motor fuel-dispensing facilities • Retail or wholesale stores • Sales rooms **309.3 Motor fuel-dispensing facilities.** Motor fuel-dispensing facilities shall comply with Section 406.7. **SECTION 310** **RESIDENTIAL GROUP R**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Revise as follows: **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 permited by Sections 301.4.1 and 301.4.2 shall comply with Section 420. **SECTION 311** **STORAGE GROUP S** **Add new text as follows:** **311.1.2 Combustible storage.** High-piled stock or rack storage, or attic, under-floor and concealed spaces used for storage of combustible materials, shall be in accordance with Section 413. **311.2 Moderate-hazard storage, Group S-1.** Storage Group S-1 occupancies are buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following: • Aerosol products, Levels 2 and 3 • Aircraft hangar (storage and repair) • Bags: cloth, burlap and paper • Bamboos and rattan • Baskets • Belting: canvas and leather • Books and paper in rolls or packs • Boots and shoes • Buttons, including cloth covered, pearl or bone • Cardboard and cardboard boxes • Clothing, woolen wearing apparel • Cordage • Dry boat storage (indoor) • Furniture • Furs • Glues, mucilage, pastes and size • Grains • Horns and combs, other than celluloid					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	• Leather • Linoleum • Lumber • Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.8) • Photo engravings • Resilient flooring • Self-service storage facility (mini-storage) • Silks • Soaps • Sugar • Tires, bulk storage of • Tobacco, cigars, cigarettes and snuff • Upholstery and mattresses • Wax candles 311.2.1 **Aircraft hangars.** Aircraft hangars used for storage or repair shall comply with Section 412.3. 311.2.2 **Motor vehicle repair garages.** Motor vehicle repair garages shall comply with Section 406.8. **Low-hazard storage, Group S-2.** Storage Group S-2 occupancies include, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic trim, such as knobs, handles or film wrapping. Group S-2 storage uses shall include, but not be limited to, storage of the following: • Asbestos • Beverages up to and including 16-percent alcohol in metal, glass or ceramic containers • Cement in bags • Chalk and crayons • Dairy products in nonwaxed coated paper containers • Dry cell batteries • Electrical coils • Electrical motors • Empty cans • Food products • Foods in noncombustible containers					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	• Fresh fruits and vegetables in nonplastic trays or containers • Frozen foods • Glass • Glass bottles, empty or filled with noncombustible liquids • Gypsum board • Inert pigments • Ivory • Meats • Metal cabinets • Metal desks with plastic tops and trim • Metal parts • Metals • Mirrors • Oil-filled and other types of distribution transformers • ~~Parking~~ Public parking garages, open or enclosed • Porcelain and pottery • Stoves • Talc and soapstones • Washers and dryers **311.3.1 Public parking garages.** Public parking garages shall comply with Section 406.4 and the additinal requirements of Section 406.5 for open parking garages or Section 406.6 for enclosed parking garages. **SECTION 312** **UTILITY AND MISCELLANEOUS GROUP U** 312.2 **Private garages and carports.** Private garages and carports shall comply with Section 406.3. 312.3 **Residential aircraft hangars.** Aircraft hangars accessory to a one- or two-family residence shall comply with Section 412.4.					
G17-18	**2018 International Building Code** **Revise as follows:** **306.2 Moderate-hazard factory industrial, Group F-1.** Factory industrial uses that are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following: • Aircraft (manufacturing, not to include repair) • Appliances • Athletic equipment	X				Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	• Automobiles and other motor vehicles • Bakeries • Beverages: over 16-percent alcohol content • Bicycles • Boats • Brooms or brushes • Business machines • Cameras and photo equipment • Canvas or similar fabric • Carpets and rugs (includes cleaning) • Clothing • Construction and agricultural machinery • Disinfectants • Dry cleaning and dyeing • Electric generation plants • Electronics • Energy storage systems (ESS) in dedicated use buildings • Engines (including rebuilding) • Food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities more than 2,500 square feet (232 m^2) in area. • Furniture • Hemp products • Jute products • Laundries • Leather products • Machinery • Metals • Millwork (sash and door) • Motion pictures and television filming (without spectators) • Musical instruments • Optical goods • Paper mills or products • Photographic film • Plastic products • Printing or publishing • Recreational vehicles • Refuse incineration • Shoes • Soaps and detergents • Textiles • Tobacco • Trailers • Upholstering					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	• Wood; distillation • Woodworking (cabinet)					
G18-18	**Modify proposal as follows:** **306.2 Moderate-hazard factory industrial, Group F-1.** Factory industrial uses that are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following: • Aircraft (manufacturing, not to include repair) • Appliances Athletic equipment • Automobiles and other motor vehicles Bakeries • Beverages: over 16-percent alcohol content Bicycles • Boats • Brooms or brushes • Business machines • Cameras and photo equipment • Canvas or similar fabric • Carpets and rugs (includes cleaning) • Clothing • Construction and agricultural machinery • Disinfectants • Dry cleaning and dyeing • Electric generation plants • Electronics • Engines (including rebuilding) • Food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities more than 2,500 square feet (232 m^2) in area. • Furniture • Hemp products • Jute products • Laundries • Leather products • Machinery • Metals • Millwork (sash and door) • Motion pictures and television filming (without spectators) • Musical instruments • Optical goods • Paper mills or products • Photographic film • Plastic products • Printing or publishing • Recreational vehicles • Refuse incineration • Shoes • Soaps and detergents • Textiles • Tobacco • Trailers • Upholstering • <u>Water/Sewer Treatment Facilities</u> • Wood; distillation • Woodworking (cabinet)		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	.3 **Low-hazard factory industrial, Group F-2.** Factory industrial uses that involve the fabrication or manufacturing of noncombustible materials that during finishing, packing or processing do not involve a significant fire hazard shall be classified as F- 2 occupancies and shall include, but not be limited to, the following: • Beverages: up to and including 16-percent alcohol content • Brick and masonry • Ceramic products • Foundries • Glass products • Gypsum • Ice • Metal products (fabrication and assembly) • ~~Water/Sewer Treatment Facilities~~					
G22-18	**2018 International Building Code** **Revise as follows:** **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 or Section P2904 of the International Residential Code. **310.4.2 Lodging houses.** Owner-occupied lodging houses with five or fewer guest rooms and 10 or fewer total occupants shall be permitted to be constructed in accordance with the International Residential Code <u>provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or Section P2904 of the International Residential Code</u>.		X			Clarification
G25-18	**2018 International Building Code** **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		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	(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 ~~6~~ 7 feet (~~1829~~ 2134 mm) in height • Grain silos, accessory to a residential occupancy • Livestock shelters • Private garages • Retaining walls • Sheds • Stables • Tanks • Towers					
G26-18	**2018 International Building Code** **SECTION 402** **COVERED MALL AND OPEN MALL BUILDINGS** **Revise as follows:** ~~**[F]**~~ **402.7 Emergency systems.** Covered and open mall buildings, anchor buildings and associated parking garages shall be provided with emergency systems complying with Sections 402.7.1 through 402.7.5. **402.7.2 Smoke control.** ~~Where a covered mall building contains an atrium,~~ Atriums connecting three or more stories in covered mall buildings shall be provided with a smoke control system ~~shall be provided~~ in accordance with Section 909 ~~404.5~~. ~~**Exception:** A smoke control system is not required in covered mall buildings where an atrium connects only two stories.~~		X			Clarification
G27-18	**2018 International Building Code** **Delete without substitution:** ~~**403.2.2 Seismic considerations.** For seismic considerations, see Chapter 16.~~		X			Removes an unnecessary definition.
G28-18	**2018 International Building Code** **Revise as follows:**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~[F]~~403.3.2 Water supply to required fire pumps. In all buildings that are more than 420 feet (128 m) in building height, and buildings of Type IVA and IVB construction that are more than 120 feet in building height, required fire pumps shall be supplied by connections to not fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate. **Exception:** Two connections to the same main shall be permitted provided that the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through not fewer than one of the connections. **2018 International Fire Code** **914.3.1.2 Water supply to required fire pumps.** In all buildings that are more than 420 feet (128 m) in building height, and buildings of Type IVA and IVB construction that are more than 120 feet in building height, required fire pumps shall be supplied by connections to not fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate. **Exception:** Two connections to the same main shall be permitted provided that the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through not fewer than one of the connections.					
G29-18	**2018 International Building Code** **Delete without substitution:** **~~403.5.6 Emergency escape and rescue.~~** ~~Emergency escape and rescue openings specified in Section 1030 are not required.~~		X			Removes an unnecessary definition.
G30-18	**2018 International Building Code** **Revise as follows:** **404.1 General.** In other than Group H occupancies, ~~and where permitted by Section 712.1.7~~, the provisions of Sections 404.1			X	Minimal	Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	through 404.10 shall apply to buildings or structures containing vertical openings defined as "Atriums." **Exception:** Vertical openings that comply with Sections 712.1.1 through 712.1.3, and Sections. 712.1.9 through 712.1.14.					
G31-18	**2018 International Building Code** **Revise as follows:** **404.1 General.** ~~In other than Group H occupancies, and where permitted by Section 712.1.7, the~~ The provisions of Sections 404.1 through 404.10 shall apply to buildings containing atriums. Atriums are not permitted in buildings or structures ~~containing vertical openings defined as "Atriums."~~ classified as Group H. **404.9 Exit access travel distance.** Exit access travel distance for areas open to an atrium shall comply with the requirements of ~~this section~~ Section 1017. **Delete without substitution:** ~~404.9.1 **Egress not through the atrium.** Where required access to the exits is not through the atrium, exit access travel distance shall comply with Section 1017.~~ ~~404.9.2 **Exit access travel distance at the level of exit discharge.** Where the path of egress travel is through an atrium space, exit access travel distance at the level of exit discharge shall be determined in accordance with Section 1017.~~ ~~404.9.3 **Exit access travel distance at other than the level of exit discharge.** Where the path of egress travel is not at the level of exit discharge from the atrium, that portion of the total permitted exit access travel distance that occurs within the atrium shall be not greater than 200 feet (60 960 mm).~~ **Revise as follows:** **404.10 Interior exit stairways.** ~~Not greater than 50 percent~~ Discharge of interior exit stairways ~~are permitted to egress~~ through an atrium ~~on the level of exit discharge~~ shall be in accordance with Section 1028.		X			Locating the requirements for means of egress in a atrium in Chapter 10 will make it easier for users to determine the egress requirements for a building as a whole.

Table 2. 2021 IEBC Changes Cost Impact

CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	712.1.7 Atriums. ~~In other than Group H occupancies, atriums complying with Section 404 shall be permitted.~~Atriums in buildings shall comply with Section 404.					

TABLE 1017.2
EXIT ACCESS TRAVEL DISTANCE[a]

OCCUPANCY	WITHOUT SPRINKLERSYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200[e]	250[b]
I-1	Not Permitted	250[b]
B	200	300[c]
F-2, S-2, U	300	400[c]
H-1	Not Permitted	75[d]
H-2	Not Permitted	100[d]
H-3	Not Permitted	150[d]
H-4	Not Permitted	175[d]
H-5	Not Permitted	200[c]
I-2, I-3	Not Permitted	200[c]
I-4	150	200[c]

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to exit access travel distance requirements:
Section 402.8: For the distance limitation in malls.
~~Section 404.9: For the distance limitation through an atrium space.~~
Section 407.4: For the distance limitation in Group I-2.
Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.
Section 411.3: For the distance limitation in special amusement buildings.
Section 412.6: For the distance limitations in aircraft manufacturing facilities.
Section 1006.2.2.2: For the distance limitation in refrigeration machinery rooms.
Section 1006.2.2.3: For the distance limitation in refrigerated rooms and spaces.
Section 1006.3.3: For buildings with one exit.
Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1.
Section 1029.7: For increased limitation in assembly seating.
Section 3103.4: For temporary structures.
Section 3104.9: For pedestrian walkways.

b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2. c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. d. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.1. e. Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3. **Measurement.** Exit access travel distance shall be measured from the most remote point of each room, area or space along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit. **Exception:** In open parking garages, exit access travel distance is permitted to be measured to the closest riser of an exit access stairway or the closest slope of an exit access ramp. **Exit access stairways and ramps.** Travel distance on exit access stairways or ramps shall be included in the exit access travel distance measurement. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stair and landings. The measurement along ramps shall be made on the walking surface in the center of the ramp and landings. **Add new text as follows:** **Atriums.** Exit acess travel distance for areas open to an atrium shall comply with the requirements of this section. **Egress not through the atrium.** Where required access to the exits is not through the atrium, exit access travel distance shall comply with Section 1017.2. **Exit access travel distance at the level of exit discharge.** Where the path of egress travel is through an atrium space, exit access travel distance at the level of exit discharge shall be determined in accordance with Section 1017.2. **Exit access travel distance at other than the level exit discharge.** Where the path of egress travel is not at the level of exit discharge from the atrium, that portion of the total permitted exit access travel distance that occurs within the atrium shall be not greater than 200					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	feet (60 960 mm). **Revise as follows:** **General.** Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide a direct path of egress travel to grade. The exit discharge shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required exits. **Exceptions:** 1. Not more than 50 percent of the number and minimum width or required capacity of interior exit stairways and ramps is permitted to egress through areas, including atriums, on the level of discharge provided that all of the following conditions are met: 1.1. Discharge of interior exit stairways and ramps shall be provided with a free and unobstructed path of travel to an exterior exit door and such exit is readily visible and identifiable from the point of termination of the enclosure. 1.2. The entire area of the level of exit discharge is separated from areas below by construction conforming to the fire-resistance rating for the enclosure. 1.3. The egress path from the interior exit stairway and ramp on the level of exit discharge is protected throughout by an approved automatic sprinkler system. Portions of the level of exit discharge with access to the egress path shall be either equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of interior exit stairways or ramps. 1.4. Where a required interior exit stairway or ramp and an exit access stairway or ramp serve the same floor level and terminate at the same level of exit discharge, the termination of the exit access stairway or ramp and the exit discharge door of the interior exit stairway or ramp shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the building, whichever is less. The distance shall be measured in a					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	straight line between the exit discharge door from the interior exit stairway or ramp and the last tread of the exit access stairway or termination of slope of the exit access ramp. 2. Not more than 50 percent of the number and minimum width or required capacity of the interior exit stairways and ramps is permitted to egress through a vestibule provided that all of the following conditions are met: 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire-resistance rating of the interior exit stairway or ramp enclosure. 2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm). 2.3. The area is separated from the remainder of the level of exit discharge by a fire partition constructed in accordance with Section 708. **Exception**: The maximum transmitted temperature rise is not required. 2.4. The area is used only for means of egress and exits directly to the outside. 3. Horizontal exits complying with Section 1026 shall not be required to discharge directly to the exterior of the building.					
G32-18	**Modify proposal 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 2 lowest stories shall be permitted to be open to the atrium 2.2. All stories above the lowest 2 stories shall be separated from the atrium in accordance with ~~Section 404.6~~ the provision for a shaft in Section 713.4.	X				Clarification
G33-18	**2018 International Building Code**	X				Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	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 the framing system deflects without breaking (loading) the glass before the sprinkler system operates; and 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. 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. <u>A horizontal assembly is not required between the atrium and openings for escalators complying with Section 712.1.3.</u> 6. <u>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.</u>					
G34-18	**Modify proposal as follows:**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	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 ~~or a 20-minute fire protective curtain assembly~~ is provided. The glass wall ~~or fire protective curtain assembly~~ shall comply with all of the following: 1.1. Automatic sprinklers are provided along both sides of the separation wall, ~~fire protective curtain assembly~~ 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 ~~or fire protective curtain assembly~~ not greater than 6 feet (1829 mm). The sprinkler system shall be designed so that the entire surface of the glass ~~or fire protective curtain assembly~~ 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; and 1.3. ~~The fire protective curtain assembly shall be installed in accordance with Section 716.4 and shall be actuated in conjunction with the atrium smoke control system, and~~ 1.4. 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. 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. **Chapter 35- UL**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	10D-~~14~~ 17: Standard for Fire Tests of Fire Protective Curtain Assemblies					
G35-18	**Modify as follows:** **2018 International Building Code** **404.9 Exit access travel distance.** Exit access travel distance for areas open to an atrium shall comply with the requirements of this section. **404.10.1 Exit ~~stairs~~ stairways in an atrium.** Where an atrium contains an interior exit stairway all the following shall be met: 1. The ~~exit stair~~ entry to the exit stairway is the edge of the closest riser of the exit stairway. 2. The entry of the exit stairway shall have access from a minimum of two directions. 3. The distance between the entry to an exit ~~stair~~ stairway in an atrium, and the entrance to a minimum of one exit ~~stair~~ stairway enclosed in accordance with Section 1023.2 shall comply with the separation in Section 1007.1.1. 4. Exit access travel distance ~~within the atrium~~ shall be measured to the ~~nosing~~ closest riser of the landing at the top of the ~~stair on each level served~~ exit stairway. 5. ~~At least one exit shall not~~ Not more than 50 percent of the exit stairways shall be located in the same atrium. **404.~~1~~011 Interior exit stairways discharge.** Not greater than 50 percent of interior exit stairways are permitted to egress through an atrium on the level of exit discharge in accordance with Section 1028.		X			Clarification
G36-18	**2018 International Building Code** **Revise as follows:** **406.2.4 Floor surfaces.** Floor surfaces shall be of concrete or similar approved noncombustible and nonabsorbent materials. The area of floor used for the parking of automobiles or other vehicles shall be sloped to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway. The surface of vehicle fueling pads in motor fuel-dispensing facilities shall be in accordance with Section 406.7.1. **Exceptions:** 1. Asphalt parking surfaces shall be permitted at ground level for		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	public parking garages and private carports. 2. ~~Floors of Group S-2 parking garages shall not be required to have a sloped surface.~~ ~~3~~2. Slip-resistant, nonabsorbent, interior floor finishes having a critical radiant flux not more than 0.45 W/cm^2, as determined by ASTM E648 or NFPA 253, shall be permitted in repair garages.					
G39-18	**Modify as follows:** **2018 International Building Code** **SECTION 202** **DEFINITIONS** **202 MECHANICAL-ACCESS ENCLOSED PARKING GARAGE.** An enclosed parking garage ~~other than single car stacking systems~~, which employs parking machines, lifts, elevators or other mechanical devices for vehicle moving from and to street level and in which public occupancy in the garage is prohibited in all areas except the vehicle access bay. **406.6.4 echanical-access garages.** Mechanical-access enclosed parking garages shall be in accordance with Sections 406.6.4.1 through 406.6.4.5. **406.6.4.1 Separation.** Mechanical-access enclosed parking garages shall be separated from other occupancies and accessory uses by not less than 2-hour fire barriers constructed in accordance with Section 707 or by not less than 2-hour horizontal assemblies constructed in accordance with Section 711, or both. **406.6.4.2 Smoke removal.** A mechanical smoke removal system, in accordance with Section 910.4, shall be provided for all areas containing an ~~enclosed~~ mechanical-access ~~parking~~ enclosed parking garage. **406.6.4.3 Fire control equipment room.** The fire control equipment, consisting of the fire alarm control unit, mechanical ventilation controls and emergency shut down switch shall be provided in a room ~~with exterior access~~ located where the equipment is able to be accessed by the fire service from a secured exterior door of the building. The room shall be a minimum of 50 square feet in size and location shall be in a location that is approved by the fire code official.	X				Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	406.6.4.4 ~~Firefighter~~ Fire department access doors. Access doors shall be provided ~~at the ground level for firefighter access as approved by the fire code official~~ in accordance with Section 3206.7. **406.6.4.5 3.1 Emergency shutdown switch.** ~~A~~ The mechanical parking system shall be provided with a manually activated emergency shutdown switch ~~shall be provided~~ for use by emergency personnel. The switch shall be clearly identified and shall be in a location approved by the fire code official. **2018 International Fire Code** **SECTION 202** **GENERAL DEFINITIONS** **MECHANICAL-ACCESS ENCLOSED PARKING GARAGE.** An enclosed parking garage, ~~other than single-car stacking system,~~ which employs parking machines, lifts, elevators or other mechanical devices for vehicle moving from and to street level and in which public occupancy in the garage is prohibited in all areas except the vehicle access bay. **903.2.10.2 Mechanical-access enclosed parking garages.** An approved automatic sprinkler system shall be provided throughout buildings used for the storage of motor vehicles in a mechanical-access enclosed parking garage. The portion of the building that contains the mechanical-access enclosed parking garage shall be protected with a ~~performance-based design~~ specially engineered automatic sprinkler system.				-	
G40-18	**2018 International Building Code** **407.2.5 Nursing home housing units.** In Group I-2, Condition 1 occupancies, in areas where nursing home residents are housed, shared living spaces, group meeting or multipurpose therapeutic spaces shall be permitted to be open to the corridor, where all of the following criteria are met: 1. The walls and ceilings of the space are constructed as required for corridors. 2. The spaces are not occupied as resident sleeping rooms, treatment rooms, incidental uses in accordance with Section 509, or hazardous uses. 3. The open space is protected by an automatic fire detection		X			Makes the provisions easier to enforce and bring the IBC closer to the CMS requirements.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	system installed in accordance with Section 907. 4. The corridors onto which the spaces open, in the same smoke compartment, are protected by an automatic fire detection system installed in accordance with Section 907, or the smoke compartment in which the spaces are located is equipped throughout with quick-response sprinklers in accordance with Section 903.3.2. 5. The space is arranged so as not to obstruct access to the required exits. **Revise as follows:** **407.2.6 Nursing home cooking facilities.** In Group I-2, Condition 1 occupancies, rooms or spaces that contain a cooking facility with domestic cooking appliances shall be permitted to be open to the corridor where all of the following criteria are met: 1. The number of care recipients housed in the smoke compartment shall not be greater than 30. 2. The number of care recipients served by the cooking facility shall not be greater than 30. 3. Not more than one cooking facility area shall be permitted in a smoke compartment. 4. ~~The types of domestic cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves.~~ ~~5~~4. The corridor shall be a clearly identified space delineated by construction or floor pattern, material or color. ~~6~~5. The space containing the domestic cooking facility shall be arranged so as not to obstruct access to the required exit. ~~7~~6. ~~Domestic cooking hoods installed and constructed in accordance with Section 505 of the International Mechanical Codeshall be provided over cooktops and ranges.~~ The cooking appliance shall comply with Section 407.2.7. ~~8. Cooktops and ranges shall be protected in accordance with Section 904.13.~~ ~~9. A shut-off for the fuel and electrical power supply to the cooking equipment shall be provided in a location that is accessible only to staff.~~ ~~10. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes.~~ ~~11. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906, and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance.~~					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Add new text as follows: **407.2.7 Domestic cooking appliances.** In Group I-2 occupancies, installation of cooking appliances used in domestic cooking facilities shall comply with all of the following: 1. The types of cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves. 2. Domestic cooking hoods installed and constructed in accordance with Section 505 of the International Mechanical Code shall be provided over cooktops and ranges. 3. Cooktops and ranges shall be protected in accordance with Section 904.13. 4. A shut-off for the fuel and electrical power supply to the cooking equipment shall be provided in a location that is accessible only to staff. 5. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes. 6. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906, and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance. **2018 International Fire Code** **Revise as follows:** **904.13 Domestic cooking ~~systems~~ facilities.** Cooktops and ranges installed in the following occupancies shall be protected in accordance with Section 904.13.1: 1. In Group I-1 occupancies where domestic cooking facilities are installed in accordance with Section 420.8 of the International Building Code. 2. In Group I-2 ~~, Condition 1~~ occupancies where domestic cooking facilities are installed in accordance with Section ~~407.2.6~~ 407.2.7 of the International Building Code. 3. In Group R-2 college dormitories where domestic cooking facilities are installed in accordance with Section 420.10 of the International Building Code.					
G41-18	**2018 International Building Code**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Revise as follows: **407.2.6 Nursing home cooking facilities.** In Group I-2, Condition 1 occupancies, rooms or spaces that contain a cooking facility with domestic cooking appliances shall be permitted to be open to the corridor where all of the following criteria are met: 1. The number of care recipients housed in the smoke compartment shall not be greater than 30. 2. The number of care recipients served by the cooking facility shall not be greater than 30. 3. Not more than one cooking facility area shall be permitted in a smoke compartment. 4. The types of domestic cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves. 5. The corridor shall be a clearly identified space delineated by construction or floor pattern, material or color. 6. The space containing the domestic cooking facility shall be arranged so as not to obstruct access to the required exit. 7. Domestic cooking hoods installed and constructed in accordance with Section 505 of the International Mechanical Codeshall be provided over cooktops and ranges. 8. Cooktops and ranges shall be protected in accordance with Section 904.13. 9. A shut-off for the fuel and electrical power supply to the cooking equipment shall be provided in a location that is accessible only to staff. 10. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes. 11. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906, and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance. **Exceptions:** 1. Cooktops and ranges located within smoke compartments with no patient sleeping or patient care areas are not required to comply with this section. 2. Cooktops and ranges used for care recipient training or nutritional counseling are not required to comply with					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Item 8 of this section.					
G42-18	**2018 International Building Code** **407.3 Corridor wall construction.** *Corridor* walls shall be constructed as smoke partitions in accordance with Section 710. **407.3.1 Corridor doors.** *Corridor* doors, other than those in a wall required to be rated by Section 509.4 or for the enclosure of a vertical opening or an exit, shall not have a required *fire protection rating* and shall not be required to be equipped with *self-closing* or automatic-closing devices, but shall provide an effective barrier to limit the transfer of smoke and shall be equipped with positive latching. Roller latches are not permitted. Other doors shall conform to Section 716. **Add new text as follows:** 407.3.1.1 **Door construction.** Doors in corridors not required to have a fire protection rating shall comply with the following: 1. Solid doors shall have close fitting operational tolerances, head and jamb stops. 2. Dutch style doors shall have an astragal, rabbet or bevel at the meeting edges of the upper and lower door sections. Both the upper and lower door sections shall have latching hardware. Dutch style door shall have hardware that connects the upper and lower sections to function as a single leaf. 3. To provide make-up air for exhaust systems in accordance with Section 1020.5, Exception1, doors are permitted to have louvers or to have a clearance between the bottom of the door and the floor surface that is 2/3 inches (19.1 mm) maximum. **710.5 Openings.** Openings in smoke partitions shall comply with Sections 710.5.1 and 710.5.2. **710.5.1 Windows.** Windows in smoke partitions shall be sealed to resist the free passage of smoke or be automatic-closing upon detection of smoke. **710.5.2 Doors.** Doors in smoke partitions shall comply with Sections 710.5.2.1 through 710.5.2.3. **Revise as follows:**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	710.5.2.1 Louvers. Doors in smoke partitions shall not include louvers. **Exception:** Where permitted in accordance with Section 407.3.1.1.					
G43-18	**Modify as follows:** **2018 International Building Code** **407.4.4.3 Access to corridor.** Every care suite shall have a door leading directly to an exit access corridor or horizontal exit. Movement from habitable rooms within the care suite shall not require more than 100 feet (30 480 mm) of travel within the care suite to a door leading to the exit access corridor or horizontal exit. Where a care suite is required to have more than one exit access door by Section 407.4.4.5.2 or 407.4.4.6.2, the additional door shall lead directly to an exit access corridor, ~~horizontal~~ exit or an adjacent suite. ~~**Exceptions**~~ **Exception:** ~~1.~~ The distance of travel shall be permitted to be increased to 125 feet (38 100 mm) where an automatic smoke detection system is provided throughout the care suite and installed in accordance with NFPA 72. ~~2. Where two or more exit access doors are required by Section 407.4.4.5.2 or 407.4.4.6.2, not more than one of the doors shall be permitted to be an exit door leading to an exit stairway, exit ramp, exit passageway, or an exterior exit door.~~		X			Clarification
G44-18	**2018 International Building Code** **Revise as follows:** **407.4.4.3 Access to corridor.** Movement from habitable rooms shall not require passage through more than three doors and 100 feet (30 480 mm) distance of travel within the suite. ~~**Exception:** The distance of travel shall be permitted to be increased to 125 feet (38 100 mm) where an automatic smoke detection system is provided throughout the *care suite* and installed in accordance with NFPA 72.~~			X	Minimal	Clarification
G46-18	**2018 International Building Code** **407.6 Automatic-closing doors.** Automatic-closing doors with hold-			X	Minimal	Necessary addition for clarification

Table 2. 2021 IEBC Changes Cost Impact						
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		Decrease	None	Increase		
Sub Code:						
	open devices shall comply with Sections 709.5 and 716.2. **Add new text as follows:** **407.6.1 Activation of automatic-closing doors.** Automatic-closing doors on hold-open devices in accordance with Section 716.2.6.6 shall also close upon activation of a fire alarm system, an automatic sprinkler system, or both. The automatic release of the hold open device on one door shall release all such doors within the same smoke compartment.					
G48-18	**2018 International Building Code** **Revise as follows:** **[BG] SPECIAL AMUSEMENT ~~BUILDING.~~AREA.** A special amusement ~~building~~ area is any temporary or permanent building or portion thereof that is occupied for amusement, entertainment or educational purposes and ~~that contains a device or system that conveys passengers or provides a walkway along, around or over a course in any direction so arranged that the means of egress path is not readily apparent due to visual or audio distractions or is intentionally confounded or is not readily available because of the nature of the attraction or mode of conveyance through the building or structure.~~is arranged in a manner that: 1. Makes the means of egress path not readily apparent due to visual or audio distractions. 2. Intentionally confounds identification of the means of egress path. 3. Otherwise makes the means of egress path not readily available because of the nature of the attraction or mode of conveyance through the building or structure. **Add new definition as follows:** **PUZZLE ROOM** A puzzle room is a type of special amusement area in which occupants are encouraged to solve a challenge to escape from a room or series of rooms. **Revise as follows:** **SECTION 411**			X	Minimal	Improves the Amusement Area section.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	SPECIAL AMUSEMENT ~~BUILDINGS~~ AREAS **411.1 General.** Special amusement ~~buildings~~ areas having an occupant load of 50 or more shall comply with the requirements for the appropriate Group A occupancy and Sections 411.1 through 411.7. Special amusement ~~buildings~~ areas having an occupant load of less than 50 shall comply with the requirements for a Group B occupancy and Sections 411.1 through 411.7. **Exception:** Special amusement ~~buildings~~ areas ~~or portions thereof~~ that are without walls or a roof and constructed to prevent the accumulation of smoke need not comply with this section. ~~For flammable decorative materials, see the International Fire Code.~~ **Delete without substitution:** **~~[F] 411.2 Automatic fire detection.~~** ~~Special amusement buildings shall be equipped with an automatic fire detection system in accordance with Section 907.~~ **Revise as follows:** **411.2 Automatic sprinkler system.** Buildings containing special amusement areas shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where the special amusement area is temporary, the sprinkler water supply shall be of an approved temporary means. Exception: Automatic sprinklers are not required where the total floor area of a temporary special amusement area is less than 1,000 square feet (93 m^2) and the exit access travel distance from any point in the special amusement area to an exit is less than 50 feet (15 240 mm). **Add new text as follows:** **411.3 Fire alarm system.** Buildings containing special amusement areas shall be equipped with an automatic smoke detection system in accordance with 907.2.12. **Delete without substitution:** **~~[F] 411.4 Alarm.~~** ~~Actuation of a single smoke detector, the automatic sprinkler system or other automatic fire detection device shall~~					

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		Decrease	None	Increase		
Sub Code:						
	~~immediately sound an alarm at the building at a constantly attended location~~ ~~from which emergency action can be initiated including the capability of manual initiation of requirements~~ ~~in Section 907.2.11.~~ **Revise as follows:** **~~[F] 411.5~~ 411.4 Emergency voice/alarm communications system.** An emergency voice/alarm communications system shall be provided in accordance with Sections 907.2.11 ~~and 907.5.2.2, is~~ ~~permitted to serve as a public address system and shall be audible throughout the entire special~~ ~~amusement building.~~ **Add new text as follows:** 411.5 **Puzzle room exiting.** Puzzle room exiting shall comply with one of the following: 1. Exiting in accordance with Chapter 10, 2. An alternative design approved by the building official.. 3. Exit shall be open and readily available upon activation by the automatic fire alarm system, automatic sprinkler system, and a manual control at a constantly attended location. **Revise as follows:** 411.6 **Exit marking.** Exit signs shall be installed at the required exit or exit access doorways ~~of~~ serving special amusement ~~buildings~~ areas in accordance with this section and Section 1013. Approved directional exit markings shall be provided. Where mirrors, mazes or other designs are utilized that disguise the path of egress travel such that they are not apparent, approved and listed low-level exit signs that comply with Section 1013.5, and directional path markings listed in accordance with UL 1994, shall be provided and located not more than 8 inches (203 mm) above the walking surface and on or near the path of egress travel. Such markings shall become visible in an emergency. The directional exit marking shall be activated by the automatic ~~fire~~ smoke detection system and the automatic sprinkler system in accordance with Section 907.2.11. **411.6.1 Photoluminescent exit signs.** Where photoluminescent exit signs are installed, activating light source and viewing distance shall be in accordance with the listing and markings of the signs.					

Table 2. 2021 IEBC Changes Cost Impact

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		Decrease	None	Increase		
Sub Code:						

411.7 **Interior finish.** The interior finish in special amusement areas shall be Class A in accordance with Section 803.1.

TABLE 1017.2
EXIT ACCESS TRAVEL DISTANCE[a]

OCCUPANCY	WITHOUT SPRINKLERSYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200[e]	250[b]
I-1	Not Permitted	250[b]
B	200	300[c]
F-2, S-2, U	300	400[c]
H-1	Not Permitted	75[d]
H-2	Not Permitted	100[d]
H-3	Not Permitted	150[d]
H-4	Not Permitted	175[d]
H-5	Not Permitted	200[c]
I-2, I-3	Not Permitted	200[c]
I-4	150	200[c]

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to exit access travel distance requirements:
Section 402.8: For the distance limitation in malls.
Section 404.9: For the distance limitation through an space.
Section 407.4: For the distance limitation in Group I-2.
Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.
Section ~~411.3~~ 411.2: For the distance limitation in special amusement ~~buildings.~~areas.
Section 412.6: For the distance limitations in aircraft manufacturing facilities.
Section 1006.2.2.2: For the distance limitation in refrigeration machinery rooms.
Section 1006.2.2.3: For the distance limitation in refrigerated rooms and spaces.
Section 1006.3.3: For buildings with one exit.
Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1.
Section 1029.7: For increased limitation in assembly seating.
Section 3103.4: For temporary structures.
Section 3104.9: For pedestrian walkways.

b. Buildings equipped throughout with an automatic sprinkler

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		Decrease	None	Increase		
Sub Code:						
	system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2. c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. d. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.1. e. Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3. **2018 International Fire Code** **Revise as follows:** **914.7 Special amusement ~~buildings.~~areas.** Special amusement ~~buildings~~ areas shall comply with Sections 914.7.1 and 914.7.2. **914.7.1 Automatic sprinkler system.** ~~Special~~ Buildings containing special amusement ~~buildings~~ areas shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where the special amusement ~~building~~ area is temporary, the sprinkler water supply shall be of an approved temporary means. **Exception:** Automatic sprinklers are not required where the total floor area of a temporary special amusement ~~building~~ area is less than 1,000 square feet (93 m^2) and the exit access travel distance from any point in the special amusement area to an exit is less than 50 feet (15 240 mm). **914.7.2 Automatic smoke detection.** Special amusement ~~buildings~~ areas shall be equipped with an automatic smoke detection system in accordance with Section 907.2.11. **Special amusement ~~building.~~area.** Tents and other membrane structures erected as a special amusement ~~building~~ area shall be equipped with an automatic sprinkler system in accordance with Section 411.3 of the International Building Code. **2018 International Code Council Performance Code** **Revise as follows:**					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[BG] A103.1.9.12 SP-12, Special amusement ~~building.~~area. A temporary, permanent or mobile area, building or structure that is occupied for amusement, entertainment or educational purposes and that contains a device or system that conveys passengers or provides a walkway along, around or over a course, in any direction, so arranged that means of egress are not readily apparent because of visual or audible distractions, or are intentionally confounded, or are not readily available because of the nature of the attraction or the mode of conveyance through the building or structure. It shall be assumed that: 1. Occupants, visitors and employees are awake, alert, predominantly able to exit without the assistance of others and unfamiliar with the area, building or structure. 2. Risk of injury and risk to health assumed by occupants, visitors and employees during their use of the area, building or structure are predominantly involuntary and high. 3. Public expectations regarding the protection afforded those occupying, visiting or working in such ~~a~~ an area, building ~~,~~ or structure ~~or portion thereof~~ are high.					
G49-18	**Modify proposal as follows:** **415.6.1 ~~Liquid use, dispensing and mixing rooms and r~~Rooms for flammable or combustible liquid use, dispensing or mixing in open systems.** ~~Liquid use, dispensing and mixing rooms and r~~Rooms for flammable or combustible liquid use, dispensing or mixing in open systems, where vapors are emitted, having a floor area of not more than 500 square feet (46.5 m^2) need not be located on the outer perimeter of the building where they are in accordance with the International Fire Code and NFPA 30. **415.6.2 Liquid storage rooms and rooms for flammable or combustible liquid use in closed systems.** Liquid storage rooms and rooms for flammable or combustible liquid use in closed systems~~, where no vapors are emitted~~, having a floor area of not more than 1,000 square feet (93 m^2) need not be located on the outer perimeter where they are in accordance with the International Fire Code and NFPA 30. **507.8.1.1.1 ~~Liquid use, dispensing and mixing rooms and r~~Rooms for flammable or combustible liquid use, dispensing or mixing in open systems.** ~~Liquid use, dispensing and mixing rooms and r~~Rooms for flammable or combustible liquid use, dispensing or mixing in open		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	systems~~, where vapors are emitted, and~~ having a floor area of not more than 500 square feet (46.5 m^2) need not be located on the outer perimeter of the building where they are in accordance with the International Fire Code and NFPA 30. **507.8.1.1.2 Liquid storage rooms and rooms for flammable or combustible liquid use in closed systems.** Liquid storage rooms and rooms for flammable or combustible liquid use in closed systems~~, where no vapors are emitted~~, having a floor area of not more than 1,000 square feet (93 m^2) need not be located on the outer perimeter where they are in accordance with the International Fire Code and NFPA 30.					
G52-18	**2018 International Building Code** **[F] ~~415.11.3.5~~415.11.4 Emergency alarm system.** Emergency alarm systems shall be provided in accordance with this section and Sections 415.5.1 and ~~415.5.2.~~ 415.5.2. The maximum allowable quantity per control area provisions shall not apply to emergency alarm systems required for HPM. **[F] ~~415.11.3.5.1~~ 415.11.4.1 Service corridors.** An emergency alarm system shall be provided in service corridors, with not fewer than one alarm device in each service corridor. **[F] ~~415.11.3.5.2~~ 415.11.4.2 Corridors and interior exit stairways and ramps.** Emergency alarms for corridors, interior exit stairways and ramps and exit passageways shall comply with Section ~~415.5.2.~~ 415.5.2. **[F] ~~415.11.3.5.3~~ 415.11.4.3 Liquid storage rooms, HPM rooms and gas rooms.** Emergency alarms for liquid storage rooms, HPM rooms and gas rooms shall comply with Section ~~415.5.1.~~415.5.1. **[F] ~~415.11.3.5.4~~ 415.11.4.4 Alarm-initiating devices.** An approved emergency telephone system, local alarm manual pull stations, or other approved alarm-initiating devices are allowed to be used as emergency alarm-initiating devices. **[F] ~~415.11.3.5.5~~ 415.11.4.5 Alarm signals.** Activation of the emergency alarm system shall sound a local alarm and transmit a signal to the emergency control station.		X			Clarification
G55-18	**2018 International Building Code**		X			Provides consistency

Table 2. 2021 IEBC Changes Cost Impact						
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		Decrease	None	Increase		
Sub Code:						
	Revise as follows: **420.7 Group I-1 assisted living housing units.** In Group I-1 occupancies, where a fire-resistance corridor is provided in areas where assisted living residents are housed, shared living spaces, group meeting or multipurpose therapeutic spaces open to the corridor shall be in accordance with all of the following criteria: 1. The walls and ceilings of the space are constructed as required for corridors. 2. The spaces are not occupied as resident sleeping rooms, treatment rooms, incidental uses in accordance with Section 509, or hazardous uses. 3. The open space is protected by an automatic fire detection system installed in accordance with Section 907. 4. In Group I-1, Condition 1, the corridors onto which the spaces open are protected by an automatic fire detection system installed in accordance with Section 907, or the spaces are equipped throughout with quick-response sprinklers in accordance with Section 903.3.2. 5. In Group I-1, Condition 2, the corridors onto which the spaces open, in the same smoke compartment, are protected by an automatic fire detection system installed in accordance with Section 907, or the smoke compartment in which the spaces are located is equipped throughout with quick-response sprinklers in accordance with Section 903.3.2. 6. The space is arranged so as not to obstruct access to the required exits. **Revise as follows:** **420.8 Group I-1 cooking facilities.** In Group I-1 occupancies, rooms or spaces that contain a cooking ~~facilities~~ facility with domestic cooking appliances shall ~~be in accordance with~~ be permitted to be open to the corridor where all of the following criteria are met: 1. In Group I-1, Condition 1 occupancies, the number of care recipients served by one cooking facility shall not be greater than 30. 2. In Group I-1, Condition 2 occupancies, the number of care recipients served by one cooking facility and within the same smoke compartment shall not be greater than 30. 3. ~~The types of domestic cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves.~~					with similar provisions addressing Group I-2 occupancies and provides more consistency with federal standards.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	43. The space containing the ~~domestic~~ cooking facilities shall be arranged so as not to obstruct access to the required exit. 54. ~~Domestic cooking hoods installed and constructed in accordance with Section 505 of the International Mechanical Code shall be provided over cooktops or ranges.~~ The cooking appliances shall comply with Section 420.9. ~~6. Cooktops and ranges shall be protected in accordance with Section 904.13.~~ ~~7. A shutoff for the fuel and electrical supply to the cooking equipment shall be provided in a location that is accessible only to staff.~~ ~~8. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes.~~ ~~9. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906 and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance.~~ **Delete without substitution:** ~~**420.8.1 Cooking facilities open to the corridor.** Cooking facilities located in a room or space open to a corridor, aisle or common space shall comply with Section 420.8.~~ 420.9 **Domestic cooking appliances.** In Group I-1 occupancies, installation of cooking appliance used in domestic cooking facilities shall comply with all of the following: 1. The types of cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves. 2. Domestic cooking hoods installed and constructed in accordance with Section 505 of the International Mechanical Code shall be provided over cooktops or ranges. 3. Cooktops and ranges shall be protected in accordance with Section 904.13. 4. A shutoff for the fuel and electrical supply to the cooking equipment shall be provided in a location that is accessible only to staff. 5. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes. 6. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906 and the extinguisher shall					

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		Decrease	None	Increase		
Sub Code:						
	be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance. **2018 International Fire Code** **Revise as follows:** **904.13 Domestic cooking ~~systems.~~facilities.** Cooktops and ranges installed in the following occupancies shall be protected in accordance with Section 904.13.1: 1. In Group I-1 occupancies where domestic cooking facilities are installed in accordance with Section ~~420.8~~ 420.9 of the International Building Code. 2. In Group I-2, Condition 1 occupancies where domestic cooking facilities are installed in accordance with Section 407.2.6 of the International Building Code. 3. In Group R-2 college dormitories where domestic cooking facilities are installed in accordance with Section 420.10 of the International Building Code.					
G56-18	**2018 International Building Code** **Revise as follows:** **420.8 Group I-1 cooking facilities.** In Group I-1 occupancies, rooms or spaces that contain cooking facilities with domestic cooking appliances shall be in accordance with all of the following criteria: 1. In Group I-1, Condition 1 occupancies, the number of care recipients served by one cooking facility shall not be greater than 30. 2. In Group I-1, Condition 2 occupancies, the number of care recipients served by one cooking facility and within the same smoke compartment shall not be greater than 30. 3. The types of domestic cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves. 4. The space containing the domestic cooking facilities shall be arranged so as not to obstruct access to the required exit. 5. Domestic cooking hoods installed and constructed in accordance with Section 505 of the International Mechanical Codeshall be provided over cooktops or ranges. 6. Cooktops and ranges shall be protected in accordance with Section 904.13. 7. A shutoff for the fuel and electrical supply to the cooking		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	equipment shall be provided in a location that is accessible only to staff. 8. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes. 9. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906 and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance. **Exceptions:** 1. Cooking facilities provided within care recipient's individual dwelling units are not required to comply with this section. 2. Cooktops and ranges used for care recipient training or nutritional counseling are not required to comply with Item 6 of this section.					
G58-18	**2018 International Building Code** **Revise as follows:** **422.1 General.** Occupancies classified as *ambulatory care facilities* shall comply with the provisions of Sections 422.1 through ~~422.6~~ 422.7 and other applicable provisions of this code. **Add new text as follows:** **422.7 Domestic cooking.** Installation of cooking appliances used in domestic cooking facilities shall comply with all of the following: 1. The types of cooking appliances permitted are limited to ovens, cooktops, ranges, warmers and microwaves 2. Domestic cooking hoods installed and constructed in accordance with Section 505 of the International Mechanical Code shall be provided over cooktops or ranges. 3. A shutoff for the fuel and electrical supply to the cooking equipment shall be provided in a location that is accessible only to staff. 4. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes. 5. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906 and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from			X		Updated based federal health care standards

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	each domestic cooking appliance.					
G59-18	**Revise as follows:** **423.1 General.** This section applies to the construction of storm shelters constructed as separate detached buildings or constructed as rooms or spaces within buildings for the purpose of providing protection from storms that produce high winds, such as tornadoes and hurricanes during the storm. ~~Such structures shall be designated to be hurricane shelters, tornado shelters, or combined hurricane and tornado~~ This section specifies where storm shelters are required and provides requirements for the design and construction of storm shelters. Design of facilities for use as emergency shelters after the storm are outside the scope of ICC 500 and shall comply with Table 1604.5 as a Risk Category IV Structure. **423.2 Construction.** ~~In addition to other applicable requirements in this code, storm~~ Storm shelters shall be constructed in accordance with ~~ICC 500.~~ this code and ICC 500, and shall be designated as hurricane shelters, tornado shelters, or combined hurricane and tornado shelters. Buildings or structures that are also designated as emergency shelters shall also comply with Table 1604.5 as Risk Category IV structures. Any storm shelter not required by this section shall be permitted to be constructed provided such structures meet the requirements of this code and ICC 500. **Add new text as follows:** **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 an occupant load of less than 50 persons as determined in accordance with ICC 500 shall be in accordance with Section 303.		X			Improves the coordination between the code and the storm shelter standard

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	2. The occupancy category for a dedicated residential storm shelter shall be the Group R occupancy served. **423.3.2 Storm shelters within host buildings.** Where designated storm shelters are constructed as a room or space within a host building which will normally be occupied for other purposes, 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.					
G65-18	**2018 International Building Code** **Revise as follows:** **423.4.1 Required occupant capacity.** The required occupant capacity of the storm shelter shall include all of the buildings on the site and shall be the greater of the following: 1. The total occupant load of the classrooms, vocational rooms and offices in the Group E occupancy. 2. The occupant load of ~~any~~ the largest indoor assembly space that is associated with the Group E occupancy. **Exceptions:** 1. Where a new building is being added on an existing Group E site, and where the new building is not of sufficient size to accommodate the required occupant capacity of the storm shelter for all of the buildings on the site, the storm shelter shall at a minimum accommodate the required occupant capacity for the new building. 2. Where approved by the code official, the required occupant capacity of the shelter shall be permitted to be reduced by the occupant capacity of any existing storm shelters on the site.		X			Clarification
G66-18	**Modify proposal as follows:** **424.2 Materials.** Play structures shall be constructed of noncombustible materials or of combustible materials that comply with the following: *Items 1 through 9 are unchanged by the modifications*. 10. Interior finishes for structures exceeding 600 ~~300~~ square feet (56 ~~28~~ m^2) in area or 10 feet (3048 mm) in height shall have a flame spread index not greater than that specified in Table 803.13			X	Minimal	Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	for the occupancy group and location designated. Interior wall and ceiling finish materials tested in accordance with NFPA 286 and meeting the acceptance criteria of Section 803.1.1.1, shall be permitted to be used where a Class A classification in accordance with ASTM E84 or UL 723 is required. **424.5.1 Design.** Play structures exceeding ~~300~~ 600 square feet (56 ~~28~~ m^2) in area or 10 feet (3048 mm) in height shall be designed in accordance with ~~Section 1601.1~~ Chapter 16.					
G68-18	**Modify proposal as follows:** **424.5 Area limits.** Children's play structures ~~complying with Section 424.2~~ shall be not greater than 600 square feet (56 m^2) in area, unless a special investigation, acceptable to the building official, has demonstrated adequate fire safety.	X				Clarification
G69-18	**2018 International Building Code** **Revise as follows:** **[F] 426.1 General.** The provisions of Sections 426.1.1 through 426.1.7 shall apply to buildings in which materials that produce combustible dusts are stored or handled. Buildings that store or handle combustible dusts shall comply with the applicable provisions of the International Fire Code. Where required by the fire code official, NFPA 652 and the applicable provisions of NFPA 61, NFPA 85, NFPA 120, NFPA 484, NFPA 654, NFPA 655 and NFPA 664 ~~and the International Fire Code.~~shall apply.	X				Clarification
G73-18	**Modify proposal as follows:** **503.1.4 Occupied roofs.** A roof level or portion thereof shall be permitted to be used as an occupied roof provided the occupancy of the roof is an occupancy that is permitted by Table 504.4 for the story immediately below the roof. The area of the occupied roofs shall not be included in the building area as regulated by Section 506. **Exceptions:** 1. The occupancy located on an occupied roof shall not be limited to the occupancies allowed on the story immediately below the roof where the building is equipped throughout with an automatic sprinkler system in accordance with		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Section 903.3.1.1 or 903.3.1.2 and occupant notification ~~where required by~~ in accordance with Sections 907.5.2.1 and 907.5.2.3 is provided in the area of the occupied roof. Emergency voice/alarm communication system notification per Section 907.5.2.2 shall also be provided in the area of the occupied 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.					
G75-18	**Modify proposal as follows:** In Table 503.4, the value under Type IV A construction is to be 180 instead of 270 and the value under Type IV B construction is to be 120 instead of 180. All other portions of the proposal are not modified.		X			Clarification
G77-18	**2018 International Building Code** **Revise as follows:** **Number of stories.** The maximum number of *stories* above grade plane of a building shall not exceed the limits specified in Table 504.4.		X			Clarification
G78-18	**Modify proposal as follows:** Added a second revision to Table 504.4. In the S-1 row for Sprinklered buildings (S), 3 hours has been changed to 4 hours in the column under Type IIIB construction.	X				Clarification
G80-18	**Committee Reason:** We need to have increased heights for these new construction types based on all the work that has been done. Tweaks can be made and debated in the public comment process for other story heights. However, Canada has already set precedents for tall wood structures. We may already have overkill in fire protection features to address the additional stories. The information supporting this proposal is online on the ICC website for those that have concerns. (		X			Provides information that was not previously set forth in the code
G81-18	Correction to Tables 504.4 and 506.2 were introduced into the code by code change G101-12 to replace Table 503. It was not the intent of G101-12 to make any changes to allowable building height or area rendered by these provisions, compared to what was previously allowed.	X				Corrects the height and area tables due to an error in previous code change submittals

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
G83-18	**2018 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.~~		X			Clarification
G84-18	**TABLE 506.2** **ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable) IN SQUARE FEET [a, b]**		X			Provides information that was not previously set forth in the code, and does not change the requirements of current code.
G85-18	**Modify proposal 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:		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
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		Decrease	**None**	**Increase**		
Sub Code:						
	Aa = At + (NS × If) **(Equation 5-1)** where: Aa = Allowable area (square feet). At = 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 nonsprinklered building (regardless of whether the building is sprinklered). If = 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 shall be determined by Equation 5-1. The total allowable area ~~per story~~ of a single-occupancy building more than three stories above grade plane shall be determined in accordance with Equation 5-2: *Aa = At + (NS × If)] x Sa* **(Equation 5-2)** where: Aa = Allowable area (square feet). At = 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). If = Area factor increase due to frontage (percent) as calculated in accordance with Section 506.3. Sa = 3 where the actual number of stories above grade plane, exceeds three, or Sa = 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 ~~a floor~~ each story of a mixed-occupancy building shall be determined in accordance with the applicable provisions of Section 508.3.2 for non separated occupancies and 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,					

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		Decrease	None	Increase		
Sub Code:						
	determined in accordance with Equation 5-3 based on the applicable provisions of Section 508.1, shall not exceed three. Aa = [At + (NS × If)] (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. If = 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.					
G86-18	**Modify as follows:** **2018 International Building Code** **506.3 Frontage increase.** Every building shall adjoin or have access to a public way to receive an area factor increase based on frontage. Area factor increase shall be determined in accordance with Sections 506.3.1 through 506.3.3. **506.3.1 Minimum percentage of perimeter.** To qualify for an area factor increase based on frontage, a building shall have not less than 25 percent of its perimeter on a public way or open space. Such open space shall be either on the same lot or dedicated for public use and shall be accessed from a street or approved fire lane. **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 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.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
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		Decrease	None	Increase		
Sub Code:						
	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. **506.3.3 Amount of increase. The area factor increase based on frontage shall be determined in accordance with Table 506.3.3.** **TABLE 506.3.3** **FRONTAGE INCREASE FACTOR** **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. **TABLE 506.3.3.1** **SECTION 507 BUILDINGS**					
G88-18	**TABLE 508.4** **REQUIRED SEPARATION OF OCCUPANCIES (HOURS)[f]**		X			Filling in the balance of Table 508.4 will avoid confusion and make the table more clear and functional.
G89-18	**Modify proposal as follows:** **508.4.4.1 Construction.** Required separations shall be fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. Mass timber elements serving as fire barriers or horizontal assemblies to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the building with an approved thermal barrier consisting of a minimum of $^1/_2$ inch (12.7 mm) gypsum board or a ~~noncombustible equivalent~~ material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, mass timber elements serving as fire barriers or a horizontal assembly in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an approved thermal barrier consisting of a minimum of ½ inch (12.7 mm) gypsum board or a ~~noncombustible~~ ~~equivalent~~ material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275. *(Portions of proposal not shown are not modified.)*					
G90-18	**2018 International Building Code** **Delete without substitution:** ~~**SECTION 419**~~ ~~**LIVE/WORK UNITS**~~ **Revise as follows:** **508.1 General.** Each portion of a building shall be individually classified in accordance with Section 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 ~~or~~, 508.4, 508.5, or a combination of these sections. **Exceptions:** 1. Occupancies separated in accordance with Section 510. 2. Where required by Table 415.6.2, areas of Group H-1, H-2 and H-3 occupancies shall be located in a detached building or structure. 3. ~~Uses within live/work units, complying with Section 419, are not considered separate occupancies.~~ ~~419.1~~ **508.5 ~~General~~ Live/Work Units.** A live/work unit shall comply with Sections ~~419.1~~ 508.5 through ~~419.9.~~508.5.11. **Exception:** Dwelling or sleeping units that include an office that is less than 10 percent of the area of the dwelling unit are permitted to be classified as dwelling units with accessory occupancies in accordance with Section 508.2.	X		-		Provides clearer description under Mixed Use Occupancies since the unit is not only residential nor business use.

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Sub Code:						
	~~419.1.1~~ **508.5.1 Limitations.** All of the following shall apply to live/work areas: 1. The live/work unit is permitted to be not greater than 3,000 square feet (279 m^2) in area. 2. The nonresidential area is permitted to be not more than 50 percent of the area of each live/work unit. 3. The nonresidential area function shall be limited to the first or main floor only of the live/work unit. 4. Not more than five nonresidential workers or employees are allowed to occupy the nonresidential area at any one time. ~~419.2~~ **508.5.2 Occupancies.** Live/work units shall be classified as a Group R-2 occupancy. Separation requirements found in Sections 420 and 508 shall not apply within the live/work unit where the live/work unit is in compliance with Section ~~419.~~ 508.5. Nonresidential uses that would otherwise be classified as either a Group H or S occupancy shall not be permitted in a live/work unit. **Exception:** Storage shall be permitted in the live/work unit provided that the aggregate area of storage in the nonresidential portion of the live/work unit shall be limited to 10 percent of the space dedicated to nonresidential activities. ~~419.3~~ **508.5.3 Means of egress.** Except as modified by this section, the means of egress components for a live/work unit shall be designed in accordance with Chapter 10 for the function served. ~~419.3.1~~ **508.5.4 Egress capacity.** The egress capacity for each element of the live/work unit shall be based on the occupant load for the function served in accordance with Table 1004.5. ~~419.3.2~~ **508.5.5 Spiral stairways.** Spiral stairways that conform to the requirements of Section 1011.10 shall be permitted. **~~419.4~~ 508.5.6 Vertical openings.** Floor openings between floor levels of a live/work unit are permitted without enclosure. **~~[F] 419.5~~ 508.5.7 Fire protection.** The live/work unit shall be provided with a monitored fire alarm system where required by Section 907.2.9 and an automatic sprinkler system in accordance with Section 903.2.8.					

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		Decrease	None	Increase		
Sub Code:						
	~~419.6~~ **508.5.8 Structural.** Floors within a live/work unit shall be designed for the live loads in Table 1607.1, based on the function within the space. ~~419.7~~ **508.5.9 Accessibility.** Accessibility shall be designed in accordance with Chapter 11 for the function served. ~~419.8~~ **508.5.10 Ventilation.** The applicable ventilation requirements of the International Mechanical Code shall apply to each area within the live/work unit for the function within that space. ~~419.9~~ **508.5.11 Plumbing facilities.** The nonresidential area of the live/work unit shall be provided with minimum plumbing facilities as specified by Chapter 29, based on the function of the nonresidential area. Where the nonresidential area of the live/work unit is required to be accessible by Section 1107.6.2.1, the plumbing fixtures specified by Chapter 29 shall be accessible.					
G92-18	**Reason:** This proposal eliminates stationary storage battery systems as incidental use from Table 509. A rewrite of the IFC Section 1206 has added extensive protection features to such installations including detection, suppression, fire separation, and explosion control, along with large scale testing to document the effectiveness of chosen protection levels. With the increased level of protection mandated by the IFC, there is no longer a need to limit such uses to 10% of a floor area as an incidental use. 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 2017 the BCAC has held 3 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as w ell as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: https://www.iccsafe.org/codes-tech- support/codes/code-development-process/building-code-action-committee-bcac.	X				Eliminates the incidental use 10% floor area restriction which can reduce the cost of providing energy storage systems in mixed use buildings.
G95-18	**2018 International Building Code** **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 all of the following	X				Clarification

Table 2. 2021 IEBC Changes Cost Impact						
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		Decrease	None	Increase		
Sub Code:						
	conditions are met: 1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 3 hours. Where vertical offsets are provided as part of a *horizontal assembly*, the vertical offset and the structure supporting the vertical offset shall have a *fire-resistance rating* of not less than 3 hours. 2. The building below, including the *horizontal assembly*, 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: 1. The building above the *horizontal assembly* is not required to be of Type I construction; 2. The enclosure connects fewer than four *stories*; and 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 both of 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 permitted to have multiple Group A occupancy uses, each with an *occupant load* of less 300, or Group B, M, R or S occupancies. ~~5.~~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. ~~6.~~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*.					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Stairway construction. *Stairways* shall be built of materials consistent with the types permitted for the type of construction of the building, except that wood *handrails shall be permitted for all types of construction*. **Exceptions:** 1. Wood handrails shall be permitted in all types of construction. 2. Interior exit stairway in accordance with Section 510.2 **Construction.** Enclosures for interior exit *stairways* and *ramps* shall be constructed as *fire barriers* in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. *Interior exit stairway* and *ramp* enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the interior exit *stairways* or *ramps* shall include any *basements*, but not any *mezzanines*. *Interior exit stairways* and *ramps* shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. **Exceptions:** 1. *Interior exit stairways* and *ramps* in Group I-3 occupancies in accordance with the provisions of Section 408.3.8. 2. *Interior exit stairways* within an *atrium* enclosed in accordance with Section 404.6. 3. Interior exit stairway in accordance with Section 510.2.					
G96-18	**2018 International Building Code** **Revise as follows:** **510.3 Group S-2 enclosed parking garage with Group S-2 open parking garage above.** A Group S-2 enclosed parking garage with not more than one *story above grade plane* and located below a Group S-2 open *parking garage* shall be classified as a separate and distinct building for the purpose of determining the type of construction where all of the following conditions are met: 1. The allowable area of the building shall be such that the sum of	X				Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	the ratios of the actual area divided by the allowable area for each separate occupancy shall not exceed 1. 2. The Group S-2 enclosed parking garage is of Type I or II construction and is at least equal to the *fire-resistance*requirements of the Group S-2 *open parking garage*. 3. The height and the number of tiers of the Group S-2 *open parking garage* shall be limited as specified in Table 406.5.4. 4. The floor assembly separating the Group S-2 enclosed parking garage and Group S-2 *open parking garage* shall be protected as required for the floor assembly of the Group S-2 enclosed parking garage. Openings between the Group S-2 enclosed parking garage and Group S-2 *open parking garage*, except *exit* openings, shall not be required to be protected. 5. The Group S-2 enclosed parking garage is used exclusively for the parking or storage of private motor vehicles, but shall be permitted to contain an office, waiting room and toilet room having a total area of not more than 1,000 square feet (93 m^2) and mechanical equipment rooms ~~incidental to~~ associated with the operation of the building.					
G98-18	**2018 International Building Code** **Revise as follows:** **510.5 Group R-1 and R-2 buildings of Type IIIA construction.** ~~The height limitation for~~ For buildings of Type IIIA construction in Groups R-1 and R-2 the maximum allowable height in Table 504.3 shall be increased ~~to six stories and 75 feet (22 860 mm)~~ by 10 feet and the maximum allowable number of stories in Table 504.4 shall be increased by one where the first floor assembly above the basement 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 m2).		X			Clarification
G99-18	**2018 International Building Code** **Revise as follows:** **510.8 Group B or M buildings with Group S-2 open parking garage above.** Group B or M occupancies located below a Group S-2*open parking garage* of a lesser type of construction shall be considered as a separate and distinct building from the Group S-2 *open parking garage* for the purpose of determining the type of construction where all of the following conditions are met:	X				Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 2 hours. 2. The occupancies in the building below the *horizontal assembly* are limited to Groups B and M. 3. The occupancy above the *horizontal assembly* is limited to a Group S-2 *open parking garage*. 4. The building below the *horizontal assembly* is of Type IA construction. **Exception:** The building below the *horizontal assembly* shall be permitted to be of Type IB or II construction, but not less than the type of construction required for the Group S-2 *open parking garage* above, where the building below is not greater than *one story* in height above grade plane. 5. The height and area of the building below the *horizontal assembly* does not exceed the limits set forth in Section 503. 6. The height and area of the Group S-2 *open parking garage* does not exceed the limits set forth in Section 406.5. The height, in both feet and *stories*, of the Group S-2 *open parking garage* shall be measured from *grade plane* and shall include the building below the *horizontal assembly*. 7. *Exits* serving the Group S-2 *open parking garage* ~~discharge directly~~ shall discharge at grade with direct and unobstructed access to a street or *public way* and are separated from the building below the *horizontal assembly* by 2-hour *fire barriers* constructed in accordance with Section 707 or 2-hour horizontal assemblies constructed in accordance with Section 711, or both.					
G101-18	Modifies Table 601 to require heavy timber bearing walls supporting more than two floors or a floor and a roof to be of 1-hour fire resistance rating or greater which is appropriate for vertical elements in mid-rise multi-story buildings			X	Minimal	Modifies Table 601 to require heavy timber bearing walls supporting more than two floors or a floor and a roof to be of 1-hour fire resistance rating
G102-18	Emphasizes that the exception in footnote **c** for using heavy timber in roof construction has in the past been applied to all roof elements, including those that may fit within the definition of Primary Structural Frame, which came into the code later. However, some code officials have not permitted the use of footnote **c** for roof members		X			Provides clarity to the application of the Table 601.

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	that fit the definition of primary structural frame, since there is a separate row for primary structural frame in the table. We believe the correct interpretation is to allow the footnote to apply to all roof construction, including structural members that are part of the primary structural frame. In the last cycle, a similar phrase, "including protection of primary structural frame members" and the qualifier "in roof construction" was approved for footnote **b**, which permits roof construction, including roof members that are part of the primary structural frame, to be unprotected when every part of the roof construction is more than 20 feet above the floor below (G167-15, AS). In a similar manner, this code change will clarify that footnote **c** is intended to permit all roof construction with a required rating of one hour or less to be heavy timber.					
G103-18	**2018 International Building Code** **Revise as follows:** **[BG] PRIMARY STRUCTURAL FRAME.** The primary structural frame shall include all of the following structural members: 1. The columns. 2. Structural members having direct connections to the columns, including girders, beams, trusses and spandrels. 3. Members of the floor construction and roof construction having direct connections to the columns. 4. ~~Bracing members~~ Members that are essential to the vertical stability of the primary structural frame under gravity ~~loading shall be considered part of the primary structural frame whether or not the bracing member carries gravity loads.~~loading. **[BG] SECONDARY STRUCTURAL MEMBERS.** The following structural members shall be considered secondary members and not part of the primary structural frame: 1. Structural members not having direct connections to the columns. 2. Members of the floor construction and roof construction not having direct connections to the columns. 3. Bracing members ~~other than those~~ that are not designated as part of ~~the~~ a primary structural frame of bearing wall.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	TABLE 601 **FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)** **704.4 Protection of secondary structural members.** Secondary structural members that are required to have protection to achieve a fire-resistance rating shall be protected by individual encasement protection.					
G108-18	**Modify proposal 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 or 703.3. 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 703.8 and comply with 722.7. Cross-laminated timber shall be labeled as conforming to PRG 320 - 18 as referenced in Section 2303.1.4. ~~the heat performance requirements of Section 6.1.3.4 of DOC PS1 and have no delamination in any specimen, except where occurring at a localized characteristic when permitted in the product standard.~~ 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 **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 as determined in Section 722.7.1. All components of the exterior wall covering, shall be of noncombustible material except water resistive		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	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 E 84 or UL 723. The ASTM E 1354 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. **602.4.1.2.1 Protection time.** Noncombustible protection shall contribute a time equal to or greater than times assigned in Table 722.7.1(1~~a~~), but not less than 80 minutes. The use of materials and their respective protection contributions listed in Table 722.7.1(2~~b~~) shall be permitted to be used for compliance with Section 722.7.1. **602.4.2.1 Exterior protection.** The outside face of exterior walls of mass timber construction shall be protected with non- combustible protection with a minimum assigned time of 40 minutes as determined in Section 722.7.1(~~a~~). All 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 E 84 or UL 723. The ASTM E 1354 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. **602.4.2.2.1 Protection time.** Noncombustible protection shall contribute a time equal to or greater than times assigned in Table 722.7.1(1~~a~~), but not less than 80 minutes. The use of materials and their respective protection contributions listed in Table 722.7.1(2~~b~~) shall be permitted to be used for compliance with Section 722.7.1. **602.4.3.1 Exterior protection.** The exterior side of walls of combustible construction shall be protected with non-combustible protection with a minimum assigned time of 40 minutes as determined in Section 722.7.1(~~a~~). All 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					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	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 E 84 or UL 723. The ASTM E 1354 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. **602.4.3.5 Concealed spaces.** Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the International Mechanical Code, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with noncombustible protection with a minimum assigned time of 40 minutes as determined in Section 722.7.1~~(a)~~. **602.4.3.6 Shafts.** Shafts shall be permitted in accordance with Section 713 and Section 718. Shafts and elevator hoistway and interior exit stairway enclosures shall be protected with noncombustible protection with a minimum assigned time of 40 minutes as determined in Section 722.7.1~~(a)~~, on both the inside of the shaft and the outside of the shaft. *(Portions of proposal not shown are not modified.)*					
G109-18	**Modify proposal as follows:** **602.4.3 Concealed spaces.** Concealed spaces shall not contain combustible materials other that building elements and electrical, mechanical, fireprotection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the International Mechanical code. Concealed spaces.....		X			Clarification
G110-18	**2018 International Building Code** **Revise as follows:** **602.4.1 Fire-retardant-treated wood in exterior walls.** Fire-retardant-treated wood framing and sheathing complying with Section 2303.2 shall be permitted within exterior wall assemblies ~~not less than 6 ianches (152 mm) in thickness~~ with a 2-hour rating or less. **602.4.2 Cross-laminated timber in exterior walls.** Cross-laminated timber not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within exterior wall assemblies ~~not less than 6 inches (152 mm) in thickness~~ with a 2-hour rating or		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	less, provided the exterior surface of the cross-laminated timber is protected by one the following: 1. Fire-retardant-treated wood sheathing complying with Section 2303.2 and not less than $^{15}/_{32}$ inch (12 mm) thick; 2. Gypsum board not less than $^{1}/_{2}$ inch (12.7 mm) thick; or 3. A noncombustible material.					
G111-18	**2018 International Building Code** **Revise as follows:** **602.4.2 Cross-laminated timber in exterior walls.** Cross-laminated timber complying with Section shall be permitted within exterior wall assemblies not less than 6 inches (152 mm) in thickness with a 2-hour rating or ~~less, provided the~~ less. Heavy timber structural members appurtenant to the CLT exterior wall shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the exterior wall. The exterior surface of the cross-laminated ~~timber is~~ timber and heavy timber elements shall be protected by one the following: 1. Fire-retardant-treated wood sheathing complying with Section 2303.2 and not less than $^{15}/_{32}$ inch (12 mm) thick; 2. Gypsum board not less than $^{1}/_{2}$ inch (12.7 mm) thick; or 3. A noncombustible material.		X			Clarification
G112-18	**2018 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* 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 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.			X	Minimal	Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exception: 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). 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. 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, 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					

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	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 602.4.3 and 705.2.3.1. 20. Aggregates, component materials and admixtures as permitted by Section 703.2.2. 21. Sprayed fire-resistant materials and intumescent and mastic fire-resistant coatings, determined on the basis of *fire resistance* tests in accordance with Section 703.2 and installed in accordance with Sections 1705.14 and 1705.15, 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.					
G113-18	**Modify as follows:** **2018 International Building Code** **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 shall be permitted in: 1.1. Nonbearing partitions where the required fire-resistance rating is 2 hours or less. 1.2. Nonbearing exterior walls where fire-resistance-rated construction is not required. 1.3. Roof construction, including girders, trusses, framing and decking.			X	Minimal	Outlines what is required for FRT.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	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, ~~combustible~~ roof construction <u>containing fire-retardant-treated-wood</u> shall be covered by minimum of a Class A roof covering or roof assembly, and ~~shall be separated from the story below by a horizontal assembly with~~ <u>the roof assembly shall have</u> a fire-resistance rating ~~of not less than 2 hours~~<u>if required by the construction type</u>. 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. 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					

Table 2. 2021 IEBC Changes Cost Impact						
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		Decrease	None	Increase		
Sub Code:						
	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, 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 602.4.3 and 705.2.3.1. 20. Aggregates, component materials and admixtures as permitted by Section 703.2.2. 21. Sprayed fire-resistant materials and intumescent and mastic fire-resistant coatings, determined on the basis of fire resistance tests in accordance with Section 703.2 and installed in accordance with Sections 1705.14 and 1705.15, 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.					
G114-18	**2018 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:		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	1. Fire-retardant-treated wood shall be permitted in: 1.1. Nonbearing partitions where the required fire-resistance rating is 2 hours or less. 1.2. Nonbearing exterior walls where fire-resistance-rated construction is not required. 1.3. Roof construction, including girders, trusses, framing and decking. **Exception:** 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). 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. 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.					

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		Decrease	None	Increase		
Sub Code:						
	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, 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 602.4.3 and 705.2.3.1. 20. Aggregates, component materials and admixtures as permitted by Section 703.2.2. 21. Sprayed fire-resistant materials and intumescent and mastic fire-resistant coatings, determined on the basis of fire resistance tests in accordance with Section 703.2 and installed in accordance with Sections 1705.14 and 1705.15, 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. 27. Wood nailers for parapet flashing and roof cants.					
G119-18	**2018 International Building Code**	X				Provides a new option for

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Add new definition as follows: **VAPOR DIFFUSION PORT.** An assembly constructed or installed within a roof assembly at an opening in the roof deck to convey water vapor from an unvented attic to the outside atmosphere. **Revise as follows:** **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 ~~be located in accordance with the following:~~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-values in Table 1202.3 for condensation					using additional insulation materials.

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	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-values 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. 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 (305mm) 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 ≥ 1:600 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 ≥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-					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	permeable insulation shall be permitted within that space. 5.2.7. The roof slope shall be ≥3:12 (vertical/horizontal). 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 ≥50 CFM (23.6 L/s) per 1000 ft^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 preformed 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.					
G122-18	**2018 International Building Code** **Revise as follows:** **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. ~~such as halls, *corridors, stairways* or *service areas.*~~			X	Minimal	Clarification
G123-18	**Modify proposal 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		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Normalized Noise Isolation Class (NNIC) rating of not less than 45 if field tested in accordance with ASTM E336, for airborne noise. Alternatively, the.....					
G126-18	**Modify proposal 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.....		X			Clarification
G127-18	**2018 International Building Code** **Add new text as follows:** **SECTION 1207** **ENHANCED CLASSROOM ACOUSTICS** **General.** Enhanced classroom acoustics, where required in this section, shall comply with Section 808 of ICC A117.1. **Where required.** In Group E occupancies, enhanced classroom acoustics shall be provided in all classrooms with a volume of 20,000 cubic feet or less. **ICC** International Code Council, Inc.500 New Jersey Ave NW 6th Floor Washington DC 20001US ICC A117.1-~~09~~ 2017: Accessible and Usable Buildings and Facilities			X	Minimal	Necessary addition for clarification
G128-18	**2018 International Building Code** **Revise as follows:** **Efficiency dwelling units.** An efficiency living unit shall conform to the requirements of the code except as modified herein: 1. The unit shall have a living room of not less than 220 square feet (20.4 m^2) of floor area. ~~An additional 100 square feet (9.3 m^2)~~ of floor area shall be provided for each occupant of such ~~unit in~~		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	**2021 IEBC CHANGE SUMMARY**	**IEBC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~excess of two.~~ 2. The unit shall be provided with a separate closet. 3. The unit shall be provided with a kitchen sink, cooking appliance and refrigeration facilities, each having a clear working space of not less than 30 inches (762 mm) in front. Light and *ventilation* conforming to this code shall be provided. 4. The unit shall be provided with a separate bathroom containing a water closet, lavatory and bathtub or shower.					
G129-18	**2018 International Building Code** **Revise as follows:** **Efficiency dwelling units.** An efficiency living unit shall conform to the requirements of the code except as modified herein: 1. The unit shall have a living room of not less than ~~220~~ 190 square feet (~~20.4~~ 17.7 m^2) of floor area. An additional 100 square feet (9.3 m^2) of floor area shall be provided for each occupant of such unit in excess of two. 2. The unit shall be provided with a separate closet. 3. The unit shall be provided with a kitchen sink, cooking appliance and refrigeration facilities, each having a clear working space of not less than 30 inches (762 mm) in front. Light and ventilation conforming to this code shall be provided. 4. The unit shall be provided with a separate bathroom containing a water closet, lavatory and bathtub or shower.		X			Clarification
G130-18 Part I	**2018 International Building Code** **Revise as follows:** **Efficiency dwelling units.** An efficiency ~~living~~ dwelling unit shall conform to the requirements of the code except as modified herein: 1. The unit shall have a living room of not less than ~~220~~ 190 square feet (~~20.4~~ 17.6 m^2) of floor area. An additional ~~100~~ 70 square feet (~~9.3~~ 6.5 m^2) of floor area shall be provided for each occupant of such unit in excess of two. 2. The unit shall be provided with a separate closet. 3. ~~The~~ For other than Accessible, Type A and Type B dwelling units, the unit shall be provided with a kitchen sink, cooking appliance and ~~refrigeration facilities~~ refrigerator, each having a clear working space of not less than 30 inches (762 mm) in front. Light and ventilation conforming to this code shall be	X				Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	provided. 4. The unit shall be provided with a separate bathroom containing a water closet, lavatory and bathtub or shower.					
G131-18	**2018 International Building Code** **Add new definition as follows:** **DWELLING UNIT, EFFICIENCY.** A dwelling unit where all permanent provisions for living, sleeping, eating and cooking are contained in a single room. **Revise as follows:** **Efficiency dwelling units.** ~~An efficiency living unit~~ Efficiency dwelling units shall conform to the requirements of the code except as modified herein: 1. The unit shall have a living room of not less than 220 square feet (20.4 m^2) of floor area. An additional 100 square feet (9.3 m^2) of floor area shall be provided for each occupant of such unit in excess of two. 2. The unit shall be provided with a separate closet. 3. The unit shall be provided with a kitchen sink, cooking appliance and refrigeration facilities, each having a clear working space of not less than 30 inches (762 mm) in front. Light and ventilation conforming to this code shall be provided. 4. The unit shall be provided with a separate bathroom containing a water closet, lavatory and bathtub or shower.		X			Provides needed definition so consistent enforcement and understanding will be achieved.
G132-18	**2018 International Building Code** **Revise as follows:** **[P] 1209.3 Privacy.** Public restrooms shall be visually screened from outside entry or exit doorways to ensure user privacy within the restroom. This provision shall also apply where mirrors would compromise personal privacy. Privacy at water closets and urinals shall be provided in accordance with Sections 1209.3.1 and 1209.3.2. **Exception:** Visual screening shall not be required for single-occupant toilet rooms with a lockable door.		X			Clarification
G133-18	**Modify as follows:** **2018 International Building Code**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[P] 2903 **INSTALLATION OF FIXTURES** **[P] 2903.1 Setting.** Fixtures shall be set level and in proper alignment with reference to adjacent walls. **[P] 2903.1.1 Water closets, urinals, lavatories and bidets.** A water closet, urinal, lavatory or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition, vanity or other obstruction. Where partitions or other obstructions do not separate adjacent fixtures, fixtures shall not be set closer than 30 inches (762 mm) center to center between adjacent fixtures. There shall be not less than a 21-inch (533 mm) clearance in front of a water closet, urinal, lavatory or bidet to any wall, fixture or door. Water closet compartments shall be not less than 30 inches (762 mm) in width and not less than 60 inches (1524 mm) in depth for floor-mounted water closets and not less than 30 inches (762 mm) in width and 56 inches (1422 mm) in depth for wall- hung water closets. **Exception:** An accessible children's water closet shall be set not closer than 12 inches (305 mm) from its center to the required partition or to the wall on one side. **[P] 2903.1.2 Public Lavatories.** In employee and public toilet rooms, the required lavatory shall be located in the same room as the required water closet. **[P] 2903.1.3 Location of fixtures and piping.** Piping, fixtures or equipment shall not be located in such a manner as to interfere with the normal operation of windows, doors or other means of egress openings. **[P] 2903.1.4 Water closet compartment.** Each water closet utilized by the public or employees shall occupy a separate compartment with walls or partitions and a door enclosing the fixtures to ensure privacy. **Exceptions:** 1. Water closet compartments shall not be required in a single-occupant toilet room with a lockable door. 2. Toilet rooms located in child day care facilities and containing					

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CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	two or more water closets shall be permitted to have one water closet without an enclosing compartment. 3. This provision is not applicable to toilet areas located within Group I-3 housing areas. **[P] 2903.1.5 Urinal Partitions.** Each urinal utilized by the public or employees shall occupy a separate area with walls or partitions to provide privacy. The horizontal dimension between walls or partitions at each urinal shall be not less than 30 inches (762 mm). The walls or partitions shall begin at a height not greater than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal not less than 18 inches (457 mm) or to a point not less than 6inches (152 mm) beyond the outermost front lip of the urinal measured from the finished backwall surface, whichever is greater. **Exceptions:** 1. Urinal partitions shall not be required in a single-occupant or family/assisted-use toilet room with a lockable door. 2. Toilet rooms located in child day care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.					
G136-18	**2018 International Building Code** **SECTION 202** **DEFINITIONS** **Revise as follows:** **~~[BG]~~ PENTHOUSE.** An enclosed, unoccupied rooftop structure used for sheltering mechanical and electrical equipment, tanks, elevators and related machinery, stairways and vertical shaft openings. **503.1.4 Occupied roofs.** A roof level or portion thereof shall be permitted to be used as an occupied roof provided the occupancy of the roof is an occupancy that is permitted by Table 504.4 for the story immediately below the roof. The area of the occupied roofs shall not be included in the *building area* as regulated by Section 506. An occupied roof shall not be included in the building height or number of stories as regulated by Section 504 provided the penthouses and		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	other enclosed roof structures comply with Section 1510. **Exceptions:** 1. The occupancy located on an occupied roof shall not be limited to the occupancies allowed on the *story* immediately below the roof where the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 and occupant notification in accordance with Section 907.5 is provided in the area of the occupied roof. 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. **SECTION 1510** **ROOFTOP STRUCTURES** **[BG] 1510.1 General.** The provisions of this section shall govern the construction of rooftop structures. **1510.1.1 Area limitation.** The aggregate area of penthouses and other enclosed rooftop structures shall not exceed one-third the area of the supporting roof deck. Such penthouses and other enclosed rooftop structures shall not be required to be included in determining the building area or number of stories as regulated by Section 503.1. The area of such penthouses shall not be included in determining the fire area specified in Section 901.7. **[BG] 1510.2 Penthouses.** Penthouses in compliance with Sections 1510.2.1 through 1510.2.5 shall be considered as a portion of the story directly below the roof deck on which such penthouses are located. Other penthouses shall be considered as an additional story of the building. **[BG] 1510.2.1 Height above roof deck.** Penthouses constructed on buildings of other than Type I construction shall not exceed 18 feet (5486 mm) in height above the roof deck as measured to the average height of the roof of the penthouse. Penthouses located on the roof of buildings of Type I construction shall not be limited in height. **Exception:** Where used to enclose tanks or elevators that travel to the roof level, penthouses shall be permitted to have a maximum height of 28 feet (8534 mm) above the roof deck.					

Table 2. 2021 IEBC Changes Cost Impact						
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		Decrease	None	Increase		
Sub Code:						
	~~**[BG]**~~ **1510.2.2 Use limitations.** Penthouses shall not be used for purposes other than the shelter of mechanical or electrical equipment, tanks, elevators and related machinery, stairways or vertical shaft openings in the roof assembly, including ancillary spaces used to access elevators and stairways.					
G138-18	**2018 International Building Code** **Revise as follows:** **Emergency elevator communication systems for the deaf, hard of hearing and speech impaired.** An emergency two-way communication system shall be ~~provided~~ provided. The system shall provide visible text and audible modes that: 1. ~~Is a visual and text-based and a video-based 24/7 live interactive system.~~ When operating in each mode, includes a live interactive system that allows back and forth conversation between the elevator occupants and emergency personnel: 2. Is ~~fully accessible by the deaf, hard of hearing and speech impaired, and shall include voice-only options for hearing individuals.3.Has the ability to communicate with emergency personnel utilizing existing video conferencing technology, chat/text software or other approved technology.~~ operational when the elevator is operational; and 3. Allows elevator occupants to select the text-based or audible mode depending on their communication needs to interact with emergency personnel.			X	Minimal	Clarification
G142-18	**2018 International Building Code** **Revise as follows:** **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. ~~**Exception**~~ **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			X	Minimal	Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	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.					
G143-18	**2018 International Building Code** **Revise as follows:** **Machine rooms, control rooms, machinery spaces, and control spaces.** ~~Elevator machine rooms, control rooms, control spaces and machinery spaces outside of but attached to a hoistway that have openings into the hoistway~~ The following rooms and spaces shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or ~~both.~~ both: 1. Machine rooms 2. Control rooms 3. Control spaces 4. Machinery spaces outside of the hoistway enclosure The fire-resistance rating shall be not less than the required rating of the hoistway enclosure served by the machinery. Openings in the fire barriers shall be protected with assemblies having a fire protection rating not less than that required for the hoistway enclosure doors. **Exceptions:** 1. For other than fire service access elevators and occupant evacuation elevators, where machine rooms, machinery spaces, control rooms and control spaces do not abut and do not have openings to the hoistway enclosure they serve, the fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both, shall be permitted to be reduced to a 1-hour fire-resistance rating. 2. For other than fire service access elevators and occupant evacuation elevators, in buildings four stories or less above grade plane where machine room, machinery spaces, control rooms and control spaces do not abut and do not have openings to the hoistway enclosure they serve, the machine room, machinery spaces, control rooms and control spaces		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	are not required to be fire-resistance rated.					
G146-18	**2018 International Building Code** **Revise as follows:** **3102.3 Type of construction.** Noncombustible membrane structures shall be classified as Type IIB construction. Noncombustible frame or cable-supported structures covered by an *approved* membrane in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame- supported structures covered by an *approved* membrane in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other membrane structures shall be classified as Type V construction. **Exception:** Plastic less than 30 feet (9144 mm) above any floor used in greenhouses, where occupancy by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701. **3102.6.1.1 Membrane.** A membrane meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a skylight on buildings of Type IIB, III, IV-HT and V construction, provided that the membrane is not less than 20 feet (6096 mm) above any floor, balcony or gallery.		X			Clarification
G147-18	**Modify proposal as follows:** **3103.1 General.** The provisions of Sections 3103.1 through 3103.4 shall apply to structures erected for a period of less than 180 days. ~~Tents~~ 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. Those erected for a longer period of time shall comply with applicable sections of this code.		X			Clarification
G148-18	**2018 International Building Code** **Revise as follows:** **3111.1.1 Wind resistance.** Rooftop-mounted photovoltaic ~~panels and modules~~ (PV) panel systems and solar thermal collectors shall be designed in accordance with Section 1609.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	3111.2 Solar thermal systems. Solar thermal systems shall be designed and installed in accordance with ~~Section 2606.12~~this section, the International Plumbing Code, the International Mechanical Code and the International Fire Code. Where light-transmitting plastic covers are used, solar thermal collectors shall be designed in accordance with Section 2606.12. **Fire classification.** Rooftop-mounted photovoltaic (PV) panel systems shall have a fire classification in accordance with Section 1505.9. ~~Building-integrated photovoltaic systems~~ BIPV systems installed as the roof covering shall have a fire classification in accordance with Section 1505.8. **Building-integrated photovoltaic (BIPV) systems.** ~~Building-integrated photovoltaic systems that serve as roof coverings~~ BIPV systems installed as the roof covering shall be designed and installed in accordance with Section ~~1507.18.~~1507.					
G149-18	**Modify as follows:** **2018 International Building Code** **3101.1 Scope.** The provisions of this chapter shall govern special building construction including membrane structures, temporary structures, pedestrian walkways and tunnels, automatic vehicular gates, awnings and canopies, marquees, signs, towers, antennas, relocatable buildings, swimming pool enclosures and safety devices, ~~and~~ solar energy systems, and public use restroom buildings on publicly owned lands in flood hazard areas. **SECTION ~~3112~~ 3114** **PUBLIC USE RESTROOM BUILDINGS IN FLOOD HAZARD AREAS** **~~3112~~ 3114.1 General.** ~~Public use restroom buildings that contain toilet rooms, bathrooms, showers and changing rooms, and those portions of buildings that contain~~ For the purpose of this section, public restroom buildings are located on publicly owned lands in flood hazard areas and intended for public use. Public restroom buildings and portions of other buildings that contain public restrooms, are limited to toilet rooms, bathrooms, showers and changing room~~s~~, ~~and where such~~. Public restroom buildings and portions of buildings ~~are intended for public use and located on publicly owned lands in flood hazard areas,~~ that contain public restrooms shall comply with the requirements of this section. Public	X				Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	use restrooms that are not elevated or dry floodproofed in accordance with Section 1612 shall comply with Section ~~3112~~ 3114.2. Portions of buildings that include uses other than public use toilet rooms, bathrooms, showers and changing rooms shall comply with Section 1612. **3114.2 Flood resistance.** Public use restrooms ~~that are located~~ on publicly owned lands in flood hazard areas shall comply with the requirements of ASCE 24, except for elevation requirements, and shall comply with all of the following criteria: 1. The building footprint is not more than 1,500 square feet. 2. Located, designed and constructed to resist the effects of flood hazards and flood loads to minimize flood damage from a combination of wind and water loads associated with the base flood. 3. Anchored to prevent flotation, collapse or lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy during conditions of the base flood. 4. Constructed of flood damage-resistant materials. 5. Where enclosed by walls, the walls have flood openings. 6. Mechanical and electrical systems are located above the base flood elevation. 7. Plumbing fixtures and plumbing connections are located above the base flood elevation. 8. An emergency plan, approved by the jurisdiction, is submitted to the building official where the building design ~~specifies~~ documents specify implementation of protection measures prior to the onset of flooding conditions. **Exceptions:** 1. Minimum necessary electric ~~service~~ equipment required to address health, life safety and electric code requirements is permitted below the base flood elevation in accordance with ASCE 24 provisions for electric elements installed below the minimum elevations. 2. Plumbing fixtures and connections are permitted below the base flood elevation provided the fixtures and connections are designed and installed to minimize or eliminate infiltration of floodwaters into the sanitary sewage system and discharges from sanitary sewage systems into floodwaters.					
G151-18	**Modify as follows:**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	2018 International Building Code **General.** The provisions of Section 3114 and 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. 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. 4. Intermodal shipping containers <u>housing or supporting experimental equipment are exempt from the requirements of Section 3114 provided they comply with all of the following:</u> <u>4.1. Such units shall be single stand-alone units supported at grade level and used as experimental equipment or apparatuses. only for occupancies as specified under Risk Category I in Table 1604.5;</u> <u>4.2. Such units are located a minimum of 8 feet from adjacent structures, and are not connected to a fuel gas system or fuel gas utility; and</u> <u>4.3. In hurricane-prone regions and flood hazard areas, such units are designed in accordance with the applicable provisions of Chapter 16</u> **Further modify as follows:** **2018 International Building Code** **TABLE 3114.8.5.3** **ALLOWABLE SHEAR VALUES FOR INTERMODAL SHIPPING CONTAINER CORRUGATED STEEL ~~SIDING SHEAR~~ WALLS FOR WIND OR SEISMIC LOADING** **Seismic design parameters.** The seismic force-resisting system shall					

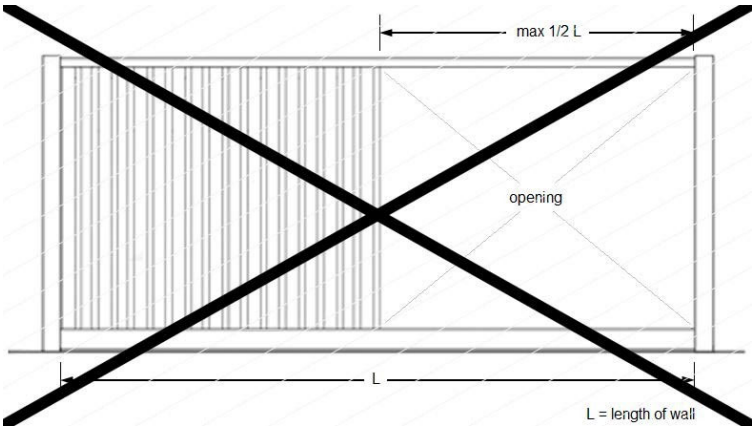
Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	be designed and detailed in accordance with one of the following: 1. Where all or portions of the corrugated steel container sides are considered to be the seismic force-resisting system, design and detailing shall be in accordance with the ASCE 7 Table 12.2-1 requirements for light-frame bearing-wall systems with shear panels of all other materials, 2. Where portions of the corrugated steel container sides are retained, but are not considered to be the seismic force-resisting system, an independent seismic force-resisting system shall be selected, designed and detailed in accordance with ASCE 7 Table 12.2-1, or 3. Where portions of the corrugated steel container sides are retained and integrated into a seismic force-resisting system other than as permitted by Section 3114.4.2 Item 1, seismic design parameters shall be developed from testing and analysis in accordance with Section 104.11 and ASCE 7 Section 12.2.1.1 or 12.2.1.2.  					

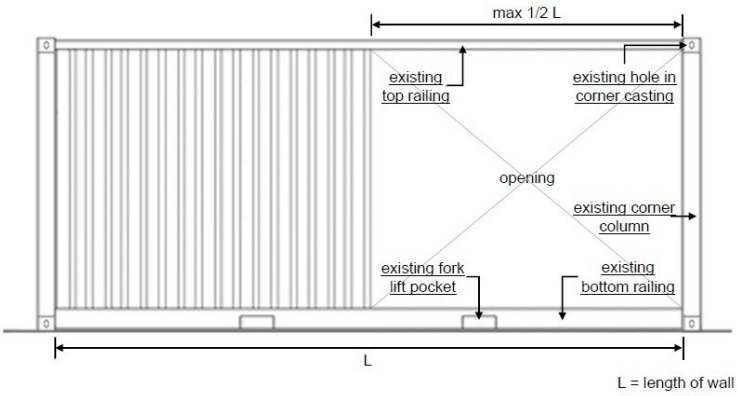
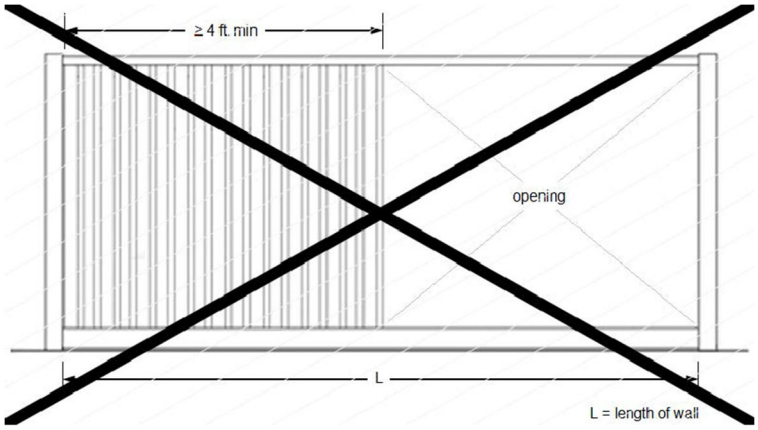
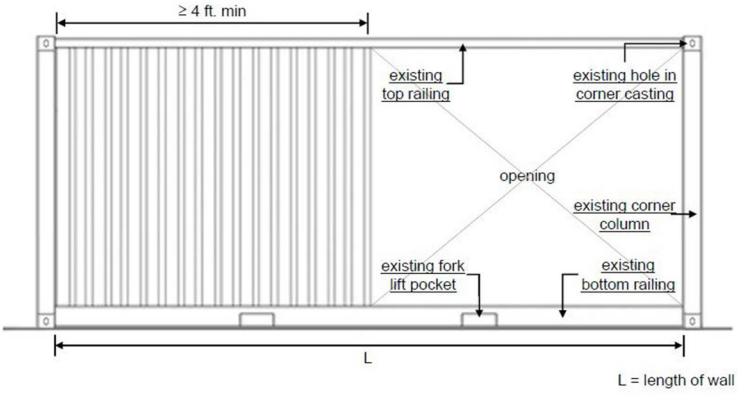
Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	 **FIGURE 3114.8.5.3(1)** **BRACING UNIT DISTRIBUTION--MAXIMUM LINEAR LENGTH**   **3114.8.5.3(2)** **Bracing Unit Distribution -- Minimum Linear Length**					

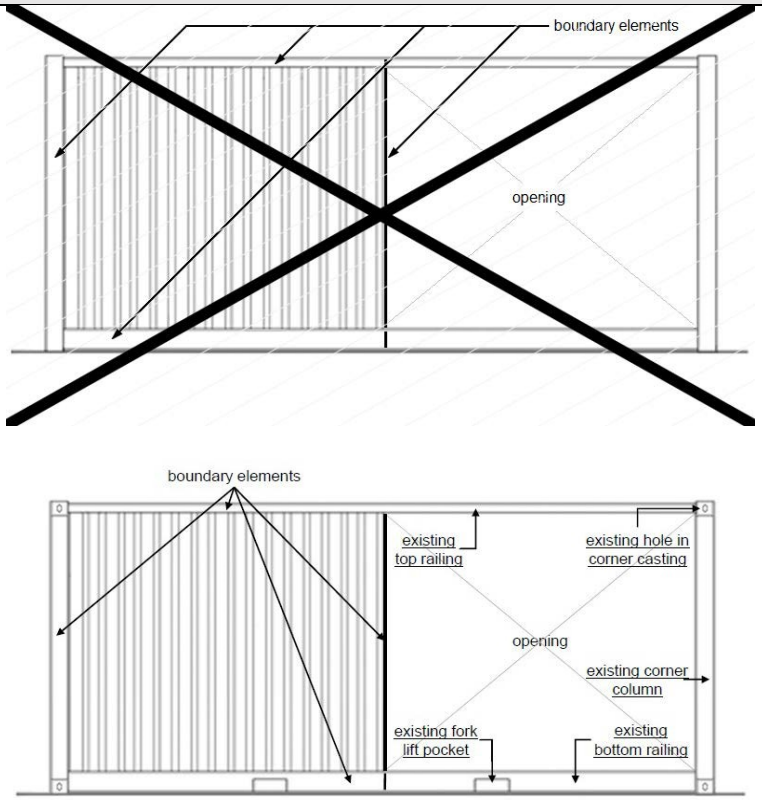
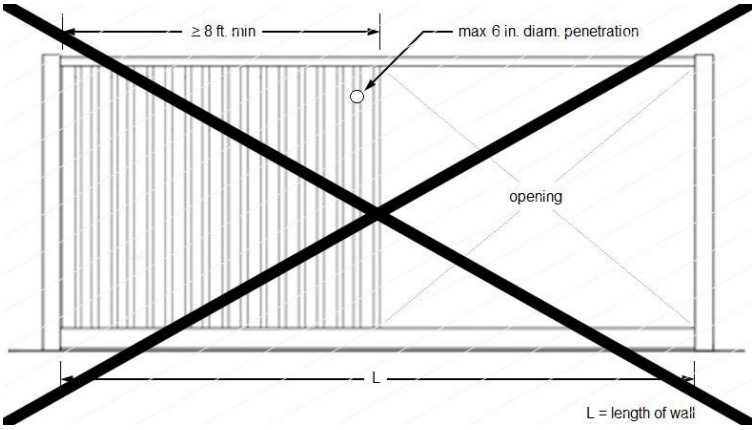
Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	 **FIGURE 3114.8.5.3(3) BRACING UNIT DISTRIBUTION -- BOUNDARY ELEMENTS** 					

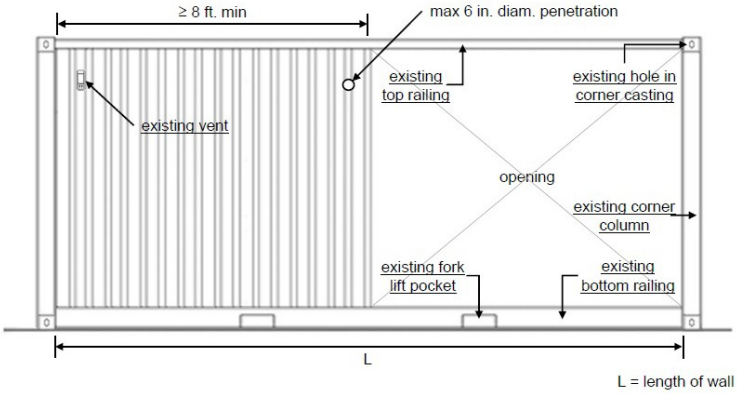
Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	 **FIGURE 3114.8.5.3(4)** **BRACING UNIT DISTRIBUTION -- PENETRATION LIMITATIONS**					
G152-18	**2018 International Building Code** **Revise as follows:** **D102.2.5 Structural fire rating.** Walls, floors, roofs and their supporting structural members shall be not less than 1-hour fire-resistance-rated construction. **Exceptions:** 1. Buildings of Type IV-HT construction. 2. Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1. 3. Automobile parking structures. 4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm). 5. Partitions complying with Section 603.1, Item 11.		X			Clarification
S1-18	**2018 International Building Code** **Revise as follows:** **[P] 1502.1 General.** Design and installation of roof drainage systems shall comply with this Section and Section ~~1502~~ 1611 of this code ~~and Sections 1106 and 1108, as applicable,~~ and Chapter 11 of the International Plumbing Code. **[P] 1502.2 Secondary (emergency overflow) drains or scuppers.** Where roof drains are required, secondary (emergency overflow) roof drains or scuppers shall be provided where the roof perimeter		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	construction extends above the roof in such a manner that water will be entrapped if the primary drains allow buildup for any reason. The installation and sizing of secondary emergency overflow drains, leaders and conductors shall comply with ~~Sections 1106 and 1108, as applicable,~~ Section 1611 of this code and Chapter 11 of the International Plumbing Code.					
S3-18	**2018 International Building Code** **Revise as follows:** **[BF] 1505.8 Building-integrated photovoltaic (BIPV) products.** ~~Building-integrated photovoltaic~~ BIPV products installed as the roof covering shall be tested, listed and labeled for fire classification in accordance with Section 1505.1. **[BF] 1505.9 Rooftop-mounted photovoltaic (PV) panel systems.** Rooftop ~~rack~~-mounted photovoltaic (PV) panel systems shall be tested, listed and identified with a fire classification in accordance with UL 1703 and UL 2703. The fire classification shall comply with Table 1505.1 based on the type of construction of the building.		X			Clarification
S4-18	**Modify proposal as follows:** **Roof top mounted photovoltaic panel systems.** Rooftop rack-mounted photovoltaic panel systems shall be tested, listed and identified with a fire classification in accordance with UL 1703 and UL 2703. ~~Listed systems shall include roof-mounting hardware.~~ Listed systems shall be installed in accordance with the manufacturer's installation instructions and its listing. The fire classification shall comply with Table 1505.1 based on the type of construction of the building.			X	Minimal	Clarification
S9-18	**2018 International Building Code** **Revise as follows:** **[BF] 1508.1 General.** The use of above-deck thermal insulation shall be permitted provided that such insulation is covered with an approved roof covering and passes the tests of NFPA 276 or UL 1256 when tested as an assembly. **Exceptions:** 1. Foam plastic roof insulation shall conform to the material and installation requirements of Chapter 26.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	2. Where a concrete or composite metal and concrete roof deck is used and the above-deck thermal insulation is covered with an approved roof covering.					
S11-18	**2018 International Building Code** **Revise as follows:** **~~[BG]~~ 1510.2.4 Type of construction.** Penthouses shall be constructed ~~with walls, floors and roofs~~ of building elements as required for the type of construction of the building on which such penthouses are built. **Exceptions:** 1. On buildings of Type I construction, the exterior walls and roofs of penthouses with a fire separation distance greater than 5 feet (1524 mm) and less than 20 feet (6096 mm) shall be permitted to have not less than a 1-hour fire-resistance rating. The exterior walls and roofs of penthouses with a fire separation distance of 20 feet (6096 mm) or greater shall not be required to have a fire-resistance rating. 2. On buildings of Type I construction two stories or less in height above grade plane or of Type II construction, the exterior walls and roofs of penthouses with a fire separation distance greater than 5 feet (1524 mm) and less than 20 feet (6096 mm) shall be permitted to have not less than a 1-hour fire-resistance rating or a lesser fire-resistance rating as required by Table 602 and be constructed of fire-retardant-treated wood. The exterior walls and roofs of penthouses with a fire separation distance of 20 feet (6096 mm) or greater shall be permitted to be constructed of fire-retardant-treated wood and shall not be required to have a fire- resistance rating. Interior framing and walls shall be permitted to be constructed of fire- retardant-treated wood. 3. On buildings of Type III, IV or V construction, the exterior walls of penthouses with a fire separation distance greater than 5 feet (1524 mm) and less than 20 feet (6096 mm) shall be permitted to have not less than a 1-hour fire-resistance rating or a lesser fire-resistance rating as required by Table 602. On buildings of Type III, IV or VA construction, the exterior walls of penthouses with a fire separation distance of 20 feet (6096 mm) or greater shall be permitted to be of heavy timber construction complying with Sections 602.4 and 2304.11 or noncombustible construction or fire-retardant-		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	treated wood and shall not be required to have a fire-resistance rating.					
S13-18	**2018 International Building Code** **Delete without substitution:** ~~**[BG] 1510.7 Photovoltaic panels and modules.** Rooftop-mounted photovoltaic panels and modules shall be designed in accordance with this section.~~ ~~**[BG] 1510.7.1 Fire classification.** Rooftop-mounted photovoltaic panels and modules shall have the fire classification in accordance with Section 1505.9.~~ ~~**[BG] 1510.7.2 Photovoltaic panels and modules.** Rooftop-mounted photovoltaic panels and modules shall be listed and labeled in accordance with UL 1703 and shall be installed in accordance with the manufacturer's instructions.~~ ~~**SECTION 1512**~~ ~~**PHOTOVOLTAIC PANELS AND MODULES**~~ ~~**1512.1 Photovoltaic panels and modules.** Photovoltaic panels and modules installed on a roof or as an integral part of a roof assembly shall comply with the requirements of this code and the International Fire Code.~~		X			Removes an unnecessary definition.
S14-18	**2018 International Building Code** **Revise as follows:** **[BF] 1705.14 Sprayed fire-resistant materials.** Special inspections and tests of sprayed fire-resistant materials applied to floor, roof and wall assemblies and structural members shall be performed in accordance with Sections 1705.14.1 through 1705.14.6. Special inspections shall be based on the fire-resistance design as designated in the approved construction documents. The tests set forth in this section shall be based on samplings from specific floor, roof and wall assemblies and structural members. Special inspections and tests shall be performed after the rough installation of electrical, automatic sprinkler, mechanical and plumbing systems and suspension systems for ceilings, <u>and before concealed,</u> where applicable.		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
S15-18	**2018 International Building Code** **Revise as follows:** **[BF] 1705.14 Sprayed fire-resistant materials.** Special inspections and tests of sprayed fire-resistant materials applied to floor, roof and wall assemblies and structural members shall be performed in accordance with Sections 1705.14.1 through 1705.14.6. Special inspections shall be based on the fire- resistance design as designated in the approved construction documents. The tests set forth in this section shall be based on samplings from specific floor, roof and wall assemblies and structural members. Special inspections and tests shall be performed during construction with an addition visual inspection after the rough installation of electrical, automatic sprinkler, mechanical and plumbing systems and suspension systems for ceilings, where applicable.		X			Clarification
S16-18	**2018 International Building Code** **Revise as follows:** **[BF] 1705.14 Sprayed fire-resistant materials.** Special inspections and tests of sprayed fire-resistant materials applied to floor, roof and wall assemblies and structural members shall be performed in accordance with Sections 1705.14.1 through 1705.14.6. Special inspections shall be based on the fire- resistance design as designated in the approved construction documents. The tests set forth in this section shall be based on samplings from specific floor, roof and wall assemblies and structural members. Special inspections and tests shall be performed after the rough installation of electrical, automatic sprinkler, mechanical and plumbing systems and suspension systems for ceilings, where applicable. The required sample size shall not exceed 110% of that specified by the referenced standards in Sections 1705.14.4.1 through 1704.14.4.9.		X			Clarification
S19-18	**Modify proposal as follows:**		X			Clarification

Table 2. 2021 IEBC Changes Cost Impact						
CODE CHANGE #	2021 IEBC CHANGE SUMMARY	IEBC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	1705.15 Mastic and intumescent fire-resistant coatings. Special inspections and tests for mastic and intumescent fire-resistant coatings applied to structural elements and decks shall be performed in accordance with AWCI 12-B. Special inspections and tests shall be based on the fire-resistance design as designated in the approved construction documents. Special Inspections and tests shall be performed during construction with an additional visual inspection after the rough installation of electrical, automatic sprinkler, mechanical and plumbing systems and suspension systems for ceilings, and before concealed, where applicable.					
S21-18	**2018 International Building Code** **Revise as follows:** **[BF] 1705.17 Fire-resistant penetrations and joints.** In high-rise buildings ~~or~~, in buildings assigned to Risk Category III or IV, or fire areas containing Group R occupancies with an occupant load greater than 250, special inspections for through-penetrations, membrane penetration firestops, fire-resistant joint systems and perimeter fire barrier systems that are tested and listed in accordance with Sections 714.4.1.2, 714.5.1.2, 715.3 and 715.4 shall be in accordance with Section 1705.17.1 or 1705.17.2.			X	Minimal	Clarification

Table 5. 2021 IFGC Changes Cost Impact						
CODE CHANGE #	2021 IFGC CHANGE SUMMARY	IFGC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
FG2-18	Add new definition for SERVICE METER ASSEMBLY as follows: **SERVICE METER ASSEMBLY.** The meter, valve, regulator, piping, fittings and equipment installed by the service gas supplier before the point of delivery.		X			Necessary addition for clarification
FG3-18	Add new definition for SYSTEM SHUTOFF as follows: **SYSTEM SHUTOFF. A valve installed after the point of delivery to shut off the entire piping system.**		X			Necessary addition for clarification
FG4-18	Change the existing definition for VALVE to: **VALVE.** A device used in piping to control the gas supply to any section of a system of piping or to an appliance. **Service Shutoff.** A valve, installed by the serving gas supplier between the source of supply and the point of delivery, to shut off the entire piping system.		X			Clarification
FG6-18	Change the existing definition for REGULATOR, MONITORING to: **REGULATOR, MONITORING.** A pressure regulator set in series with another pressure regulator for the purpose of ~~automatically taking control of the pressure downstream of the monitored regulator when that pressure exceeds a set minimum~~ preventing an overpressure in the downstream piping system.		X			Clarification
FG7-18	Change the existing definition for POINT OF DELIVERY to: **POINT OF DELIVERY.** For natural gas systems, the point of delivery is the outlet of the service meter assembly or the outlet of the service regulator or service shutoff valve where a meter is not provided. Where a system shutoff valve is provided ~~at~~ after the outlet of the service meter assembly, such valve shall be considered to be downstream of the point of delivery. For undiluted liquefied petroleum gas systems, the point of delivery shall be considered to be the outlet of the service pressure regulator, exclusive of line gas regulators, in the system.		X			Clarification
FG8-18	Add new definition for PRESS-CONNECT JOINT as follows: **PRESS-CONNECT JOINT.** A permanent mechanical joint incorporating an elastomeric seal or an elastomeric seal and corrosion-resistant grip or bite ring. The joint is made with a pressing tool and jaw or ring approved by the fitting manufacturer.		X			Necessary addition for clarification
FG11-18	Change the existing definition for 307.2 Fuel-burning appliances to: **307.2 Fuel-burning appliances.** Liquid combustion byproducts of condensing appliances shall be collected and		X			Clarification

Table 5. 2021 IFGC Changes Cost Impact						
CODE CHANGE #	2021 IFGC CHANGE SUMMARY	IFGC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	discharged to an approved plumbing fixture or disposal area in accordance with the manufacturer's instructions. Condensate piping shall be of approved corrosion-resistant material and shall be not smaller than the drain connection on the appliance. Such piping shall maintain a minimum slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). ~~Where condensate piping is concealed, and the primary and secondary drain system pipes serving the same appliance terminate together at a remote location, the terminations shall be identified as to which is the primary or secondary drain.~~ The termination of concealed condensate piping shall be marked to indicate that the piping is connected to the primary drain or to the secondary drain.					
FG12-18	Change the existing definition for 401.5 Identification to: **401.5 Identification.** For other than steel pipe and CSST, exposed *piping* shall be identified by a yellow label marked "Gas" in black letters. The marking shall be spaced at intervals not exceeding 5 feet (1524 mm). The marking shall not be required on ~~pipe~~ piping located in the same room as the *appliance* served. CSST shall be identified as required by ANSI LC 1/CSA 6.26.	X				Clarification
FG14-18	Change the existing definition for 404.5 Fittings in concealed locations to: **404.5 Fittings in concealed locations.** Fittings installed in concealed locations shall be limited to the following types: 1. Threaded ~~Right-handed-threaded~~ elbows, tees, couplings, plugs and caps. 2. Brazed fittings. 3. Welded fittings. 4. Fittings listed to ANSI LC-1/CSA 6.26 or ANSI LC-4.		X			Clarification
FG17-18	Delete the existing definition for 404.11.5 Prohibited use.		X			Clarification
FG18-18	Change the existing definition for 404.18 Pipe cleaning to: **404.18 Pipe ~~cleaning~~ debris removal.** The interior of piping shall be clear of debris. The use of a flammable or combustible gas to clean or remove debris from a *piping* system shall be prohibited.		X			Clarification
FG21-18	Change the existing definition for 411.1 Connecting appliances to: **411.1 Connecting appliances.** Except as required by Section 411.1.1, appliances shall be connected to the *piping* system by one of the following:		X			Clarification

Table 5. 2021 IFGC Changes Cost Impact						
CODE CHANGE #	2021 IFGC CHANGE SUMMARY	IFGC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	1. Rigid metallic pipe and fittings. 2. Corrugated stainless steel tubing (CSST) where installed in accordance with the manufacturer's instructions. 3. Semirigid metallic tubing and metallic fittings. Lengths shall not exceed 6 feet (1829 mm) and shall be located entirely in the same room as the *appliance*. Semirigid metallic tubing shall not enter a motor-operated *appliance* through an unprotected knockout opening. 4. *Listed* and labeled appliance connectors in compliance with ANSI Z21.24/CGA 6.10 and installed in accordance with the manufacturer's instructions and located entirely in the same room as the appliance. 5. *Listed* and *labeled* quick-disconnect devices in compliance with ANSI Z21.41/CGA 6.9 used in conjunction with *listed* and labeled appliance connectors. 6. *Listed* and *labeled* convenience outlets in compliance with ANSI Z21.90/CGA 6.24 used in conjunction with *listed* and labeled appliance connectors. 7. Listed and *labeled* outdoor *appliance* connectors in compliance with ANSI Z21.75/CSA 6.27 and installed in accordance with the manufacturer's instructions. 8. Listed outdoor gas hose connectors in compliance with ANSI Z21.54 used to connect portable outdoor appliances. The gas hose connection shall be made only in the outdoor area where the appliance is used, and shall be to the gas *piping* supply at an appliance shutoff valve, a listed quick-disconnect device or listed gas convenience outlet. 9. Gas hose connectors for use in laboratories and educational facilities in accordance with Section 411.4. **CHAPTER 8** **REFERENCED STANDARDS** Add new standards for ANSI Z21.41/CSA 6.9-2014 and ANSI Z21.90/CSA 6.24-2015 as follows: **ANSI** ANSI Z21.41/CSA 6.9-2014: Quick disconnect devices for use with gas fuel appliances ANSI Z21.90/CSA 6.24-2015: Gas convenience outlets and					

Table 5. 2021 IFGC Changes Cost Impact						
CODE CHANGE #	2021 IFGC CHANGE SUMMARY	IFGC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	optional enclosures					
FG22-18	Change the existing definition for SECTION 413 (IFGC) [F] 413.2.3 General, [F] 413.4 Residential fueling appliance installation, [F] 413.5 Private fueling of motor vehicles, [F] 413.6 Pressure regulators, [F] 413.7 Valves, [F] 413.8 Emergency shutdown control, [F] 413.9 Discharge of CNG from motor vehicle fuel storage containers, [F] 413.9.1 Closed transfer system, [F] 413.9.2 Atmospheric venting, [F] 413.9.2.1 Plans and specifications, [F] 413.9.2.2 Cylinder stability, [F] 413.9.2.3 Separation, [F] TABLE 413.9.2.3 SEPARATION DISTANCE FOR ATMOSPHERIC VENTING OF CNG, [F] 413.9.2.4 Grounding and bonding, [F] 413.9.2.5 Vent tube and [F] 413.9.2.6 Signage to: **~~[F]~~ 413.2.3 ~~General~~ Residential Fueling Appliances.** Residential fueling appliances shall be ~~in accordance with Section 413.4.~~listed to CSA/ANSI NGV 5.1. The capacity of a residential fueling appliance (RFA) shall not exceed 5 standard cubic feet per minute (0.14 standard cubic meter/min) of natural gas. **[F] 413.4 Residential fueling appliance installation.** Residential fueling appliances shall be installed in accordance with ~~Sections 413.4.1 through 413.4.3~~ requirements of CSA/ANSI NGV 5.1, manufacturer installation instructions, and Section 2308 of the International Fire Code for RFAs. **[F] ~~413.5~~ 413.6 Private fueling of motor vehicles.** Self-service CNG-dispensing systems, including key, code and card lock dispensing systems, shall be limited to the filling of permanently mounted fuel containers on CNG-powered vehicles. **[F] ~~413.6~~ 413.7 Pressure regulators.** Pressure regulators shall be designed, installed or protected so their operation will not be affected by the elements (freezing rain, sleet, snow, ice, mud or debris). This protection is allowed to be integral with the regulator. **[F] ~~413.7~~ 413.8 Valves.** *Piping* to *equipment* shall be provided with a remote manual shutoff valve. Such valve shall be provided with ready access. **[F] ~~413.8~~ 413.9 Emergency shutdown control.** An emergency shutdown device shall be located within 75 feet (22 860 mm) of, but not less than 25 feet (7620 mm) from, dispensers and shall also be provided in the compressor area. Upon activation, the		X			Clarification

Table 5. 2021 IFGC Changes Cost Impact						
CODE CHANGE #	2021 IFGC CHANGE SUMMARY	IFGC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	emergency shutdown system shall automatically shut off the power supply to the compressor and close valves between the main gas supply and the compressor and between the storage containers and dispensers. **[F] ~~413.9~~ 413.10 Discharge of CNG from motor vehicle fuel storage containers.** The discharge of CNG from motor vehicle fuel cylinders for the purposes of maintenance, cylinder certification, calibration of dispensers or other activities shall be in accordance with this section. The discharge of CNG from motor vehicle fuel cylinders shall be accomplished through a closed transfer system or an *approved* method of atmospheric venting in accordance with Section 413.9.1 or 413.9.2. **[F] ~~413.9.1~~ 413.10.1 Closed transfer system.** A documented procedure that explains the logical sequence for discharging the cylinder shall be provided to the code official for review and approval. The procedure shall include what actions the operator will take in the event of a low-pressure or high-pressure natural gas release during the discharging activity. A drawing illustrating the arrangement of *piping*, regulators and *equipment* settings shall be provided to the code official for review and approval. The drawing shall illustrate the *piping* and regulator arrangement and shall be shown in spatial relation to the location of the compressor, storage vessels and emergency shutdown devices. **[F] ~~413.9.2~~ 413.10.2 Atmospheric venting.** Atmospheric venting of motor vehicle fuel cylinders shall be in accordance with Sections 413.9.2.1 through 413.9.2.6. **[F] ~~413.9.2.1~~ 413.10.2.1 Plans and specifications.** A drawing illustrating the location of the vessel support, *piping*, the method of grounding and bonding, and other requirements specified herein shall be provided to the code official for review and approval. **[F] ~~413.9.2.2~~ 413.10.2.2 Cylinder stability.** A method of rigidly supporting the vessel during the venting of CNG shall be provided. The selected method shall provide not less than two points of support and shall prevent horizontal and lateral movement of the vessel. The system shall be designed to prevent movement of the vessel based on the highest gas-release velocity through valve orifices at the vessel's rated pressure and volume.					

Table 5. 2021 IFGC Changes Cost Impact						
CODE CHANGE #	2021 IFGC CHANGE SUMMARY	IFGC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	The structure or appurtenance shall be constructed of *noncombustible materials*. **[F] ~~413.9.2.3~~ 413.10.2.3 Separation.** The structure or appurtenance used for stabilizing the cylinder shall be separated from the site *equipment*, features and exposures and shall be located in accordance with Table 413.9.2.3. **[F] TABLE ~~413.9.2.3~~ 413.10.2.3** **SEPARATION DISTANCE FOR ATMOSPHERIC VENTING OF CNG** **[F] ~~413.9.2.4~~ 413.10.2.4 Grounding and bonding.** The structure or appurtenance used for supporting the cylinder shall be grounded in accordance with NFPA 70. The cylinder valve shall be bonded prior to the commencement of venting operations. **[F] ~~413.9.2.5~~ 413.10.2.5 Vent tube.** A vent tube that will divert the gas flow to the atmosphere shall be installed on the cylinder prior to the commencement of the venting and purging operation. The vent tube shall be constructed of pipe or tubing materials *approved* for use with CNG in accordance with the International Fire Code. **[F] ~~413.9.2.6~~ 413.10.2.6 Signage.** Approved NO SMOKING signs shall be posted within 10 feet (3048 mm) of the cylinder support structure or appurtenance. *Approved* CYLINDER SHALL BE BONDED signs shall be posted on the cylinder support structure or appurtenance. Add new definition for 413.2.4 Non-residential fueling appliances, and 413.5 Non-residential fueling appliance installation as follows: **413.2.4 Non-residential fueling appliances.** Non-residential fueling appliances shall be listed to CSA/ANSI NGV 5.2. The capacity of a non-residential fueling appliance, listed to that standard as a vehicle fueling appliance (VFA), shall not exceed 10 standard cubic feet per minute (0.28 standard cubic meter/min) of natural gas. **413.5 Non-residential fueling appliance installation.** Non-residential fueling appliances shall be installed in accordance with requirements for vehicle fueling appliances (VFA) in CSA/ANSI NGV 5.2, manufacturer installation instructions, and Section 2308 of the International Fire Code for VFAs.					

Table 5. 2021 IFGC Changes Cost Impact						
CODE CHANGE #	2021 IFGC CHANGE SUMMARY	IFGC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Delete the existing definition for [F] 413.4.1 Listing and installation, [F] 413.4.2 Gas connection, and [F] 413.4.3 Indoor installation. Update standards for CSA/ANSI NGV 5.1-2016 and 5.2-2017.					
FG23-18	Change the existing definition for 602.1 General, 602.2 Flame safeguard device, 603.1 General, 604.1 General, 605.1 General, 608.1 General, 609.1 General, 610.1 General, 613.1 General, 617.1 General, 618.1 General, 620.1 General, 621.1 General, 622.1 General, 623.1 Cooking appliances, 624.1 General, 625.1 General, 626.1 General, 627.1 General, 628.1 General, 630.1 General, and 636.1 General to: **602.1 General.** Decorative appliances for installation in *approved* solid fuel-burning fireplaces shall be ~~tested~~ listed in accordance with ANSI Z21.60/CSA 6.26 and shall be installed in accordance with the manufacturer's instructions. Manually lighted natural gas decorative appliances shall be ~~tested~~ listed in accordance with ANSI Z21.84. **602.2 Flame safeguard device.** Decorative appliances for installation in approved solid fuel-burning fireplaces, with the exception of those ~~tested~~ listed in accordance with ANSI Z21.84, shall utilize a direct ignition device, an ignitor or a pilot flame to ignite the fuel at the main burner, and shall be equipped with a flame safeguard device. The flame safeguard device shall automatically shut off the fuel supply to a main burner or group of burners when the means of ignition of such burners becomes inoperative. **603.1 General.** Log lighters shall be ~~tested~~ listed in accordance with CSA 8 and installed in accordance with the manufacturer's instructions. **604.1 General.** Vented gas fireplaces shall be ~~tested~~ listed in accordance with ANSI Z21.50/CSA 2.22, shall be installed in accordance with the manufacturer's instructions and shall be designed and equipped as specified in Section 602.2. **605.1 General.** Vented gas fireplace heaters shall be installed in accordance with the manufacturer's instructions, shall be ~~tested~~ listed in accordance with ANSI Z21.88/CSA 2.33 and shall be designed and equipped as specified in Section 602.2.		X			Clarification

Table 5. 2021 IFGC Changes Cost Impact						
CODE CHANGE #	2021 IFGC CHANGE SUMMARY	IFGC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	608.1 General. Vented wall furnaces shall be ~~tested~~ listed in accordance with ANSI Z21.86/CSA 2.32 and shall be installed in accordance with the manufacturer's instructions. **609.1 General.** Floor furnaces shall be ~~tested~~ listed in accordance with ANSI Z21.86/CSA 2.32 and shall be installed in accordance with the manufacturer's instructions. **610.1 General.** Duct furnaces shall be ~~tested~~ listed in accordance with ANSI Z83.8/CSA 2.6 or UL 795 and shall be installed in accordance with the manufacturer's instructions. **613.1 General.** Clothes dryers shall be ~~tested~~ listed in accordance with ANSI Z21.5.1/CSA 7.1 or ANSI Z21.5.2/CSA 7.2 and shall be installed in accordance with the manufacturer's instructions. **617.1 General.** Pool and spa heaters shall be ~~tested~~ listed in accordance with ANSI Z21.56/CSA 4.7 and shall be installed in accordance with the manufacturer's instructions. **618.1 General.** Forced-air warm-air furnaces shall be ~~tested~~ listed in accordance with ANSI Z21.47/CSA 2.3 or UL 795 and shall be installed in accordance with the manufacturer's instructions. **620.1 General.** Unit heaters shall be ~~tested~~ listed in accordance with ANSI Z83.8/CSA 2.6 and shall be installed in accordance with the manufacturer's instructions. **621.1 General.** Unvented room heaters shall be ~~tested~~ listed in accordance with ANSI Z21.11.2 and shall be installed in accordance with the conditions of the listing and the manufacturer's instructions. Unvented room heaters utilizing fuels other than fuel gas shall be regulated by the International Mechanical Code. **622.1 General.** Vented room heaters shall be ~~tested~~ listed in accordance with ANSI Z21.86/CSA 2.32, shall be designed and equipped as specified in Section 602.2 and shall be installed in accordance with the manufacturer's instructions. **623.1 Cooking appliances.** Cooking appliances that are designed for permanent installation, including ranges, ovens, stoves, broilers, grills, fryers, griddles, hot plates and barbecues, shall be					

Table 5. 2021 IFGC Changes Cost Impact						
CODE CHANGE #	2021 IFGC CHANGE SUMMARY	IFGC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~tested~~ listed in accordance with ANSI Z21.1, ANSI Z21.58/CSA 1.6 or ANSI Z83.11/CSA 1.8 and shall be installed in accordance with the manufacturer's instructions. **624.1 General.** Water heaters shall be ~~tested~~ listed in accordance with ANSI Z21.10.1/CSA 4.1 ~~and~~ or ANSI Z21.10.3/CSA 4.3 and shall be installed in accordance with the manufacturer's instructions. **625.1 General.** Refrigerators shall be ~~tested~~ listed in accordance with ANSI Z21.19/CSA 1.4 and shall be installed in accordance with the manufacturer's instructions. **626.1 General.** Gas-fired toilets shall be ~~tested~~ listed in accordance with ANSI Z21.61 and installed in accordance with the manufacturer's instructions. **627.1 General.** Gas-fired air-conditioning appliances shall be ~~tested~~ listed in accordance with ANSI Z21.40.1/~~CGA~~ CSA 2.91 or ANSI Z21.40.2/~~CGA~~ CSA 2.92 and shall be installed in accordance with the manufacturer's instructions. **628.1 General.** Illuminating appliances shall be ~~tested~~ listed in accordance with ANSI Z21.42 and shall be installed in accordance with the manufacturer's instructions. **630.1 General.** Infrared radiant heaters shall be ~~tested~~ listed in accordance with ANSI Z83.19 or Z83.20 and shall be installed in accordance with the manufacturer's instructions. **636.1 General.** Permanently fixed-in-place outdoor decorative appliances shall be ~~tested~~ listed in accordance with ANSI Z21.97 and shall be installed in accordance with the manufacturer's instructions.					
FG24-18	Change the existing definition for 611.2 Installation to: **611.2 Installation.** Nonrecirculating direct-fired industrial air heaters shall be ~~installed only in industrial or commercial occupancies. Nonrecirculating direct-fired industrial air heaters shall be~~ permitted to provide ventilation air.		X			Clarification
FG25-18	Change the existing definition for 612.2 Location to: **612.2 Location.** Recirculating direct-fired ~~industrial air heaters shall be installed only in industrial and commercial occupancies. Recirculating direct-fired~~ air heaters shall not serve any area containing sleeping quarters. Recirculating direct-fired industrial		X			Clarification

Table 5. 2021 IFGC Changes Cost Impact						
CODE CHANGE #	**2021 IFGC CHANGE SUMMARY**	**IFGC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	air heaters shall not be installed in hazardous locations or in buildings that contain flammable solids, liquids or gases, explosive materials or substances that can become toxic when exposed to flame or heat.					
FG26-18	Change the existing definition for [M] 614.6 Makeup air to: **[M] 614.6 Makeup air.** Installations exhausting more than 200 cfm (0.09 m^3/s) shall be provided with makeup air. ~~Where a closet is designed for the installation of a clothes dryer, an opening having an area of not less than 100 square inches (645 mm^2) for makeup air shall be provided in the closet enclosure, or makeup air shall be provided by other *approved* means.~~ Add new definition for [M] 614.6.1 Closet Installation as follows: **[M]614.6.1 Closet Installation.** Where a closet is designed for the installation of a clothes dryer, an opening having an area of not less than 100 square inches (645 mm^2) for makeup air shall be provided in the closet enclosure, or makeup air shall be provided by other approved means.		X			Clarification
FG28-18	Change the existing definition for 623.2 Prohibited location to: **623.2 Prohibited location.** Cooking appliances designed, tested, *listed* and *labeled* for use in commercial occupancies shall not be installed within dwelling units or within any area where domestic cooking operations occur. **Exceptions:** 1. Appliances that are also listed as domestic cooking appliances. 2. ~~Where the installation is designed by a licensed Professional Engineer, in compliance with the manufacturer's installation instructions.~~		X			Clarification

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
M2-18	Add new definition for INDIRECT EVAPORATIVE COOLING AND DIRECT EVAPORATIVE COOLING as follows: **INDIRECT EVAPORATIVE COOLING.** The evaporative cooling process where water evaporates into a secondary air stream, removing heat from a primary air stream utilizing a heat exchanger. **DIRECT EVAPORATIVE COOLING.** The evaporative cooling process where water evaporates directly into the air stream, reducing the air's dry-bulb temperature and raising its humidity level.		X			Necessary addition for clarification
M4-18	Change the existing definition for FLAMMABILITY CLASSIFICATION (REFRIGERANT), REFRIGERANT SAFETY CLASSIFICATIONS AND TOXICITY CLASSIFICATION to: **REFRIGERANT SAFETY ~~CLASSIFICATIONS~~ GROUP CLASSIFICATION.** The alphabetical/numerical designation that indicate indicates both the toxicity and flammability ~~classification~~ classifications of refrigerants. Toxicity. See Toxicity classification (Refrigerant). Flammability. See Flammability classification (Refrigerant). **TOXICITY CLASSIFICATION (REFRIGERANT).** An ~~alphabetic~~ alphabetical designation used to identify the toxicity of refrigerants. Class A indicates a refrigerant with lower toxicity. Class B indicates a refrigerant with higher toxicity. **FLAMMABILITY CLASSIFICATION (REFRIGERANT).** The alphabetical/numerical designation used to identify the flammability of refrigerants. Indicates a refrigerant with no flame propagation. Indicates a refrigerant with lower flammability and lower burning velocity. Indicates a refrigerant with lower flammability. Indicates a refrigerant with higher flammability.		X			Clarification
M5-18	Change the existing definition for PRESS-CONNECT JOINT to: **PRESS-CONNECT JOINT.** A permanent mechanical joint incorporating an elastomeric seal or an elastomeric seal and corrosion - resistant grip or bite ring. The joint is made with a		X			Clarification

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	pressing tool and jaw or ring approved by the fitting manufacturer.					
M6-18	Change the existing definition for Seismic resistance to: **301.18 Seismic resistance.** Where earthquake loads are applicable in accordance with the International Building Code, mechanical system supports, anchorage, and bracing, shall be designed and installed for the seismic forces in accordance with Chapter 16 of the International Building Code.		X			Clarification
M10-18	Add new definition for 307.1.2 Identification and 307.2.3.3 Identification as follows: **307.1.2 Identification.** ~~Where condensate piping is concealed, primary and secondary drain pipes that serve the same appliance and terminate together at a remote location shall be identified.~~ The termination of concealed condensate piping shall be marked to indicate whether the piping is connected to the primary or to the secondary drain. **307.2.3.3 Identification.** ~~Where condensate piping is concealed, primary and secondary drain pipes that serve the same appliance and terminate together at a remote location shall be identified.~~ The termination of concealed condensate piping shall be marked to indicate whether the piping is connected to the primary or to the secondary drain.		X			Clarification
M11-18	Add new definition for Condensate discharge as follows: **307.2.1.1 (IPC [M] 314.2.1.1) Condesate discharge.** Condensate drains shall not directly connect to any plumbing drain, waste or vent pipe. Condensate drains shall not discharge into a plumbing fixture other than a floor sink, floor drain, trench drain, mop sink, hub drain, standpipe, utility sink or laundry sink. Condensate drain connections to a lavatory wye branch tailpiece or to a bathtub overflow pipe, shall not be considered as discharging to a plumbing fixture. Except where discharging to grade outdoors, the point of discharge of condensate drains shall be located within the same occupancy, tenant space or dwelling unit as the source of the condensate.		X			Necessary addition for clarification
M14-18	Change the existing definition for Drain pipe materials and sizes to: **307.2.2 Drain pipe materials and sizes.** Components of the condensate disposal system shall be ABS, cast iron, ~~galvanized steel~~, copper , and copper alloy, CPVC, cross-linked polyethylene, galvanized steel, PE-RT, polyethylene, ~~ABS~~ polypropylene, ~~CPVC,~~ PVC , or ~~polypropylene~~ PVDF pipe or tubing. Components shall be selected for the pressure and		X			Clarification

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	temperature rating of the installation. Joints and connections shall be made in accordance with the applicable provisions of Chapter 7 of the International Plumbing Code relative to the material type. Condensate waste and drain line size shall be not less than 3/4-inch pipe size ~~internal diameter~~ and shall not decrease in size from the drain pan connection to the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with Table 307.2.2.					
M17-18	Change the existing definition for 401.4 Intake opening location and 501.3.1 Location of exhaust outlets to: **401.4 Intake opening location.** Air intake openings shall comply with all of the following: 3. Intake openings shall be located not less than 3 feet (914 mm) below contaminant sources where such sources are located within 10 feet (3048 mm) of the opening. Separation is not required between intake air openings and living space exhaust air openings of an individual dwelling unit or sleeping unit where an approved factory-built intake/exhaust combination termination fitting is used to separate the air streams in accordance with the manufacturer's instructions. **501.3.1 Location of exhaust outlets.** The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances: 3. For all environmental air exhaust: 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable openings into buildings for all occupancies other than Group U, and 10 feet (3048 mm) from mechanical air intakes. Such exhaust shall not be considered hazardous or noxious. Separation is not required between intake air openings and living space exhaust air openings of an individual dwelling unit or sleeping unit where an approved factory-built intake/exhaust combination termination fitting is used to separate the air streams in accordance with the manufacturer's instructions.		X			Clarification
M18-18	Change the existing definition for 403.2.1 Recirculation of air to: **403.2.1 Recirculation of air.** The outdoor air required by Section 403.3 shall not be recirculated. Air in excess of that required by Section 403.3 shall not be prohibited from being recirculated as a component of supply air to building spaces,		X			Prevents water damage.

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	except that: 2. Supply air to a swimming pool and associated deck areas shall not be recirculated unless such air is dehumidified to maintain the relative humidity of the area at 60 percent or less. Air from this area shall not be recirculated to other spaces where more than 10 percent of the resulting supply airstream consists of air recirculated from these spaces. <u>The design and installation of dehumidification systems shall comply with ACCA Manual SPS, HVAC Design for Swimming Pools and Spas.</u> Add new standard for ACCA. **ACCA** <u>ANSI/ACCA 10 Manual SPS - 2010 RA 2017; HVAC Design for Swimming Pools and Spas</u>					
M20-18	Change the existing definition for 401.2 Ventilation required and 403.1 Ventilation system to: **401.2 Ventilation required.** Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403. ~~Where the air infiltration rate in a dwelling unit is less than 5 air changes per hour when tested with a blower door at a pressure of 0.2 inch water column (50 Pa) in accordance with Section R402.4.1.2 of the International Energy Conservation Code, the dwelling unit shall be ventilated by~~ <u>Dwelling units complying with the air leakage requirements of the International Energy Conservation Code or ASHRAE 90.1 shall be ventilated by</u> mechanical means in accordance with Section 403. Ambulatory care facilities and Group I-2 occupancies shall be ventilated by mechanical means in accordance with Section 407. **403.1 Ventilation system.** Mechanical ventilation shall be provided by a method of supply air and return or exhaust air except that mechanical ventilation air requirements for Group R-2, R-3 and R-4 occupancies ~~three stories and less in height above grade plane~~ shall be provided by an exhaust system, supply system or combination thereof. The amount of supply air shall be approximately equal to the amount of return and exhaust air. The system shall not be prohibited from producing negative or positive pressure. The system to convey ventilation air shall be designed and installed in accordance with Chapter 6.			X	Minimal	Clarification
M24-18	Change the existing definition for TABLE 403.3.1.1 to:		X			Clarification

Table 6. 2021 IMC Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IMC CHANGE SUMMARY</th><th colspan="3">IMC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td></td><td>g. Mechanical exhaust is required and recirculation from such spaces is ~~prohibited except that recirculation shall be permitted where the resulting supply airstream consists of not more than 10 percent air recirculated from these spaces~~ prohibited. For occupancies other than science laboratories, where there is a wheel type energy recovery ventilation (ERV) unit in the exhaust system design, the volume of air leaked from the exhaust airstream into the outdoor airstream within the ERV shall be less than 10 percent of the outdoor air volume. Recirculation of air that is contained completely within such spaces shall not be prohibited (see Section 403.2.1, Items 2 and 4).</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>M25-18</td><td>Change the existing definition for TABLE 403.3.1.1 to:
<table>
<tr><th>OCCUPANCY CLASSIFICATION</th><th>OCCUPANT DENSITY #/1000 FT² [a]</th><th>PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE, R_p CFM/PERSON</th><th>AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE, R_a CFM/FT² [a]</th><th>EXHAUST AIRFLOW RATE CFM/FT² [a]</th></tr>
<tr><td>Commercial laundry</td><td>10</td><td>~~25~~5</td><td>~~-~~0.12</td><td>-</td></tr>
<tr><td>Kitchens[b]</td><td>-</td><td>-</td><td>-</td><td>~~25~~50/100f</td></tr>
<tr><td>Toilet rooms and bathrooms[g]</td><td>-</td><td>-</td><td>-</td><td>~~20~~25/50f</td></tr>
</table></td><td></td><td></td><td>X</td><td>$0.50 per fan cfm</td><td>Clarification</td></tr>
<tr><td>M28-18</td><td>Change the existing definition for 403.3.2.5 Ventilating equipment to:
403.3.2.5 Ventilating equipment. ~~Exhaust equipment serving single dwelling units~~ Fans providing exhaust or outdoor air shall be listed and labeled to provide the minimum required air flow in accordance with ANSI/AMCA 210-ANSI/ASHRAE 51.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>M29-18</td><td>Delete the existing definition for 403.3.1.5 Balancing.
Add new definition for 608.1 Balancing as follows:
<u>608.1 Balancing.</u> Air distribution, ventilation and exhaust systems shall be provided with means to adjust the system to achieve the design airflow rates and shall be balanced by an approved method. Ventilation air distribution shall be balanced by an approved method and such balancing shall verify that the air distribution system is capable of supplying and exhausting the airflow rates required by Chapter 4.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>M30-18</td><td>Change the existing definition for 403.3.1.3 System operation to:
403.3.1.3 System operation. The minimum flow rate of outdoor air that the ventilation system must be capable of supplying during its operation shall be permitted to be based on the rate per person indicated in Table 403.3.1.1 and the actual number of occupants present. Where demand controlled ventilation is employed to adjust the outdoor air flow rate based on the actual number of occupants present, the minimum quantity of outdoor</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	air shall not fall below that determined from the area outdoor airflow rate column of Table 403.3.1.1 during periods when the building is expected to be occupied.					
M31-18	Change the existing definition for 407.1 General to: **407.1 General.** Mechanical ventilation for ambulatory care facilities and Group I-2 occupancies shall be designed and installed in accordance with this code and ASHRAE 170. and NFPA 99.			X	Minimal	Clarification
M32-18	Change the existing definition for Balanced ventilation, 403.3.2.1 Outdoor air for dwelling units to: **2018 International Mechanical Code** **BALANCED VENTILATION.** Any combination of concurrently operating mechanical exhaust and mechanical supply whereby the total mechanical exhaust airflow rate ~~and~~ is within 10% of the total mechanical supply airflow rate ~~are substantially the same.~~ **403.3.2.1 Outdoor air for dwelling units.** An outdoor air ventilation system consisting of a mechanical exhaust system, supply system or combination thereof shall be installed for each dwelling unit. Local exhaust or supply systems, including outdoor air ducts connected to the return side of an air handler, are permitted to serve as such a system. The outdoor air ventilation system shall be designed to provide the required rate of outdoor air continuously during the period that the building is occupied. The minimum continuous outdoor airflow rate shall be determined in accordance with Equation 4-9. $Q_{OA}=0.01A_{floor}+7.5(N_{br}+1)$ **(Equation 4-9)** where: Q_{OA} = outdoor airflow rate, cfm A_{floor} = ~~conditioned~~ floor area, ft^2 N_{br} = number of bedrooms; not to be less than one **Exceptions:** 1. The outdoor air ventilation system is not required to operate continuously where the system has controls that enable operation for not less than 1 hour of each 4-hour period. The average outdoor air flow rate over the 4-hour period shall be not	X				Clarification

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	less than that prescribed by Equation 4-9.. 2. The minimum mechanical ventilation rate determined in accordance with Equation 4.9 shall be reduced ~~by 25%~~ by 30%, provided that ~~all~~ both of the following conditions apply: 2.1. A ducted system supplies ~~recirculated~~ ventilation air directly to each bedroom and ~~the largest common area.~~ 2.2. ~~For continuously operating systems, not less than 70% of the air volume in the conditioned space is recirculated each hour through the ducted system, or for intermittently operated systems, an equivalent air recirculation is provided during each four-hour period~~ to one or more of the following rooms: 2.2.1. Living room 2.2.2. Dining room 2.2.3. Kitchen. 2.2.~~2.3.~~ The whole-house ventilation system is a balanced ventilation system.					
M34-18	Change the existing definition for 501.2 Independent system required, 504.1 Installation and 505.3 Exhaust ducts to: **501.2 Independent system required.** Single or combined mechanical exhaust systems for environmental air shall be independent of all other exhaust systems. Dryer, domestic kitchen and hazardous exhaust shall be independent of all other systems. Type I exhaust systems shall be independent of all other exhaust systems except as provided in Section 506.3.5. Single or combined Type II exhaust systems for food-processing operations shall be independent of all other exhaust systems. ~~Kitchen~~ Commercial kitchen exhaust systems shall be constructed in accordance with ~~Section 505 for domestic cooking operations and~~ Sections 506 through 509. ~~for commercial cooking operations.~~ **504.1 Installation.** Clothes dryers shall be exhausted in accordance with the manufacturer's instructions. Dryer exhaust systems shall ~~be independent of all other systems and shall~~ convey the moisture and any products of combustion to the outside of the building. **505.3 Exhaust ducts.** Domestic cooking exhaust equipment shall discharge to the outdoors through sheet metal ducts constructed of galvanized steel, stainless steel, aluminum or copper. Such		X			Clarification

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	ducts shall have smooth inner walls, shall be air tight, and shall be equipped with a backdraft damper. ~~, and shall be independent of all other exhaust systems.~~ Installations in Group I-1 and I-2 occupancies shall be in accordance with the International Building Code and Section 904.13 of the International Fire Code. Delete the existing definition for 510.4 Independent system.					
M35-18	Add new definition for 502.20.1 Operation as follows: **502.20.1 Operation.** The exhaust system for manicure and pedicure stations shall have controls that operate the system continuously when the space is occupied.			X	$1.00 per room sqft.	Necessary addition for clarification
M43-18	Change the existing definition for 510.6.5 Makeup air to: **510.6.5 Makeup air.** Makeup air from all sources shall be provided during operations at a rate approximately equal to the rate that air is exhausted by the hazardous exhaust system. Makeup air shall be provided by gravity or mechanical means or both. Mechanical makeup air systems shall be automatically controlled to start and operate simultaneously with the exhaust system. The makeup air shall not reduce the effectiveness of the exhaust system. Makeup air intakes shall be located in accordance with Section 401.4.		X			Clarification
M45-18	Change the existing definition for 507.1 General to: **507.1 General.** **Exceptions:** 4. Smoker ovens with integral exhaust systems provided that the appliance is installed in accordance with the manufacturer's installation instructions, is listed and tested for the application and complies with Chapter 5.		X			Clarification
M46-18	Change the existing definition for 507.1 General to: **507.1 General.** **Exceptions:** 4. Smoker ovens with integral exhaust systems provided that the appliance is installed in accordance with the manufacturer's installation instructions, is listed and tested for the application and complies with Chapter 5.		X			Clarification
M47-18	Change the existing definition for 506.3.9 Grease duct horizontal cleanouts to: **506.3.9 Grease duct horizontal cleanouts.** 6. ~~Shall be~~ Be located at grease reservoirs. 7. Be located within 3 feet of horizontal discharge fans.			X	$0.50 per fan cfm	Clarification
M52-18	Change the existing definition for 506.5.2 Pollution-control units to: **506.5.2** **506.5.2 Pollution-control units.** The installation of pollution-control units shall be in accordance with ~~the~~		X			Provides clarity on the requirements

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~manufacturer's installation instructions and~~ all of the following: 1. Pollution-control units shall be listed and labeled in accordance with UL ~~1978~~ 8782. 2. Fans serving pollution-control units shall be listed and labeled in accordance with UL 762. 3. ~~Pollution~~Bracing and supports for pollution-control units shall be ~~mounted and secured in accordance with the manufacturer's installation instructions and~~ of noncombustible material securely attached to the structure and designed to carry gravity and seismic loads within the stress limitations of the International Building Code. 4. Pollution-control units located indoors shall be listed and labeled for such use. Where enclosed duct systems, as required by Section 506.3.11, are connected to a pollution control unit, such unit shall be ~~located in a room or space~~ listed and labeled, in accordance with UL 2221 or ASTM E2336, for location in an enclosure having the same fire-resistance rating as the duct enclosure. Access shall be provided for servicing and cleaning of the unit. The space or enclosure shall be ventilated in accordance with the manufacturer's installation instructions. 5. ~~A clearance of not less than 18 inches (457 mm)~~ Clearances shall be maintained between the pollution-control unit and combustible material in accordance with the listing. Add new standard for UL. **UL** : Outline of Investigation for Pollution Control Units for Commercial Cooking					for PCUs, as well as additional flexibility.
M53-18 Part I	Add new definition for 504.6 Booster fans prohibited as follows: **504.6 Booster fans prohibited.** Domestic booster fans shall not be installed in dryer exhaust systems.		X			Necessary addition for clarification
M53-18 Part II	Add new definition for 1502.4.5 Booster fans prohibited as follows: **M1502.4.5 Booster fans prohibited.** Domestic booster fans shall not be installed in dryer exhaust systems.		X			Necessary addition for clarification
M54-18	Change the existing definition for 506.3.7 Prevention of grease accumulation in grease ducts to: **506.3.7 Prevention of grease accumulation in grease ducts.** Duct systems serving a Type I hood shall be constructed and		X			Clarification

Table 6. 2021 IMC Changes Cost Impact						
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		Decrease	None	Increase		
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	installed so that grease cannot collect in any portion thereof, and the system shall slope not less than one-fourth unit vertical in 12 units horizontal (2-percent slope) toward the hood or toward a grease reservoir designed and installed in accordance with Section 506.3.7.1. Where horizontal ducts exceed 75 feet (22 860 mm) in length, the slope shall be not less than one unit vertical in 12 units horizontal (8.3-percent slope). **Exception:** Factory-built grease ducts shall be installed at a slope that is in accordance with the listing and manufacturer's installation instructions.					
M58-18	Change the existing definition for 514.2 Prohibited applications to: **514.2 Prohibited applications.** Energy recovery ventilation systems shall not be used in the following systems: 1. Hazardous exhaust systems covered in Section 510. 2. Dust, stock and refuse systems that convey explosive or flammable vapors, fumes or dust. 3. Smoke control systems covered in Section 513. 4. Commercial kitchen exhaust systems serving Type I ~~or Type II~~ hoods. 5. Clothes dryer exhaust systems covered in Section 504.		X			Clarification
M59-18	Add new definition for 504.4.1 Termination location as follows: **504.4.1 Termination location.** Exhaust duct terminations shall be in accordance with the dryer manufacturer's installation instructions. Where the manufacturer's instructions do not specify a termination location, the exhaust duct shall terminate not less than 3 feet (914 mm) in any direction from openings into buildings including openings in ventilated soffits.		X			Necessary addition for clarification
M62-18	Change the existing definition for 511.1.5 Explosion relief vents to: **511.1.5 Explosion control.** Explosion control shall be provided in accordance with the requirements of the International Fire Code on all systems that convey combustible dust or combustible refuse or stock that ~~produce~~ produces combustible dusts in such a manner that the concentration and conditions could create a fire or explosion hazard. Determination of concentrations or conditions that are deemed to not create a fire or explosion hazard shall be based on a Dust Hazard Analysis prepared in accordance with Section 2203.2 of the International Fire Code.		X			Clarification
M63-18	Change the existing definition for 602.2 Construction and 603.5.1 Gypsum ducts to: **602.2 Construction.** Plenum enclosure construction materials	X				Clarification

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Sub Code:						
	that are exposed to the airflow shall comply with the requirements of Section 703.5 of the International Building Code or such materials shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 50 when tested in accordance with ASTM E84 or UL 723. The use of gypsum boards to form plenums shall be limited to systems where the air temperatures do not exceed 125ºF (52ºC) and the building and mechanical system design conditions are such that the gypsum board surface temperature will be maintained above the airstream dew-point temperature. ~~Air~~ Supply air plenums formed by gypsum boards shall not be incorporated in air-handling systems utilizing direct evaporative ~~coolers~~ cooling systems. **603.5.1 Gypsum ducts.** The use of gypsum boards to form air shafts (ducts) shall be limited to return air systems where the air temperatures do not exceed 125ºF (52ºC) and the gypsum board surface temperature is maintained above the airstream dew-point temperature. ~~Air~~ Supply air ducts formed by gypsum boards shall not be incorporated in air-handling systems utilizing direct evaporative ~~coolers~~ cooling systems.					
M64-18	Change the existing definition for 601.5 Return air openings to: **601.5 Return air openings.** **Exceptions:** 1. Where the air from such spaces is dehumidified in accordance with Section 403.2.1, Item 2. 2. Dedicated HVAC systems serving only such spaces. **Exceptions:** 1. Taking return air from a kitchen is not prohibited where such return air openings serve the kitchen and are located not less than 10 feet (3048 mm) from the cooking appliances. 2. Taking return air from a kitchen is not prohibited in a dwelling unit where the kitchen and living spaces are in a single room and the cooking appliance is electric and located not less than 5 feet in any direction from the return air intake opening. ~~2~~3. Dedicated forced air systems serving only the garage shall not be prohibited from obtaining return air from the garage.	X				Clarification

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Sub Code:						
M71-18	Change the existing definition for 602.2.1.8 Pipe and duct insulation within plenums to: **602.2.1.8 Pipe and duct insulation within plenums.** Pipe and duct insulation contained within plenums, including insulation adhesives, shall have a flame spread index of not more than 25 and a smoke developed index of not more than 50 when tested in accordance with ASTM E84 or UL 723, using the specimen preparation and mounting procedures of ASTM E2231. Pipe and duct insulation shall not flame, glow, smolder or smoke when tested in accordance with ASTM C411 at the temperature to which they are exposed in service. The test temperature shall not fall below 250°F(121°C). Pipe and duct insulation shall be listed and labeled. Pipe and duct insulation shall not be used to reduce the maximum flame spread and smoke-developed indexes ~~specified in Section 602.2.1.7~~ except where the pipe or duct and its related insulation, coatings, and adhesives are tested as a composite assembly in accordance with section 602.2.1.7. ~~of the pipe, ducts, tubing, insulation, coatings and adhesives in accordance with ASTM E84 or UL 723.~~		X			Clarification
M72-18	Change the existing definition for 607.4 Access and identification to: **607.4 Access and identification.** ~~Fire~~ Access and identification of fire and smoke dampers shall ~~be provided with an *approved* means of access, to permit inspection and maintenance of the damper and its operating parts. Dampers equipped with fusible links, internal operators, or both shall be provided with an access door that is not less than 12 inches (305mm) square or provided with a removable duct section. The access shall not affect the integrity of fire-resistance-rated assemblies. The access openings shall not reduce the fire-resistance rating of the assembly. Access points shall be permanently identified on the exterior by a label having letters not less than 0.5 inch (12.7 mm) in height reading: FIRE/SMOKE DAMPER, SMOKE DAMPER or FIRE DAMPER. Access doors in ducts shall be tight fitting and suitable for the required duct construction.~~ comply with Sections 607.4.1 through 607.4.2. 607.4.1 **Access.** Fire and smoke dampers shall be provided with an approved means of access that is large enough to permit inspection and maintenance of the damper and its operating parts. Dampers equipped with fusible links, internal operators, or both shall be provided with an access door that is not less than 12 inches (305 mm) square or provided with a		X			Clarification

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
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	removable duct section. 607.4.1.1 The access shall not affect the integrity of fire-resistance-rated assemblies. The access openings shall not reduce the fire- resistance-rating of the assembly. Access doors in ducts shall be tight fitting and suitable for the required duct construction. 607.4.1.2 **Restricted Access.** Where space constraints or physical barriers restrict access to a damper for periodic inspection and testing, the damper shall be a single- or multi-blade damper and shall comply with the remote inspection requirements of NFPA 80 or NFPA 105. **607.4.2 Identification.** Access points shall be permanently identified on the exterior of a label having letters not less than 1/2 inch (12.7 mm) in height reading: FIRE/SMOKE DAMPER, SMOKE DAMPER or FIRE DAMPER.					
M74-18	Change the existing definition for 604.3 Coverings and linings to: **604.3 Coverings and linings.** ~~Coverings~~ Duct coverings and linings, including adhesives where used, shall have a flame spread index not more than 25 and a smoke-developed index not more than 50, when tested in accordance with ASTM E84 or UL 723, using the specimen preparation and mounting procedures of ASTM E2231. Duct coverings and linings shall not flame, glow, smolder or smoke when tested in accordance with ASTM C411 at the temperature to which they are exposed in service. The test temperature shall not fall below 250°F (121°C). Coverings and linings shall be listed and labeled. **Exception:** Polyurethane foam insulation that is spray applied to the exterior of ducts in attics and crawlspaces shall be subject to all of the following requirements: 1. The foam plastic insulation shall have a flame spread index not greater than 25 and a smoke developed index not greater than 450, when tested in accordance with ASTM E84 or UL 723, using the specimen preparation and mounting procedures of ASTM E2231. 2. The foam plastic insulation shall not flame, glow, smolder or smoke when tested in accordance with ASTM C411 at the temperature to which they are exposed in service. The test temperature shall not fall below 250°F (121°C).	X				Clarification

Table 6. 2021 IMC Changes Cost Impact						
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		Decrease	None	Increase		
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	3. The foam plastic insulation complies with the requirements of Section 2603 of the International Building Code. 4. The foam plastic insulation is protected against ignition in accordance with the requirements of Section 2603.4.1.6 of the International Building Code.					
M80-18	Change the existing definition for 801.21 Blocked vent switch to: **801.21 Blocked vent switch.** ~~The venting system for~~ oil-fired appliances shall be equipped with a device that will stop burner operation in the event that the venting system is obstructed. Such device shall have a manual reset, and shall be installed in accordance with the manufacturer's instructions.			X	Minimal	Clarification
M81-18	Add new definition for 920.4 Prohibited Uses as follows: **920.4 Prohibited Uses.** In Group I-2 and ambulatory care facilities, suspended-type unit heaters are prohibited in corridors, exit access stairways and ramps, exit stairways and ramps and patient sleeping areas.		X			Necessary addition for clarification
M83-18	Change the existing definition for 905.1 General to: **905.1 General.** Fireplace stoves and solid-fuel-type room heaters shall be listed and labeled and shall be installed in accordance with the conditions of the listing. Fireplace stoves shall be tested in accordance with UL 737. Solid-fuel-type room heaters shall be tested in accordance with UL 1482. Fireplace inserts intended for installation in fireplaces shall be listed and labeled in accordance with the requirements of UL 1482 and shall be installed in accordance with the manufacturer's instructions. New Wood Burning Residential Hydronic Heaters shall be EPA certified.		X			Clarification
M84-18	Change the existing definitions for Large-Diameter Ceiling Fan to: **LARGE-DIAMETER CEILING FAN.** A ceiling fan that is greater than 7 feet (2134 mm) in diameter. These fans are ~~sometimes~~ also referred to as High-Volume, Low-Speed (HVLS) fans.		X			Clarification
M85-18	Add new definitions for SECTION 202 to: **SECTION 202** **GENERAL DEFINITIONS** **UNVENTED ALCOHOL FUEL BURNING DECORATIVE APPLIANCE.** A stationary, self-contained appliance intended to be directly or indirectly secured to a wall or floor and not intended for duct connection. Such appliance burns alcohol and is made in a manufacturing facility for subsequent delivery to the installation site.			X	Minimal	Necessary addition for clarification

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		Decrease	**None**	**Increase**		
Sub Code:						
	Add new definition for SECTION 929 as follows: **SECTION 929** **UNVENTED ALCOHOL FUEL BURNING DECORATIVE APPLIANCES** **929.1 GENERAL.** Unvented alcohol fuel-burning decorative appliances shall be listed and labeled in accordance with UL1370 and shall be installed in accordance with the conditions of the listing, manufacturer's installation instructions, and Chapter 3. Add new standard for UL. **UL** UL1370-11: Unvented Alcohol Fuel Burning Decorative Appliances, with revisions through March 25, 2016					
M86-18 Part I	Change the existing definitions for 908.1 General, 916.1 General, 918.1 Forced-air furnaces, 918.2 Heat pumps and 1101.2 Factory-built equipment and appliances to: **908.1 General.** A cooling tower used in conjunction with an air-conditioning appliance shall be installed in accordance with the manufacturer's instructions. Factory-built cooling towers shall be listed in accordance with UL 1995, or UL/CSA 60335-2-40. **916.1 General.** Pool and spa heaters shall be installed in accordance with the manufacturer's instructions. Oil-fired pool and spa heaters shall be tested in accordance with UL 1261. Pool and spa heat pump water heaters shall comply with UL 1995, or UL/CSA 60335-2-40, or CSA C22.2 No. 236. **Exception:** Portable residential spas and portable residential exercise spas shall comply with UL 1563 or CSA C22.2 No. 218.1. **918.1 Forced-air furnaces.** Oil-fired furnaces shall be tested in accordance with UL 727. Electric furnaces shall be tested in accordance with UL 1995. or UL/CSA 60335-2-40. Solid fuel furnaces shall be tested in accordance with UL 391. Forced-air furnaces shall be installed in accordance with the listings and the manufacturer's instructions. **918.2 Heat pumps.** Electric heat pumps shall be tested in accordance with UL 1995, or UL/CSA 60335- 2-40. **1101.2 Factory-built equipment and appliances.** Listed and labeled self-contained, factory-built equipment and appliances	-	X			UL 60335-2-40 is harmonized with requirements in Canada and Europe. These requirements include provisions for the most current technology and use of flammable refrigerants, and is currently being used to list new products.

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CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
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	shall be tested in accordance with UL 207, UL 412, UL 471 ~~or 1995~~, UL1995, UL/CSA 60335-2-40, or UL 60335-2-89. Such equipment and appliances are deemed to meet the design, manufacture and factory test requirements of this code if installed in accordance with their listing and the manufacturer's instructions. Add new standards for UL. **UL** UL/CSA 60335-2-40 -17: Household and Similar Electrical Appliances – Safety – Part 2-40: Particular Requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers. UL 60335-2-89-17: Household and Similar Electrical Appliances - Safety - Part 2-89: Particular Requirements for Commercial Refrigerating Appliances with an Incorporated or Remote Refrigerant Unit or Compressor					
M86-18 Part II	Change the existing definitions for M1402.1 General and M2006.1 General to: **M1402.1 General.** Oil-fired central furnaces shall conform to ANSI/UL 727. Electric furnaces shall conform to UL 1995 or UL/CSA 60335-2-40. **M2006.1 General.** Pool and spa heaters shall be installed in accordance with the manufacturer's installation instructions. Oil-fired pool heaters shall comply with UL 726. Electric pool and spa heaters shall comply with UL 1261. Pool and spa heat pump water heaters shall comply with UL 1995, UL/CSA 60335-2-40 or CSA C22.2 No. 236. **Exception:** Portable residential spas and portable residential exercise spas shall comply with UL 1563 or CSA C22.2 No. 218.1. Update standards for UL/CSA. UL/CSA ~~/ANCE 60335-2-40—2012~~60335-2-40—2017: Standard for Household and Similar Electrical Appliances, Part 2: Particular Requirements for ~~Motor-compressors~~ Electrical Heat Pumps, Air-Conditioners and Dehumidifiers		X			UL 60335-2-40 is harmonized with requirements in Canada and Europe. These requirements include provisions for the most current technology and use of flammable refrigerants, and is currently being used to list new products.
M87-18	Change the existing definition for 1004.1 Standards to: **1004.1 Standards.** Boilers shall be designed, constructed and		X			Clarification

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		Decrease	None	Increase		
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	certified in accordance with the ASME Boiler and Pressure Vessel Code, Section I or IV. Controls and safety devices for boilers with fuel input ratings of less than 12,500,000 Btu/hr (3,662,500 W) ~~or less~~ shall meet the requirements of ASME CSD-1. Controls and safety devices for boilers with inputs greater than or equal to 12,500,000 Btu/hr (3,662,500 W) shall meet the requirements of NFPA 85. Packaged oil-fired boilers shall be listed and labeled in accordance with UL 726. Packaged electric boilers shall be listed and labeled in accordance with UL 834. Solid-fuel-fired boilers shall be listed and labeled in accordance with UL 2523.					
M89-18	Update the existing definition for TABLE 1103.1. REFRIGERANT CLASSIFICATION, AMOUNT AND OEL		X			The modification adds an update to the update proposal from ASHRAE 34.
M93-18	Change the existing definition for Scope, TABLE 1103.1 REFRIGERANT CLASSIFICATION, AMOUNT AND OEL, Industrial occupancies and refrigerated rooms, All occupancies, Protection from refrigerant decomposition, 1105.6.3 Ventilation rate, [F] 1105.9 Emergency pressure control system, Flammable refrigerants and 1108.2 Test gases to: **Scope.** This chapter shall govern the design, installation, construction and repair of refrigeration systems that vaporize and liquefy a fluid during the refrigerating cycle. ~~Refrigerant piping design and installation, including pressure vessels and pressure relief devices, shall conform to this code.~~ Permanently installed refrigerant storage systems and other components shall be considered as part of the refrigeration system to which they are attached. **Industrial occupancies and refrigerated rooms.** This section applies only to rooms and spaces that: are within industrial occupancies; contain a refrigerant evaporator; are maintained at temperatures below 68°F (20°C); and are used for manufacturing, food and beverage preparation, meat cutting, other processes and storage. Where a machinery room would otherwise be required by Section 1104.2, a machinery room shall not be required where all of the following conditions are met:		X			Removes complexity of overlapping requirements in the IMC

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	1. The space containing the machinery is separated from other occupancies by tight construction with tight-fitting doors. 2. Access is restricted to authorized personnel. 3. Refrigerant detectors are installed as required for machinery rooms in accordance with Section 1105.3. ~~**Exceptions**~~ **Exception:** ~~1.~~ Refrigerant detectors are not required in unoccupied areas that contain only continuous piping that does not include valves, valve assemblies, equipment, or equipment connections. ~~2. Where approved alternatives are provided, refrigerant detectors for ammonia refrigeration are not required for rooms or areas that are always occupied, and for rooms or areas that have high humidity or other harsh environmental conditions that are incompatible with detection devices.~~ 4. Surfaces having temperatures exceeding 800°F (427°C) and open flames are not present where any Group A2, B2, A3 or B3 refrigerant is used (see Section 1104.3.4). 5. All electrical equipment and appliances conform to Class 1, Division 2, hazardous location classification requirements of NFPA 70 where the quantity of any Group A2, B2, A3 or B3 refrigerant ~~, other than ammonia,~~ in a single independent circuit would exceed 25 percent of the lower flammability limit (LFL) upon release to the space. 6. All refrigerant-containing parts in systems with a total connected compressor power exceeding 100 horsepower (hp) (74.6 kW) except evaporators used for refrigeration or dehumidification, condensers used for heating, control and pressure relief valves for either, low-probability pumps and connecting piping are located either outdoors or in a machinery room. **All occupancies.** The total of all Group A2, B2, A3 and B3 refrigerants ~~other than R-717, ammonia,~~ shall not exceed 1,100 pounds (499 kg) except where approved. **Protection from refrigerant decomposition.** Where any device having an open flame or surface temperature greater than 800°F (427°C) is used in a room containing more than 6.6 pounds (3 kg) of refrigerant in a single independent circuit, a hood and exhaust					

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	system shall be provided in accordance with Section 510. Such exhaust system shall exhaust combustion products to the outdoors. **Exception:** A hood and exhaust system shall not be required where any of the following apply: 1. The refrigerant is R-~~717, R-~~718 or R-744. 2. The combustion air is ducted from the outdoors in a manner that prevents leaked refrigerant from being combusted. **1105.6.3 Ventilation rate.** ~~For other than ammonia systems, the mechanical~~ Mechanical ventilation systems shall be capable of exhausting the minimum quantity of air both at normal operating and emergency conditions, as required by Sections 1105.6.3.1 and 1105.6.3.2. ~~The minimum required emergency ventilation rate for ammonia shall be 30 air changes per hour in accordance with IIAR2.~~ Multiple fans or multispeed fans shall be allowed to produce the emergency ventilation rate and to obtain a reduced airflow for normal ventilation. **[F] 1105.9 Emergency pressure control system.** ~~Permanently installed refrigeration systems containing more than 6.6 pounds (3 kg) of flammable, toxic or highly toxic refrigerant or ammonia~~ Emergency pressure control systems shall be provided ~~with an emergency pressure control system~~ in accordance with Section 605.10 of the International Fire Code. **Flammable refrigerants.** Where refrigerants of Groups A2, A3, B2 and B3 are used, the machinery room shall conform to the Class 1, Division 2, hazardous location classification requirements of NFPA 70. **Exceptions Exception:** ~~1.Ammonia machinery rooms that are provided with ventilation in accordance with Section 1106.3.~~ ~~2.~~Machinery rooms for systems containing Group A2L refrigerants that are in accordance with Section 1106.5. **1108.2 Test gases.** Tests shall be performed with an inert dried gas including, but not limited to, nitrogen and carbon dioxide. Oxygen, air, combustible gases and mixtures containing such gases shall not be used.					

<table>
<tr><th colspan="7">Table 6. 2021 IMC Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IMC CHANGE SUMMARY</th><th colspan="3">IMC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td><s>Exception:</s> <s>The use of air is allowed to test R-717, ammonia, systems provided that they are subsequently evacuated before charging with refrigerant.</s>

Add new definition for Refrigerants other than ammonia and Ammonia refrigerant as follows:
<u>Refrigerants other than ammonia.</u> <u>Refrigerant piping design and installation, including pressure vessels and pressure relief devices, for systems containing a refrigerant other than ammonia shall comply with this chapter and ASHRAE 15.</u>

<u>Ammonia refrigerant.</u> <u>Refrigeration systems using ammonia as the refrigerant shall comply with IIAR 2, IIAR 3, IIAR 4 and IIAR 5, and shall not be required to comply with this chapter.</u>

Delete the existing definition for 1101.6 General, 1105.8 Ammonia discharge, and Ammonia room ventilation.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>M95-18</td><td>Change the existing definition for 1101.2 Factory-built equipment and appliances to:
<u>Table 1101.2</u>
Factory-built equipment and appliances
<table>
<tr><th>EQUIPMENT</th><th>STANDARD</th></tr>
<tr><td>Refrigeration fittings, including press-connect, flared, and threaded</td><td>UL 109 and UL 207</td></tr>
<tr><td>Air conditioning equipment</td><td>UL 1995 or UL/CSA 60335-2-40</td></tr>
<tr><td>Packaged terminal air conditioners and heat pumps</td><td>UL 484 or UL/CSA 60335-2-40</td></tr>
<tr><td>Split-system air conditioners <u>and heat pumps</u></td><td>UL 1995 or UL/CSA 60335-2- 40</td></tr>
<tr><td>Dehumidifiers</td><td>UL 474 or UL/CSA 60335-2-40</td></tr>
<tr><td>Unit coolers</td><td>UL 412 or UL/CSA 60335-2-89</td></tr>
<tr><td>Commercial refrigerators, freezers, beverage coolers, and walk-in coolers</td><td>UL 471 or UL/CSA 60335-2-89</td></tr>
<tr><td>Refrigerating units and walk-in coolers</td><td>UL 427 or UL 60335-2-89</td></tr>
<tr><td>Refrigerant-containing components and accessories</td><td>UL 207</td></tr>
</table></td><td>X</td><td></td><td></td><td></td><td>Clarification</td></tr>
<tr><td>M99-18</td><td>Change the existing definition for SECTION 1109 to:

1109.2 Piping location. Refrigerant piping shall comply with the installation location requirements of Sections 1109.2.1</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

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	through ~~1109.2.6~~ 1109.2.7. Refrigerant piping for group A2L and B2L shall also comply with the requirements of Section 1109.3. Refrigerant piping for group A2, A3, B2 and B3 shall also comply with the requirements of Section 1109.4. **1109.2.7 Pipe identification.** Refrigerant pipe located in areas other than the room or space where the refrigerating equipment is located shall be identified. The pipe identification shall be located at intervals not exceeding 20 feet on the refrigerant piping or pipe insulation. The minimum height of lettering of the identification label shall be ½ inch. The identification shall indicate the refrigerant designation and safety group classification of refrigerant used in the piping system. For Group A2, A3, B2, and B3 refrigerant the identification shall also include the following statement: "DANGER – Risk of Fire or Explosion. Flammable Refrigerant." For any Group B refrigerant, the identification shall also include the following statement: "DANGER - Toxic Refrigerant." ~~**1109.3.3 Pipe identification.** Refrigerant pipe located in areas other than the room or space where the refrigerating equipment is~~ located shall be identified. The pipe identification shall be located at intervals not exceeding 20 feet on the refrigerant piping or pipe insulation. The identification shall indicate the refrigerant designation and safety group classification of refrigerant used in the piping ~~system. For Group B2L refrigerants the identification shall also include the following statement: "DANGER - Toxic Refrigerant." The minimum height of lettering of the identification label shall be ½ inch.~~ ~~**1109.4.3 Pipe identification.** Refrigerant pipe shall be identified with the refrigerant designation and safety group classification of refrigerant used in the piping system and the following statement: "DANGER – Risk of Fire or Explosion. Flammable Refrigerant." For Group B2 and B3 refrigerants the identification shall also include the following statement: "DANGER - Toxic Refrigerant." The~~ identification shall be at intervals not exceeding 5 feet on the refrigerant piping or pipe insulation. The minimum height of lettering of ~~the identification label shall be 1 inch.~~					
M101-18	Change the existing definition for TABLE 1104.3.2 to: **TABLE 1104.3.2** **MAXIMUM PERMISSIBLE QUANTITIES OF REFRIGERANTS** **TYPE OF REFRIGERATION SYSTEM** / **MAXIMUM POUNDS FOR VARIOUSOCCUPANCIES** Institutional / **Public Assembly** / Residential / All other occupancies		X			Clarification

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		Decrease	None	Increase		
Sub Code:						
	<table><tr><td>Sealed absorption system</td><td></td><td></td><td></td><td></td></tr><tr><td>In exit access</td><td>0</td><td>0</td><td>3.3</td><td>3.3</td></tr><tr><td>In adjacent outdoor locations</td><td>0</td><td>0</td><td>22</td><td>22</td></tr><tr><td>In other than exit access</td><td>0</td><td>6.6</td><td>6.6</td><td>6.6</td></tr><tr><td>Unit systems</td><td></td><td></td><td></td><td></td></tr><tr><td>In other than exit access</td><td>0</td><td>0</td><td>6.6</td><td>6.6</td></tr></table> For SI: 1 pound = 0.454 kg.					
M103-18	Change the existing definition for TABLE 1202.4 and 1202.5 to: **TABLE 1202.4** **HYDRONIC PIPE** <table><tr><th>MATERIAL</th><th>STANDARD (see Chapter</th></tr><tr><td>Acrylonitrile butadiene styrene (ABS) plastic pipe</td><td>ASTM D1527; ASTM F2806</td></tr><tr><td>Chlorinated polyvinyl chloride (CPVC) plastic pipe</td><td>ASTM D2846; ASTM F441; ASTM F442</td></tr><tr><td>Chlorinated Polyvinyl Chloride/Aluminum/Chlorinated Polyvinyl Chloride (CPVC/AL/CPVC)</td><td>ASTM F2855</td></tr><tr><td>Copper or copper-alloy pipe</td><td>ASTM B42; ASTM B43; ASTM B302</td></tr><tr><td>Copper or copper-alloy tube (Type K, L or M)</td><td>ASTM B75; ASTM B88; ASTM B135; ASTM B251</td></tr><tr><td>Cross-linked polyethylene/ aluminum/cross-linked polyethylene (PEX-AL-PEX) pressure pipe</td><td>ASTM F1281; CSA CAN/CSA-B- 137.10</td></tr><tr><td>Cross-linked polyethylene (PEX) tubing</td><td>ASTM F876</td></tr><tr><td>Ductile iron pipe</td><td>AWWA C115/A21.15; AWWA C151/A21.51</td></tr><tr><td>Lead pipe</td><td>FS WW-P-325B</td></tr><tr><td>Polyethylene/aluminum/polyethylene (PE-AL-PE)</td><td>ASTM F1282; CSA B137.9</td></tr><tr><td>Polypropylene (PP) plastic pipe</td><td>ASTM F2389</td></tr><tr><td>Polyvinyl chloride (PVC) plastic pipe</td><td>ASTM D1785; ASTM D2241</td></tr><tr><td>Raised temperature polyethylene (PE-RT)</td><td>ASTM F2623; ASTM F2769; CSA B137.18</td></tr><tr><td>Steel pipe</td><td>ASTM A53; ASTM A106</td></tr><tr><td>Steel tubing</td><td>ASTM A254</td></tr></table> **TABLE 1202.5** **HYDRONIC PIPE FITTINGS** <table><tr><th>MATERIAL</th><th>STANDARD (see Chapter 15)</th></tr><tr><td>Copper and copper alloys</td><td>ASTM B16.15; ASTM B16.18; ASTM B16.22; ASTM B16.26; ASTM B16.24; ASTM B16.51; ASSE 1061; ASTM F1974</td></tr><tr><td>Ductile iron and gray iron</td><td>ANSI/AWWA C110/A21.10; AWWA C153/A21.53; ASTM A395; ASTM A536; ASTM F1476; ASTM F1548</td></tr><tr><td>Ductile iron</td><td>ANSI/AWWAC153/A21.53</td></tr><tr><td>Gray iron</td><td>ASTM A126</td></tr></table>		X			Gives installers another option.

Table 6. 2021 IMC Changes Cost Impact

CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	<table><tr><td>Malleable iron</td><td>ASME B16.3</td></tr><tr><td>PE-RT fittings</td><td>ASSE 1061; ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; CSA B137.1; CSA B137.18</td></tr><tr><td>PEX fittings</td><td>ASSE 1061; ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2159</td></tr><tr><td>Plastic</td><td>ASTM D2466; ASTM D2467; ASTM D2846; ASTM F438; ASTM F439; ASTM F877; ASTM F2389; ASTM F2735</td></tr><tr><td>Steel</td><td>ASME B16.5; ASME B16.9; ASME B16.11; ASME B16.28; ASTM A53; ASTM A106; ASTM A234; ASTM A395; ASTM A420; ASTM A536; ASTM F1476; ASTM F1548</td></tr></table> **Solvent-cemented joints.** Joint surfaces shall be clean and free of moisture. An approved primer shall be applied to CPVC and PVC pipe-joint surfaces. Joints shall be made while the cement is wet. Solvent cement conforming to the following standards shall be applied to all joint surfaces: 1. ASTM D2235 for ABS joints. 2. ASTM F493 for CPVC joints. 3. ASTM D2564 for PVC joints. CPVC joints shall be made in accordance with ASTM D2846. **Exception:** For CPVC pipe joint connections, a primer is not required where all of the following conditions apply: 1. The solvent cement used is third-party certified as conforming to ASTM F493. 2. The solvent cement is yellow in color. 3. The solvent cement is used only for joining 1/2-inch (12.7 mm) through 2-inch (51 mm) diameter CPVC pipe and fittings. 4. The CPVC pipe ~~and~~ or fittings are manufactured in accordance with ASTM D2846. **~~1203.8~~ 1203.9 Polybutylene plastic pipe and tubing.** Joints between polybutylene plastic pipe and tubing or fittings shall be mechanical joints conforming to Section 1203.3 or heat-fusion joints conforming to Section ~~1203.8.1.~~1203.9.1. **~~1203.8.1~~ 1203.9.1 Heat-fusion joints.** Joints shall be of the socket-fusion or butt-fusion type. Joint surfaces shall be clean and free of moisture. Joint surfaces shall be heated to melt temperatures and joined. The joint shall be undisturbed until cool. Joints shall be made in accordance with ASTM D3309.					

Table 6. 2021 IMC Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IMC CHANGE SUMMARY</th><th colspan="3">IMC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td></td><td>Add new definition for 1203.8 as follows:
<u>1203.8 CPVC/AL/CPVC plastic pipe.</u> <u>Joints between CPVC/AL/CPVC plastic pipes or fittings shall be mechanical, solvent-cemented or threaded joints conforming to Section 1203.3</u>

Add new standard for ASTM.
ASTM
<u>F2855—12: Standard Specification for Chlorinated Poly(Vinyl Chloride)/Aluminum/Chlorinated Poly(Vinyl Chloride) (CPVC-AL-CPVC) Composite Pressure Tubing</u></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>M104-18</td><td>Change the existing definition for TABLE 1202.4 and 1202.5 to:
TABLE 1202.4
HYDRONIC PIPE
<table>
<tr><th>MATERIAL</th><th>STANDARD (see Chapter</th></tr>
<tr><td>Acrylonitrile butadiene styrene (ABS) plastic pipe</td><td>ASTM D1527; ASTM F2806</td></tr>
<tr><td>Chlorinated polyvinyl chloride (CPVC) plastic pipe</td><td>ASTM D2846; ASTM F441; ASTM F442</td></tr>
<tr><td>Chlorinated Polyvinyl Chloride/Aluminum/Chlorinated Polyvinyl Chloride (CPVC/AL/CPVC)</td><td>ASTM F2855</td></tr>
<tr><td>Copper or copper-alloy pipe</td><td>ASTM B42; ASTM B43; ASTM B302</td></tr>
<tr><td>Copper or copper-alloy tube (Type K, L or M)</td><td>ASTM B75; ASTM B88; ASTM B135; ASTM B251</td></tr>
<tr><td>Cross-linked polyethylene/ aluminum/cross-linked polyethylene (PEX-AL-PEX) pressure pipe</td><td>ASTM F1281; CSA CAN/CSA-B- 137.10</td></tr>
<tr><td>Cross-linked polyethylene (PEX) tubing</td><td>ASTM F876; <u>ASTM F3253</u></td></tr>
<tr><td>Ductile iron pipe</td><td>AWWA C115/A21.15; AWWA C151/A21.51</td></tr>
<tr><td>Lead pipe</td><td>FS WW-P-325B</td></tr>
<tr><td>Polyethylene/aluminum/polyethylene (PE-AL-PE)</td><td>ASTM F1282; CSA B137.9</td></tr>
<tr><td>Polypropylene (PP) plastic pipe</td><td>ASTM F2389</td></tr>
<tr><td>Polyvinyl chloride (PVC) plastic pipe</td><td>ASTM D1785; ASTM D2241</td></tr>
<tr><td>Raised temperature polyethylene (PE-RT)</td><td>ASTM F2623; ASTM F2769; CSA B137.18</td></tr>
<tr><td>Steel pipe</td><td>ASTM A53; ASTM A106</td></tr>
<tr><td>Steel tubing</td><td>ASTM A254</td></tr>
</table>
TABLE 1202.5
HYDRONIC PIPE FITTINGS
<table>
<tr><th>MATERIAL</th><th>STANDARD (see Chapter 15)</th></tr>
<tr><td>Copper and copper alloys</td><td>ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.26; ASME B16.24; ASME B16.51; ASSE 1061; ASTM F1974</td></tr>
</table></td><td></td><td>X</td><td></td><td></td><td>This new standard also requires a minimum pull-out strength test for the fittings not included in ASTM F877 today.</td></tr>
</table>

Table 6. 2021 IMC Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IMC CHANGE SUMMARY</th><th colspan="3">IMC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td></td><td>
<table>
<tr><td>Ductile iron and gray iron</td><td>ANSI/AWWA C110/A21.10; AWWA C153/A21.53; ASTM A395; ASTM A536; ASTM F1476; ASTM F1548</td></tr>
<tr><td>Ductile iron</td><td>ANSI/AWWAC153/A21.53</td></tr>
<tr><td>Gray iron</td><td>ASTM A126</td></tr>
<tr><td>Malleable iron</td><td>ASME B16.3</td></tr>
<tr><td>PE-RT fittings</td><td>ASSE 1061; ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; CSA B137.1; CSA B137.18</td></tr>
<tr><td>PEX fittings</td><td>ASSE 1061; ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2159; ASTM F3253</td></tr>
<tr><td>Plastic</td><td>ASTM D2466; ASTM D2467; ASTM D2846; ASTM F438; ASTM F439; ASTM F877; ASTM F2389; ASTM F2735</td></tr>
<tr><td>Steel</td><td>ASME B16.5; ASME B16.9; ASME B16.11; ASME B16.28; ASTM A53; ASTM A106; ASTM A234; ASTM A395; ASTM A420; ASTM A536; ASTM F1476; ASTM F1548</td></tr>
</table>
Add new standard for ASTM.
ASTM
F3253—2017: Standard Specification for Crosslinked Polyethylene (PEX) Tubing with Oxygen Barrier for Hot - and Cold - Water Hydronic Distribution Systems
</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>M106-18</td><td>Change the existing definition for TABLE 1202.5 to:
TABLE 1202.5
HYDRONIC PIPE FITTINGS
<table>
<tr><th>MATERIAL</th><th>STANDARD (see Chapter 15)</th></tr>
<tr><td>Copper and copper alloys</td><td>ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.26; ASME B16.24; ASME B16.51; ASSE 1061; ASTM F1974</td></tr>
<tr><td>CPVC</td><td>ASSE 1061; ASTM D2846; ASTM F438; ASTM F439</td></tr>
<tr><td>Ductile iron and gray iron</td><td>ANSI/AWWA C110/A21.10; AWWA C153/A21.53; ASTM A395; ASTM A536; ASTM F1476; ASTM F1548</td></tr>
<tr><td>Ductile iron</td><td>ANSI/AWWA C153/A21.53</td></tr>
<tr><td>Gray iron</td><td>ASTM A126</td></tr>
<tr><td>Malleable iron</td><td>ASME B16.3</td></tr>
<tr><td>PE-RT fittings</td><td>ASSE 1061; ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; CSA B137.1; CSA B137.18</td></tr>
<tr><td>PEX fittings</td><td>ASSE 1061; ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2159</td></tr>
<tr><td>Plastic</td><td>ASTM D2466; ASTM D2467; ~~ASTM F438; ASTM F439;~~ ASTM F877; ASTM F2389; ASTM F2735</td></tr>
<tr><td>Steel</td><td>ASME B16.5; ASME B16.9; ASME B16.11; ASME B16.28; ASTM A53; ASTM A106; ASTM A234; ASTM A395; ASTM A420; ASTM A536; ASTM F1476; ASTM F1548</td></tr>
</table>
</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>M107-18</td><td>Change the existing definition for 1203.14.3 Push-fit joints to:
1203.14.3 Push-fit ~~joints~~ fittings. Push-fit ~~joints that create a seal on the outside diameter of the tubing shall not be used with tubing that has an ethylene vinyl alcohol copolymer (EVOH)~~</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 6. 2021 IMC Changes Cost Impact

<table>
<tr><th>CODE CHANGE #</th><th>2021 IMC CHANGE SUMMARY</th><th colspan="3">IMC COST IMPACT</th><th>ESTIMATED AMOUNT*</th><th>BENEFIT OF CHANGE</th></tr>
<tr><th></th><th></th><th>Decrease</th><th>None</th><th>Increase</th><th></th><th></th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td></td><td>~~oxygen barrier layer~~ fittings shall comply with ASSE 1061 and be used with PE-RT tubing that is rated for use with such fittings by the tubing manufacturer.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>M108-18</td><td>Change the existing definition for 1203.9.3 Push-fit joints to:
1203.9.3 Push-fit ~~joints~~ fittings. Push-fit ~~joints that create a seal on the outside diameter of the tubing~~ ~~shall not~~ fittings shall comply with ASSE 1061 and be used with ~~tubing that has an ethylene vinyl alcohol~~ ~~copolymer (EVOH) oxygen barrier layer~~ PEX tubing that is rated for use with such fittings by the tubing manufacturer.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>M109-18</td><td>Change the existing definition for TABLE 1210.4, 1210.5, 1210.8 and Chapter 15 to:
TABLE 1210.4
GROUND-SOURCE LOOP PIPE
<table>
<tr><th>MATERIAL</th><th>STANDARD (see Chapter 15)</th></tr>
<tr><td>Chlorinated polyvinyl chloride (CPVC)</td><td>ASTM D2846; ASTM F441; ASTM F442</td></tr>
<tr><td>Cross-linked polyethylene (PEX)</td><td>ASTM F876; CSA B137.5; CSA C448</td></tr>
<tr><td>Polyethylene/aluminum/polyethylene (PE-AL-PE) pressure pipe</td><td>ASTM F1282; CSA B137.9</td></tr>
<tr><td>High-density polyethylene (HDPE)</td><td>ASTM D2737; ASTM D3035; ASTM F714; AWWA C901; CSA B137.1; CSA C448; NSF 358-1</td></tr>
<tr><td>Polypropylene (PP-R)</td><td>ASTM F2389; CSA B137.11; NSF 358-2</td></tr>
<tr><td>Polyvinyl chloride (PVC)</td><td>ASTM D1785; ASTM D2241</td></tr>
<tr><td>Raised temperature polyethylene (PE-RT)</td><td>ASTM F2623; ASTM F2769; CSA B137.18; CSA C448</td></tr>
</table>
TABLE 1210.5
GROUND-SOURCE LOOP PIPE FITTINGS
<table>
<tr><th>PIPE MATERIAL</th><th>STANDARD (see Chapter 15)</th></tr>
<tr><td>Chlorinated polyvinyl chloride (CPVC)</td><td>ASTM D2846; ASTM F437; ASTM F438; ASTM F439; CSA B137.6</td></tr>
<tr><td>Cross-linked polyethylene (PEX)</td><td>ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2159; ASTM F2434; CSA B137.5; CSA 448</td></tr>
<tr><td>Polyethylene/aluminum/polyethylene (PE-</td><td>ASTM F1282; ASTM F2434; CSA B137.9</td></tr>
<tr><td>High Density Polyethylene (HDPE)</td><td>ASTM D2683; ASTM D3261; ASTM F1055; CSA B137.1; CSA C448; CSA 448; NSF 358-1</td></tr>
<tr><td>Polypropylene (PP-R)</td><td>ASTM F2389; CSA B137.11; NSF 358-2</td></tr>
<tr><td>Polyvinyl chloride (PVC)</td><td>ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3</td></tr>
</table></td><td></td><td>X</td><td></td><td></td><td>Adding reference to C448 in this row, will indicate that this material is explicitly approved in ANSI/CSA/IGSHPA C448-16.</td></tr>
</table>

Table 6. 2021 IMC Changes Cost Impact

CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Raised temperature polyethylene (PE- RT) | ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; CSA B137.1; CSA B137.18 ; CSA 448 **1210.8 Installation.** Piping, valves, fittings, and connections shall be installed in accordance with ANSI/CSA/IGSHPA C448 and the conditions of approval. Add new standard for CSA. **CSA** ANSI/CSA/IGSHPA C448 Series—16: Design and Installation of Earth Energy Systems					
M109-18	Change the existing definition for TABLE 1210.4, 1210.5, 1210.8 and Chapter 15 to: ~~**Thermal barrier**~~ **Insulation and thermal break required.** Radiant floor heating systems shall be provided with insulation and a thermal ~~barrier~~ break in accordance with Sections 1209.5.1 and 1209.5.2. Insulation R-values for slab-on-grade and suspended floor installation shall be in accordance with the International Energy Conservation Code. ~~**Thermal barrier**~~ **Insulation material marking.** Insulating materials utilized in ~~thermal barriers~~ radiant floor heating systems shall be installed such that the manufacturer's R-value mark is readily observable upon inspection.		X			Clarification
M112-18	Change the existing definition for TABLE 1210.4 and 1210.5 to: **TABLE 1210.4** **GROUND-SOURCE LOOP PIPE** **MATERIAL** | **STANDARD (see Chapter 15)** Chlorinated polyvinyl chloride (CPVC) | ASTM D2846; ASTM F441; ASTM F442 Cross-linked polyethylene (PEX) | ASTM F876; CSA B137.5; CSA C448 Polyethylene/aluminum/polyethylene (PE-AL-PE) pressure pipe | ASTM F1282; CSA B137.9 High-density polyethylene (HDPE) | ASTM D2737; ASTM D3035; ASTM F714; AWWA C901; CSA B137.1; CSA C448; NSF 358-1 Polypropylene (PP-R) | ASTM F2389; CSA B137.11; NSF 358-2 Polyvinyl chloride (PVC) | ASTM D1785; ASTM D2241 Raised temperature polyethylene (PE-RT) | ASTM F2623; ASTM F2769; CSA B137.18; NSF 358-4 **TABLE 1210.5**		X			Necessary addition for clarification

Table 6. 2021 IMC Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IMC CHANGE SUMMARY</th><th colspan="3">IMC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
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<tr><td></td><td>
GROUND-SOURCE LOOP PIPE FITTINGS
<table>
<tr><td>PIPE MATERIAL</td><td>STANDARD (see Chapter 15)</td></tr>
<tr><td>Chlorinated polyvinyl chloride (CPVC)</td><td>ASTM D2846; ASTM F437; ASTM F438; ASTM F439; CSA B137.6</td></tr>
<tr><td>Cross-linked polyethylene (PEX)</td><td>ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2159; ASTM F2434; CSA B137.5</td></tr>
<tr><td>Polyethylene/aluminum/polyethylene (PE-AL-PE)</td><td>ASTM F1282; ASTM F2434; CSA B137.9</td></tr>
<tr><td>High Density Polyethylene (HDPE)</td><td>ASTM D2683; ASTM D3261; ASTM F1055; CSA B137.1; CSA C448; CSA 448; NSF 358-1</td></tr>
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<tr><td>Polyvinyl chloride (PVC)</td><td>ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3</td></tr>
<tr><td>Raised temperature polyethylene (PE- RT)</td><td>ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; CSA B137.1; CSA B137.18 ; NSF 358-4</td></tr>
</table>
Add new standard for NSF.
NSF
NSF 358-4-2017: Polyethylene of raised temperature (PE-RT) pipe and fittings for water-based ground-source (geothermal) heat pump systems
</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>M113-18</td><td>
Change the existing definition for TABLE 1210.4 and 1210.5 to:
TABLE 1210.4
GROUND-SOURCE LOOP PIPE
<table>
<tr><th>MATERIAL</th><th>STANDARD (see Chapter 15)</th></tr>
<tr><td>Chlorinated polyvinyl chloride (CPVC)</td><td>ASTM D2846; ASTM F441; ASTM F442</td></tr>
<tr><td>Cross-linked polyethylene (PEX)</td><td>ASTM F876; CSA B137.5; NSF 358-3</td></tr>
<tr><td>Polyethylene/aluminum/polyethylene (PE-AL-PE) pressure pipe</td><td>ASTM F1282; CSA B137.9</td></tr>
<tr><td>High-density polyethylene (HDPE)</td><td>ASTM D2737; ASTM D3035; ASTM F714; AWWA C901; CSA B137.1; CSA C448; NSF 358-1</td></tr>
<tr><td>Polypropylene (PP-R)</td><td>ASTM F2389; CSA B137.11; NSF 358-2</td></tr>
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<tr><td>Raised temperature polyethylene (PE-RT)</td><td>ASTM F2623; ASTM F2769; CSA B137.18;</td></tr>
</table>
TABLE 1210.5
</td><td></td><td>X</td><td></td><td></td><td>Provides an additional option.</td></tr>
</table>

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GROUND-SOURCE LOOP PIPE FITTINGS
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<tr><td>Polyethylene/aluminum/polyethylene (PE-AL-PE)</td><td>ASTM F1282; ASTM F2434; CSA B137.9</td></tr>
<tr><td>High Density Polyethylene (HDPE)</td><td>ASTM D2683; ASTM D3261; ASTM F1055; CSA B137.1; CSA C448; CSA 448; NSF 358-1</td></tr>
<tr><td>Polypropylene (PP-R)</td><td>ASTM F2389; CSA B137.11; NSF 358-2</td></tr>
<tr><td>Polyvinyl chloride (PVC)</td><td>ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3</td></tr>
<tr><td>Raised temperature polyethylene (PE- RT)</td><td>ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; CSA B137.1; CSA B137.18</td></tr>
</table>
Add new standard for NSF.
NSF
NSF 358-4-2017: Polyethylene of raised temperature (PE-RT) pipe and fittings for water-based ground-source (geothermal) heat pump systems
</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>M114-18</td><td>
Change the existing definition for TABLE 1210.4 to:
TABLE 1210.4
GROUND-SOURCE LOOP PIPE
<table>
<tr><th>MATERIAL</th><th>STANDARD (see Chapter 15)</th></tr>
<tr><td>Acrylonitrile butadiene styrene (ABS) plastic pipe</td><td>ASTM D1527; ASTM F2806</td></tr>
<tr><td>Chlorinated polyvinyl chloride (CPVC)</td><td>ASTM D2846; ASTM F441; ASTM F442</td></tr>
<tr><td>Copper or copper-alloy pipe</td><td>ASTM B42; ASTM B43; ASTM B302</td></tr>
<tr><td>Copper or copper-alloy tube (Type K, L or M)</td><td>ASTM B75; ASTM B88; ASTM B135; ASTM B251</td></tr>
<tr><td>Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pressure pipe</td><td>ASTM F1281; CSA CAN/CSA-B-137.10</td></tr>
<tr><td>Cross-linked polyethylene (PEX) tubing</td><td>ASTM F876; CSA B137.5</td></tr>
</table>
</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 6. 2021 IMC Changes Cost Impact

CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	<table><tr><td>Ductile iron pipe</td><td>AWWA C115/A21.15; AWWA C151/A21.51</td></tr><tr><td>Lead pipe</td><td>FS WW-P-325B</td></tr><tr><td>Polyethylene/aluminum/polyethylene (PE-AL-PE) pressure pipe</td><td>ASTM F1282; CSA B137.9</td></tr><tr><td>Polypropylene (PP) plastic pipe</td><td>ASTM F2389</td></tr><tr><td>Polyvinyl chloride (PVC)</td><td>ASTM D1785; ASTM D2241</td></tr><tr><td>Raised temperature polyethylene (PE-RT)</td><td>ASTM F2623; ASTM F2769; CSA B137.18;</td></tr><tr><td>Steel pipe</td><td>ASTM A53; ASTM A106</td></tr><tr><td>Steel tubing</td><td>ASTM A254</td></tr></table>					
M116-18	Change the existing definition for 1203.7 to: **1203.7 CPVC plastic pipe.** Joints between CPVC plastic pipe or fittings shall be mechanical, solvent-cemented or threaded joints conforming to Section 1203.3.		X			Clarification
M117-18	Change the existing definition for 1210.6.2 to: **1210.6.2 Preparation of pipe ends.** Pipe shall be cut square~~, be reamed,~~ and be free of burrs and obstructions. ~~CPVC, PE, and PVC pipe shall be chamfered.~~ Pipe ends shall have full-bore openings and shall ~~not be undercut.~~be prepared in accordance with manufacturer's instructions.		X			Clarification
M118-18	Change the existing definition for 1210.8 to: **1210.8 Installation.** Piping, valves, fittings, and connections shall be installed in accordance with the ~~conditions of approval~~ manufacturer's instructions.		X			Clarification
M119-18 Part II	Change the existing definition for 1210.8 to: **M2103.1 Piping materials.** Piping for embedment in concrete or gypsum materials shall be standard-weight steel pipe, copper and copper-alloy pipe and tubing, cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pressure pipe, chlorinated polyvinyl chloride (CPVC), ~~polybutylene,~~ cross-linked polyethylene (PEX) tubing, polyethylene of raised temperature (PE-RT) or polypropylene (PP) with a rating of not less than ~~100~~ 80 psi at 180°F (~~690~~ 552 kPa at 82°C).		X			Clarification
M120-18	Change the existing definition for TABLE 1302.3 to: **1302.9 ~~Corrugated stainless steel tubing containment~~ Piping systems.** ~~Corrugated stainless steel tubing that is factory-installed within a non-metallic containment~~ Aboveground pipe systems shall be listed and labeled in accordance with UL 1369.	X				Clarification

Table 6. 2021 IMC Changes Cost Impact

CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Underground pipe systems shall be listed and labeled in accordance with ~~or~~ UL 971A. **TABLE 1302.3** **FUEL OIL PIPING** **MATERIAL** / **STANDARD (see Chapter 15)** Copper or copper-alloy pipe — ASTM B42; ASTM B43; ASTM B302 Copper or copper-alloy tubing (Type K, L or M) — ASTM B75; ASTM B88; ASTM B280; ASME B16.51 Labeled pipe — (See Section 1302.4) Nonmetallic pipe — ASTM D2996 Steel pipe — ASTM A53; ASTM A106 Steel tubing — ASTM A254; ASTM A539 ~~Stainless steel tubing — ASTM A240; UL1369; UL971A~~					
M121-18	Change the existing definition for SECTION 1301, 1302, and 1303 to: **1302.8 Flexible connectors and hoses.** Flexible connectors and hoses shall be listed and labeled as being acceptable for the intended application for flammable and combustible liquids in accordance with UL 536. **UL** ~~536-97: Flexible Metallic Hose-with revisions through December 2014~~		X			Clarification
M127-18	Change the existing definition for 1402.8.1.2 to: **1402.8.1.2 Rooftop-mounted solar thermal collectors and systems.** The roof shall be constructed to support the loads imposed by roof-mounted solar collectors. Where mounted on or above the roof covering, the collector array, ~~stanchions~~ mounting systems and their attachments to the roof shall be constructed of noncombustible materials or fire-retardant-treated wood conforming to the International Building Code to the extent required for the type of roof construction of the building to which the collectors are accessory.		X			Clarification
M128-18	Change the existing definition for 1404.1 to: **1404.1 Collectors.** Factory-built solar thermal collectors shall bear a label showing the manufacturer's name and ~~address, model number and~~ serial number or certification number.		X			Clarification
ADM6-19	Change the existing definition for IMC: [A] 101.2; IPC: [A] 101.2; IEBC: [A] 101.2; and IFGC: [A] 101.2; to: **2018 International Mechanical Code** **[A] 101.2 Scope.** This code shall regulate the design, installation, maintenance, *alteration* and inspection of mechanical systems that are permanently installed and utilized to provide control of		X			Clarification

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	environmental conditions and related processes within buildings. This code shall also regulate those mechanical systems, system components, *equipment* and appliances specifically addressed herein. The installation of fuel gas distribution piping and *equipment*, fuel gas-fired appliances and fuel gas-fired *appliance* venting systems shall be regulated by the International Fuel Gas Code. **Exception:** Detached one- and two-family dwellings and ~~multiple single-family dwellings (~~ townhouses~~)~~ not more than three stories ~~high~~ 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, shall comply with this code or the International Residential Code. **2018 International Plumbing Code** **[A] 101.2 Scope.** The provisions of this code shall apply to the erection, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of plumbing systems within this jurisdiction. This code shall regulate nonflammable medical gas, inhalation anesthetic, vacuum piping, nonmedical oxygen systems and sanitary and condensate vacuum collection systems. The installation of fuel gas distribution piping and equipment, fuel-gas-fired water heaters and water heater venting systems shall be regulated by the International Fuel Gas Code. Provisions in the appendices shall not apply unless specifically adopted. **Exception:** Detached one- and two-family dwellings and ~~multiple single-family dwellings (~~ townhouses~~)~~ not more than three stories ~~high~~ 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, shall comply with this code or the International Residential Code. **2018 International Existing Building Code** **[A] 101.2 Scope.** The provisions of the this code shall apply to the *repair*, alteration, *change of occupancy*, *addition* to and relocation of *existing buildings*. **Exception:** Detached one- and two-family dwellings and ~~multiple single-family *dwellings*~~ (townhouses~~)~~ not more than					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	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, shall comply with this code or the International Residential Code. **2018 International Fuel Gas Code** **[A] 101.2 Scope.** This code shall apply to the installation of fuel-gas *piping* systems, fuel gas appliances, gaseous hydrogen systems and related accessories in accordance with Sections 101.2.1 through 101.2.5. **Exception:** Detached one- and two-family dwellings and ~~multiple single-family dwellings (~~ townhouses~~)~~ not more than three stories ~~high~~ 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, shall comply with this code or the International Residential Code.					
ADM9-19 Part I	Change the existing definition for IBC: [A] 101.3; IFC: [A] 101.3; IEBC: [A] 101.3; IPC: [A] 101.3; IMC: [A] 101.3; IPSDC: [A] 101.6; IFGC: [A] 101.4; ISPDC: [A] 101.3; IPMC: [A] 101.3; IZC: [A] 101.2; IWUIC: [A] 101.3; ICCPC: [A] 101.4 and [A] 101.4.1 to: **2018 International Building Code** **[A] 101.3 ~~Intent.~~ Purpose.** The purpose of this code is to establish the minimum requirements to provide a reasonable level of safety, ~~public~~ health and general welfare through structural strength, *means of egress* ~~facilities~~, stability, sanitation, ~~adequate~~ light and ventilation, energy conservation, and safety to life and property from fire, explosion and other hazards, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations. **2018 International Fire Code** **[A] 101.3 ~~Intent.~~ Purpose.** The purpose of this code is to establish the minimum requirements consistent with nationally recognized good practice for providing a reasonable level of life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations.		X			Clarification

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	2018 International Existing Building Code **[A] 101.3 ~~Intent.~~ Purpose.** The ~~intent~~ purpose of this code is to provide flexibility to permit the use of alternative approaches to achieve compliance with minimum requirements to ~~safeguard the public~~ provide a reasonable level of safety, health, ~~safety~~ and general welfare insofar as they are affected by the *repair*, *alteration*, *change of occupancy*, *addition* and relocation of *existing buildings*. **2018 International Plumbing Code** **101.3 ~~Intent.~~ Purpose.** The purpose of this code is to establish minimum ~~standards~~ requirements to provide a reasonable level of safety, health, property protection and ~~public~~ general welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of plumbing equipment and systems. **2018 International Mechanical Code** **[A] 101.3 ~~Intent.~~ Purpose.** The purpose of this code is to establish minimum ~~standards~~ requirements to provide a reasonable level of safety, health, property protection and ~~public~~ general welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of mechanical equipment or systems. **2018 International Private Sewage Disposal Code** **[A] 101.6 ~~Intent.~~ Purpose.** The purpose of this code is to establish minimum ~~standards~~ requirements to provide a reasonable level of safety health, property protection and ~~public~~ general welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of *private sewage disposal systems*. **2018 International Fuel Gas Code** **[A] 101.4 ~~Intent.~~ Purpose.** The purpose of this code is to establish minimum ~~standards~~ requirements to provide a reasonable level of safety, health, property protection and ~~public~~ general welfare by regulating and controlling the design, construction,					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	installation, quality of materials, location, operation and maintenance or use of fuel gas equipment or systems. **2018 International Swimming Pool and Spa Code** **[A] 101.3 ~~Intent.~~ Purpose.** The purpose of this code is to establish minimum ~~standards~~ requirements to provide a reasonable level of safety ~~and protection of health~~, health, property protection and ~~public~~ general welfare by regulating and controlling the design, construction, installation, quality of materials, location and maintenance or use of pools and spas. **2018 International Property Maintenance Code** **[A] 101.3 ~~Intent.~~ Purpose.** ~~This code shall be construed to secure its expressed intent, which is to ensure public~~ The purpose of this code is to establish minimum requirements to provide a reasonable level of health, safety and general welfare insofar as they are affected by the continued *occupancy* and maintenance of structures and *premises*. Existing structures and *premises* that do not comply with these provisions shall be altered or repaired to provide a reasonable minimum level of health, safety and ~~safety~~ general welfare as required herein. **2018 International Zoning Code** **[A] 101.2 ~~Intent.~~ Purpose.** The purpose of this code is to ~~safeguard the health, property and public~~ establish minimum requirements to provide a reasonable level of health, safety, property protection and welfare by controlling the design, location, use or occupancy of all buildings and structures through the regulated and orderly development of land and land uses within this jurisdiction. **2018 International Wildland-Urban Interface Code** **[A] 101.3 ~~Objective.~~ Purpose.** The ~~objective~~ purpose of this code is to establish minimum regulations consistent with nationally recognized good practice for the safeguarding of life and for property protection. Regulations in this code are intended to mitigate the risk to life and structures from intrusion of fire from wildland fire exposures and fire exposures from adjacent structures and to mitigate structure fires from spreading to					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	wildland fuels. The extent of this regulation is intended to be tiered commensurate with the relative level of hazard present. **2018 International Code Council Performance Code** **[A] 101.4 ~~Intent.~~ Purpose.** **[A] 101.4.1 Building.** ~~To~~ The purpose of this code is to provide an acceptable level of health, safety, and general welfare and to limit damage to property from events that are expected to impact buildings and structures. Accordingly, Part II of this code intends buildings and structures to provide for the following: 1. An environment free of unreasonable risk of death and injury from fires. 2. A structure that will withstand loads associated with normal use and of the severity associated with the location in which the structure is constructed. 3. Means of egress and access for normal and emergency circumstances. 4. Limited spread of fire both within the building and to adjacent properties. 5. Ventilation and sanitation facilities to maintain the health of the occupants. 6. Natural light, heating, cooking and other amenities necessary for the well being of the occupants. 7. Efficient use of energy. 8. Safety to fire fighters and emergency responders during emergency operations.					
ADM16-19 Part I	Change the existing definition for IBC: SECTION 103; IFC: SECTION 103; IPC: SECTION 103; IMC: SECTION 103; IFGC: SECTION 103; IEBC: SECTION 103; ISPSC: SECTION 103; IPMC: SECTION 103; IPSDC: SECTION 103 and IWUIC: SECTION 103 to: **2018 International Building Code** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~ CODE COMPLIANCE AGENCY** **[A] 103.1 Creation of ~~enforcement~~ agency.** The ~~Department of Building Safety~~ [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the building official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code.		X			Clarification

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] 103.2 Appointment. The *building official* shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the building official shall have the authority to appoint a deputy building official, ~~the~~ other related technical officers, inspectors~~, plan examiners~~ and other employees. Such employees shall have powers as delegated by the building official. ~~For the maintenance of existing properties, see the International Property Maintenance Code.~~ **2018 International Fire Code** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~ CODE COMPLIANCE AGENCY** **[A] 103.1 ~~General.~~ Creation of agency.** The ~~department of fire prevention is established within the jurisdiction under the direction of the *fire code official*.~~ [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the fire code official. The function of the ~~department~~ agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The *fire code official* shall be appointed by the chief appointing authority of the jurisdiction.~~; and the *fire code official* shall not be removed from office except for cause and after full opportunity to be heard on specific and relevant charges by and before the appointing authority.~~ **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the fire code official shall have the authority to appoint a deputy fire code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the fire code official. **[A] ~~103.4~~ 104.7 Liability.** The *fire code official*, member of the board of appeals, officer or employee charged with the enforcement of this code, while acting for the jurisdiction, in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.7.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representatives of the jurisdiction until the final termination of the proceedings. The fire code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code; and any officer of the department of fire prevention, acting in good faith and without malice, shall be free from liability for acts performed under any of its provisions or by reason of any act or omission in the performance of official duties in connection therewith. **2018 International Plumbing Code** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~ CODE COMPLIANCE AGENCY** **103.1 ~~General.~~ Creation of agency.** The ~~department of plumbing inspection~~ [INSERT NAME OF DEPARTMENT] is hereby created and the ~~executive~~ official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction. **103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official. **~~103.4~~ 104.8 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. ~~**103.4.1**~~ **104.8.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representative of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Mechanical Code** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~ CODE COMPLIANCE AGENCY** **[A] 103.1 ~~General.~~ Creation of agency.** The ~~department of mechanical inspection~~ [INSERT NAME OF DEPARTMENT] is hereby created and the ~~executive~~ official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official. **[A] ~~103.4~~ 104.8 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	civilly or criminally liable personally, and is hereby relieved from personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.8.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Fuel Code** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~ CODE COMPLIANCE AGENCY** **[A] 103.1 ~~General.~~ Creation of agency.** The ~~Department of Inspection~~ [INSERT NAME OF DEPARTMENT] is hereby created and the ~~executive~~ official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official. **[A] ~~103.4~~ 104.8 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or					

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CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	property as a result of an act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.8.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Existing Building Code** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~ CODE COMPLIANCE AGENCY** **[A] 103.1 Creation of ~~enforcement~~ agency.** The ~~Department of Building Safety~~ [INSERT NAME OF DEPARTMENT] is hereby created , and the official ~~incharge~~ in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The *code official* shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, ~~the~~ other related technical officers, inspectors~~, plan examiners,~~ and other employees. Such employees shall have powers as delegated by the code official. **2018 International Swimming Pool and Spa Code** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~ CODE COMPLIANCE AGENCY** **[A] 103.1 Creation of ~~enforcement~~ agency.** The ~~department of building safety~~ [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the					

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		Decrease	None	Increase		
Sub Code:						
	code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of ~~the~~ this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, ~~the~~ other related technical officers, inspectors~~, plans examiners~~ and other employees. Such employees shall have powers as delegated by the code official. **[A] ~~103.4~~ 104.8 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.8.1 Legal defenses.** Any suit or criminal complaint instituted against an officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for cost in any action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Property Maintenance Code** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~ CODE COMPLIANCE AGENCY** **[A] 103.1 ~~General.~~ Creation of agency.** The ~~department of property maintenance inspection~~ [INSERT NAME OF DEPARTMENT] is hereby created and the ~~executive~~ official in charge thereof shall be known as the code official. The function					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
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Sub Code:						
	of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The *code official* shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy ~~(s).~~ code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official. **[A] ~~103.4~~ 104.7 Liability.** The *code official*, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction, in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.7.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representative of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Private Sewage Disposal Code** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~ CODE COMPLIANCE AGENCY** **[A] 103.1 ~~General.~~ Creation of agency.** The ~~Department of Private Sewage Disposal Inspection~~ [INSERT NAME OF DEPARTMENT] is hereby created and the ~~executive~~ official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] 103.2 Appointment. The code official shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of ~~the~~ this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official. **[A] ~~103.4~~ 104.7 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.7.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Wildland-Urban Interface Code** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~ CODE COMPLIANCE AGENCY** **[A] 103.1 Creation of ~~enforcement~~ agency.** The ~~department of~~ [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	[A] 103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a ~~deputy(s).~~ deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official.					
ADM27-19	Add new definition for SECTION 107 FEES, 107.2 Schedule of Permit feees, 107.3 Permit valuations, 107.5 Related fees and 107.6 Refunds as follows: **2018 International Mechanical Code** **SECTION 107** **FEES** **107.2 Schedule of permit fees.** Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority. **107.3 Permit valuations.** The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as mechanical equipment and permanent systems. If, in the opinion of the code official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the code official. Final building permit valuation shall be set by the code official. **107.5 Related fees.** The payment of the fee for the construction, alteration, removal or demolition for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law. **107.6 Refunds.** The code official is authorized to establish a refund policy. Change the existing definition for [A] 106.5 Fees and [A] 106.5.1 Work commencing before permit issuance to: **[A] ~~106.5~~ 107.1 ~~Fees.~~ Payment of fees.** A permit shall not be ~~issued~~ valid until the fees prescribed ~~in Section 106.5.2~~ by law have been paid.~~, nor shall an~~ An amendment to a permit shall not		X			It helps correlate all the I-Codes together and makes it easier to understand where the requirements are located.

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	be released until the additional fee, if any~~, due to an increase of the mechanical system~~, has been paid. **[A] ~~106.5.1~~ 107.4 Work commencing before permit issuance.** Any person who commences any work on a mechanical system before obtaining the necessary permits shall be subject to ~~100 percent of the usual permit fee~~ a fee established by the code official that shall be in addition to the required permit fees. Delete the existing definition for [A] 106.5.2 Fee schedule and [A] 106.5.3 Fee refunds. Add new definition for SECTION 107 FEES, 107.2 Schedule of Permit fees, 107.5 Related fees and 107.6 Refunds as follows: **2018 International Plumbing Code** **SECTION 107** **FEES** **107.2 Schedule of permit fees.** Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority. **107.5 Related fees.** The payment of the fee for the construction, alteration, removal or demolition for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law. **107.6 Refunds.** The code official is authorized to establish a refund policy. Change the existing definition for [A] 106.6 Fees and [A] 106.6.1 Work commencing before permit issuance to: **~~106.6~~ 107.1 ~~Fees.~~ Payment of fees.** A permit shall not be ~~issued~~ valid until the fees prescribed ~~in Section 106.6.2~~ by law have been paid.~~, and an~~ An amendment to a permit shall not be released until the additional fee, if any~~, due to an increase of the plumbing systems~~, has been paid. **~~106.6.1~~ 107.4 Work commencing before permit issuance.** Any person who commences any work on a ~~plumbing~~ mechanical system before obtaining the necessary permits shall be subject to					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	None	Increase		
Sub Code:						
	~~100 percent of~~ ~~the usual permit~~ a fee established by the code official that shall be in addition to the required permit fees. Delete the existing definition for [A] 106.5.2 Fee schedule and 106.6.3 Fee refunds. Add new definition for SECTION 104 FEES and 104.2 Refunds as follows: **2018 International Property Maintenance Code** **SECTION 104** **FEES** **104.2 Refunds.** The code official is authorized to establish a refund policy. Change the existing definition for [A] 103.5 Fees to: **[A] ~~103.5~~ 104.1 Fees.** The fees for activities and services performed by the department in carrying out its responsibilities under this code shall be as ~~indicated in the following schedule~~ established by the applicable governing authority. ~~[JURISDICTION TO INSERT APPROPRIATE SCHEDULE.]~~ Add new definition for SECTION 107 FEES, 107.2 Refunds, 107.3 Permit valuations, 107.5 Related fees and 107.6 Refunds as follows: **2018 International Fuel Gas Code** **SECTION 107** **FEES** **107.2 Schedule of permit fees.** Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority. **107.3 Permit valuations.** The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as plumbing equipment and permanent systems. If, in the opinion of the code official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	estimates to meet the approval of the code official. Final building permit valuation shall be set by the code official. **107.5 Related fees.** The payment of the fee for the construction, alteration, removal or demolition for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law. **107.6 Refunds.** The code official is authorized to establish a refund policy. Change the existing definition for [A] 106.6 Fees and [A] 106.6.1 Work commencing before permit issuance to: **[A] ~~106.6~~ 107.1 ~~Fees.~~ Payment of fees.** A permit shall not be ~~issued~~ valid until the fees prescribed ~~in~~ ~~Section 106.6.2~~ by law have been paid.~~, nor shall an~~ An amendment to a permit shall not be released until the additional fee, if any~~, due to an increase of the installation~~, has been paid. **[A] ~~106.6.1~~ 107.4 Work commencing before permit issuance.** Any person who commences any work on ~~an installation~~ a mechanical system before obtaining the necessary permits shall be subject to ~~100 percent of the usual permit fee~~ a fee established by the code official that shall be in addition to the required permit fees. Delete the existing definition for [A] 106.6.2 Fee schedule and 106.6.3 Fee refunds. Add new definition for SECTION 106 FEES, 106.2 Refunds, 106.3 Permit valuations, 106.5 Related fees and 106.6 Refunds as follows: **2018 International Swimming Pool and Spa Code** **SECTION 106** **FEES** **106.2 Schedule of permit fees.** Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	106.3 Permit valuations. The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as mechanical equipment and permanent systems. If, in the opinion of the code official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the code official. Final building permit valuation shall be set by the code official. **106.5 Related fees.** The payment of the fee for the construction, alteration, removal or demolition for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law. **106.6 Refunds.** The code official is authorized to establish a refund policy. Change the existing definition for [A] 105.6 Fees and [A] 105.6.1 Work commencing before permit issuance to: **[A] ~~105.6~~106.1 ~~Fees.~~ Payment of fees.** A permit shall not be valid until the fees prescribed by law have been paid. An amendment to a permit shall not be released until the additional fee, if any, has been paid. **[A] ~~105.6.1~~ 106.4 Work commencing before permit issuance.** Any person who commences any work on a mechanical system before obtaining the necessary permits shall be subject to a fee ~~as indicated in the adopted fee schedule and would~~ established by the code official that shall be in addition to the required permit fees. Delete the existing definition for [A] 105.6.2 Fee schedule and 105.6.3 Fee refunds.					
ADM28-19	Change the existing definition for SECTION 107 to: **2018 International Building Code** **SECTION 107** **~~SUBMITTAL~~ CONSTRUCTION DOCUMENTS** Change the existing definition for SECTION 107 to: **2018 International Fire Code**		X			Clarification

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	SECTION 107 **CONSTRUCTION DOCUMENTS** **[A] ~~105.4.1~~106.1 Submittals.** *Construction documents* and supporting data shall be submitted in two or more sets with each application for a permit and in such form and detail as required by the *fire code official*. The *construction documents* shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. **Exception:** The *fire code official* is authorized to waive the submission of *construction documents* and supporting data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of *construction documents* is not necessary to obtain compliance with this code. **[A] ~~105.4.1.1~~ 106.2 Examination of documents.** The *fire code official* shall examine or cause to be examined the accompanying *construction documents* and shall ascertain by such examinations whether the work indicated and described is in accordance with the requirements of this code. **[A] ~~105.4.2~~ 106.2.1 Information on construction documents.** *Construction documents* shall be drawn to scale on suitable material. Electronic media documents are allowed to be submitted where *approved* by the *fire code official*. *Construction documents* shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations as determined by the *fire code official*. **[A] ~~105.4.2.1~~ 106.2.2 Fire protection system shop drawings.** Shop drawings for the fire protection system(s) shall be submitted to indicate compliance with this code and the *construction documents*, and shall be *approved* prior to the start of installation. Shop drawings shall contain all information as required by the referenced installation standards in Chapter 9. **[A] ~~105.4.3~~ 106.2.3 Applicant responsibility.** It shall be the responsibility of the applicant to ensure that the *construction documents* include all of the fire protection requirements and the					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	shop drawings are complete and in compliance with the applicable codes and standards. **[A] ~~105.4.4~~ 106.2.4 Approved documents.** *Construction documents approved* by the *fire code official* are approved with the intent that such *construction documents* comply in all respects with this code. Review and approval by the *fire code official* shall not relieve the applicant of the responsibility of compliance with this code. **[A] ~~105.4.4.1~~ 106.2.4.1 Phased approval.** The *fire code official* is authorized to issue a permit for the construction of part of a structure, system or operation before the *construction documents* for the whole structure, system or operation have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such permit for parts of a structure, system or operation shall proceed at the holder's own risk with the building operation and without assurance that a permit for the entire structure, system or operation will be granted. **[A] ~~105.4.5~~ 106.3 Amended construction documents.** Work shall be installed in accordance with the *approved construction documents*, and any changes made during construction that are not in compliance with the *approved construction documents* shall be resubmitted for approval as an amended set of *construction documents*. **[A] ~~105.4.6~~ 106.4 Retention of construction documents.** One set of *construction documents* shall be retained by the *fire code official* for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of *approved construction documents* shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. Delete the existing definition for [A] 105.4 Construction documents. Change the existing definition for SECTION 107 to: **2018 International Plumbing Code**					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	SECTION 107 **CONSTRUCTION DOCUMENTS** ~~**106.3.1**~~ **107.1 Construction documents.** Construction documents, engineering calculations, diagrams and other such data shall be submitted in two or more sets with each application for a permit. The code official shall require construction documents, computations and specifications to be prepared and designed by a registered design professional where required by state law. Construction documents shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. Construction documents for buildings more than two stories in height shall indicate where penetrations will be made for pipes, fittings and components and shall indicate the materials and methods for maintaining required structural safety, fire-resistance rating and fireblocking. **Exception:** The code official shall have the authority to waive the submission of construction documents, calculations or other data if the nature of the work applied for is such that reviewing of construction documents is not necessary to determine compliance with this code. ~~**106.5.6**~~ **107.2 Retention of construction documents.** One set of *approved* construction documents shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of *approved* construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. Change the existing definition for SECTION 107 to: **2018 International Mechanical Code** **SECTION 107** **CONSTRUCTION DOCUMENTS**					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	[A] ~~106.3.1~~ 107.1 Construction documents. *Construction documents*, engineering calculations, diagrams and other data shall be submitted in two or more sets with each application for a permit. The code official shall require *construction documents*, computations and specifications to be prepared and designed by a *registered design professional* where required by state law. Where special conditions exist, the code official is authorized to require additional *construction documents* to be prepared by a *registered design professional*. *Construction documents* shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. *Construction documents* for buildings more than two stories in height shall indicate where penetrations will be made for mechanical systems, and the materials and methods for maintaining required structural safety, fire-resistance rating and fireblocking. **Exception:** The code official shall have the authority to waive the submission of *construction documents*, calculations or other data if the nature of the work applied for is such that reviewing of *construction documents* is not necessary to determine compliance with this code. **[A] ~~106.4.6~~ 107.2 Retention of construction documents.** One set of *approved construction documents* shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of *approved construction documents* shall be returned to the applicant, and said set shall be kept on the site of the building or job at all times during which the work authorized thereby is in progress. Change the existing definition for SECTION 107 to: **2018 International Fuel Gas Code** **SECTION 107** **CONSTRUCTION DOCUMENTS** **[A] ~~106.3.1~~ 107.1 Construction documents.** *Construction documents*, engineering calculations, diagrams and other data shall be submitted in two or more sets with each application for a permit. The code official shall require *construction documents*, computations and specifications to be prepared and designed by					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	a registered design professional where required by state law. *Construction documents* shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. *Construction documents* for buildings more than two stories in height shall indicate where penetrations will be made for installations and shall indicate the materials and methods for maintaining required structural safety, fire-resistance rating and fireblocking. **Exception:** The code official shall have the authority to waive the submission of *construction documents*, calculations or other data if the nature of the work applied for is such that reviewing of *construction documents* is not necessary to determine compliance with this code. **[A] ~~106.5.6~~ 107.2 Retention of construction documents.** One set of *approved construction documents* shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of *approved construction documents* shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. Change the existing definition for SECTION 106 to: **2018 International Swimming Pool and Spa Code** **SECTION 106** **CONSTRUCTION DOCUMENTS** **[A] ~~105.3~~ 106.1 Construction documents.** Construction documents, engineering calculations, diagrams and other such data shall be submitted in two or more sets with each application for a permit. The code official shall require construction documents, computations and specifications to be prepared and designed by a registered design professional where required by state law. Construction documents shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. **[A] ~~105.5.6~~ 106.2 Retention of construction documents.** One set of *approved* construction documents shall be retained by the					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One **set of *approved* construction documents shall be returned to the** applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. Change the existing definition for SECTION 107 to: **2018 International Private Sewage Disposal Code** **SECTION 107** **CONSTRUCTION DOCUMENTS** **[A] ~~106.2.1~~ 107.1 Construction documents.** An application for a permit shall be accompanied by not less than two copies of construction documents drawn to scale, with sufficient clarity and detail dimensions showing the nature and character of the work to be performed. Specifications shall include pumps and controls, dose volume, elevation differences (vertical lift), pipe friction loss, pump performance curve, pump model and pump manufacturer. The code official is permitted to waive the requirements for filing construction documents where the work involved is of a minor nature. Where the quality of the materials is essential for conformity to this code, specific information shall be given to establish such quality, and this code shall not be cited, or the term "legal" or its equivalent used as a substitute for specific information. **[A] ~~106.3.6~~ 107.2 Retention of construction documents.** One set of approved construction documents shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of approved construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. Change the existing definition for SECTION 108 to: **2018 International Wildland-Urban Interface Code** **SECTION 108** **~~PLANS AND SPECIFICATIONS~~ CONSTRUCTION DOCUMENTS**					
ADM31-19 Part I	Add new definition for SECTION 108 NOTICE OF APPROVAL as follows:		X			Provides consistency

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	2018 International Plumbing Code **SECTION 108** **NOTICE OF APPROVAL** Change the existing definition for 107.5 Approval and 107.5.1 to: ~~**107.5**~~ **108.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. ~~**107.5.1**~~ **108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure, premise or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. Add new definition for SECTION 108 NOTICE OF APPROVAL as follows: **2018 International Mechanical Code** **SECTION 108** **NOTICE OF APPROVAL** Change the existing definition for 107.4 Approval and 107.4.1 to: **[A]** ~~**107.4**~~ **108.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A]** ~~**107.4.1**~~ **108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, on the basis of incorrect information supplied, or where it is determined that the building or structure, premise or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. Add new definition for SECTION 108 NOTICE OF APPROVAL as follows: **2018 International Fuel Gas Code**					through the I- Codes by using standard terminology and it is also consistent with previous actions.

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	SECTION 108 **NOTICE OF APPROVAL** Change the existing definition for 107.4 Approval and 107.4.1 to: **[A] ~~107.4~~ 108.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A] ~~107.4.1~~ 108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, or on the basis of incorrect information supplied or where it is determined that the building or structure, premise, or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. Add new definition for SECTION 107 NOTICE OF APPROVAL as follows: **2018 International Swimming Pool and Spa Code** **SECTION 107** **NOTICE OF APPROVAL** Change the existing definition for 107.4 Approval and 107.4.1 to: **[A] ~~106.17~~ 107.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A] ~~106.17.1~~ 107.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, or on the basis of the incorrect information supplied, or where it is determined that the building or structure, premise, system or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. Add new definition for SECTION 108 NOTICE OF APPROVAL as follows: **2018 International Private Sewage Disposal Code** **SECTION 108**					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	NOTICE OF APPROVAL Change the existing definition for 107.7 Approval and 107.7.1 to: **[A] ~~107.7~~ 108.1 Approval.** After the prescribed inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A] ~~107.7.1~~ 108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, on the basis of incorrect information supplied, or where it is determined that the building or structure, premise or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.					
ADM40-19 Part I	Change the existing definition for SECTION 113 to: **2018 International Building Code** **SECTION 113** **~~BOARD~~ MEANS OF APPEALS** **[A] 113.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the building official. **[A] 113.2 Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an ~~equally good~~ equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code or interpret the administration of this code. **[A] 113.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction.		X			Improves the language to correlate all the I-Codes.

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Add new definition for SECTION 113.4 Administration as follows: **<u>113.4 Administration.</u>** <u>The building official shall take immediate action in accordance with the decision of the board.</u> Change the existing definition for SECTION 112 to: **2018 International Existing Building Code** **<u>SECTION 112</u>** **~~BOARD~~ <u>MEANS OF APPEALS</u>** **[A] 112.1 General.** In order to hear and decide appeals of orders, decisions , or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the <u>applicable</u> governing ~~body~~ <u>authority</u> and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business <u>and shall render all decisions and findings in writing to the appellant with a duplicate copy to the building official</u>. **[A] 112.2 Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply , or an ~~equally good~~ <u>equivalent</u> or better form of construction is proposed. The board shall not have authority to waive requirements of this <u>code or interpret the administration of this</u> code. **[A] 112.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. Add new definition for SECTION 113.4 Administration as follows: **<u>113.4 Administration.</u>** <u>The code official shall take immediate action in accordance with the decision of the board.</u> Change the existing definition for SECTION 109 to: **2018 International Fire Code** **<u>SECTION 109</u>** **~~BOARD~~ <u>MEANS OF APPEALS</u>**					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	[A] 109.1 Board of appeals established. In order to hear and decide appeals of orders, decisions or determinations made by the fire code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing ~~body~~ authority and shall hold office at its pleasure. ~~The *fire code official* shall be an ex officio member of said board but shall not have a vote on any matter before the board.~~ The board shall adopt rules of procedure for conducting its business , and shall render all decisions and findings in writing to the appellant with a duplicate copy to the fire code official. **[A] 109.2 Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted ~~hereunder~~ thereunder have been incorrectly interpreted, the provisions of this code do not fully apply , or an equivalent ~~method of protection or safety~~ or better form of construction is proposed. The board shall not have authority to waive requirements of this code or interpret the administration of this code. **[A] 109.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to hazards of fire, explosions, hazardous conditions or *fire protection systems*, and are not employees of the jurisdiction. Add new definition for SECTION 109.4 Administration as follows: **109.4 Administration.** The fire code official shall take immediate action in accordance with the decision of the board. Change the existing definition for SECTION 106 to: **2018 International Wildland-Urban Interface Code** **SECTION 106** **MEANS OF APPEALS** **[A] 106.1 General.** ~~To determine the suitability of alternative materials and methods and to provide for reasonable interpretations of the provisions~~ In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code,					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	there shall be and is hereby ~~is~~ created a board of ~~appeals consisting of five members who are qualified by experience and training to pass~~ judgment on pertinent matters. ~~The code official, *building official* and fire chief shall be ex officio members, and the code official shall act as secretary of the board. The~~ appeals. The board of appeals shall be appointed by the ~~legislative body~~ applicable governing authority and shall hold office at ~~their discretion.~~ its pleasure. The board shall adopt ~~reasonable~~ rules ~~and regulations~~ of procedure for conducting its ~~investigations~~ business and shall render all decisions and findings in writing to the ~~code official,~~ appellant with a duplicate copy to the ~~applicant~~ code official. **[A] 106.2 Limitations of authority.** ~~The board of appeals shall not have authority relative to interpretation of the administrative provisions of this code and~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code or interpret the administration of this code. **106.4 Administration.** The code official shall take immediate action in accordance with the decision of the board. Add new definition for SECTION 106.3 Qualifications as follows: **106.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. Change the existing definition for SECTION 109 and 110 to: **2018 International Plumbing Code** **SECTION 109** **MEANS OF ~~APPEAL~~ APPEALS** **~~109.1~~109.2 ~~Application for appeal.~~ Limitations on authority.** ~~Any person shall have the right to appeal a decision of the code official to the board of appeals.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply , or an ~~equally good~~ equivalent or better form of construction is proposed. The					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~application shall be filed on a form obtained from the code official within 20 days after the notice was served.~~ board shall not have authority to waive requirements of this code or interpret the administration of this code. **109.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. **109.4 Administration.** The code official shall take immediate action in accordance with the decision of the board. **SECTION 110** **BOARD OF APPEALS** ~~**109.2**~~ **110.1 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed. Add new definition for SECTION 109.1 General as follows: **109.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. Change the existing definition for SECTION 109 and 110 to: **2018 International Mechanical Code** **SECTION 109** **MEANS OF ~~APPEAL~~ APPEALS** **[A] ~~109.1~~ 109.2 ~~Application for appeal.~~ Limitations on authority.** ~~A person shall have the right to appeal a decision of the code official to the board of appeals.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted,					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	the provisions of this code do not fully apply , or an ~~equally good~~ equivalent or better form of construction is proposed. The ~~application shall be filed on a form obtained from the code official within 20 days after the notice was served.~~ board shall not have authority to waive requirements of this code or interpret the administration of this code. **109.4 Administration** The code official shall take immediate action in accordance with the decision of the board. **SECTION 110** **BOARD OF APPEALS** **[A] ~~109.2~~ 110.1 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years; one for 4 years; one for 3 years; one for 2 years; and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed. Add new definition for SECTION 109.1 General and 109.3 Qualifications as follows: **109.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **109.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. Delete the existing definition for [A] 109.1.1 Limitation of authority. Change the existing definition for SECTION 109 to: **2018 International Fuel Gas Code**					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	None	Increase		
Sub Code:						
	SECTION 109 (IFGC) **MEANS OF APPEAL** **109.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **[A] ~~109.1~~109.2 ~~Application for appeal.~~ Limitations on authority.** ~~A person shall have the right to appeal a decision of the code official to the board of appeals.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an ~~equally good~~ equivalent or better form of construction is proposed. The ~~application shall be filed on a form obtained from the code official within 20 days after the notice was served.~~ board shall not have authority to waive requirements of this code or interpret the administration of this code. **109.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. **109.4 Administration.** The code official shall take immediate action in accordance with the decision of the board. **SECTION 110** **BOARD OF APPEALS** **[A] ~~109.2~~ 110.1 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years; one for 4 years; one for 3 years; one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed. Change the existing definition for SECTION 108 and 109 to: **2018 International Swimming Pool and Spa Code**					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	None	Increase		
Sub Code:						
	SECTION 108 **MEANS OF APPEAL** **108.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **[A] ~~108.1~~ 108.2 ~~Application for appeal.~~ Limitations on authority.** ~~Any person shall have the right to appeal a decision of the code official to the board of appeals.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted ~~there under~~ thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an ~~equally good~~ equivalent or better form of construction is proposed. The ~~application shall be filed on a form obtained from the code official within 20 days after the notice was served.~~ board shall not have authority to waive requirements of this code or interpret the administration of this code. **108.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. **108.4 Administration.** The code official shall take immediate action in accordance with the decision of the board. **SECTION 109** **BOARD OF APPEALS** **[A] ~~108.2~~ 109.1 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed. Change the existing definition for SECTION 111 and 112 to:						

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	2018 International Property Maintenance Code **SECTION 111** **MEANS OF APPEAL** **111.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **[A] ~~111.1~~111.2 ~~Application for appeal.~~ Limitations on authority.** ~~Any person directly affected by a decision of the *code official* or a notice or order issued under this code shall have the right to appeal to the board of appeals, provided that a written application for appeal is filed within 20 days after the day the decision, notice or order was served.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply~~, or the~~ or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code ~~are adequately satisfied by other means.~~ or interpret the administration of this code. **Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. **Administration.** The code official shall take immediate action in accordance with the decision of the board. **[A] ~~111.8~~ 111.5 Stays of enforcement.** Appeals of notice and orders (other than *Imminent Danger* notices) shall stay the enforcement of the notice and order until the appeal is heard by the appeals board. **SECTION 112** **BOARD OF APPEALS**					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	[A] ~~111.2~~ 112.1 Membership of board. The board of appeals shall consist of not less than three members who are qualified by experience and training to pass on matters pertaining to property maintenance and who are not employees of the jurisdiction. The *code official* shall be an ex-officio member but shall not vote on any matter before the board. The board shall be appointed by the chief appointing authority and shall serve staggered and overlapping terms. Change the existing definition for SECTION 109 and 110 to: **2018 International Private Sewage Disposal Code** **SECTION 109** **MEANS OF APPEAL** **109.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **[A] ~~109.1~~ 109.2 ~~Application for appeal.~~ Limitations on authority.** ~~Any person shall have the right to appeal a decision of the code official to the board of appeals.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder ~~has~~ have been incorrectly interpreted, the provisions of this code do not fully apply or an ~~equally good~~ equivalent or better form of construction is proposed. The ~~application shall be filed on a form obtained from the code official within 20 days after the notice was served.~~ board shall not have authority to waive requirements of this code or interpret the administration of this code. **109.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. **109.4 Administration.** The code official shall take immediate action in accordance with the decision of the board.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	SECTION 110 **BOARDS OF APPEALS** **[A] ~~109.2~~ 110.1 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed.					
ADM41-19 Part I	Change the existing definition for SECTION 115 to: **2018 International Building Code** **SECTION 115** **STOP WORK ORDER** **[A] 115.1 Authority.** Where the *building official* finds any work regulated by this code being performed in a manner ~~either~~ contrary to the provisions of this code or in a dangerous or unsafe manner, the *building official* is authorized to issue a stop work order. **[A] 115.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property ~~involved~~, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work ~~will be permitted~~ is authorized to resume. **115.3 Emergencies.** Where an emergency exists, the building official shall not be required to give a written notice prior to stopping the work. **[A] ~~115.3~~115.4 ~~Unlawful continuance.~~ Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to ~~penalties as prescribed by law.~~fines established by the authority having jurisdiction. Change the existing definition for SECTION 112 to: **2018 International Fire Code** **SECTION 112**		X			Standardizes the language and requirements for a stop work order throughout the family of I-Codes.

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	STOP WORK ORDER **[A] 112.1 ~~Order.~~ Authority.** Where the *fire code official* finds any work regulated by this code being performed in a manner contrary to the provisions of this code, or in a dangerous or unsafe manner, the *fire code official* is authorized to issue a stop work order. **[A] 112.2 Issuance.** ~~A~~ The stop work order shall be in writing and shall be given to the owner of the property, ~~or to~~ the owner's authorized agent, or ~~to~~ the person ~~doing~~ performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work is authorized to resume. **[A] 112.3 Emergencies.** Where an emergency exists, the fire code official shall not be required to give a written notice prior to stopping the work. **[A] 112.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be ~~liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~ subject to fines established by the authority having jurisdiction. Change the existing definition for SECTION 108 to: **2018 International Plumbing Code** **SECTION 108** **VIOLATIONS** Delete the existing definition for 108.5 Stop work orders. Add new definition for SECTION 109 as follows: **SECTION 109** **STOP WORK ORDER** **Authority.** Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	109.2 Issuance. The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. **109.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. **109.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having jurisdiction. Change the existing definition for SECTION 108 to: **2018 International Mechanical Code** **SECTION 108** **VIOLATIONS** Delete the existing definition for [A] 108.5 Stop work orders. Add new definition for SECTION 109 as follows: **SECTION 109** **STOP WORK ORDER** **109.1 Authority.** Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. **109.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. **109.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	109.4 Failure to comply. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having jurisdiction. Change the existing definition for SECTION 108 to: **2018 International Fuel Gas Code** **SECTION 108 (IFGC)** **VIOLATIONS** Delete the existing definition for [A] 108.5 Stop work orders. Add new definition for SECTION 109 as follows: **SECTION 109** **STOP WORK ORDER** **109.1 Authority.** Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. **109.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. **109.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. **109.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having jurisdiction. Change the existing definition for SECTION 114 to: **2018 International Existing Building Code**					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	SECTION 114 **STOP WORK ORDER** **[A] 114.1 Authority.** Where the *code official* finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a *dangerous* or *unsafe* manner, the *code official* is authorized to issue a stop work order. **[A] 114.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property ~~involved~~, the owner's authorized agent or ~~to~~ the person ~~doing~~ performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work ~~will be permitted~~ is authorized to resume. **[A] ~~114.3~~ 114.4 ~~Unlawful continuance.~~ Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to ~~penalties as prescribed by law.~~ fines established by the authority having jurisdiction. Add new definition for 114.3 Emergencies as follows: **114.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. Change the existing definition for SECTION 107 to: **2018 International Swimming Pool and Spa Code** **SECTION 107** **VIOLATIONS** Delete the existing for [A] 107.5 Stop work orders. Add new definition for SECTION 108 as follows: **SECTION 108** **STOP WORK ORDER** **108.1 Authority.** Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	108.2 Issuance. The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. **108.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. **108.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having jurisdiction. Change the existing definition for SECTION 112 to: **2018 International Property Maintenance Code** **SECTION 112** **STOP WORK ORDER** **[A] 112.1 Authority.** ~~Whenever~~ Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. **[A] 112.2 Issuance.** ~~A~~ The stop work order shall be in writing and shall be given to the owner of the property, ~~to~~ the owner's authorized agent, or ~~to~~ the person ~~doing~~ performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. **[A] 112.3 Emergencies.** Where an emergency exists, the *code official* shall not be required to give a written notice prior to stopping the work. **[A] 112.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	such work as that person is directed to perform to remove a violation or unsafe condition, shall be ~~liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~ subject to fines established by the authority having jurisdiction. Change the existing definition for SECTION 108 to: **2018 International Private Sewage Disposal Code** **SECTION 108** **VIOLATIONS** Delete the existing definition for [A] 108.5 Stop work orders. Add new definition for SECTION 109 as follows: **SECTION 109** **STOP WORK ORDER** **109.1 Authority.** Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. **109.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. **109.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. **109.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having jurisdiction. Change the existing definition for SECTION 114 to: **2018 International Wildland-Urban Interface Code** **SECTION 114** **STOP WORK ORDER**					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	[A] 114.1 Authority. Where the code official finds any work regulated by this code being performed in a manner ~~either~~ contrary to the provisions of this code or <u>in a</u> dangerous or unsafe <u>manner</u>, the code official is authorized to issue a stop work order. **[A] 114.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property ~~involved~~, ~~to~~ the owner's authorized agent or ~~to~~ the person ~~doing~~ <u>performing</u> the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work ~~will be permitted~~ <u>is authorized</u> to resume. **[A] 114.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. **[A] 114.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be ~~liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~ <u>subject to fines established by the authority having jurisdiction.</u>					
ADM43-19 Part I	Change the existing definition for APPENDIX B to: **2018 International Building Code** **APPENDIX B** **BOARD OF APPEALS** **SECTION B101** **GENERAL** **[A] ~~B101.2~~ <u>B101.3</u> Membership of board.** The board ~~of appeals~~ shall consist of ~~persons~~ <u>five voting members</u> appointed by the chief appointing authority <u>of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board.</u> ~~as follows:~~ ~~1.One for 5 years; one for 4 years; one for 3 years; one for 2~~		X			Standardizes the language across the I-Codes, provides another tool and gives appropriate guidance as an appendix to establish a board of appeals.

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~years; and one for 1 year.~~ ~~2. Thereafter, each new member shall serve for 5 years or until a successor has been appointed.~~ ~~The building official shall be an ex officio member of said board but shall have no vote on any matter before the board.~~ **[A] ~~B101.2.2~~ B101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction ~~one from each of the following professions or disciplines:~~ ~~1. Registered design professional with architectural experience or a builder or superintendent of building construction with not fewer than 10 years of experience, 5 of which shall have been in responsible charge of work.~~ ~~2. Registered design professional with structural engineering experience.~~ ~~3. Registered design professional with mechanical and plumbing engineering experience or a mechanical contractor with not fewer than 10 years of experience, 5 of which shall have been in responsible charge of work.~~ ~~4. Registered design professional with electrical engineering experience or an electrical contractor with not fewer than 10 years of experience, 5 of which shall have been in responsible charge of work.~~ ~~5. Registered design professional with fire protection engineering experience or a fire protection contractor with not fewer than 10 years of experience, 5 of which shall have been in responsible charge of work.~~ **[A] ~~B101.2.1~~ B101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years,~~ the same term or until a successor has been appointed. **[A] ~~B101.2.4~~ B101.3.4 Chairperson.** The board shall annually select one of its members to serve as chairperson.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~B101.2.6~~ B101.3.5 Secretary. The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~B101.2.5~~ B101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest.** A member ~~shall not hear an appeal in which that member has a~~ with any personal, professional or financial ~~interest.~~ interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~B101.2.7~~ B101.3.7 Compensation of members.** Compensation of members shall be determined by law. **[A] ~~B101.2.3~~ B101.4 Rules and procedures.** The board ~~is authorized to~~ shall establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **[A] ~~B101.3~~ B101.5 Notice of meeting.** The board shall meet upon notice from the chairperson, within 10 days of the filing of an appeal or at stated periodic meetings. **[A] ~~B101.3.1~~ B101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the building official and any person whose interests are affected shall be given an opportunity to be heard. **[A] ~~B101.3.3~~ B101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **[A] ~~B101.4~~ B101.7 Board decision.** The board shall modify or reverse the decision of the *building official* by a concurring vote of two-thirds of its members. The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	[A] ~~B101.4.1~~ B101.7.1 Resolution. The decision of the board shall be by resolution. ~~Certified copies~~ ~~shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the ~~*building*~~ code *official*. **[A] ~~B101.4.2~~ B101.7.2 Administration.** The *building official* shall take immediate action in accordance with the decision of the board. Delete the existing definition for [A] B101.1 Application and [A] B101.3.2 Procedure. Add new definition for B101.1 Scope, B101.2 Application for appeal, B101.2.1 Limitation of authority, B101.2 Stays of enforcement, B101.3.3 Vacancies, B101.3.8 Removal from the board, B101.5.2 Quorum, B101.6 Legal counsel and B101.8 Court review as follows: **B101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 113 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the building official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **B101.2 Application for appeal.** Any person shall have the right to appeal a decision of the building official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the building official within 20 days after the notice was served. **B101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	B101.2 Stays of enforcement. Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **B101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **B101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **B101.5.2 Quorum.** Three members of the board shall constitute a quorum. **B101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **B101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. Add new definition for APPENDIX A as follows: **2018 International Existing Building Code** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 112. The board shall be established and					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3 Membership of board.** The board shall consist of five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **A101.3.1 Qualifications.** The board shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **A101.3.2 Alternate members.** The chief appointing authority is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	term in the same manner in which original appointments are required to be made. **A101.3.4 Chairperson.** The board shall annually select one of its members to serve as chairperson. **A101.3.5 Secretary.** The chief appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **A101.3.6 Conflict of interest.** A member with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **A101.4 Rules and procedures.** The board shall establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **A101.5 Notice of meeting.** The board shall meet upon notice from the chairperson, within 10 days of the filing of an appeal or at stated periodic intervals. **A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.5.2 Quorum. Three members of the board shall constitute a quorum. **A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **A101.7.1 Resolution.** The decision of the board shall be by resolution. Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. Change the existing definition for APPENDIX A to: **2018 International Fire Code** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL**					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	A101.1 Scope. A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of ~~the International Fire Code~~ this code pursuant to the provisions of Section ~~108 of the International Fire Code.~~ 109. The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the fire code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.3 ~~Terms~~ Membership of ~~office.~~ board.** ~~Members shall be appointed for terms of 4 years. Members shall not be reappointed to serve more than two consecutive full terms.~~ The board shall consist of five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The fire code official shall be an ex officio member of said board but shall not vote on any matter before the board. **~~A101.3.2~~ A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. ~~Members appointed to fill a vacancy in an unexpired term shall be eligible for reappointment to two full terms.~~ **~~A101.5~~ A101.3.5 Secretary ~~of board.~~** The *~~fire code official~~* ~~shall act as secretary of the board and shall keep~~ chief appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all ~~its~~ proceedings, which shall set forth the reasons for ~~its decisions~~ the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **~~A101.8~~ A101.3.6 Conflict of interest.** ~~Members with a material~~ A member with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	None	Increase		
Sub Code:						
	~~A101.3.3~~ A101.3.8 Removal from ~~office~~ the board. ~~Members~~ A member shall be removed from ~~office~~ the board prior to the end of their terms only for ~~cause. Continued absence of any member~~ cause. Any member with continued absence from regular ~~meetings~~ meeting of the board ~~shall,~~ may be removed at the discretion of the ~~applicable governing body, render any such member liable to immediate removal from office.~~ chief appointing authority. **~~A101.10~~ A101.4 ~~Procedures.~~ Rules and procedures.** The board shall ~~be operated in accordance with the Administrative Procedures Act of the state in which it is established or shall establish rules and regulations for its own procedure not inconsistent~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **~~A101.7~~A101.5 ~~Meetings.~~ Notice of meetings.** The board shall meet ~~at regular intervals, to be determined by the chairman. In any event, the board shall meet~~ upon notice from the chairperson, within 10 days ~~after notice of appeal has been received.~~ the filing of an appeal or at stated periodic intervals. **~~A101.4~~ A101.5.2 Quorum.** Three members of the board shall constitute a quorum. ~~In varying the application of any provisions of this code or in modifying an order of the *fire code official*, affirmative votes of the majority present, but not less than three, shall be required.~~ **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for ~~consideration.~~ consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. Add new definition for A101.2 Application for appeal, A101.2.1 Limitation of authority, A102.2.2 Stays of enforcement, A101.3.1 Qualifications, A101.3.2 Alternate members, A101.3.4 Chairperson, A101.3.7 Compensation of members, A101.5.1 Open hearing, A101.5.3 Postponed hearing, A101.7					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Board decision, A101.7.1 Resolution, A101.7.2 Administration and A101.8 Court review as follows: **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the fire code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the fire code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A102.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3.1 Qualifications.** The board shall consist of members who are qualified by experience and training to pass on matters pertaining to hazards of fire, explosions, hazardous conditions or fire protection systems, and are not employees of the jurisdiction. **A101.3.2 Alternate members.** The chief appointing authority is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **A101.3.4 Chairperson.** The board shall annually select one of its members to serve as chairperson. **A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the fire code official and any person whose interests are affected shall be given an opportunity to be heard.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.5.3 Postponed hearing. When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **A101.7 Board decision.** The board shall only modify or reverse the decision of the fire code official by a concurring vote of three or more members. **A101.7.1 Resolution.** The decision of the board shall be by resolution. Every decision shall be promptly filed in writing in the office of the fire code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the fire code official. **A101.7.2 Administration.** The fire code official shall take immediate action in accordance with the decision of the board. **A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. Delete the existing definitions for A101.2 Membership, A101.2.1 Design professional, A101.2.2 Fire protection engineering professional, A101.2.3 Industrial safety professional, A101.2.4 General contractor, A101.2.5 General industry or business representative, A101.3.1 Initial appointments and A101.9 Decisions. Add new definition for APPENDIX A as follows: **APPENDIX A** **BOARD OF APPEALS** **A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 109 (Means of Appeals). The board shall be					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **[A] A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	expense in all matters arising from service within the scope of their duties. Change the existing definitions for [A] 109.2 Membership of board, [A] 109.2.1 Qualifications, [A] 109.2.2 Alternate members, [A] 109.2.3 Chairman, [A] 109.2.5 Secretary, [A] 109.2.4 Disqualification of member, [A] 109.2.6 Compensation of members, [A] 109.4.1 Procedure, [A] 109.3 Notice of meeting, [A] 109.5 Postponed hearing, [A] 109.6 Board decision, [A] 109.6.1 Resolution, [A] 109.6.2 Administration and [A] 109.7 Court review to: **[A] ~~109.2~~ A101.3 Membership of board.** The board ~~of appeals~~ shall consist of five voting members appointed by the chief appointing authority ~~as follows: one for 5 years; one for 4 years; one for 3 years; one for 2 years and one for 1 year. Thereafter, each new~~ of the jurisdiction. Each member shall serve for ~~5~~ [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **[A] ~~109.2.1~~ A101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction.~~one from each of the following professions or disciplines.~~ ~~1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~2.Registered design professional with structural engineering or architectural experience.~~ ~~3. Registered design professional with fuel gas and plumbing engineering experience; or a fuel gas contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~4. Registered design professional with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~5. Registered design professional with fire protection~~					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~engineering experience; or a fire protection contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ **[A] ~~109.2.2~~ A101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years,~~ the same term or until a successor has been appointed. **[A] ~~109.2.3~~ A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. **[A] ~~109.2.5~~ A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~109.2.4~~ A101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest.** A member ~~shall not hear an appeal in which that member has a~~ with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~109.2.6~~ A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **[A] ~~109.4.1~~ A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~109.3~~ A101.5 Notice of meeting. The board shall meet upon notice from the ~~chairman~~ chairperson, within 10 days of the filing of an appeal, or at stated periodic ~~meetings.~~ intervals. **[A] ~~109.5~~ A101.5.3 Postponed hearing.** ~~Where~~ When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **[A] ~~109.6~~ A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **[A] ~~109.6.1~~ A101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **[A] ~~109.6.2~~ A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **[A] ~~109.7~~ A101.8 Court review.** Any person, whether or not a previous party ~~to~~ of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. Add new definition for APPENDIX A as follows: **2018 International Mechanical Code** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 109 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **[A] A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. Change the existing definitions for [A] 109.2 Membership of board, [A] 109.2.1 Qualifications, [A] 109.2.2 Alternate members, A101.3.3 Vacancies, [A] 109.2.3 Chairman, [A]					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	109.2.5 Secretary, [A] 109.2.4 Disqualification of member, [A] 109.2.6 Compensation of members, [A] 109.4.1 Procedure, [A] 109.3 Notice of meeting, [A] 109.5 Postponed hearing, [A] 109.6 Board decision, [A] 109.6.1 Resolution, [A] 109.6.2 Administration and [A] 109.7 Court review to: **[A] ~~109.2~~ A101.3 Membership of board.** The board ~~of appeals~~ shall consist of five voting members appointed by the chief appointing authority ~~as follows: one for 5 years; one for 4 years; one for 3 years; one for 2 years; and one for 1 year. Thereafter, each new~~ of the jurisdiction. Each member shall serve for ~~5~~ [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **[A] ~~109.2.1~~ A101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. ~~one from each of the following professions or disciplines.~~ ~~1. *Registered design professional* who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~2.*Registered design professional* with structural engineering or architectural experience.~~ ~~3. *Registered design professional* with mechanical and plumbing engineering experience; or a mechanical contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~4. *Registered design professional* with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~5. *Registered design professional* with fire protection engineering experience; or a fire protection contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ **[A] ~~109.2.2~~ A101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years,~~ the same term or until a successor has been appointed. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **[A] ~~109.2.3~~ A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. **[A] ~~109.2.5~~ A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~109.2.4~~ A101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest.** A member ~~shall not hear an appeal in which that member has a~~ with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~109.2.6~~ A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **[A] ~~109.4.1~~ A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. **[A] ~~109.3~~ A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within 10 days of the filing of an appeal, or at stated periodic ~~meetings.~~ intervals.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	None	Increase		
Sub Code:						
	[A] ~~109.5~~ A101.5.3 Postponed hearing. When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **[A] ~~109.6~~ A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **[A] ~~109.6.1~~ A101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **[A] ~~109.6.2~~ A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **[A] ~~109.7~~ A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. Add new definition for APPENDIX A as follows: **2018 International Plumbing Code** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section XXX (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.2 Application for appeal. Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. Change the existing definitions for 109.2 Membership of board, 109.2.1 Qualifications, 109.2.2 Alternate members, 109.2.3 Chairman, 109.2.5 Secretary, A109.2.4 Disqualification of member, 109.2.6 Compensation of members, 109.4.1 Procedure, 109.3 Notice of meeting, 109.4 Open hearing, 109.5 Postponed hearing, 109.6 Board decision, 109.6.1 Resolution, 109.6.2 Administration and 109.7 Court review to:					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~**109.2**~~ **A101.3 Membership of board.** The board ~~of appeals~~ shall consist of five voting members appointed by the chief appointing authority ~~as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new~~ of the jurisdiction. Each member shall serve for ~~5~~ [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. ~~**109.2.1**~~ **A101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. ~~one from each of the following professions or disciplines:~~ ~~1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~2. Registered design professional with structural engineering or architectural experience.~~ ~~3. Registered design professional with mechanical and plumbing engineering experience; or a mechanical and plumbing contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~4. Registered design professional with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~5. Registered design professional with fire protection engineering experience; or a fire protection contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~**109.2.2**~~ **A101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	board membership, and shall be appointed for ~~5 years~~ the same term or until a successor has been appointed. ~~**109.2.3**~~ **A101.3.4** ~~**Chairman.**~~ **Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. ~~**109.2.5**~~ **A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. ~~**109.2.4**~~ **A101.3.6** ~~**Disqualification**~~ **Conflict of** ~~**member.**~~ **interest.** A member ~~shall not hear an appeal in which that member has~~ with any personal, professional or financial ~~interest.~~ interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. ~~**109.2.6**~~ **A101.3.7 Compensation of members.** Compensation of members shall be determined by law. ~~**109.4.1**~~ **A101.4** ~~**Procedure.**~~ **Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. ~~**109.3**~~ **A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within 10 days of the filing of an appeal or at stated periodic ~~meetings.~~ intervals. ~~**109.4**~~ **A101.5.1 Open hearing.** ~~Hearings~~ All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~**109.5**~~ **A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. ~~**109.6**~~ **A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. ~~**109.6.1**~~ **A101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. ~~**109.6.2**~~ **A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. ~~**109.7**~~ **A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. Add new definition for APPENDIX A as follows: **2018 International Private Sewage Disposal Code** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 109 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.2 Application for appeal. Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **[A] A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. Change the existing definitions for [A] 109.2 Membership of board, [A] 109.2.1 Qualifications, [A] 109.2.2 Alternate					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	members, [A] 109.2.3 Chairman, [A] 109.2.5 Secretary, [A] 109.2.4 Disqualification of a member, [A] 109.2.6 Compensation of members, [A] 109.4.1 Procedure, [A] 109.3 Notice of meeting, [A] 109.5 Postponed hearing, [A] 109.6 Board decision, [A] 109.6.1 Resolution, [A] 109.6.2 Administration and [A] 109.7 Court review to: **[A] ~~109.2~~ A101.3 Membership of board.** The board ~~of appeals~~ shall consist of five voting members appointed by the chief appointing authority ~~as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new~~ of the jurisdiction. Each member shall serve for ~~5~~ [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **[A] ~~109.2.1~~ A101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. ~~one from each of the following professions or disciplines.~~ ~~1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~2.Registered design professional with structural engineering or architectural experience.~~ ~~3.Registered design professional with mechanical and plumbing engineering experience; or a mechanical and plumbing contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~4. Registered design professional with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~5.Registered design professional with fire protection engineering experience; or a fire protection contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	[A] ~~109.2.2~~ A101.3.2 Alternate members. The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years~~ the same term or until a successor has been appointed. **[A] ~~109.2.3~~ A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. **[A] ~~109.2.5~~ A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~109.2.4~~ A101.3.6 ~~Disqualification~~ Conflict of ~~a member.~~ interest.** A member ~~shall not hear an appeal in which that member has~~ with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~109.2.6~~ A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **[A] ~~109.4.1~~ A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. **[A] ~~109.3~~ A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within 10 days of the filing of an appeal or at stated periodic ~~meetings.~~ intervals.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~109.5~~ A101.5.3 Postponed hearing. When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **[A] ~~109.6~~ A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **[A] ~~109.6.1~~ A101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **[A] ~~109.6.2~~ A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **[A] ~~109.7~~ A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. Add new definition for APPENDIX A as follows: **2018 International Property Maintenance Code** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 111 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.2 Application for appeal. Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.3.1 Qualifications.** The board shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **[A] A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Change the existing definitions for [A] 111.8 Stays of enforcement, [A] 111.2 Membership of board, [A] 111.2.1 Alternate members, [A] 111.2.2 Chairman, [A] 111.2.4 Secretary, [A] 111.2.3 Disqualification of member, [A] 111.2.5 Compensation of members, [A] 111.4.1 Procedure, [A] 111.3 Notice of meeting, [A] 111.5 Postponed hearing, [A] 111.6 Board decision, [A] 111.6.1 Records and copies, [A] 111.6.2 Administration and [A] 111.7 Court review to: **[A] ~~111.8~~ A101.2.2 Stays of enforcement.** Appeals of notice and orders ~~(other~~, other than Imminent Danger ~~notices)~~ notices, shall stay the enforcement of the notice and order until the appeal is heard by the ~~appeals~~ board. **[A] ~~111.2~~A101.3 Membership of board.** The board ~~of appeals~~ shall consist of ~~not less than three members who are qualified by experience and training to pass on matters pertaining to property maintenance and who are not employees of the jurisdiction. The~~ five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ~~ex-officio~~ ex officio member of said board but shall not vote on any matter before the board. ~~The board shall be appointed by the chief appointing authority, and shall serve staggered and overlapping terms.~~ **[A] ~~111.2.1~~ A101.3.2 Alternate members.** The chief appointing authority ~~shall appoint not less than~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **[A] ~~111.2.2~~ A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. **[A] ~~111.2.4~~ A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified ~~person~~ clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative~~					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~111.2.3~~ A101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest.** A member ~~shall not hear an appeal in which that member has a~~ with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~111.2.5~~ A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **[A] ~~111.4.1~~ A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. **[A] ~~111.3~~ A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within ~~20~~ 10 days of the filing of an appeal, or at stated periodic ~~meetings.~~ intervals. **[A] ~~111.5~~ A101.5.3 Postponed hearing.** When ~~the full board is~~ five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **[A] ~~111.6~~ A101.7 Board decision.** The board shall only modify or reverse the decision of the code official ~~only~~ by a concurring vote of ~~a majority of the total number of appointed board~~ three or more members. **[A] ~~111.6.1~~ A101.7.1 ~~Records and copies.~~ Resolution.** The decision of the board shall be ~~recorded. Copies shall be~~ by resolution. Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~111.6.2~~ A101.7.2 Administration. The code official shall take immediate action in accordance with the decision of the board. **[A] ~~111.7~~ A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. Add new definition for APPENDIX A as follows: **2018 International Swimming Pool and Spa Code** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 108 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.3.3 Vacancies. Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. Change the existing definitions for [A] 108.2 Membership of board, [A] 108.2.1 Qualifications, [A] 108.2.2 Alternate members, [A] 108.2.3 Chairman, [A] 108.2.5 Secretary, [A] 108.2.4 Disqualification of member, [A] 108.2.6 Compensation of members, [A] 108.4.1 Procedure, [A] 108.3 Notice of meeting, [A] 108.4 Open hearing, [A] 108.5 Postponed hearing, [A] 108.6 Board decision, [A] 108.6.1 Resolution, [A] 108.6.2 Administration and [A] 108.7 Court review to: **[A] ~~108.2~~ A101.3 Membership of board.** The board ~~of appeals~~ shall consist of five voting members appointed by the chief appointing authority ~~as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new~~ of the jurisdiction. Each member shall serve for ~~5~~ [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **[A] ~~108.2.1~~ A101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction					

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		Decrease	None	Increase		
Sub Code:						
	and are not employees of the jurisdiction. ~~one from each of the following professions or disciplines:~~ ~~1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~2. Registered design professional with structural engineering or architectural experience.~~ ~~3. Registered design professional with mechanical and plumbing engineering experience; or a mechanical and plumbing contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~4. Registered design professional with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~5. Registered design professional with pool or spa experience; or a contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ **[A] ~~108.2.2~~ A101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years~~ the same term or until a successor has been appointed. **[A] ~~108.2.3~~ A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. **[A] ~~108.2.5~~ A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~108.2.4~~ A101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest. A member ~~shall not hear an appeal in which that member has~~ with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~108.2.6~~ A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **[A] ~~108.4.1~~A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. **[A] ~~108.3~~A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within 10 days of the filing of an appeal or at stated periodic ~~meetings.~~ intervals. **[A] ~~108.4~~A101.5.1 Open hearing.** ~~Hearings~~ All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **[A] ~~108.5~~ A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **[A] ~~108.6~~ A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **[A] ~~108.6.1~~ A101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	[A] ~~108.6.2~~ A101.7.2 Administration. The code official shall take immediate action in accordance with the decision of the board. **[A] ~~108.7~~ A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. Change the existing definition for SECTION 106 to: **2018 International Wildland-Urban Interface Code** **SECTION 106** **APPEALS** **[A] 106.1 General.** ~~To determine the suitability of alternative materials and methods and to provide for reasonable interpretations of the provisions of this code, there shall be and hereby is created a board of appeals consisting of five members who are qualified by experience and training to pass judgment on pertinent matters.~~ The ~~code official, *building official* and fire chief shall be ex officio members, and the code official shall act as secretary of the board. The~~ board ~~of appeals~~ shall ~~be appointed by the legislative body and shall hold office at their discretion. The board shall~~ adopt reasonable rules and regulations for conducting its investigations and shall render decisions and findings in writing to the code official, with a duplicate copy to the applicant. Add new definition for APPENDIX A as follows: **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 106 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the building official pertaining to the application and intent of this					

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Sub Code:						
	code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3 Membership of board.** The board shall consist of five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **A101.3.1 Qualifications.** The board shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **A101.3.2 Alternate members.** The chief appointing authority is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.3.4 Chairperson. The board shall annually select one of its members to serve as chairperson. **A101.3.5 Secretary.** The chief appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **A101.3.6 Conflict of interest.** A member with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **A101.4 Rules and procedures.** The board shall establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **A101.5 Notice of meeting.** The board shall meet upon notice from the chairperson, within 10 days of the filing of an appeal or at stated periodic intervals. **A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	A101.5.3 Postponed hearing. When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **A101.7.1 Resolution.** The decision of the board shall be by resolution. Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer.					
E15-18 Part II	Add new definition for 1105.10 [BE] Means of egress as follows: **2018 International Mechanical Code** **1105.10 [BE] Means of egress.** Machinery rooms larger than 1,000 square feet (93 m2) shall have not less than two exits or exit access doorways. Where two exit access doorways are required, one such doorway is permitted to be served by a fixed ladder or an alternating tread device. Exit access doorways shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of the room.			X	$2.00 per room sqft.	Necessary addition for clarification

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		Decrease	**None**	**Increase**		
Sub Code:						
	All portions of machinery rooms shall be within 150 feet (45 720 mm) of an exit or exit access doorway. An increase in exit access travel distance is permitted in accordance with Section 1017.1. Exit and exit access doorways shall swing in the direction of egress travel and shall be equipped with panic hardware, regardless of the occupant load served. Exit and exit access doorways shall be tight fitting and self-closing.					
E86-18	Change the existing definition for 1015.7 Roof access to: **2018 International Building Code** **1015.7 Roof access.** Guards shall be provided where the roof hatch opening is located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall extend not less than 30 inches (762mm) beyond each end of the hatch parallel to the roof edge. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter. **Exception:** Guards are not required where personal fall arrest anchorage connector devices that comply with ANSI/ASSE Z 359.1 are installed.			X	Minimal	Clarification
E92-18	Change the existing definition for Air movement in corridors to: **2018 International Building Code** **Air movement in corridors.** Corridors shall not serve as supply, return, exhaust, relief or ventilation air ducts. **Exceptions:** 1. Use of a corridor as a source of makeup air for exhaust systems in rooms that open directly onto such corridors, including toilet rooms, bathrooms, dressing rooms, smoking lounges and janitor closets, shall be permitted, provided that each such corridor is directly supplied with outdoor air at a rate greater than the rate of makeup air taken from the corridor. 2. Where located within a dwelling unit, the use of corridors for conveying return air shall not be prohibited. 3. Where located within tenant spaces of 1,000 square feet (93 m^2) or less in area, utilization of corridors for conveying return air is permitted. 4. Transfer air movement required to maintain pressurization difference within health care facilities in accordance with ~~Section 407.1 of the International Mechanical Code.~~ ASHRAE 170.		X			Clarification

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	**2021 IMC CHANGE SUMMARY**	**IMC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
FS62-18	Change the existing definition for [BF] CEILING RADIATION DAMPER to: **2018 International Building Code** **717.3.1 Damper testing.** 1. Dampers shall be listed and labeled in accordance with the standards in this section. 2. Fire dampers shall comply with the requirements of UL 555. 3. Smoke dampers shall comply with the requirements of UL 555S. 4. Combination fire/smoke dampers shall comply with the requirements of both UL 555 and UL 555S. 5. Ceiling radiation dampers shall comply with the requirements of UL 555C or shall be tested as part of a fire-resistance-rated floor/ceiling or roof/ceiling assembly in accordance with ASTM E119 or UL 263. ~~Only ceiling radiation dampers labeled for use in dynamic systems shall be installed in heating, ventilation and air-conditioning systems designed to operate with fans on during a fire.~~ 6. Corridor dampers shall comply with requirements of both UL 555 and UL 555S. Corridor dampers shall demonstrate acceptable closure performance when subjected to 150 feet per minute (0.76 mps) velocity across the face of the damper during the UL 555 fire exposure test.		X			Clarification
FS64-18	Change the existing definition for 717.3.1 Damper testing to: **2018 International Building Code** **717.6.2.1.2 Static systems.** Static ceiling radiation dampers shall be provided with systems which are not designed to operate during a fire. **Exceptions:** 1. Where a static ceiling radiation damper is installed at the opening of a duct, a smoke detector shall be installed inside the duct or outside the duct with sampling tubes protruding into the duct. The detector or tubes within the duct shall be within 5 feet (1524 mm) of the damper. Air outlets and inlets shall not be located between the detector or tubes and the damper. The detector shall be listed for the air velocity, temperature and humidity anticipated at the point where it is installed. Other than in mechanical smoke control systems, dampers shall be			X	Minimal	Clarification

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		Decrease	**None**	**Increase**		
Sub Code:						
	closed upon fan shutdown where local smoke detectors require a minimum velocity to operate. 2. Where a static ceiling radiation damper is installed in a ceiling, the ceiling radiation damper shall be permitted to be controlled by a smoke detection system installed within the same room or area as the ceiling radiation damper. 3. ~~Where a static ceiling radiation damper is installed in an area served by the duct in which the damper will be located, the ceiling radiation damper shall be permitted to be controlled by the smoke detection system.~~ 34. ~~Where a ceiling radiation damper is installed within a room and an occupant sensor is provided within the room served by the damper, a~~ A static ceiling radiation damper shall be permitted to be installed within a room where an occupant sensor is provided within the room that will shut down the down the system.					
FS65-18	Change the existing definition for 717.3.3.1 Fire damper actuation device to: **2018 International Building Code** **717.3.3.1 Fire damper ~~actuation device~~ actuation.** ~~The fire damper actuation device~~ Primary heat responsive devices used to actuate fire dampers shall meet one of the following requirements: 1. The operating temperature shall be approximately 50°F (10°C) above the normal temperature within the duct system, but not less than 160°F (71°C). 2. The operating temperature shall be not more than 350°F (177°C) where located in a smoke control system complying with Section 909.		X			Clarification
FS67-18	Change the existing definition for 717.5.2 Fire barriers to: **2018 International Building Code** **717.5.2 Fire barriers.** Ducts and air transfer openings of fire barriers shall be protected with listed fire dampers installed in accordance with their listing. Ducts and air transfer openings shall not penetrate enclosures for interior exit stairways and ramps and exit passageways, except as permitted by Sections and 1024.6, respectively. **Exception:** Fire dampers are not required at penetrations of	X				Clarification

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	fire barriers where any of the following apply: 1. Penetrations are tested in accordance with ASTM E119 or UL 263 as part of the fire- resistance-rated assembly. 2. Ducts are used as part of an approved smoke control system in accordance with Section 909 and where the use of a fire damper would interfere with the operation of a smoke control system. 3. Such walls are penetrated by fully ducted HVAC systems, have a required fire-resistance rating of 1 hour or less, are in areas of other than Group H and are in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. For the purposes of this exception, a fully ducted HVAC system shall be a duct system for conveying supply, return or exhaust air as part of the structure's HVAC system. Such a duct system shall be constructed of sheet steel not less than No. 26 gage thickness and shall be continuous from the air-handling appliance or equipment to the air outlet and inlet terminals. Flexible air connectors shall be permitted in the following locations: 3.1. Non-metal flex connections shall be permitted at the duct connection to the air handling unit or equipment located within the mechanical room in accordance with Section 603.9 of the International Mechanical Code. 3.1. Non-metal flex connections shall be permitted from an overhead metal duct to a ceiling diffuser within the same room in accordance with Section 603.6.2 of the International Mechanical Code.					
FS70-18	Change the existing definition for 717.5.3 Shaft enclosures to: **2018 International Building Code** **717.5.3 Shaft enclosures.** Shaft enclosures that are permitted to be penetrated by ducts and air transfer openings shall be protected with listed fire and smoke dampers installed in accordance with their listing. **Exceptions:** 1. Fire dampers are not required at penetrations of shafts where any of the following criteria are met: 1.1. Steel exhaust subducts having a wall thickness of not less than 0.0187 inch (0.4712 mm) are extended not		X			Clarification

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		Decrease	None	Increase		
Sub Code:						
	less than 22 inches (559 mm) vertically in exhaust shafts, ~~provided that there is a continuous airflow upward to the outside.~~and an exhaust fan is installed at the upper terminus of the shaft that is powered continuously in accordance with Section 909.11, so as to maintain a continuous upward airflow to the outdoors. 1.2. Penetrations are tested in accordance with ASTM E119 or UL 263 as part of the fire- resistance-rated assembly. 1.3. Ducts are used as part of an approved smoke control system designed and installed in accordance with Section 909 and where the fire damper will interfere with the operation of the smoke control system. 1.4. The penetrations are in parking garage exhaust or supply shafts that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction. 2. In Group B and R occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, smoke dampers are not required at penetrations of shafts where all of the following criteria are met: 2.1. Kitchen, clothes dryer, bathroom and toilet room exhaust openings are installed with steel exhaust subducts, having a ~~minimum~~ wall thickness of not less than 0.0187-inch (0.4712 mm~~) (No. 26 gage~~). 2.2. The subducts extend not less than 22 inches (559 mm) vertically. 2.3. An exhaust fan is installed at the upper terminus of the shaft that is powered continuously in accordance with the provisions of Section 909.11, so as to maintain a continuous upward airflow to the ~~outside.~~outdoors. 3. Smoke dampers are not required at penetration of exhaust or supply shafts in parking garages that are separated from other building shafts by not less than 2-hour fire-resistance- rated construction. 4. Smoke dampers are not required at penetrations of shafts where ducts are used as part of an approved mechanical smoke control system designed in accordance with Section 909 and where the smoke damper will interfere with the operation of the smoke control system. 5. Fire dampers and combination fire/smoke dampers are					

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		Decrease	**None**	**Increase**		
Sub Code:						
	not required in kitchen and clothes dryer exhaust systems where dampers are prohibited by the International Mechanical Code. Add new definition for 717.5.3.1 Continuous upward airflow as follows: **717.5.3.1 Continuous upward airflow.** Fire dampers and smoke dampers shall not be installed in shafts that are required to maintain a continuous upward airflow path where closure of the damper would result in the loss of the airflow.					
F83-18 Part II	Change the existing definition for Flammable refrigerants, Special requirements for Group A2L refrigerant machinery rooms and [M] 605.17 Special requirements for Group A2L refrigerant machinery rooms to: **2018 International Mechanical Code** **Flammable refrigerants.** Where refrigerants of Groups A2, A3, B2 and B3 are used, the machinery room shall conform to the Class 1, Division 2, hazardous location classification requirements of NFPA 70. **Exceptions:** 1. Ammonia machinery rooms that are provided with ventilation in accordance with Section 1106.3. 2. Machinery rooms for systems containing Group A2L refrigerants that are provided with ventilation in accordance with Section 1106.5. **Special requirements for Group A2L refrigerant machinery rooms.** Machinery rooms ~~for~~ with systems containing Group A2L refrigerants ~~shall comply with Sections 1106.5.1 through 1106.5.3.~~ ~~**Exception**: Machinery rooms conforming to the~~ that do not conform with the Class I, Division 2, hazardous location ~~classification~~ electrical requirements of NFPA 70 ~~are not required to~~, as permitted by Section 1106.4 Exception 2, shall comply with Sections 1106.5.1 ~~and 1106.5.2.~~ through 1106.5.3. **2018 International Fire Code** **[M] 605.17 Special requirements for Group A2L refrigerant machinery rooms.** Machinery rooms with systems containing		X			Clarification

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Group A2L refrigerants ~~shall comply with Sections 605.17.1 through 605.17.3.~~ ~~**Exception:**~~ ~~Machinery rooms conforming to the Class 1~~ that do not conform with the Class I, Division 2 hazardous location ~~classification~~ electrical requirements of NFPA 70, as permitted by Section 605.16 Exception 2, shall comply with Sections 605.17.1 through 605.17.3.					
F276-18	Change the existing definition for [F]307.1.1 Uses other than Group H, 311.2 Moderate-hazard storage, Group S-1, 311.3 Low-hazard storage, Group S-2, Scope, Nonapplicability and [F]502.9.5 Flammable and combustible liquids to: **2018 International Fire Code** **[F]307.1.1 Uses other than Group H.** An occupancy that stores, uses or handles hazardous materials as described in one or more of the following items shall not be classified as Group H, but shall be classified as the occupancy that it most nearly resembles. 1. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of Section 416 and the International Fire Code. 2. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to the International Fire Code. 3. Closed piping system containing flammable or combustible liquids or gases utilized for the operation of machinery or equipment. 4. Cleaning establishments that utilize combustible liquid solvents having a flash point of 140°F (60°C) or higher in closed systems employing equipment *listed* by an *approved* testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour *fire barriers* constructed in accordance with Section 707 or 1-hour *horizontal assemblies* constructed in accordance with Section 711, or both. 5. Cleaning establishments that utilize a liquid solvent having a flash point at or above 200°F (93°C). 6. Liquor stores and distributors without bulk storage. 7. Refrigeration systems. 8. The storage or utilization of materials for agricultural purposes on the premises. 9. Stationary storage battery systems installed in accordance		X			Clarification

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	with the International Fire Code. 10. Corrosive personal or household products in their original packaging used in retail display. 11. Commonly used corrosive building materials. 12. Buildings and structures occupied for aerosol product storage shall be classified as Group S- 1, provided that such buildings conform to the requirements of the International Fire Code. 13. Display and storage of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in quantities not exceeding the maximum allowable quantity per *control area* in Group M or S occupancies complying with Section 414.2.5. 14. The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial explosive devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements prescribed in the International Fire Code. 15. Stationary fuel cell power systems installed in accordance with the International Fire Code. 16. Capacitor energy storage systems in accordance with the International Fire Code. 17. Group B higher education laboratory occupancies complying with Section 428 and Chapter 38 of the International Fire Code 18. Distilling or brewing of beverages conforming to the requirements of the International Fire Code. 19. The storage of beer, distilled spirits and wines in barrels and casks conforming to the requirements of the International Fire Code. **311.2 Moderate-hazard storage, Group S-1.** Storage Group S-1 occupancies are buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following: Aerosol products, Levels 2 and 3 Aircraft hangar (storage and repair) Bags: cloth, burlap and paper Bamboos and rattan Baskets Belting: canvas and leather Beverages: over 16-percent alcohol content Books and paper in rolls or packs Boots and shoes					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Buttons, including cloth covered, pearl or bone Cardboard and cardboard boxes Clothing, woolen wearing apparel Cordage Dry boat storage (indoor) Furniture Furs Glues, mucilage, pastes and size Grains Horns and combs, other than celluloid Leather Linoleum Lumber Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.8) Photo engravings Resilient flooring Self-service storage facility (mini-storage) Silks Soaps Sugar Tires, bulk storage of Tobacco, cigars, cigarettes and snuff Upholstery and mattresses Wax candles **311.3 Low-hazard storage, Group S-2.** Storage Group S-2 occupancies include, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic *trim*, such as knobs, handles or film wrapping. Group S-2 storage uses shall include, but not be limited to, storage of the following: Asbestos Beverages up to and including 16-percent alcohol ~~in metal, glass or ceramic containers~~ Cement in bags Chalk and crayons Dairy products in nonwaxed coated paper containers Dry cell batteries Electrical coils Electrical motors					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Empty cans Food products Foods in noncombustible containers Fresh fruits and vegetables in nonplastic trays or containers Frozen foods Glass Glass bottles, empty or filled with noncombustible liquids Gypsum board Inert pigments Ivory Meats Metal cabinets Metal desks with plastic tops and *trim* Metal parts Metals Mirrors Oil-filled and other types of distribution transformers Parking garages, open or enclosed Porcelain and pottery Stoves Talc and soapstones Washers and dryers **Scope.** Prevention, control and mitigation of dangerous conditions related to storage, dispensing, use and handling of hazardous materials shall be in accordance with this chapter. This chapter shall apply to all hazardous materials, including those materials regulated elsewhere in this code, except that where specific requirements are provided in other chapters, those specific requirements shall apply in accordance with the applicable chapter. Where a material has multiple hazards, all hazards shall be addressed. **Exceptions:** 1. In retail or wholesale sales occupancies, the quantities of medicines, foodstuff or consumer products and cosmetics containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solutions not being flammable shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons (5 L). 2. Quantities of alcoholic beverages in retail or wholesale					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	sales occupancies shall not be limited providing the liquids are packaged in individual containers not exceeding 1.3 gallons (5 L). 3. Application and release of pesticide and agricultural products and materials intended for use in weed abatement, erosion control, soil amendment or similar applications where applied in accordance with the manufacturers' instructions and label directions. 4. The off-site transportation of hazardous materials where in accordance with Department of Transportation (DOTn) regulations. 5. Building materials not otherwise regulated by this code. 6. Refrigeration systems (see Section 605). 7. Stationary storage battery systems regulated by Section 1206.2. 8. The display, storage, sale or use of fireworks and *explosives* in accordance with Chapter 56. 9. *Corrosives* utilized in personal and household products in the manufacturers' original consumer packaging in Group M occupancies. 10. The storage of beer, distilled spirits and wines in ~~wooden~~ barrels and casks. 11. The use of wall-mounted dispensers containing alcohol-based hand rubs classified as Class I or II liquids where in accordance with Section 5705.5. **Nonapplicability.** This chapter shall not apply to liquids as otherwise provided in other laws or regulations or chapters of this code, including: 1. Specific provisions for flammable liquids in motor fuel-dispensing facilities, repair garages, airports and marinas in Chapter 23. 2. Medicines, foodstuffs, cosmetics and commercial or institutional products containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solution not being flammable, provided that such materials are packaged in individual containers not exceeding 1.3 gallons (5 L). 3. Quantities of alcoholic beverages in retail or wholesale sales or storage occupancies, provided that the liquids are packaged in individual containers not exceeding 1.3 gallons (5 L). 4. Storage and use of fuel oil in tanks and containers connected to oil-burning equipment. Such storage and					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	use shall be in accordance with Section 603. For abandonment of fuel oil tanks, this chapter applies. 5. Refrigerant liquids and oils in refrigeration systems (see Section 605). 6. Storage and display of aerosol products complying with Chapter 51. 7. Storage and use of liquids that do not have a fire point when tested in accordance with ASTM D92. 8. Liquids with a *flash point* greater than 95°F (35°C) in a water-miscible solution or dispersion with a water and inert (noncombustible) solids content of more than 80 percent by weight, which do not sustain combustion. 9. Liquids without *flash points* that can be flammable under some conditions, such as certain halogenated hydrocarbons and mixtures containing halogenated hydrocarbons. 10. The storage of <u>beer,</u> distilled spirits and wines in ~~wooden~~ barrels and casks. 11. Commercial cooking oil storage tank systems located within a building and designed and installed in accordance with Section 608 and NFPA 30. Add new definition for 903.2.4.2 Group F-1 Distilled Spirits, 903.2.9.3 Group S-1 Distilled spirits or wine and CHAPTER 40 as follows: **2018 International Fire Code** **<u>903.2.4.2 Group F-1 Distilled Spirits.</u>** <u>An automatic sprinkler system shall be provided throughout a Group F-1 fire area used for the manufacture of distilled spirits.</u> **<u>903.2.9.3 Group S-1 Distilled spirits or wine.</u>** <u>An automatic sprinkler system shall be provided throughout a Group S-1 fire area used for the bulk storage of distilled spirits or wine.</u> **<u>CHAPTER 40</u>** **<u>STORAGE OF DISTILLED SPIRITS AND WINES</u>** **<u>SECTION 4001</u>** **<u>GENERAL</u>**					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	4001.1 General. The storage of distilled spirits and wines in barrels and casks shall comply with this chapter in addition to other applicable requirements of this code. **4001.1.1 Nonapplicability.** Chapter 50 and Chapter 57 of this code are not applicable to the storage of distilled spirits and wines in barrels and casks as identified in Section 5001.1, Exception 10, and Section 5701.2, Item 10. **SECTION 4002** **DEFINITIONS** **4002.1 Terms defined in Chapter 2.** Words and terms used in this chapter and defined in Chapter 2 shall have the meanings ascribed to them as defined therein. **SECTION 4003** **PRECAUTIONS AGAINST FIRE** **Spill Control.** Drainage or containment systems shall be provided by means of curbs, scuppers, special drains, or other suitable means to prevent the flow of spills throughout the building. **Ventilation.** Ventilation shall be provided for rooms and spaces where distilled spirits and wines in barrels and casks are stored in accordance with the International Mechanical Code and one of the following: 1. The rooms and spaces shall be ventilated at a rate sufficient to maintain the concentration of vapors within the area at or below 25% of the LFL . This shall be confirmed by sampling of the actual vapor concentration under normal operating conditions. The sampling shall be conducted throughout the enclosed storage area extending to or toward the bottom and the top of the enclosed storage area. The vapor concentration used to determine the required ventilation rate shall be the highest measured concentration during the sampling procedure. The sampling shall be conducted manually or by installation of a continuously monitoring flammable vapor detection system. 2. The rooms and spaces shall be provided exhaust ventilation at a rate of not less than 1 cfm/ft2 (0.3 m3/min) of solid floor area. The exhaust ventilation shall be accomplished					

Table 6. 2021 IMC Changes Cost Impact						
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		Decrease	None	Increase		
Sub Code:						
	by natural or mechanical means, with discharge of the exhaust to a safe location outside the building. **Sources of ignition.** Sources of ignition shall be controlled in accordance with Sections 4003.3.1 through 4003.4. **Smoking.** Smoking shall be prohibited and "No Smoking" signs provided as follows: 1. In rooms or areas where hazardous materials are stored or dispensed or used in open systems in amounts requiring a permit in accordance with Section 105.6 and 105.7 2. Within 25 feet (7620mm) of outdoor storage, dispensing or open use areas. 3. Facility or areas within facilities that have been designated as totally "no smoking" shall have "No Smoking" signs placed at all entrances to the facility or area. Designated areas within such facilities where smoking is permitted either permanently or temporarily shall be identified with signs designating that smoking is permitted in these areas only. 4. In rooms or areas where flammable or combustible hazardous materials are stored, dispensed or used. Signs required by this section shall be in English as a primary language or in symbols allowed by this code and shall comply with Section 310. **Open Flame.** Open flames and high-temperature devices shall not be used in a manner that creates a hazardous condition and shall be listed for use with the hazardous materials stored or used. **Industrial trucks.** Powered industrial trucks used in areas designated as hazardous (classified)locations in accordance with NFPA 70 shall be listed and labeled for use in the environment intended in accordance with NFPA 505. **Electrical.** Electrical wiring and equipment shall be installed and maintained in accordance with Section 605 and NFPA 70. **4003.4 Lightning.** Structures containing barrel storage should be protected from lightning. The lightning protection equipment shall be installed in accordance with NFPA 780 and NFPA 70.					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	SECTION 4004 **STORAGE** **Storage.** Storage shall be in accordance with this section and Section 315. **Empty containers.** The storage of empty containers previously used for the storage of flammable or combustible liquids, unless free from explosive vapors, shall be stored as required for filled containers. **Basement storage.** Class I liquids shall be allowed to be stored in basements in amounts not exceeding the maximum allowable quantity over control area for use-open systems in Table 5003.1.1(1), provided that automatic suppression and other fire protection are provided in accordance with Chapter 9. Class II and IIIA liquids shall also be allowed to be stored in basements, provided that automatic suppression and other fire protection are provided in accordance with Chapter 9. **Bulk beverage storage areas.** There shall be no storage of combustible materials in the bulk beverage storage areas not related to the beverage storage activities. **SECTION 4005** **FIRE PROTECTION** **Automatic sprinkler system.** The storage of distilled spirits and wines shall be protected by an approved automatic sprinkler system as required by Chapter 9. **Portable Fire Extinguishers.** Approved portable fire extinguishers shall be provided in accordance with Section 906. **SECTION 4006** **SIGNAGE** **4006.1 Hazard identification signs.** Unless otherwise exempted by the fire code official, visible hazard identification signs as specified in NFPA 704 for the specific material contained shall be placed on stationary containers and above ground tanks and at entrances to locations where hazardous materials are stored, dispensed, used or handled in quantities requiring a permit and at					

Table 6. 2021 IMC Changes Cost Impact						
CODE CHANGE #	2021 IMC CHANGE SUMMARY	IMC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	specific entrances and locations designated by the fire code official. **4006.1.1 Maintenance and style.** Signs and markings required by Section 4006.1 shall not be obscured or removed, shall be in English as a primary language or in symbols allowed by this code, shall be durable, and the size, color, and lettering shall be approved. Add new standard for NFPA. **NFPA** 780-17: Standard f or the Installation of Lightning Protection Systems Change the existing definition for [F]502.9.5 Flammable and combustible liquids to: **2018 International Mechanical Code** **~~[F]~~502.9.5 Flammable and combustible liquids.** Exhaust ventilation systems shall be provided as required by Sections 502.9.5.1 through 502.9.5.5 for the storage, use, dispensing, mixing and handling of flammable and combustible liquids. Unless otherwise specified, this section shall apply to any quantity of flammable and combustible liquids. ~~Exception~~ Exceptions: 1. This section shall not apply to flammable and combustible liquids that are exempt from the International Fire Code. 2. The storage of beer, distilled spirits and wines in barrels and casks conforming to the requirements of the International Fire Code.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	**2021 IPC CHANGE SUMMARY**	**IPC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
P1-18 Part I	Add new definition for: **COPPER ALLOY.** A metal alloy where the principle component ~~homogeneous mixture of not less than two metals where not less than 50% of the finished metal~~ is copper.		X			Necessary addition for clarification
P1-18 Part IV	Add new definition for **COPPER ALLOY.** A homogeneous mixture of not less than two metals where not less than 50% of the finished metal is copper.		X			Necessary addition for clarification
P1-18 Part V	Add new definition for COPPER ALLOY as follows: **COPPER ALLOY**. A homogeneous mixture of not less than two metals where not less than 50% of the finished metal is copper.		X			Necessary addition for clarification
P2-18	Change definition for PUBLIC OR PUBLIC UTILIZATION and PRIVATE to: **PUBLIC OR PUBLIC UTILIZATION.** In the classification of plumbing fixtures, ""public" " applies to fixtures ~~in general toilet rooms of schools, gymnasiums, hotels, airports, bus and railroad stations, public buildings, bars, public comfort stations, office buildings, stadiums, stores, restaurants and other installations where a number of fixtures are installed so that their utilization is similarly unrestricted~~ with unrestricted exposure to walk-in traffic. **PRIVATE.** In the classification of plumbing fixtures, ""private" " applies to fixtures ~~in residences and apartments, and to fixtures in nonpublic toilet rooms of hotels and motels and similar installations in buildings where the plumbing fixtures are intended for utilization by a family or an individual~~ that are not public.	X				Clarification
P3-18	Change the existing definition for WATER DISPENSER to: **WATER DISPENSER.** A plumbing fixture that is manually controlled by the user for the purpose of dispensing potable drinking water into a receptacle such as a cup, glass or bottle. Such fixture is connected to the potable water distribution system of the premises. ~~This definition includes a freestanding apparatus for the same purpose that is not connected to the potable water distribution system and that is supplied with potable water from a container, bottle or reservoir.~~		X			Clarification
P5-18	**308.2 Piping seismic supports.** Where earthquake loads are applicable in accordance with the International ~~b~~Building c<u>C</u>ode, plumbing piping supports, anchorage, and bracing shall be designed and installed for seismic forces in accordance with Chapter 16 of the International Building Code.		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
P9-18	Change the existing definition for 308.9 Parallel water distribution systems to: **308.9 Parallel water distribution systems.** Piping bundles for manifold systems shall be supported in accordance with Table Support at changes in direction shall be in accordance with the manufacturer's instructions. Where hot water piping is bundled with cold ~~or hot~~ water piping, hot water piping shall be insulated in accordance with Section 607.5.		X			Clarification
P11-18 Part II	**P2503.5.1 Rough plumbing.** DWV systems shall be tested on completion of the rough piping installation by water or, air for piping systems other than plastic or, by a vacuum of air for plastic piping systems, without evidence of leakage. ~~Either~~ The test shall be applied to the drainage system in its entirety or in sections after rough-in piping has been installed, as follows: 1. Water test. Each section shall be filled with water to a point not less than 5 feet (1524 mm) above the highest fitting connection in that section, or to the highest point in the completed system. Water shall be held in the section under test for a period of 15 minutes. The system shall prove leak free by visual inspection. 2. Air test. The portion under test shall be maintained at a gauge pressure of 5 pounds per square inch (psi) (34 kPa) or 10 inches of mercury column (34 kPa). This pressure shall be held without introduction of additional air for a period of 15 minutes. 3. Vacuum Test. The portion under test shall be evacuated of air by a vacuum type pump to achieve a uniform gauge pressure of -5 pounds per square inch or a negative 10-inches of mercury column (-34 kPa). This pressure shall be held without the removal of additional air for a period of 15 minutes.	X				Clarification
P12-18	**312.10.2 Testing.** Reduced pressure principle, double check, pressure vacuum breaker, reduced pressure detector fire protection, double check detector fire protection, and spill-resistant vacuum breaker backflow preventer assemblies and hose connection backflow preventers shall be tested at the time of installation, immediately after repairs or relocation and at least annually. The testing procedure shall be performed in accordance with one of the following standards: ASSE 5013, ASSE 5015, ASSE 5020, ASSE 5047, ASSE 5048, ASSE 5052, ASSE 5056, CSA B64.10 or CSA B64.10.1. Test gauges shall comply with ASSE 1064.		X			Increased test gauge accuracy
P14-18	**403.1.1 Fixture calculations.** To determine the occupant load of each sex, the total occupant load shall be divided in half. To		X			Clarification.

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	determine the required number of fixtures, the fixture ratio or ratios for each fixture type shall be applied to the occupant load of each sex in accordance with Table 403.1. Fractional numbers resulting from applying the fixture ratios of Table 403.1 shall be rounded up to the next whole number. For calculations involving multiple occupancies, such fractional numbers for each occupancy shall first be summed and then rounded up to the next whole number. ~~**Exception**~~ **Exceptions:** 1. The total occupant load shall not be required to be divided in half where approved statistical data indicates a distribution of the sexes of other than 50 percent of each sex. 2. Where multi-user facilities are designed to serve all genders, the minimum fixture count shall be calculated 100%, based on total occupant load. In such multi-user user facilities, each fixture type shall be in accordance with ICC A117.1 and each urinal that is provided shall be located in a stall.					
P15-18	Change the existing definition for 403.2 Separate facilities to: 6. Separate facilities shall not be required where rooms having both water closets and lavatory fixtures are designed for use by both sexes and privacy for water closets are installed in accordance with Section 405.3.4. Urinals shall be located in an area visually separated from the remainder of the facility or each urinal that is provided shall be located in a stall.	X				Clarification
P16-18	Change the existing definition for 403.1.2 Single-user toilet facility and bathing room fixtures to: **403.1.2 Single-user toilet facility and bathing room fixtures.** The plumbing fixtures located in single- user toilet facilities and bathing rooms, including family or assisted use toilet and bathing rooms that are required by Section 1109.2.1 of the International Building Code, shall contribute toward the total number of required plumbing fixtures for a building or tenant space. Single-user toilet facilities and bathing rooms, and family or assisted-use toilet rooms and bathing rooms shall be identified as being available for use by ~~either~~ all persons regardless of their sex.		X			Clarification
P19-18	Change the existing definition for 403.3.1 Access and 403.5 Drinking fountain location to: **403.3.1 Access.** The route to the public toilet facilities required by Section 403.3 shall not pass through kitchens, storage rooms or		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	**2021 IPC CHANGE SUMMARY**	**IPC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	closets. Access to the required facilities shall be from within the building or from the exterior of the building. ~~Routes shall comply with the accessibility requirements of the International Building Code.~~ The public shall have access to the required toilet facilities at all times that the building is occupied. **403.5 Drinking fountain location.** Drinking fountains shall not be required to be located in individual tenant spaces provided that public drinking fountains are located within a distance of travel of 500 feet (152 m) of the most remote location in the tenant space and not more than one story above or below the tenant space. Where the tenant space is in a covered or open mall, such distance shall not exceed 300 feet (91 m). ~~Drinking fountains shall be located on an accessible route.~~					
P21-18	Change the existing definition for 403.3.3 Location of toilet facilities in occupancies other than malls to: **403.3.3 Location of toilet facilities in occupancies other than malls.** In occupancies other than covered and open mall buildings, the required public and employee toilet facilities shall be located not more than one story above or below the space required to be provided with toilet facilities, and the path of travel to such facilities shall not exceed a distance of 500 feet (152 m). ~~**Exception**~~ **Exceptions:** 1. The location and maximum distances of travel to required employee facilities in factory and industrial occupancies are permitted to exceed that required by this section, provided that the location and maximum distance of travel are approved. 2. The location and maximum distances of travel to required public and employee facilities in Group S occupancies are permitted to exceed that required by this section, provided that the location and maximum distance of travel are approved	X				Clarification
P22-18 Part I	Change the existing definition for 1109.2.1.7 Privacy to: **2018 International Building Code** **1109.2.1.7 Privacy.** Doors to family or assisted-use toilet and bathing rooms shall be securable from within the room and be provided with an "occupied" indicator.			X	$500/door	Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	**2021 IPC CHANGE SUMMARY**	**IPC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
P23-18	Add new definition for 403.6 Service sink location as follows: **403.6 Service sink location.** Service sinks shall not be required to be located in individual tenant spaces in a covered mall provided that service sinks are located within a distance of travel of 300 feet (91 m) of the most remote location in the tenant space and not more than one story above or below the tenant space. Service sinks shall be located on an accessible route.	X				Necessary addition for clarification
P24-18	Change the existing definition for 404.3 Exposed pipes and surfaces to: **2018 International Plumbing Code** ~~**404.3 Exposed pipes and surfaces. Water supply and drain pipes under accessible lavatories and sinks shall be covered or otherwise configured to protect against contact. Pipe coverings shall comply with ASME A112.18.9.**~~		X			Removes an unnecessary definition
P25-18	Change the existing definition for 404.3 Exposed pipes and surfaces to: **404.3 Exposed pipes and surfaces.** Water supply and drain pipes under accessible lavatories and sinks shall be covered or otherwise configured to protect against contact. Pipe coverings shall comply with ASME A112.18.9 or ASTM C1822. Add new standard(s) for ASTM. **ASTM** C1822-2015: Standard Specification for Insulating Covers on Accessible Lavatory Piping		X			Allows both the ASME A112 18.9 standard and ASTM C1822 compliance
P27-18	Change the existing definition for 405.3.1 Water closets, urinals, lavatories and bidets to: **2018 International Plumbing Code** **405.3.1 Water closets, urinals, lavatories and bidets.** A water closet, urinal, lavatory or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition, vanity or other obstruction. ~~For water closets, urinals, or bidets, where~~ Where partitions or other obstructions do not separate adjacent ~~fixtures,~~ water closets, urinals, or bidets, the fixtures shall not be set closer than 30 inches (762 mm) center to center between adjacent fixtures or adjacent water closets, urinals, or bidets. There shall be not less than a 21-inch (533 mm) clearance in front of a water closet, urinal, lavatory or bidet to any wall, fixture or door. Water closet compartments shall be not less than 30 inches (762 mm) in width and not less than 60 inches (1524 mm) in depth for floor- mounted water		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	closets and not less than 30 inches (762 mm) in width and 56 inches (1422 mm) in depth for wall-hung water closets. **Exception:** An accessible children's water closet shall be set not closer than 12 inches (305 mm) from its center to the required partition or to the wall on one side.					
P30-18	Change the existing definition for 405.4.3 Securing wall-hung water closet bowls to: **405.4.3 Securing wall-hung water closet bowls.** Wall-hung water closet bowls shall be supported by a concealed metal carrier that is attached to the building structural members so that strain is not transmitted to the ~~closet~~ fixture connector or any other part of the plumbing system. The carrier shall conform to ASME A112.6.1M or ASME A112.6.2. Add new standard(s) for ASME. **ASME** A112.6.1M-1997 (R2017): Floor Affixed Supports for Off-the-Floor Plumbing Fixtures for Public Use		X			Adds an optional type of carrier that can be used for securing a water closet bowl to a wall.
P31-18	Change the existing definition for 407.2 Bathtub waste outlets and overflows to: **407.2 Bathtub waste outlets and overflows.** Bathtubs shall be equipped with a waste outlet ~~and an overflow outlet. The outlets shall be connected to waste tubing or piping~~ that is not less than $1^1/_2$ inches (38 mm) in diameter. The waste outlet shall be equipped with a water-tight stopper. Where an overflow is installed, the overflow shall be not less than $1^1/_2$inches (38mm) in diameter.		X			Clarification
P32-18	Change the existing definition for 408.1 Approval to: **408.1 Approval.** Bidets shall conform to ASME A112.19.2/CSA B45.1. or ASME A112.19.3/CSA B45.4.		X			Clarification
P33-18 Part I	Change the existing definition for 408.3 Bidet water temperature to: **408.3 Bidet water temperature.** The discharge water temperature from a bidet fitting shall be limited to not greater than 110°F (43°C) by a water-temperature-limiting device conforming to ASSE 1070/ASME A112.1070/CSA B125.70 ~~or CSA B125.3.~~		X			Clarification
P33-18 Part I	Change the existing definition for P2721.2 Bidet water temperature to:		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	P2721.2 Bidet water temperature. The discharge water temperature from a bidet fitting shall be limited to not greater than 110°F (43°C) by a water-temperature-limiting device conforming to ASSE 1070/ASME A112.1070/CSA B125.70 ~~or CSA B125.3~~.					
P36-18	Change the existing definition for 410.1 Approval to: **410.1 Approval.** Drinking fountains shall conform to ASME A112.19.1/CSA B45.2 or ASME A112.19.2/CSA B45.1, or ASME A112.19.3/CSA B45.4 and water coolers shall conform to ASHRAE 18. Drinking fountains, water coolers and water dispensers shall conform to NSF 61, Section 9. Electrically operated, refrigerated drinking water coolers and water dispensers shall be listed and labeled in accordance with UL 399.		X			Clarification
P38-18 Part I	Add new definition for WATER DISPENSER and Substitution as follows: **2018 International Building Code** **WATER DISPENSER.** A plumbing fixture that is manually controlled by the user for the purpose of dispensing potable drinking water into a receptacle such as a cup, glass or bottle. Such fixture is connected to the potable water distribution system of the premises. This definition includes a freestanding apparatus for the same purpose that is not connected to the potable water distribution system and that is supplied with potable water from a container, bottle or reservoir. **Substitution.** Where restaurants provide drinking water in a container free of charge, drinking fountains shall not be required in those restaurants. In other occupancies where more than two drinking fountains are required, water dispensers shall be permitted to be substituted for not more than 50 percent of the required number of drinking fountains. Change the existing definition for Drinking, Minimum number, More than the minimum number, and [P] 2902.6 Small occupancies to: ~~**Drinking**~~ **High and low drinking fountains.** Where drinking fountains are provided on an exterior site, on a floor or within a secured area, the drinking fountains shall be provided in accordance with Sections 1109.5.1 and 1109.5.2. **Minimum number.** Not fewer than two drinking fountains shall be provided. One drinking fountain shall comply with the requirements for people who use a wheelchair and one drinking		X			Adds the relevant sections found in IBC to IPC.

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	fountain shall comply with the requirements for standing persons. **Exceptions:** 1. A single drinking fountain with two separate spouts that complies with the requirements for people who use a wheelchair and standing persons shall be permitted to be substituted for two separate drinking fountains. 2. Where drinking fountains are primarily for children's use, drinking fountains for people using wheelchairs shall be permitted to comply with the children's provisions in ICC A117.1 and drinking fountains for standing children shall be permitted to provide the spout at 30 inches (762 mm) minimum above the floor. **More than the minimum number.** Where more than the minimum number of drinking fountains specified in Section 1109.5.1 is provided, 50 percent of the total number of drinking fountains provided shall comply with the requirements for persons who use a wheelchair and 50 percent of the total number of drinking fountains provided shall comply with the requirements for standing persons. **Exceptions:** 1. Where 50 percent of the drinking fountains yields a fraction, 50 percent shall be permitted to be rounded up or down, provided that the total number of drinking fountains complying with this section equals 100 percent of the drinking fountains. 2. Where drinking fountains are primarily for children's use, drinking fountains for people using wheelchairs shall be permitted to comply with the children's provisions in ICC A117.1 and drinking fountains for standing children shall be permitted to provide the spout at 30 inches (762 mm) minimum above the floor. **[P] 2902.6 Small occupancies.** Drinking fountains shall not be required for an occupant load of 15 or fewer.					
P38-18 Part II	Add new definition for 410.3 High and low drinking fountains and 410.3.2 More than the minimum number as follows: **410.3 High and low drinking fountains.** Where drinking fountains are provided on an exterior site, on a floor or within a secured		X			Adds the relevant sections

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	area, the drinking fountains shall be provided in accordance with Sections 410.3.1 and 410.3.2. **410.3.2 More than the minimum number.** Where more than the minimum number of drinking fountains specified in Section 1109.5.1 is provided, 50 percent of the total number of drinking fountains provided shall comply with the requirements for persons who use a wheelchair and 50 percent of the total number of drinking fountains provided shall comply with the requirements for standing persons. **Exceptions:** 1. Where 50 percent of the drinking fountains yields a fraction, 50 percent shall be permitted to be rounded up or down, provided that the total number of drinking fountains complying with this section equals 100 percent of the drinking fountains. 2. Where drinking fountains are primarily for children's use, drinking fountains for people using wheelchairs shall be permitted to comply with the children's provisions in ICC A117.1 and drinking fountains for standing children shall be permitted to provide the spout at 30 inches (762 mm) minimum above the floor. Change the existing definition for [BE] 410.3 High and low drinking fountains and 410.4 Substitution to: **[BE] ~~410.3~~ 410.3.1 ~~High and low drinking fountains~~ Minimum number.** ~~Where drinking fountains are required, not~~ Not fewer than two drinking fountains shall be provided. One drinking fountain shall comply with the requirements for people who use a wheelchair and one drinking fountain shall comply with the requirements for standing persons. **Exceptions:** 1. A single drinking fountain with two separate spouts that complies with the requirements for people who use a wheelchair and standing persons shall be permitted to be substituted for two separate drinking fountains. 2. Where drinking fountains are primarily for children's use, the drinking fountains for people using wheelchairs shall be permitted to comply with the children's provisions in					found in IBC to IPC.

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	ICC A117.1 and drinking fountains for standing children shall be permitted to provide the spout at 30 inches (762 mm) minimum above the floor. **410.4 Substitution.** Where restaurants provide drinking water in a container free of charge, drinking fountains shall not be required in those restaurants. In other occupancies where more than two drinking fountains are required, *water dispensers* shall be permitted to be substituted for not more than 50 percent of the required number of drinking fountains.					
P39-18	Change the existing definition for 410.4 Substitution and [BE] 410.3 High and low drinking fountains to: **410.4 Substitution.** Where restaurants provide drinking water in a container free of charge, drinking fountains shall not be required in those restaurants. In other occupancies where three or more drinking fountains are required, water dispensers shall be permitted to be substituted for not more than 50 percent of the required number of drinking fountains. **[BE] 410.3 High and low drinking fountains.** Where drinking fountains are required, not fewer than two drinking fountains shall be provided. One drinking fountain shall comply with the requirements for people who use a wheelchair and one drinking fountain shall comply with the requirements for standing persons. **Exceptions:** 1. A single drinking fountain with two separate spouts that complies with the requirements for people who use a wheelchair and standing persons shall be permitted to be substituted for two separate drinking fountains. 2. Where drinking fountains are primarily for children's use, the drinking fountains for people using wheelchairs shall be permitted to comply with the children's provisions in ICC A117.1 and drinking fountains for standing children shall be permitted to provide the spout at 30 inches (762 mm) minimum above the floor.		X			Clarification
P42-18	Change the existing definition for 411.3 Water supply to: **411.3 Water supply.** Where hot and cold water is supplied to an emergency shower or eyewash station, the temperature of the water supply shall only be controlled by a temperature actuated mixing valve complying with ASSE 1071. Where water is supplied	X				Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	directly to an emergency shower or eyewash station from a water heater, the water heater shall comply with ASSE 1085. Add new standard(s) for ASSE. **ASSE** 1085-2018: Performance Requirements for Water Heaters for Emergency Equipment					
P44-18 Part I	Change the existing definition for 412.3 Individual shower valves, 412.4 Multiple (gang) showers, and 412.5 Bathtub and whirlpool bathtub valves to: **412.3 Individual shower valves.** Individual shower and tubshower combination valves shall be balanced-pressure, thermostatic or combination balanced-pressure/thermostatic valves that conform to the requirements of ASSE 1016/ASME A112.1016/CSA B125.16 or ASME A112.18.1/CSA B125.1 ~~and~~ . Such valves shall be installed at the point of use. Shower and tub-shower combination valves required by this section shall be equipped with a means to limit the maximum setting of the valve to 120°F (49°C), which shall be field adjusted in accordance with the manufacturer's instructions to provide water at a temperature not to exceed 120ºF. In-line thermostatic valves shall not be utilized for compliance with this section. **412.4 Multiple (gang) showers.** Multiple (gang) showers supplied with a single-tempered water supply pipe shall have the water supply for such showers controlled by an approved automatic temperature control mixing valve that conforms to ASSE 1069 or CSA B125.3, or each shower head shall be individually controlled by a balanced-pressure, thermostatic or combination balanced-pressure/thermostatic valve that conforms to ASSE 1016/ASME A112.1016/CSA B125.16 or ASME A112.18.1/CSA B125.1 and that is installed at the point of use. Such valves shall be equipped with a means to limit the maximum setting of the valve to 120°F (49°C), which shall be field adjusted in accordance with the manufacturers' instructions to provide water at a temperature not to exceed 120ºF. Access shall be provided to a ASSE 1069 or CSA B125.3 valve. **412.5 Bathtub and whirlpool bathtub valves.** ~~The hot water supplied to bathtubs~~ Bathtubs and whirlpool ~~bathtubs~~ bathtub valves shall ~~be limited to not greater than 120°F (49°C)~~ have or be supplied by a water-temperature limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3, except where such ~~protection is otherwise provided by a~~ valves		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	are combination tub/shower ~~valve~~ valves in accordance with Section 412.3. The water temperature3 limiting device required by this section shall be equipped with a means to limit the maximum setting of the device to 120ºF (49ºC), and, where adjustable, shall be field adjusted in accordance with the manufacturer's instructions to provide hot water at a temperature not to exceed (120ºF (49ºC). Access shall be provided to water temperature limiting devices that conform to ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3. **Exception:** Access is not required for non-adjustable water temperature limiting devices that conform to ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3 and are integral with a fixture fitting, provided that the fixture fitting itself can be accessed for replacement.					
P44-18 Part II	Change the existing definition for P208.4 Shower control valves and P2713.3 Bathtub and whirlpool bathtub valves to: **P2708.4 Shower control valves.** Individual shower and ~~tub/shower~~ tubshower combination valves shall be ~~equipped with control valves of the pressure-balance~~ balanced-pressure, thermostatic ~~-mixing~~ or combination balanced-pressure~~-balance/thermostatic-mixing valve types with a high limit stop in accordance with~~ /thermostatic valves that conform to the requirements of ASSE 1016/ASME A112.1016/CSA B125.16~~. The high limit stop shall be set to limit the water temperature to not greater than 120°F (49°C).~~ or ASME A112.18.1/CSA B125.1. Such valves shall be installed at the point of use. Shower and tub-shower combination valves required by this section shall be equipped with a means to limit the maximum setting of the valve to 120°F (49°C), which shall be field adjusted in accordance with the manufacturer's instructions to provide water at a temperature not to exceed 120ºF. In-line thermostatic valves shall not be ~~used~~ utilized for compliance with this section. **P2713.3 Bathtub and whirlpool bathtub valves.** ~~Hot water supplied to bathtubs~~ Bathtubs and whirlpool ~~bathtubs~~ bathtub valves shall ~~be limited to a temperature of not greater than 120°F (49°C)~~ have or be supplied by a water-temperature limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3, except where such ~~protection is otherwise provided by a~~ valves are combination tub/shower ~~valve~~ valves in accordance with Section P2708.4. The water		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	temperature3 limiting device required by this section shall be equipped with a means to limit the maximum setting of the device to 120ºF (49ºC), and, where adjustable, shall be field adjusted in accordance with the manufacturer's instructions to provide hot water at a temperature not to exceed 120ºF (49ºC). Access shall be provided to water temperature limiting devices that conform to ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3. **Exception:** Access is not required for non-adjustable water temperature limiting devices that conform to ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3 and are integral with a fixture fitting, provided that the fixture fitting itself can be accessed for replacement.					
P46-18 Part I	Change the existing definition for 412.3 Individual shower valves and 412.4 Multiple (gang) showers to: **412.3 Individual shower valves.** Individual shower and tubshower combination valves shall be balanced-pressure, thermostatic or combination balanced-pressure/thermostatic valves that conform to the requirements of ASSE 1016/ASME A112.1016/CSA B125.16 or ASME A112.18.1/CSA B125.1 and shall be installed at the point of use. Shower control valves shall be rated for the flow rate of the installed showerhead. Shower and tub-shower combination valves required by this section shall be equipped with a means to limit the maximum setting of the valve to 120°F (49°C), which shall be field adjusted in accordance with the manufacturer's instructions. In-line thermostatic valves shall not be utilized for compliance with this section. **412.4 Multiple (gang) showers.** Multiple (gang) showers supplied with a single-tempered water supply pipe shall have the water supply for such showers controlled by an approved automatic temperature control mixing valve that conforms to ASSE 1069 or CSA B125.3, or each shower head shall be individually controlled by a balanced-pressure, thermostatic or combination balanced-pressure/thermostatic valve that conforms to ASSE 1016/ASME A112.1016/CSA B125.16 or ASME A112.18.1/CSA B125.1 and is installed at the point of use. Where a showerhead is individually controlled, shower control valves shall be rated for the flow rate of the installed showerhead. Such valves shall be equipped with a means to limit the maximum setting of the valve to 120°F (49°C), which shall be field adjusted in accordance with the manufacturers' instructions.		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
P46-18 Part II	Change the existing definition for P2708.4 Shower control valves to: **P2708.4 Shower control valves.** Individual shower and tub/shower combination valves shall be equipped with control valves of the pressure-balance, thermostatic-mixing or combination pressure- balance/thermostatic-mixing valve types with a high limit stop in accordance with ASSE 1016/ASME A112.1016/CSA B125.16. Shower control valves shall be rated for the flow rate of the installed showerhead. The high limit stop shall be set to limit the water temperature to not greater than 120°F (49°C). In-line thermostatic valves shall not be used for compliance with this section.		X			Clarification
P47-18 Part I	Change the existing definition for 412.5 Bathtub and whirlpool bathtub valves to: **412.5 Bathtub and whirlpool bathtub valves.** The hot water supplied to bathtubs and whirlpool bathtubs shall be limited to not greater than 120°F (49°C) by a water-temperature limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 ~~or CSA B125.3~~, except where such protection is otherwise provided by a combination tub/shower valve in accordance with Section 412.3.		X			Clarification
P47-18 Part II	Change the existing definition for P2713.3 Bathtub and whirlpool bathtub valves to: **P2713.3 Bathtub and whirlpool bathtub valves.** Hot water supplied to bathtubs and whirlpool bathtubs shall be limited to a temperature of not greater than 120°F (49°C) by a water-temperature limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 ~~or CSA B125.3~~, except where such protection is otherwise provided by a combination tub/shower valve in accordance with Section P2708.4.		X			Clarification
P48-18 Part I	Change the existing definition for 412.5 Bathtub and whirlpool bathtub valves to: **412.5 Bathtub and whirlpool bathtub valves.** The hot water supplied to bathtubs and whirlpool bathtubs shall be limited to not greater than 120°F (49°C) by a water-temperature limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3 or by a water heater complying with ASSE 1082 or ASSE 1084, except where such protection is otherwise		X			Including a standard in the code will make these devices safer.

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CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	provided by a combination tub/shower valve in accordance with Section 412.3. Add new standard(s) for ASSE. **ASSE** 1084-2018: Performance Requirements for Water Heaters used as Temperature Limiting Devices 1082-2018: Performance Requirements for Water Heaters Used as Temperature Control Devices for Hot Water Distribution Systems.					
P51-18	Change the existing definition for 412.10 Head shampoo sink faucets to: **412.10 Head shampoo sink faucets.** Head shampoo sink faucets shall be supplied with hot water that is limited to not more than 120°F (49°C) . Each faucet shall have integral check valves to prevent crossover flow between the hot and cold water supply connections. The means for regulating the maximum temperature shall be one of the following: 1. ~~A limiting device conforming to ASSE 1070/ASME A112.1070/CSA B125.70.~~ 2.~~2. A thermostatic mixing valve conforming to ASSE 1017.~~ ~~3~~ 2. ~~A water heater conforming to ASSE 1082. 4. A water heater conforming to ASSE 1084.~~ ~~5~~ 3. A temperature actuated flow reduction device conforming to ASSE 1062.	X				Clarification
P52-18	Add new definition for 412.11 Pre-rinse spray valve to: **412.11 Pre-rinse spray valve.** Pre-rinse spray valves for commercial food service shall conform to ASME A112.18.1/CSA B125.1.		X			Necessary addition for clarification
P54-18	Change the existing definition for 416.1 Approval to: **416.1 Approval.** Domestic food waste disposers shall conform to ASSE 1008 and shall be listed and labeled in accordance with UL 430. Commercial food waste disposers shall be listed and labeled in accordance with UL 430. Food waste disposers shall not increase the drainage fixture unit load on the sanitary drainage system.		X			Clarification
P55-18	Add new definition for GROUP WASH FIXTURE to: **GROUP WASH FIXTURE.** A type of lavatory that allows more than one person to utilize the fixture at the same time. The fixture has one or more drains and one or more faucets.		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Change the existing definition for 419.1 Approval and 419.3 Lavatory waste outlets to: **419.1 Approval.** Lavatories shall conform to ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4 or CSA B45.5/IAPMO Z124. Group wash ~~-up equipment~~ fixtures shall conform to the requirements of Section 402. ~~Every~~ For determining the number of lavatories required by Table 403.1, every 20 inches (508 mm) of rim space of a group wash fixture shall be considered as one lavatory. **419.3 Lavatory waste outlets.** Lavatories and group wash fixtures shall have a waste ~~outlets~~ outlet not less than $1^1/_4$ inches (32 mm) in diameter. A strainer, pop-up stopper, crossbar or other device shall be provided to restrict the clear opening of the waste outlet.					
P57-18	Change the existing definition for 419.5 Tempered water for public hand-washing facilities to: **Tempered water for public hand-washing facilities.** Tempered water shall be delivered from lavatories and group wash fixtures located in public toilet facilities provided for customers, patrons and visitors. Tempered water shall be delivered through an approved water-temperature limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 ~~or CSA B125.3~~.		X			Clarification
P58-18 Part II	Change the existing definition for [MP] HOT WATER to: **[MP] HOT WATER.** Water at a temperature greater than ~~or equal to 110°F (43°C).~~120°F (49°C).		X			Clarification
P62-18	Change the existing definition for 421.1 Approval to: **421.1 Approval.** Prefabricated showers and shower compartments shall conform to ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4 or CSA B45.5/IAPMO Z124. Shower valves for individual showers shall conform to the requirements of Section 412.3.		X			Clarification
P63-18 Part I	Add new definition for 421.3.1 Waste Fittings to: **421.3.1 Waste Fittings.** Waste fittings shall conform to ASME A112.18.2/CSA B125.2.		X			Necessary addition for clarification
P63-18 Part II	Add new definition for P2708.2.1 Waste Fittings to: **P2708.2.1 Waste Fittings.** Waste fittings shall conform to ASME A112.18.2/CSA B125.2.		X			Necessary addition for clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
P66-18	Change the existing definition for 423.3 Footbaths and pedicure baths to: **423.3 Footbaths and pedicure baths.** The water supplied to specialty plumbing fixtures, such as pedicure chairs having an integral foot bathtub and footbaths, shall be limited to not greater than 120°F (49°C) by a water-temperature-limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3 or from a water heater complying with ASSE 1082 ~~or ASSE 1084~~.		X			Clarification
P67-18	Change the existing definition for 423.3 Footbaths and pedicure baths to: **423.3 Footbaths and pedicure baths.** The water supplied to specialty plumbing fixtures, such as pedicure chairs having an integral foot bathtub and footbaths, shall be limited to not greater than 120°F (49°C) by a water-temperature-limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 ~~or CSA B125.3~~.		X			Clarification
P68-18	Change the existing definition for 425.1 Approval to: **Approval.** Water closets shall conform to the water consumption requirements of Section 604.4 and shall conform to ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4 or CSA B45.5/IAPMO Z124. ~~Water closets shall conform to the hydraulic performance requirements of ASME A112.19.2/CSA B45.1. Water closet tanks shall conform to ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4 or CSA B45.5/IAPMO Z124. Electro-hydraulic water closets shall comply with ASME A112.19.2/CSA B45.1. Water closets equipped with a dual flushing device shall comply with ASME A112.19.14.~~ Add new definition for DUAL FLUSHING DEVICE, 425.1.1 Hydraulic performance, 425.1.2 Water closet tanks, and 425.1.3 Dual flush water closets to: **DUAL FLUSHING DEVICE.** A feature that allows the user to flush a water closet with either a reduced or full volume of water depending upon bowl contents. **425.1.1 Hydraulic performance.** Water closets shall conform to the hydraulic performance requirements of ASME A112.19.2/CSA B45.1. **425.1.2 Water closet tanks.** Water closet tanks shall conform to ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4 or CSA B45.5/IAPMO Z124.		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	425.1.3 Dual flush water closets. Water closets equipped with a dual flushing device shall comply with ASME A112.19.14.					
P69-18	Change the existing definition for 501.2 Water heater as space heater to: **501.2 Water heater as space heater.** Where a combination potable water heating and space heating system requires water for space heating at temperatures greater than 140°F (60°C), a master thermostatic mixing valve complying with ASSE 1017 shall be provided to limit the water supplied to the potable hot water distribution system to a temperature of 140°F (60°C) or less. The potability of the water shall be maintained throughout the system. Requirements for combination potable water heating and space heating systems shall be in accordance with the International Mechanical Code.		X			Clarification
P71-18 Part I	Change the existing definition for 501.2 Water heater as space heater and 607.2.2 Piping for recirculation systems having master thermostatic to: **501.2 Water heater as space heater.** Where a combination potable water heating and space heating system requires water for space heating at temperatures greater than 140°F (60°C), a ~~master~~ ~~thermostatic~~ temperature-actuated mixing valve complying with ASSE 1017 shall be provided to limit the water supplied to the potable hot water distribution system to a temperature of 140°F (60°C) or less. The potability of the water shall be maintained throughout the system. **607.2.2 Piping for recirculation systems having ~~master thermostatic~~ temperature-actuated mixing valves.** Where a ~~thermostatic~~ temperature-actuated mixing valve is used in a system with a hot water recirculating pump, the hot water or tempered water return line shall be routed to the cold water inlet pipe of the water heater and the cold water inlet pipe or the hot water return connection of the ~~thermostatic~~ temperature-actuated mixing valve.		X			Clarification
P71-18 Part II	Change the existing definition for P2802.1 Water temperature control and P2803.2 Temperature control to: **P2802.1 Water temperature control.** Where heated water is discharged from a solar thermal system to a hot water distribution system, a ~~thermostatic~~ temperature-actuated mixing valve complying with ASSE 1017 shall be installed to temper the water to a temperature of not greater than 140°F (60°C). Solar thermal systems supplying hot water for both space heating and		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	domestic uses shall comply with Section P2803.2. A temperature-indicating device shall be installed to indicate the temperature of the water discharged from the outlet of the mixing valve. The ~~thermostatic~~ temperature-actuated mixing valve required by this section shall not be a substitute for water-temperature limiting devices required by Chapter 27 for specific fixtures. **P2803.2 Temperature control.** Where a combination water heater-space heating system requires water for space heating at temperatures exceeding 140°F (60°C), a ~~master thermostatic~~ temperature-actuated mixing valve complying with ASSE 1017 shall be installed to temper the water to a temperature of not greater than 140°F (60°C) for domestic uses.					
P77-18 Part I	Change the existing definition for 602.3.5 Pumps to: **602.3.5 Pumps.** Pumps shall be rated for the transport of potable water. Pumps in an individual water supply system shall be constructed and installed so as to prevent contamination from entering a potable water supply through the pump units. Pumps intended to supply drinking water shall conform to NSF 61. Pumps shall be sealed to the well casing or covered with a water-tight seal. Pumps shall be designed to maintain a prime and installed such that ready access is provided to the pump parts of the entire assembly for repairs.		X			Clarification
P77-18 Part II	Change the existing definition for P2903.3.1 Pumps handling drinking water to: **P2903.3.1 Pumps handling drinking water.** Pumps intended to supply drinking water shall conform to NSF 61.		X			Clarification
P79-18 Part II	Change the existing definition for P2903.1 Water supply system design criteria to: **P2903.1 Water supply system design criteria.** The water service and water distribution systems shall be designed and ~~pipe sizes shall be selected such that under conditions of~~ sized for peak demand, ~~the capacities at the point of outlet discharge shall be not less than~~ using values shown in Table P2903.1. **TABLE P2903.1** **~~REQUIRED CAPACITIES AT POINT OF OUTLET DISCHARGE~~ FLOW RATE AND PRESSURES FOR DESIGNING PIPING SYSTEMS**		X			Clarification

Table 7. 2021 IPC Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IPC CHANGE SUMMARY</th><th colspan="3">IPC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td>P83-18</td><td>Change the existing definition for TABLE 605.3 WATER SERVICE PIPE to:
TABLE 605.3
WATER SERVICE PIPE
<table>
<tr><th>MATERIAL</th><th>STANDARD</th></tr>
<tr><td>Acrylonitrile butadiene styrene (ABS) plastic pipe</td><td>ASTM D1527; ASTM D2282</td></tr>
<tr><td>Chlorinated polyvinyl chloride (CPVC) plastic pipe</td><td>ASTM D2846; ASTM F441; ASTM F442; CSA B137.6</td></tr>
<tr><td>Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CPVC)</td><td>ASTM F2855</td></tr>
<tr><td>Copper or copper-alloy pipe</td><td>ASTM B42; ASTM B302</td></tr>
<tr><td>Copper or copper-alloy tubing (Type K, WK, L, WL, M or WM)</td><td>ASTM B75; ASTM B88; ASTM B251; ASTM B447</td></tr>
<tr><td>Cross-linked polyethylene (PEX) plastic pipe and tubing</td><td>ASTM F876; AWWA C904; CSA B137.5</td></tr>
<tr><td>Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL- PEX) pipe</td><td>ASTM F1281; ASTM F2262; CSA B137.10</td></tr>
<tr><td>Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)</td><td>ASTM F1986</td></tr>
<tr><td>Ductile iron water pipe</td><td>AWWA C151/A21.51; AWWA C115/A21.15</td></tr>
<tr><td>Galvanized steel pipe</td><td>ASTM A53</td></tr>
<tr><td>Polyethylene (PE) plastic pipe</td><td>ASTM D2239; ASTM D3035; AWWA C901; CSA B137.11</td></tr>
<tr><td>Polyethylene (PE) plastic tubing</td><td>ASTM D2737; AWWA C901; CSA B137.1</td></tr>
<tr><td>Polyethylene/aluminum/polethylene (PE-AL-PE) pipe</td><td>ASTM F1282; CSA B137.9</td></tr>
<tr><td>Polyethylene of raised temperature (PE-RT) plastic tubing</td><td>ASTM F2769; CSA B137.18</td></tr>
<tr><td>Polypropylene (PP) plastic pipe or tubing</td><td>ASTM F2389; CSA B137.11</td></tr>
<tr><td>Polyvinyl chloride (PVC) plastic pipe</td><td>ASTM D 1785; ASTM D2241; ASTM D2672; CSA B137.3</td></tr>
<tr><td>Stainless steel pipe (Type 304/304L)</td><td><u>ASTM A269,</u> ASTM A312; ASTM A778</td></tr>
<tr><td>Stainless steel pipe (Type 316/316L)</td><td><u>ASTM A269,</u> ASTM A312; ASTM A778</td></tr>
</table></td><td></td><td>X</td><td></td><td></td><td>Adding another standard for stainless steel piping into the code increases flexibility in choices of piping.</td></tr>
</table>

Table 7. 2021 IPC Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IPC CHANGE SUMMARY</th><th colspan="3">IPC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td></td><td>Add new standard(s) for ASTM.
ASTM
A269/A269M—15a: Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>P84-18</td><td>Change the existing definition for TABLE 605.3 WATER SERVICE PIPE to:
TABLE 605.3
WATER SERVICE PIPE
<table>
<tr><th>MATERIAL</th><th>STANDARD</th></tr>
<tr><td>Acrylonitrile butadiene styrene (ABS) plastic pipe</td><td>ASTM D1527; ASTM D2282</td></tr>
<tr><td>Chlorinated polyvinyl chloride (CPVC) plastic pipe</td><td>ASTM D2846; ASTM F441; ASTM F442; CSA B137.6</td></tr>
<tr><td>Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CPVC)</td><td>ASTM F2855</td></tr>
<tr><td>Copper or copper-alloy pipe</td><td>ASTM B42; ASTM B43, ASTM B302,</td></tr>
<tr><td>Copper or copper-alloy tubing (Type K, WK, L, WL, M or WM)</td><td>ASTM B75; ASTM B88; ASTM B251; ASTM B447</td></tr>
<tr><td>Cross-linked polyethylene (PEX) plastic pipe and tubing</td><td>ASTM F876; AWWA C904; CSA B137.5</td></tr>
<tr><td>Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe</td><td>ASTM F1281; ASTM F2262; CSA B137.10</td></tr>
<tr><td>Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)</td><td>ASTM F1986</td></tr>
<tr><td>Ductile iron water pipe</td><td>AWWA C151/A21.51; AWWA C115/A21.15</td></tr>
<tr><td>Galvanized steel pipe</td><td>ASTM A53</td></tr>
<tr><td>Polyethylene (PE) plastic pipe</td><td>ASTM D2239; ASTM D3035; AWWA C901; CSA B137.11</td></tr>
<tr><td>Polyethylene (PE) plastic tubing</td><td>ASTM D2737; AWWA C901; CSA B137.1</td></tr>
<tr><td>Polyethylene/aluminum/polethylene (PE-AL-PE) pipe</td><td>ASTM F1282; CSA B137.9</td></tr>
</table></td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 7. 2021 IPC Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IPC CHANGE SUMMARY</th><th colspan="3">IPC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td></td><td colspan="5"><table>
<tr><td>Polyethylene of raised temperature (PE-RT) plastic tubing</td><td>ASTM F2769; CSA B137.18</td></tr>
<tr><td>Polypropylene (PP) plastic pipe or tubing</td><td>ASTM F2389; CSA B137.11</td></tr>
<tr><td>Polyvinyl chloride (PVC) plastic pipe</td><td>ASTM D 1785; ASTM D2241; ASTM D2672; CSA B137.3</td></tr>
<tr><td>Stainless steel pipe (Type 304/304L)</td><td>ASTM A312; ASTM A778</td></tr>
<tr><td>Stainless steel pipe (Type 316/316L)</td><td>ASTM A312; ASTM A778</td></tr>
</table></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>P86-18</td><td colspan="5">Change the existing definition for TABLE 605.5 PIPE FITTINGS to:
TABLE 605.5
PIPE FITTINGS<table>
<tr><th>MATERIAL</th><th>STANDARD</th></tr>
<tr><td>Acrylonitrile butadiene styrene (ABS) plastic</td><td>ASTM D2468</td></tr>
<tr><td>Cast iron</td><td>ASME B16.4</td></tr>
<tr><td>Chlorinated polyvinyl chloride (CPVC) plastic</td><td>ASSE 1061; ASTM D2846; ASTM F437; ASTM F 438; ASTM F439; CSA B137.6</td></tr>
<tr><td>Copper or copper alloy</td><td>ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.26; ASME B16.51; ASSE 1061; ASTM F1476; ASTM F1548; <u>ASTM F3226</u></td></tr>
<tr><td>Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)</td><td>ASTM F1986</td></tr>
<tr><td>Fittings for cross-linked polyethylene (PEX) plastic tubing</td><td>ASSE 1061, ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2098, ASTM F2159; ASTM F2434; ASTM F2735; CSA B137.5</td></tr>
<tr><td>Fittings for polyethylene of raised temperature (PE-RT) plastic tubing</td><td>ASSE 1061, ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; CSA B137.18</td></tr>
<tr><td>Gray iron and ductile iron</td><td>ASTM F1476; ASTM F1548; AWWA C110/A21.10; AWWA C153/A21.53;</td></tr>
<tr><td>Insert fittings for polyethylene/aluminum/polyethylene (PE- AL-PE) and cross-linked</td><td>ASTM F1974; ASTM F1281; ASTM F1282; CSA B137.9; CSA B137.10</td></tr>
</table></td><td></td><td>X</td><td></td><td></td><td>Provides a reference standard for Stainless Steel Press-Connect Fittings and provide an additional Press-connect standard for Copper and copper alloy fittings.</td></tr>
</table>

Table 7. 2021 IPC Changes Cost Impact

CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) | Malleable iron | ASME B16.3 Metal (brass) insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross- linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) | ASTM F1974 Polyethylene (PE) plastic pipe | ASTM D2609; ASTM D2683; ASTM D3261; ASTM F1055; CSA B137.1 Polypropylene (PP) plastic pipe or tubing | ASTM F2389; CSA B137.11 Polyvinyl chloride (PVC) plastic | ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3 Stainless steel (Type 304/304L) | ASTM A312; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226 Stainless steel (Type 316/316L) | ASTM A312; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226 Steel | ASME B16.9; ASME B16.11; ASME B16.28; ASTM F1476; ASTM F1548 Add new standard(s) for ASTM. **ASTM** F3226/F3226M-16: Standard Specification for Metallic Press-Connect Fittings for Piping and Tubing					
P87-18 Part II	Change the existing definition for TABLE P2906.6 PIPE FITTINGS to: **TABLE P2906.6** **PIPE FITTINGS** **MATERIAL** | **STANDARD** Acrylonitrile butadiene styrene (ABS) plastic | ASTM D2468 Cast-iron | ASME B16.4 Chlorinated polyvinyl chloride (CPVC) plastic | ASSE 1061; ASTM D2846; ASTM F437; ASTM F438; ASTM F439; CSA B137.6 Copper or copper alloy | ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.26; ASME B16.51; ASSE 1061; ASTM F3226		X			Add ASTM standard for press-connect joint fittings to the IRC

Table 7. 2021 IPC Changes Cost Impact

CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	<table><tr><td>Cross-linked polyethylene/aluminum/high-density polyethylene (PEX- AL-HDPE)</td><td>ASTM F1986</td></tr><tr><td>Fittings for cross-linked polyethylene (PEX) plastic tubing</td><td>ASSE 1061; ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2098; ASTM F2159; ASTM F2434; ASTM F2735; CSA B137.5</td></tr><tr><td>Gray iron and ductile iron</td><td>AWWA C110/A21.10; AWWA C153/A21.53</td></tr><tr><td>Malleable iron</td><td>ASME B16.3</td></tr><tr><td>Insert fittings for Polyethylene/aluminum/polyethylene (PE- AL-PE) and cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX)</td><td>ASTM F1281; ASTM F1282; ASTM F1974; CSA B137.9; CSA B137.10</td></tr><tr><td>Polyethylene (PE) plastic</td><td>ASTM D 2609; CSA B137.1</td></tr><tr><td>Fittings for polyethylene of raised temperature (PE-RT) plastic tubing</td><td>ASSE 1061; ASTM D2683; ASTM D3261; ASTM F1055; ASTM F1807; ASTM F2098; ASTM F 2159; ASTM F2735; ASTM F2769; CSA B137.18</td></tr><tr><td>Polypropylene (PP) plastic pipe or tubing</td><td>ASTM F2389; CSA B137.11</td></tr><tr><td>Polyvinyl chloride (PVC) plastic</td><td>ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3</td></tr><tr><td>Stainless steel (Type 30 4 / 30 4L) pipe</td><td>ASTM A312; ASTM A778</td></tr><tr><td>Stainless steel (Type 31 6 / 31 6L) pipe</td><td>ASTM A312; ASTM A778</td></tr><tr><td>Steel</td><td>ASME B16.9; ASME B16.11; ASME B16.28</td></tr></table> Add new standard(s) for ASTM. **ASTM** F3226 F3226/F3226M—16e1: Standard Specification for Metallic Press-Connect Fittings for Piping and Tubing Systems					
P88-18 Part I	Change the existing definition for 605.12.3 Solder joints and 605.13.6 Solder joints to: **605.12.3 Solder joints.** Solder joints shall be made in accordance with ASTM B828. Cut tube ends shall be reamed to the full inside diameter of the tube end. Joint surfaces shall be cleaned. A flux conforming to ASTM B813 shall be applied. The joint shall be		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	soldered with a solder conforming to ASTM B32. The joining of water supply piping shall be made with lead-free solder and fluxes. "Lead free" shall mean a chemical composition equal to or less than 0.2-percent lead. Solder and flux joining pipe or fittings intended to supply drinking water shall conform to NSF 61. **605.13.6 Solder joints.** Solder joints shall be made in accordance with the methods of ASTM B828. Cut tube ends shall be reamed to the full inside diameter of the tube end. Joint surfaces shall be cleaned. A flux conforming to ASTM B813 shall be applied. The joint shall be soldered with a solder conforming to ASTM B32. The joining of water supply piping shall be made with lead-free solder and flux. "Lead free" shall mean a chemical composition equal to or less than 0.2-percent lead. Solder and flux joining pipe or fittings intended to supply drinking water shall conform to NSF 61.					
P88-18 Part II	Change the existing definition for 605.12.3 Solder joints and 605.13.6 Solder joints to: **P2906.15 Soldered and brazed joints.** Soldered joints in copper and copper alloy tubing shall be made with fittings approved for water piping and shall conform to ASTM B828. Surfaces to be soldered shall be cleaned bright. Fluxes for soldering shall be in accordance with ASTM B813. Brazing fluxes shall be in accordance with AWS A5.31M/A5.31. Solders and fluxes used in potable water-supply systems shall have a lead content of not greater than 0.2 percent. Solder and flux joining pipe or fittings intended to supply drinking water shall conform to NSF 61.		X			Clarification
P89-18 Part I	Change the existing definition for 605.13.7 Push-fit joints to: **605.13.7 Push-fit fitting joints.** Push-fit fittings joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions.		X			Clarification
P89-18 Part Ii	Change the existing definition for P2906.21 Push-fit joints to: **P2906.21 Push-fit fitting joints.** Push-fit fittings joints shall be used only on copper-tube-size outside diameter dimensioned CPVC, PEX and copper tubing. Push-fit fittings joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions.		X			Clarification
P91-18	Change the existing definition for 606.1 Location of full-open valves to:			X	Minimal	Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	**2021 IPC CHANGE SUMMARY**	**IPC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	606.1 Location of full-open valves. Full-open valves shall be installed in the following locations: 1. On the building water service pipe from the public water supply near the curb. 2. On the water distribution supply pipe at the entrance into the structure. 2.1. In multiple tenant buildings, where a common water supply piping system is installed to supply other than one and two family dwellings, a main shutoff valve shall be provided for each tenant. 3. On the discharge side of every water meter. 4. On the base of every water riser pipe in occupancies other than multiple-family residential occupancies that are two stories or less in height and in one- and two-family residential occupancies. 5. On the top of every water down-feed pipe in occupancies other than one- and two-family residential occupancies. 6. On the entrance to every water supply pipe to a dwelling unit, except where supplying a single fixture equipped with individual stops. 7. On the water supply pipe to a gravity or pressurized water tank. 8. On the water supply pipe to every water heater.					
P93-18	Delete the existing definition for 606.7 Labeling of water distribution pipes in bundles.	X				Clarification
P96-18	Change the existing definition for 607.1.1 Temperature limiting means to: **607.1.1 Temperature limiting means.** A thermostat control for a water heater shall only serve as the temperature limiting means for the purposes of complying with the requirements of this code for maximum allowable hot or tempered water delivery temperature at fixtures where the water heater complies with ASSE 1082, ~~ASSE 1084,~~ or ASSE 1085.	X				Clarification
P97-18 Part I	Change the existing definition for 608.14.3 Backflow preventer with intermediate atmospheric vent, 608.17.2 Connections to boilers, and TABLE 608.1 APPLICATION OF BACKFLOW PREVENTERS to: **608.14.3 Backflow preventer with intermediate atmospheric vent.** Backflow preventers with intermediate atmospheric vents shall conform to ASSE 1012, ASSE 1081, or CSA B64.3. These devices shall be permitted to be installed where subject to continuous pressure conditions. The relief opening shall		X			ASSE 1081 covers devices that have combined products compliant to both ASSE

<table>
<tr><th colspan="7">Table 7. 2021 IPC Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IPC CHANGE SUMMARY</th><th colspan="3">IPC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>
discharge by air gap and shall be prevented from being submerged.

608.17.2 Connections to boilers. The potable supply to the boiler shall be equipped with a backflow preventer with an intermediate atmospheric vent complying with ASSE 1012, ASSE 1081, or CSA B64.3. Where conditioning chemicals are introduced into the system, the potable water connection shall be protected by an air gap or a reduced pressure principle backflow preventer, complying with ASSE 1013, CSA B64.4 or AWWA C511.

TABLE 608.1
APPLICATION OF BACKFLOW PREVENTERS
<table>
<tr><th>DEVICE</th><th>DEGREE OF HAZARD a</th><th>APPLICATION b</th><th>APPLICABLE STANDARDS</th></tr>
<tr><td>Backflow prevention assemblies:</td><td></td><td></td><td></td></tr>
<tr><td>Double check backflow prevention assembly and double check fire protection backflow prevention assembly</td><td>Low hazard</td><td>Backpressure or backsiphonage Sizes 3/8″– 16″</td><td>ASSE 1015, AWWA C510, CSA B64.5, CSA B64.5.1</td></tr>
<tr><td>Double check detector fire protection backflow prevention assemblies</td><td>Low hazard</td><td>Backpressure or backsiphonage Sizes 2″–16″</td><td>ASSE 1048</td></tr>
<tr><td>Pressure vacuum breaker assembly</td><td>High or low hazard</td><td>Backsiphonage only Sizes 1/2″–2″</td><td>ASSE 1020, CSA B64.1.2</td></tr>
<tr><td>Reduced pressure principle backflow prevention assembly and reduced pressure principle fire protection backflow assembly</td><td>High or low hazard</td><td>Backpressure or backsiphonage Sizes 3/8″– 16″</td><td>ASSE 1013, AWWA C511, CSA B64.4, CSA B64.4.1</td></tr>
<tr><td>Reduced pressure detector fire protection backflow prevention assemblies</td><td>High or low hazard</td><td>Backsiphonage or backpressure Fire sprinkler systems)</td><td>ASSE 1047</td></tr>
<tr><td></td><td></td><td>Sizes 1/4″–2″</td><td></td></tr>
<tr><td>Backflow preventer plumbing devices:</td><td></td><td></td><td></td></tr>
<tr><td>water closet flush tanks</td><td></td><td></td><td></td></tr>
<tr><td>Backflow preventer for carbonated beverage machines</td><td>Low hazard</td><td>Backpressure or backsiphonage Sizes 1/4″– 3/8″</td><td>ASSE 1022</td></tr>
<tr><td>Backflow preventer with intermediate atmospheric vents</td><td>Low hazard</td><td>Backpressure or backsiphonage Sizes 1/4″– 3/4″</td><td>ASSE 1012, CSA B64.3</td></tr>
</table>
</td><td></td><td></td><td></td><td></td><td>1003 and ASSE 1012.</td></tr>
</table>

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CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	<table><tr><td>Backflow preventer with intermediate atmospheric vent and pressure reducing valve</td><td>Low hazard</td><td>Backpressure or backsiphonage Sizes 1/4″– 3/4″</td><td>ASSE 1081</td></tr><tr><td>Dual-check-valve-type backflow preventer</td><td>Low hazard</td><td>Backpressure or backsiphonage Sizes 1/4″–1″</td><td>ASSE 1024, CSA B64.6</td></tr><tr><td>Hose connection backflow preventer</td><td>High or low hazard</td><td>Low head backpressure, rated working pressure, backpressure or backsiphonage Sizes 1/2″–1″</td><td>ASME A112.21.3, ASSE 1052, CSA B64.2.1.1</td></tr><tr><td>Hose connection vacuum breaker</td><td>High or low hazard</td><td>Low head backpressure or backsiphonage Sizes 1/2″, 3/4″, 1″</td><td>ASME A112.21.3, ASSE 1011, CSA B64.2, CSA B64.2.1</td></tr><tr><td>Laboratory faucet backflow preventer</td><td>High or low hazard</td><td>Low head backpressure and backsiphonage</td><td>ASSE 1035, CSA B64.7</td></tr><tr><td>Pipe-appliedatmospheric-type vacuum breaker</td><td>High or low hazard</td><td>Backsiphonage only Sizes 1/4″–4″</td><td>ASSE 1001, CSA B64.1.1</td></tr><tr><td>Vacuum breaker wall hydrants, frost-resistant, automatic- draining-type</td><td>High or low hazard</td><td>Low head backpressure or backsiphonage Sizes 3/4″, 1″</td><td>ASME A112.21.3, ASSE 1019, CSA B64.2.2</td></tr><tr><td>Other means or methods:</td><td></td><td></td><td></td></tr><tr><td>Air gap</td><td>High or low hazard</td><td>Backsiphonage or backpressure</td><td>ASME A112.1.2</td></tr><tr><td>Air gap fittings for use with plumbing fixtures, appliances and appurtenances</td><td>High or low hazard</td><td>Backsiphonage or backpressure</td><td>ASME A112.1.3</td></tr><tr><td>Barometric loop</td><td>High or low hazard</td><td>Backsiphonage only</td><td>(See Section 608.14.4)</td></tr></table> Add new standard(s) for ASSE. **ASSE** 1081-2014: Performance Requirements for Backflow Preventers with Integral Pressure Reducing Boiler Feed Valve and Intermediate Atmospheric Vent Style for Domestic and Light Commercial Water					
P97-18 Part II	Change the existing definition for P2902.3.3 Backflow preventer with intermediate atmospheric vent, P2902.5.1 Connections to boilers, and TABLE P2902.3 APPLICATION OF BACKFLOW PREVENTERS to: **P2902.3.3 Backflow preventer with intermediate atmospheric vent.** Backflow preventers with intermediate atmospheric vents		X			ASSE 1081 covers devices that have combined products compliant to both ASSE

Table 7. 2021 IPC Changes Cost Impact

CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	shall conform to ASSE 1012, ASSE 1081, or CSA B64.3. These devices shall be permitted to be installed where subject to continuous pressure conditions. These devices shall be prohibited as a means of protection where any hazardous chemical additives are introduced downstream of the device. The relief opening shall discharge by air gap and shall be prevented from being submerged. **P2902.5.1 Connections to boilers.** Where chemicals will not be introduced into a boiler, the potable water supply to the boiler shall be protected from the boiler by a backflow preventer with an intermediate atmospheric vent complying with ASSE 1012, ASSE 1081, or CSA B64.3. Where chemicals will be introduced into a boiler, the potable water supply to the boiler shall be protected from the boiler by an air gap or a reduced pressure principle backflow prevention assembly complying with ASSE 1013, CSA B64.4 or AWWA C511.					1003 and ASSE 1012. These devices have different hydrodynamic needs, hence the new standard for the device.

TABLE P2902.3
APPLICATION OF BACKFLOW PREVENTERS

DEVICE	DEGREE OF HAZARD a	APPLICATION[b]	APPLICABLE STANDARDS
Backflow Prevention Assemblies			
Double-check backflow prevention assembly and double-check fire protection backflow prevention assembly	Low hazard	Backpressure or backsiphonage Sizes 3/8 ″ – 16″	ASSE 1015, AWWA C510, CSA B64.5, CSA B64.5.1
Double-check detector fire protection backflow prevention assemblies	Low hazard	Backpressure or backsiphonage Sizes 2″ – 16″	ASSE 1048
Pressure vacuum breaker assembly	High or low hazard	Backsiphonage only Sizes 1 / 2 ″ – 2″	ASSE 1020, CSA B64.1.2
Reduced pressure principle backflow prevention assembly and reduced pressure principle fire pro tection backflow prevention assembly	High or low hazard	Backpressure or backsiphonage Sizes 3/8 ″ – 16″	ASSE 1013, AWWA C511, CSA B64.4, CSA B64.4.1
Reduced pressure detector fire protection back flow prevention assemblies	High or low hazard	Backsiphonage or backpressure (Fire sprinkler systems)	ASSE 1047
Spill-resistant vacuum	High or	Backsiphonage only Sizes	ASSE 1056, CSA
Backflow Preventer Plumbing Devices			
Antisiphon-type fill valves	High	Backsiphonage only	ASSE 1002/ASME

Table 7. 2021 IPC Changes Cost Impact

CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	<table><tr><td>Backflow preventer with intermediate atmo spheric vents</td><td>Low hazard</td><td>Backpressure or backsiphonage Sizes 1/4" – 3/4"</td><td>ASSE 1012, CSA B64.3</td></tr><tr><td><u>Backflow preventer with intermediate atmospheric vents and pressure reducing valve</u></td><td><u>Low hazard</u></td><td><u>Backpressure or backsiphonage Sizes 1/4" – 3/4"</u></td><td><u>ASSE 1081</u></td></tr><tr><td>Dual-check-valve-type backflow preventers</td><td>Low hazard</td><td>Backpressure or backsiphonage Sizes 1/4" – 1"</td><td>ASSE 1024, CSA B64.6</td></tr><tr><td>Hose-connection backflow preventer</td><td>High or low hazard</td><td>Low head backpressure, rated working pressure backpressure or</td><td>ASSE 1052, CSA B64.2.1.1</td></tr><tr><td>Hose-connection vacuum breaker</td><td>High or low hazard</td><td>Low head backpressure or backsi phonage Sizes 1/2", 3/4", 1"</td><td>ASSE 1011, CSA B64.2, CSA B64.2.1</td></tr><tr><td>Laboratory faucet backflow preventer</td><td>High or low hazard</td><td>Low head backpressure and back siphonage</td><td>ASSE 1035, CSA B64.7</td></tr><tr><td>Pipe-applied atmospheric-type vacuum breaker</td><td>High or low hazard</td><td>Backsiphonage only Sizes 1/4" – 4"</td><td>ASSE 1001, CSA B64.1.1</td></tr><tr><td>Vacuum breaker wall hydrants, frost-resistant, automatic- draining type</td><td>High or low hazard</td><td>Low head backpressure or backsi- phonage Sizes 3/4"</td><td>ASSE 1019, CSA B64.2.2</td></tr><tr><td>Other Means Or Methods</td><td></td><td></td><td></td></tr><tr><td>Air gap</td><td>High or</td><td>Backsiphonage only</td><td>ASME A112.1.2</td></tr><tr><td>Air gap fittings for use with plumbing fixtures, appliances and</td><td>High or low hazard</td><td>Backsiphonage or backpressure</td><td>ASME A112.1.3</td></tr></table> Add new standard(s) for ASSE. **ASSE** <u>1081-2014</u>: <u>Performance Requirements for Backflow Preventers with Integral Pressure Reducing Boiler Feed Valve and Intermediate Atmospheric Vent Style for Domestic and Light Commercial Water</u>					
P98-18 Part I	Change the existing definition for 608.15.2.1 Relief port piping to: **608.15.2.1 Relief port piping.** The termination of the piping from the relief port or air gap fitting of a backflow preventer shall discharge to an approved indirect waste receptor or to the outdoors where it will not cause damage or create a nuisance. <u>The indirect waste receptor and drainage piping shall be sized to</u>		X			Clarification

Table 7. 2021 IPC Changes Cost Impact

CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	drain the maximum discharge flow rate from the relief port as published by the backflow preventer manufacturer.					
P98-18 Part II	Change the existing definition for P2902.6.3 Relief port piping to: **P2902.6.3 Relief port piping.** The termination of the piping from the relief port or air gap fitting of the backflow preventer shall discharge to an approved indirect waste receptor or to the outdoors where it will not cause damage or create a nuisance. The indirect waste receptor and drainage piping shall be sized to drain the maximum discharge flow rate from the relief port as published by the backflow preventer manufacturer.		X			Clarification
P100-18	Change the existing definition for 609.2 Water Service for Group I-2. to: **609.2 Water service for Group I-2, Condition 2.** ~~Hospitals~~ Group I-2, Condition 2 facilities shall have a minimum of two water service pipes ~~installed in such a manner so as to minimize the potential for an interruption of the supply of water in the event of a water main or water service pipe failure~~ sized such that with the loss of the largest service pipe, the remaining service pipes will meet the water demand for the entire facility. Each water service shall have a shut off valve in the building and a shut off valve at the utility-provided point of connection to the water main or other source of potable water.		X			Clarification
P101-18	Change the existing definition for 609.2.1 Tracer to: **609.2.1 Tracer.** ~~A yellow~~ An insulated ~~copper~~ tracer wire listed ~~or a product designed for that~~ the purpose or other approved conductor shall be installed adjacent to underground nonmetalic piping serving as a water service for a hospital. Access shall be provided to the tracer wire or the tracer wire shall terminate above ground at each end of the nonmetalic piping. The tracer wire size shall be not less than 18 AWG and the wire insulation type shall be suitable for direct burial.			X		Clarification
P103-18 Part I	Change the existing definition for TABLE 702.3 BUILDING SEWER PIPE to: **TABLE 702.3** **BUILDING SEWER PIPE** **MATERIAL** | **STANDARD** Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall | ASTM D2661; ASTM D2680; ASTM F628; ASTM F1488; CSA B181.1		X			Increases flexibility in piping choices for building sewers.

Table 7. 2021 IPC Changes Cost Impact

CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	<table><tr><td>Acrylonitrile butadiene styrene (ABS) plastic pipe in sewer and drain diameters, including SDR 42 (PS 20), PS 35, SDR 35 (PS 45), PS 50, PS 100, PS 140, SDR 23.5 (PS 150) and PS 200; with a solid, cellular core or composite wall</td><td>ASTM F1488; ASTM D2751</td></tr><tr><td>Cast-iron pipe</td><td>ASTM A74; ASTM A888; CISPI 301</td></tr><tr><td>Concrete pipe</td><td>ASTM C14; ASTM C76; CSA A257.1M; CSA A257.2M</td></tr><tr><td>Copper or copper-alloy tubing (Type K or L)</td><td>ASTM B75; ASTM B88; ASTM B251</td></tr><tr><td>Polyethylene (PE) plastic pipe (SDR-PR)</td><td>ASTM F714</td></tr><tr><td>Polypropylene (PP) plastic pipe</td><td>ASTM F2736; ASTM F2764; CSA B182.13</td></tr><tr><td>Polyvinyl chloride (PVC) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall</td><td>ASTM D2665; ASTM F891; ASTM F1488</td></tr><tr><td>Polyvinyl chloride (PVC) plastic pipe in sewer and drain diameters, including PS 25, SDR 41 (PS 28), PS 35, SDR 35 (PS 46), PS 50, PS 100, SDR 26 (PS 115), PS 140 and PS 200; with a solid, cellular core or composite wall</td><td>ASTM F891; ASTM F1488; ASTM D3034; CSA B182.2; CSA B182.4</td></tr><tr><td>Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D. and a solid, cellular core or composite wall</td><td>ASTM D2949 , ASTM F1488</td></tr><tr><td>Polyvinylidene fluoride (PVDF) plastic pipe</td><td>ASTM F1673; CSA</td></tr><tr><td>Stainless steel drainage systems, Types 304 and 316L</td><td>ASME A112.3.1</td></tr><tr><td>Vitrified clay pipe</td><td>ASTM C4; ASTM C700</td></tr></table> Add new standard(s) for ASTM. **ASTM** D2680 - 01(2014): Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) and Poly(Vinyl Chloride) (PVC) Composite Sewer Piping					
P103-18 Part II	Change the existing definition for TABLE P3002.2 BUILDING SEWER PIPE to: **TABLE P3002.2** **BUILDING SEWER PIPE** <table><tr><th>MATERIAL</th><th>STANDARD</th></tr></table>		X			Increases flexibility in piping choices for building sewers.

Table 7. 2021 IPC Changes Cost Impact

CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	<table><tr><td>Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall</td><td>ASTM D2661; ASTM D2680; ASTM F628; ASTM F1488</td></tr><tr><td>Acrylonitrile butadiene styrene (ABS) plastic pipe in sewer and drain diameters, including SDR 42 (PS 20), PS35, SDR 35 (PS 45), PS50, PS100, PS140, SDR 23.5 (PS 150) and PS200; with a solid, cellular core or composite wall</td><td>ASTM D2751; ASTM F1488</td></tr><tr><td>Polyvinyl chloride (PVC) plastic pipe in sewer and drain diameters, including PS 25, SDR 41 (PS 28), PS 35, SDR 35 (PS 46), PS 50, PS 100, SDR 26 (PS 115), PS140 and PS 200; with a solid, cellular core or composite wall</td><td>ASTM D3034; ASTM F891; ASTM F1488; CSA B182.2; CSA B182.4</td></tr><tr><td>Cast-iron pipe</td><td>ASTM A74; ASTM A888; CISPI 301</td></tr><tr><td>Concrete pipe</td><td>ASTM C14; ASTM C76; CSA A257.1; CSA A257.2</td></tr><tr><td>Copper or copper-alloy tubing (Type K or L)</td><td>ASTM B75/B75M; ASTM B88; ASTM B251</td></tr><tr><td>Polyethylene (PE) plastic pipe (SDR-PR)</td><td>ASTM F714</td></tr><tr><td>Polyolefin pipe</td><td>ASTM F1412; CSA B181.3</td></tr><tr><td>Polyvinyl chloride (PVC) plastic pipe in IPS diameters, including schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with solid, cellular core or composite wall</td><td>ASTM D2665; ASTM D2949; ASTM D3034; ASTM F1412; CSA B182.2; CSA B182.4</td></tr><tr><td>Polyvinyl chloride (PVC) plastic pipe with a 3.25 inch O.D. and a solid, cellular core or composite</td><td>ASTM D2949; ASTM F1488</td></tr><tr><td>Stainless steel drainage systems, Types 304 and</td><td>ASME A112.3.1</td></tr><tr><td>Vitrified clay pipe</td><td>ASTM C425; ASTM C700</td></tr></table> Add new standard(s) for ASTM. **ASTM** D2680 - 01(2014): Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) and Poly(Vinyl Chloride) (PVC) Composite Sewer Piping					
P105-18	Add new definition for 705.2.4 Push-fit joints as follows: **705.2.4 Push-fit joints.** Push-fit joints DWV fittings shall be listed and labeled ~~shall conform~~ to ASME A112.4.4 and shall be installed in accordance with the manufacturer's instructions.		X			Necessary addition for clarification

Table 7. 2021 IPC Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IPC CHANGE SUMMARY</th><th colspan="3">IPC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td>P106-18 Part II</td><td>Add new definition for P3003.3.4 Push-fit joints as follows:

P3003.3.4 Push-fit fitting joints. Push-fit <u>DWV</u> fittings joints shall ~~conform~~ <u>be listed and labeled</u> to ASME A112.4.4 and shall be installed in accordance with the manufacturer's instructions.</td><td></td><td>X</td><td></td><td></td><td>Necessary addition for clarification</td></tr>
<tr><td>P108-18</td><td>Add new definition for 705.10.4 Push-fit joints and 705.10.4 Push-fit joints as follows:
<u>705.10.4 Push-fit joints.</u> <u>Push-fit joints shall conform to ASME A112.4.4 and shall be installed in accordance with the manufacturer's instructions.</u>

<u>705.10.4 Push-fit joints.</u> <u>Push-fit joints shall conform to ASME A112.4.4 and shall be installed in accordance with the manufacturer's instructions.</u>

Change the existing definition for TABLE 702.4 PIPE FITTINGS to:
TABLE 702.4
PIPE FITTINGS
<table>
<tr><th>MATERIAL</th><th>STANDARD</th></tr>
<tr><td>Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters</td><td>ASTM D2661; ASTM F628; CSA B181.1</td></tr>
<tr><td>Acrylonotrile butadiene styrene (ABS) plastic pipe in sewer and drain diameters</td><td>ASTM D2751</td></tr>
<tr><td>Cast iron</td><td>ASME B16.4; ASME B16.12; ASTM A74; ASTM A888; CISPI 301</td></tr>
<tr><td>Copper or copper alloy</td><td>ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.23; ASME B16.26; ASME B16.29</td></tr>
<tr><td>Glass</td><td>ASTM C1053</td></tr>
<tr><td>Gray iron and ductile iron</td><td>AWWA C110/A21.10</td></tr>
<tr><td>Polyethylene</td><td>ASTM D2683</td></tr>
<tr><td>Polyolefin</td><td>ASTM F1412; CSA B181.3</td></tr>
<tr><td>Polyvinyl chloride (PVC) plastic in IPS diameters</td><td>ASTM D2665; ASTM F1866<u>; ASME A112.4.4</u></td></tr>
<tr><td>Polyvinyl chloride (PVC) plastic pipe in sewer and drain diameters</td><td>ASTM D3034</td></tr>
<tr><td>Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D.</td><td>ASTM D2949</td></tr>
</table></td><td></td><td>X</td><td></td><td></td><td>Adds push-fit DWV fittings as an option to the IPC</td></tr>
</table>

Table 7. 2021 IPC Changes Cost Impact

CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						

Polyvinylidene fluoride (PVDF) plastic pipe	ASTM F1673; CSA B181.3
Stainless steel drainage systems, Types 304 and 316L	ASME A112.3.1
Steel	ASME B16.9; ASME B16.11; ASME
Vitrified clay	ASTM C700

For SI: 1 inch = 25.4 mm.

TABLE 702.4
PIPE FITTINGS

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters	ASTM D2661; ASTM F628; CSA B181.1
Acrylonotrile butadiene styrene (ABS) plastic pipe in sewer and drain diameters	ASTM D2751
Cast iron	ASME B16.4; ASME B16.12; ASTM A74; ASTM A888; CISPI 301
Copper or copper alloy	ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.23; ASME B16.26; ASME B16.29
Glass	ASTM C1053
Gray iron and ductile iron	AWWA C110/A21.10
Polyethylene	ASTM D2683
Polyolefin	ASTM F1412; CSA B181.3
Polyvinyl chloride (PVC) plastic in IPS diameters	ASTM D2665; ASTM F1866; ASME A112.4.4
Polyvinyl chloride (PVC) plastic pipe in sewer and drain diameters	ASTM D3034
Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D.	ASTM D2949
Polyvinylidene fluoride (PVDF) plastic pipe	ASTM F1673; CSA B181.3
Stainless steel drainage systems, Types 304 and 316L	ASME A112.3.1
Steel	ASME B16.9; ASME B16.11; ASME
Vitrified clay	ASTM C700

For SI: 1 inch = 25.4 mm.

Add new standard(s).

A112.4.4-2017: Plastic Push Fit Drain, Waste, and Vent (DWV) Fittings

Table 7. 2021 IPC Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IPC CHANGE SUMMARY</th><th colspan="3">IPC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td>P109-18
Part II</td><td>Add new definition for P3003.9.4 Push-fit joints.
<u>P3003.9.4 Push-fit joints.</u> <u>Push-fit joints shall conform to ASME A112.4.4 and shall be installed in accordance with the manufacturer's instructions.</u>

Change the existing definition for:
TABLE 702.4
PIPE FITTINGS
<table>
<tr><th>PIPE MATERIAL</th><th>FITTING STANDARD</th></tr>
<tr><td>Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters</td><td>ASTM D2661; ASTM D3311; ASTM F628; CSA B181.1</td></tr>
<tr><td>Acrylonotrile butadiene styrene (ABS) plastic pipe in sewer and drain diameters</td><td>ASTM D2751</td></tr>
<tr><td>Cast-iron</td><td>ASME B16.4; ASME B16.12; ASTM A74; ASTM A888; CISPI 301</td></tr>
<tr><td>Copper or copper alloy</td><td>ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.23; ASME B16.26; ASME B16.29</td></tr>
<tr><td>Gray iron and ductile iron</td><td>AWWA C110/A21.10</td></tr>
<tr><td>Polyethylene</td><td>ASTM D2683</td></tr>
<tr><td>Polyolefin</td><td>ASTM F1412; CSA B181.3</td></tr>
<tr><td>Polyvinyl chloride (PVC) plastic in IPS diameters</td><td>ASTM D2665; ASTM D3311; ASTM F1866<u>; ASME A112.4.4</u></td></tr>
<tr><td>Polyvinyl chloride (PVC) plastic pipe in sewer and drain diameters</td><td>ASTM D3034</td></tr>
<tr><td>Polyvinyl chloride (PVC) plastic pipe with a 3.25 inch O.D.</td><td>ASTM D2949</td></tr>
<tr><td>PVC fabricated fittings</td><td>ASTM F1866</td></tr>
<tr><td>Stainless steel drainage systems, Types 304 and 316L</td><td>ASME A112.3.1</td></tr>
<tr><td>Vitrified clay</td><td>ASTM C700</td></tr>
</table>
For SI: 1 inch = 25.4 mm.

Add new standard(s) for ASME.
ASME
<u>A112.4.4-2017</u>: <u>Plastic Push Fit Drain, Waste, and Vent (DWV) Fittings</u></td><td></td><td>X</td><td></td><td></td><td>Adds push-fit DWV fittings as an option to the IPC</td></tr>
<tr><td>P113-18
Part I</td><td>Add new definition for 708.1.6 Cleanout equivalent as follows:
<u>708.1.6 Cleanout equivalent.</u> <u>A fixture trap or a fixture with integral trap, removable without altering concealed piping, shall be acceptable as a cleanout equivalent.</u></td><td>X</td><td></td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	**2021 IPC CHANGE SUMMARY**	**IPC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Change the existing definition for 708.1 Cleanouts required to: **708.1 Cleanouts required.** Cleanouts shall be provided for drainage piping in accordance with Sections 708.1.1 through ~~708.1.11~~ 708.1.12.					
P113-18 Part II	Add new definition for P3005.2.10.1 Cleanout equivalent as follows: **P3005.2.10.1 Cleanout Equivalent.** A fixture trap or a fixture with integral trap, removable without altering the concealed piping shall be acceptable as a cleanout equivalent. Change the existing definition for P3005.2 Cleanouts required to: **P3005.2 Cleanouts required.** Cleanouts shall be provided for drainage piping in accordance with Sections P3005.2.1 through ~~P3005.2.11~~ P3005.2.12.	X				Clarification
P115-18 Part I	Add new definition for SECTION 717 as follows: **SECTION 717** **RELINING BUILDING SEWERS AND BUILDING DRAINS** **717.1 General.** This section shall govern the relining of existing building sewers and building drainage piping. **717.2 Applicability.** The relining of existing building sewer and building drainage piping shall be limited to gravity drainage piping,4 inches (102 mm) in diameter and larger. The relined piping shall be of the same nominal size as the existing piping. **717.3 Pre-installation requirements.** Prior to commencement of the relining installation, the existing piping sections to be relined shall be descaled and cleaned. After the cleaning process has occurred and water has been flushed through the system, the piping shall be inspected internally by a recorded video camera survey. **717.3.1 Pre-installation recorded video camera survey.** The video survey shall include verification of the project address location. The video shall include notations of the cleanout and fitting locations, and the approximate depth of the existing piping. The video shall also include notations of the length of piping at intervals no greater than 25 feet.	X				Necessary addition for clarification.

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	717.4 Permitting. Prior to permit issuance, the code official shall review and evaluate the pre-installation recorded video camera survey to determine if the piping system is capable to be relined in accordance with the proposed lining system manufacturer's installation requirements and applicable referenced standards. **717.5 Prohibited applications.** Where review of the pre-installation recorded video camera survey reveals that piping systems are not installed correctly or defects exist, relining shall not be permitted. The defective portions of piping shall be exposed and repaired with pipe and fittings in accordance with this code. Defects shall include, but are not limited to, backgrade or insufficient slope, complete pipe wall deterioration or complete separations such as from tree root invasion or improper support. **717.6 Relining materials.** The relining materials shall be manufactured in compliance with applicable standards and certified as required in Section 303. Fold -and-form pipe reline materials shall be manufactured in compliance with ASTM F1504 or ASTMF1871. **717.7 Installation.** The installation of relining materials shall be performed in accordance with the manufacturer's installation instructions, applicable referenced standards and this code. **717.7.1 Material data report.** The installer shall record the data as required by the relining material manufacture and applicable standards. The recorded data shall include but is not limited to the location of the project, relining material type, amount of product installed and conditions of the installation. A copy of the data report shall be provided to the code official prior to final approval. **717.8 Post-installation recorded video camera survey.** The completed relined piping system shall be inspected internally by a recorded video camera survey after the system has been flushed and flow tested with water. The video survey shall be submitted to the the code official prior to finalization of the permit. The video survey shall be reviewed and evaluated to provide verification that no defects exist. Any defects identified shall be repaired and replaced in accordance with this code.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	717.9 Certification. A certification shall be provided in writing to the code official, from the permit holder, that the relining materials have been installed in accordance with the manufacturer's installation instructions, the applicable standards and this code. **717.10 Approval.** Upon verification of compliance with the requirements of Sections 717.1 through 717.9, the code official shall approve the installation. Add new standard(s) for ASTM. **ASTM** F1504—2014: Standard Specification f or Folded Poly (Vinyl Chloride) (PVC) f or Existing Sewer and Conduit Rehabilitation F1871—2011: Standard Specification f or Folded/Formed Poly (Vinyl Chloride) Pipe Type A f or Existing Sewer and Conduit Rehabilitation					
P115-18 Part II	Change the existing definition for SECTION P3011 to: **~~SECTION~~ P3011** **~~REPLACEMENT~~ RELINING OF ~~UNDERGROUND~~ BUILDING SEWERS ~~BYPVC FOLD~~ AND ~~FORM METHODS~~ BUILDING DRAINS** **P3011.1 General.** This section shall govern the ~~replacement~~ relining of existing building sewer ~~piping by PVC Fold and Form methods.~~ and building drainage piping. **P3011.2 Applicability.** The ~~replacement~~ relining of existing building sewer ~~piping by PVC fold and form methods~~ and building drainage piping shall be limited to gravity drainage piping 4 inches (102 mm) ~~to 18 inches (457 mm). The replacement~~ in diameter and larger. The relined piping shall be of the same nominal size as the existing piping. **P3011.3 ~~Preinstallation inspection~~ Pre-installation Requirements.** ~~The~~ Prior to commencement of the relining installation, the existing piping sections to be ~~replaced~~ relined shall be descaled and cleaned. After the cleaning process has occurred and water has been flushed through the system, the piping shall be inspected internally by a recorded video camera survey. ~~The survey shall include notations of the position of cleanouts and the depth of connections to the existing piping.~~	X				Provides installation and acceptance criteria when the application is encountered.

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Add new definition for P3011 as follows: **P3011.3.1 Pre-installation recorded video camera survey.** The video survey shall include verification of the project address location. The video shall include notations of the cleanout and fitting locations, and the approximate depth of the existing piping. The video shall also include notations of the length of piping at intervals no greater than 25 feet. **P3011.4 Permitting.** Prior to issuing a permit for relining, the building official shall review and evaluate the pre-installation recorded video camera survey to determine whether the piping system is capable to be relined in accordance with the proposed lining system manufacturer's installation requirements and applicable referenced standards. **P3011.5 Prohibited applications.** Where review of the pre-installation recorded video camera survey reveals that piping systems are not installed correctly, or defects exist, relining shall not be permitted. The defective portions of piping shall be exposed and repaired with pipe and fittings in accordance with this code. Defects shall include, but are not limited to, backslope or insufficient slope, complete pipe wall deterioration or complete separations such as from tree root invasion or improper support. **P3011.6 Relining materials.** The relining materials shall be manufactured in compliance with applicable standards and certified as required in Section P2609. Fold-and-form pipe reline materials shall be manufactured in compliance with ASTM F1504 or ASTM F1871. **P3011.7 Installation.** The installation of relining materials shall be performed in accordance with the manufacturer's installation instructions, applicable referenced standards and this code. **P3011.7.1 Material data report.** The installer shall record the data as required by the relining material manufacture and applicable standards. The recorded data shall include but is not limited to the location of the project, relining material type, amount of product installed and conditions of the installation. A copy of the data report shall be provided to the building official prior to final approval.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	**2021 IPC CHANGE SUMMARY**	**IPC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	P3011.8 Post-installation recorded video camera survey. The completed relined piping system shall be inspected internally by a recorded video camera survey after the system has been flushed and flow tested with water. The video survey shall be submitted to the the code official prior to finalization of the permit. The video survey shall be reviewed and evaluated to provide verification that no defects exist. Any defects identified shall be repaired and replaced in accordance with this code. **P3011.9 Certification.** A certification shall be provided in writing to the building official, from the permit holder, that the relining materials have been installed in accordance with the manufacturer's installation instructions, the applicable standards and this code. **P3011.10 Approval.** Upon verification of compliance with the requirements of Sections P3011.1 through P3011.9, the building official shall approve the installation. Delete the existing definition for Pipe, Installation, Cleanouts, Post Installation inspection, and Pressure testing.					
P116-18	Add new definition for SECTION 717 as follows: **SECTION 717** **BUILDING SEWER AND SEWER SERVICE LATERAL REHABILITATION** **717.1 Building sewer and sewer service lateral rehabilitation.** ~~Any~~ Cured-in-place rehabilitation of building sewer piping and sewer service lateral piping shall be in accordance with ASTM F2599. ~~Any~~ Cured-in-place rehabilitation of building sewer and sewer service lateral pipe and its connection to the main sewer pipe shall be in accordance with F2561. All cured-in-place rehabilitation of building sewer piping and sewer service laterals shall include the use of hydrophilic rings or gaskets meeting ASTM F3240 to assure water tightness and elimination of ground water penetration.		X			Necessary addition for clarification
P117-18	Change the existing definition for 903.1 Roof extension to: ~~**903.1 Roof extension**~~ **Vent terminal required.** ~~Open vent pipes that extend through a roof shall be terminated not less than [NUMBER] inches (mm) above the roof. Where a roof is to be used for assembly or as a promenade, observation deck, sunbathing deck or similar purposes, open vent pipes shall terminate not less than 7 feet (2134 mm) above the roof.~~ The vent pipe shall terminate by extending to the outdoors through	X				Provides options for vent termination

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	the roof or the side wall in accordance with one of the methods identified in Section 903.1.1 through 903.1.4. Add new definition for 903.1.1 Roof extension unprotected, 903.1.2 Roof used for recreational or assembly purposes, 903.1.3 Protected vent terminal, and 903.1.4 Sidewall vent terminal as follows: **903.1.1 Roof extension unprotected.** Open vent pipes that extend through a roof shall be terminated not less than [NUMBER] inches (mm) above the roof. **903.1.2 Roof used for recreational or assembly purposes.** Where a roof is to be used as a promenade, restaurant, bar, observation deck, sunbathing deck, or similar purposes, open vent pipes shall terminate not less than 7 feet (2134 mm) above the roof. **903.1.3 Protected vent terminal.** Where an open vent pipe terminates above a sloped roof and is covered by either a roof-mounted panel (such as a solar collector or photovoltaic panel mounted over the vent opening) or a roof element (such as an architectural feature or a decorative shroud), the vent pipe shall terminate not less than 2 inches (51 mm) above the roof surface. Such roof elements shall be designed to prevent the adverse effects of snow accumulation and wind on the function of the vent. The placement of a panel over a vent pipe and the design of a roof element covering the vent pipe shall provide for an open area for the vent pipe to the outdoors that is not less than the area of the pipe, as calculated from the inside diameter of the pipe. Such vent terminals shall be protected by a method that prevents birds and rodents from entering or blocking the vent pipe opening. **903.1.4 Sidewall vent terminal.** Vent terminals extending through the wall shall terminate not less than 10 feet (3048 mm) from the lot line and 10 feet (3048 mm) above the highest adjacent grade within 10 feet (3048 mm) horizontally of the vent terminal. Vent terminals shall not terminate under the overhang of a structure with soffit vents. Side wall vent terminals shall be protected to prevent birds or rodents from entering or blocking the vent opening. Delete the existing definition for 903.6 Extension through the wall.					
P118-18	Change the existing definition for 915.1 Type of fixtures to:	X				Clarification

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CODE CHANGE #	**2021 IPC CHANGE SUMMARY**	**IPC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	915.1 Type of fixtures. A combination waste and vent system shall not serve fixtures other than floor drains, sinks, lavatories and drinking fountains. Combination waste and vent systems shall not receive the discharge from a ~~food waste disposer or~~ clinical sink.					
P120-18	Change the existing definition for Fixture traps to: **Fixture traps.** Each plumbing fixture shall be separately trapped by a liquid-seal trap, except as otherwise permitted by this code. The vertical distance from the fixture outlet to the trap weir shall not exceed 24 inches (610 mm), and the horizontal distance shall not exceed 30 inches (610 mm) measured from the centerline of the fixture outlet to the centerline of the inlet of the trap. The height of a clothes washer standpipe above a trap shall conform to Section 802.3.3. A fixture shall not be double trapped. **Exceptions:** 1. This section shall not apply to fixtures with integral traps. 2. A combination plumbing fixture is permitted to be installed on one trap, provided that one compartment is not more than 6 inches (152 mm) deeper than the other compartment and the waste outlets are not more than 30 inches (762 mm) apart. 3. Floor drains in multilevel parking structures that discharge to a building storm sewer shall not be required to be individually trapped. Where floor drains in multilevel parking structures are required to discharge to a combined building sewer system, the floor drains shall not be required to be individually trapped provided that they are connected to a main trap in accordance with Section 1103.1. 4. <u>Where a hydromechanical grease interceptor serves a food utensil, dishes, pots and pans sink, in accordance with the manufacturer's installation instructions. The branch drain serving the interceptor shall be provided with an emergency floor drain down stream of the interceptor connection, and the branch shall serve only the</u>		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	emergency floor drain and the interceptor. Where the interceptor serves combination sink of not more than three compartments where the vertical distance from the fixture outlet to the inlet of the interceptor does not exceed 30 inches (762 mm) and the developed length of the waste pipe from the most upstream fixture outlet to the inlet of the interceptor does not exceed 60 inches (1524 mm). The food utensil, dishes, pots and pans sink shall be required to connect directly with the interceptor.					
P122-18	Add new definition for 1002.4.1.5 Fixture drain connection for trap priming as follows: **1002.4.1.5 Fixture drain connection for trap priming.** A fixture drain from a lavatory or hand sink shall serve as a method of providing trap seal protection for an emergency floor drain, a trench drain, or a floor sink where such fixtures are located in the same room. A fixture drain from a drinking fountain shall serve as a method of providing trap seal protection for an emergency floor drain, a trench drain, or a floor sink where such fixtures are in the same room or in a room adjacent to the room having the drinking fountain. The fixture drain shall not be routed on or above the surface of the floor and shall connect to the floor drain, trench drain, or floor sink at a point that is below the flood level rim and above the inlet to the trap of the receiving fixture. Change the existing definition for Trap seal protection to: **Trap seal protection.** Trap seals of emergency floor drain traps and trap seals subject to evaporation shall be protected by one of the methods in Sections 1002.4.1.1 through ~~1002.4.1.4~~1002.4.1.5.	X				Method for providing trap seal protection that can lower the owner's overall maintenance cost and requires no special or certified product
P126-18	Change the existing definition for 1102.6 Roof Drains to: **1102.6 Roof Drains.** Roof drains shall conform to ASME A112.6.4 or ASME A112.3.1. Roof drains, other than siphonic roof drains, shall be tested and rated in accordance with ASME A112.6.4 or ASPE/IAPMO Z1034.			X	Minimal	Answers questions about roof drains and storm drain system piping requirements in the code.
P129-18	Change the existing definition for 1106.2 Size of storm drain piping to: **1106.2 Size of storm drain piping.** Vertical and horizontal storm drain piping shall be sized based on the flow rate through the		X			Assists design professionals and code enforcement

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		Decrease	**None**	**Increase**		
Sub Code:						
	roof drain. The flow rate, as calculated in accordance with Section 1106.2.1, shall be checked against the roof drain manufacturer's published flow rate for the specific roof drain model and size to verify that the selected roof drain will handle the anticipated flow. The flow rate in storm drain piping shall not exceed that specified in Table 1106.2. Add new definition for 1106.2.1 Rainfall rate conversion method as follows: **1106.2.1 Rainfall rate conversion method.** The rainfall rate falling on a roof surface shall be converted to a gallons per minute flow rate in accordance with Equation 11-1. GPM = R • A • 0.0104 **(Equation 11-1)** where, R = Rainfall intensity in inches per hour A = Roof area in square feet					in making sure that the storm drain piping is properly sized.
P131-18 Part I	Change the existing definition for Scope to: ~~**Scope**~~ **General.** The provisions of Chapter 13 shall govern the materials, design, construction and installation of systems for the collection, storage, treatment and distribution of nonpotable water. For nonpotable rainwater systems, the provisions of CSA B805/ICC 805 shall be an alternative for regulating the materials, design, construction and installation of systems for rainwater collection, storage, treatment and distribution of nonpotable water. The use and application of nonpotable water shall comply with laws, rules and ordinances applicable in the jurisdiction. Add new standard(s) for CSA. **CSA** CSA B805-18/ICC 805-2018: Rainwater Harvesting Systems		X			Provides for an option to the user.
P131-18 Part II	Change the existing definition for P2912.1 General to: **P2912.1 General.** The provisions of this section shall govern the construction, installation, alteration, and repair of rainwater collection and conveyance systems for the collection, storage, treatment and distribution of rainwater for nonpotable applications, ~~as permitted by~~ .For nonpotable rainwater systems, the provisions of CSA B805/ICC 805 shall be an alternative for regulating the materials, design, construction and installation of systems for rainwater collection, storage,		X			Provides for an option to the user.

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CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	treatment and distribution of nonpotable water.The use and application of nonpotable water shall comply with laws, rules and ordinances applicable in the jurisdiction. Add new standard(s) for CSA. **CSA** CSA B805-18/ICC 805-2018: Rainwater Harvesting Systems					
P133-18 Part I	Change the existing definition for SECTION 14 to: **SECTION 14** **SUBSURFACE ~~LANDSCAPE IRRIGATION~~ GRAY WATER SOIL ABSORPTION SYSTEMS** **Scope.** The provisions of this chapter shall govern the materials, design, construction and installation of subsurface ~~landscape irrigation~~ graywater soil absorption systems connected to nonpotable water from on-site water reuse systems. **Materials.** Above-ground drain, waste and vent piping for subsurface ~~landscape irrigation~~ graywater soil absorption systems shall conform to one of the standards listed in Table 702.1. Subsurface ~~landscape irrigation~~ graywater soil absorption systems, underground building drainage and vent pipe shall conform to one of the standards listed in Table 702.2. **Tests.** Drain, waste and vent piping for subsurface ~~landscape irrigation~~ graywater soil absorption systems shall be tested in accordance with Section 312. **Inspections.** Subsurface ~~landscape irrigation~~ graywater soil absorption systems shall be inspected in accordance with Section 107. **Disinfection.** Disinfection shall not be required for on-site nonpotable water reuse for subsurface ~~landscape irrigation~~ graywater soil absorption systems. **Coloring.** On-site nonpotable water reuse for subsurface ~~landscape irrigation~~ graywater soil absorption systems shall not be required to be dyed. **1402.1 Sizing.** The system shall be sized in accordance with the sum of the output of all water sources connected to the subsurface ~~irrigation~~ gray water soil absorption system. Where gray water collection piping is connected to subsurface		X			Clarification

<table>
<tr><th colspan="7">Table 7. 2021 IPC Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IPC CHANGE SUMMARY</th><th colspan="3">IPC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>landscape irrigation systems, gray water output shall be calculated according to the gallons-per-day-per-occupant number based on the type of fixtures connected. The gray water discharge shall be calculated by the following equation:

1402.3 Subsurface <s>landscape irrigation</s> <u>graywater soil absorption</u> site location. The surface grade of all soil absorption systems shall be located at a point lower than the surface grade of any water well or reservoir on the same or adjoining lot. Where this is not possible, the site shall be located so surface water drainage from the site is not directed toward a well or reservoir. The soil absorption system shall be located with a minimum horizontal distance between various elements as indicated in Table 1402.3. Private sewage disposal systems in compacted areas, such as parking lots and driveways, are prohibited. Surface water shall be diverted away from any soil absorption site on the same or neighboring lots.

TABLE 1402.3
LOCATION OF SUBSURFACE <s>IRRIGATION</s> GRAYWATER SOIL ABSORPTION SYSTEM
<table><tr><th>ELEMENT</th><th colspan="2">MINIMUM HORIZONTAL DISTANCE</th></tr><tr><td></td><td>Storage tank (feet)</td><td><u>Absorption</u> field (feet)</td></tr><tr><td>Buildings</td><td>5</td><td>2</td></tr><tr><td>Lot line adjoining private property</td><td>5</td><td>5</td></tr><tr><td>Water wells</td><td>50</td><td>100</td></tr><tr><td>Streams and lakes</td><td>50</td><td>50</td></tr><tr><td>Seepage pits</td><td>5</td><td>5</td></tr><tr><td>Septic tanks</td><td>0</td><td>5</td></tr><tr><td>Water service</td><td>5</td><td>5</td></tr><tr><td>Public water main</td><td>10</td><td>10</td></tr></table>For SI: 1 foot = 304.8 mm.

1403.1 Installation. Absorption systems shall be installed in accordance with Sections 1403.1.1 through 1403.1.5 <s>to provide landscape irrigation without surfacing of water.</s></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>P133-18 Part II</td><td>Change the existing definition for SECTION P3009 to:

<s>SECTION</s> P3009
SUBSURFACE <s>LANDSCAPE IRRIGATION</s> <u>GRAY WATER SOIL ABSORPTION</u> SYSTEMS</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	P3009.1 Scope. The provisions of this section shall govern the materials, design, construction and installation of subsurface ~~landscape irrigation~~ gray water soil absorption systems connected to nonpotable water from on-site water reuse systems. **P3009.2 Materials.** Above-ground drain, waste and vent piping for subsurface ~~landscape irrigation~~ gray water soil absorption systems shall conform to one of the standards indicated in Table P3002.1(1). Subsurface ~~landscape irrigation~~ gray water soil absorption, underground building drainage and vent pipe shall conform to one of the standards indicated in Table P3002.1(2). **P3009.3 Tests.** Drain, waste and vent piping for subsurface ~~landscape irrigation~~ gray water soil absorption systems shall be tested in accordance with Section P2503. **P3009.4 Inspections.** Subsurface ~~landscape irrigation~~ gray water soil absorption systems shall be inspected in accordance with Section R109. **P3009.5 Disinfection.** Disinfection shall not be required for on-site nonpotable reuse water for subsurface ~~landscape irrigation~~ gray water soil absorption systems. **P3009.6 Coloring.** On-site nonpotable reuse water used for subsurface ~~landscape irrigation~~ gray water soil absorption systems shall not be required to be dyed. **P3009.7 Sizing.** The system shall be sized in accordance with the sum of the output of all water sources connected to the subsurface ~~irrigation system.~~ gray water soil absorption system. Where gray-water collection piping is connected to subsurface ~~landscape~~ gray water soil absorption irrigation systems, gray-water output shall be calculated according to the gallons-per-day-per-occupant (liters per day per occupant) number based on the type of fixtures connected. The gray- water discharge shall be calculated by the following equation: **P3009.9 Subsurface ~~landscape irrigation~~ gray water soil absorption system site location.** The surface grade of soil absorption systems shall be located at a point lower than the surface grade of any water well or reservoir on the same or					

<table>
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<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>adjoining lot. Where this is not possible, the site shall be located so surface water drainage from the site is not directed toward a well or reservoir. The soil absorption system shall be located with a minimum horizontal distance between various elements as indicated in Table P3009.9. Private sewage disposal systems in compacted areas, such as parking lots and driveways, are prohibited. Surface water shall be diverted away from any soil absorption site on the same or neighboring lots.

TABLE P3009.9
LOCATION OF SUBSURFACE ~~IRRIGATION~~ GRAY WATER SOIL ABSORPTION SYSTEM
<table>
<tr><th>ELEMENT</th><th colspan="2">MINIMUM HORIZONTAL DISTANCE</th></tr>
<tr><th></th><th>STORAGE TANK (feet)</th><th>~~IRRIGATION DISPOSAL~~ ABSORPTION FIELD (feet)</th></tr>
<tr><td>Buildings</td><td>5</td><td>2</td></tr>
<tr><td>Lot line adjoining private property</td><td>5</td><td>5</td></tr>
<tr><td>Water wells</td><td>50</td><td>100</td></tr>
<tr><td>Streams and lakes</td><td>50</td><td>50</td></tr>
<tr><td>Seepage pits</td><td>5</td><td>5</td></tr>
<tr><td>Septic tanks</td><td>0</td><td>5</td></tr>
<tr><td>Water service</td><td>5</td><td>5</td></tr>
<tr><td>Public water main</td><td>10</td><td>10</td></tr>
</table>
For SI: 1 foot = 304.8 mm.

P3009.10 Installation. Absorption systems shall be installed in accordance with Sections P3009.10.1 through P3009.11 ~~to provide landscape irrigation without surfacing of water.~~</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>ADM6-19</td><td>Change the existing definition for [A] 101.2 Scope to:
2018 International Mechanical Code

[A] 101.2 Scope. This code shall regulate the design, installation, maintenance, alteration and inspection of mechanical systems that are permanently installed and utilized to provide control of environmental conditions and related processes within buildings. This code shall also regulate those mechanical systems, system components, equipment and appliances specifically addressed herein. The installation of fuel gas distribution piping and equipment, fuel gas-fired appliances and fuel gas-fired appliance venting systems shall be regulated by the International Fuel Gas Code.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Exception: Detached one- and two-family dwellings and ~~multiple single-family dwellings (~~ townhouses) not more than three stories ~~high~~ 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, shall comply with this code or the International Residential Code. **2018 International Plumbing Code** **[A] 101.2 Scope.** The provisions of this code shall apply to the erection, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of plumbing systems within this jurisdiction. This code shall regulate nonflammable medical gas, inhalation anesthetic, vacuum piping, nonmedical oxygen systems and sanitary and condensate vacuum collection systems. The installation of fuel gas distribution piping and equipment, fuel-gas-fired water heaters and water heater venting systems shall be regulated by the International Fuel Gas Code. Provisions in the appendices shall not apply unless specifically adopted. **Exception:** Detached one- and two-family dwellings and ~~multiple single-family dwellings (~~ townhouses) not more than three stories ~~high~~ 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, shall comply with this code or the International Residential Code. **2018 International Existing Building Code** **[A] 101.2 Scope.** The provisions of the this code shall apply to the *repair*, *alteration*, *change of occupancy*, *addition* to and relocation of *existing buildings*. **Exception:** Detached one- and two-family dwellings and ~~multiple single-family *dwellings*~~ (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, shall comply with this code or the International Residential Code. **2018 International Fuel Gas Code**					

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		Decrease	**None**	**Increase**		
Sub Code:						
	[A] 101.2 Scope. This code shall apply to the installation of fuel-gas *piping* systems, fuel gas appliances, gaseous hydrogen systems and related accessories in accordance with Sections 101.2.1 through 101.2.5. **Exception:** Detached one- and two-family dwellings and ~~multiple single-family dwellings (~~ townhouses) not more than three stories ~~high~~ 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, shall comply with this code or the International Residential Code.					
ADM9-19	Change the existing definition for [A] 101.3 Intent to: **2018 International Building Code** **[A] 101.3 ~~Intent.~~ Purpose.** The purpose of this code is to establish the minimum requirements to provide a reasonable level of safety, ~~public~~ health and general welfare through structural strength, *means of egress* ~~facilities~~, stability, sanitation, ~~adequate~~ light and ventilation, energy conservation, and safety to life and property from fire, explosion and other hazards, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations. **2018 International Fire Code** **[A] 101.3 ~~Intent.~~ Purpose.** The purpose of this code is to establish the minimum requirements consistent with nationally recognized good practice for providing a reasonable level of life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations. **2018 International Existing Building Code** **[A] 101.3 ~~Intent.~~ Purpose.** The ~~intent~~ purpose of this code is to provide flexibility to permit the use of alternative approaches to achieve compliance with minimum requirements to ~~safeguard the public~~ provide a reasonable level of safety, health, ~~safety~~ and general welfare insofar as they are affected by the *repair*, *alteration*, *change of occupancy*, *addition* and relocation of *existing buildings*.		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	2018 International Plumbing Code ~~**101.3 Intent.**~~ **Purpose.** The purpose of this code is to establish minimum ~~standards~~ requirements to provide a reasonable level of safety, health, property protection and ~~public~~ general welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of plumbing equipment and systems. **2018 International Mechanical Code** **[A] 101.3 ~~Intent.~~ Purpose.** The purpose of this code is to establish minimum ~~standards~~ requirements to provide a reasonable level of safety, health, property protection and ~~public~~ general welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of mechanical equipment or systems. **2018 International Private Sewage Disposal Code** **[A] 101.6 ~~Intent.~~ Purpose.** The purpose of this code is to establish minimum ~~standards~~ requirements to provide a reasonable level of safety health, property protection and ~~public~~ general welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of *private sewage disposal systems*. **2018 International Fuel Gas Code** **[A] 101.4 ~~Intent.~~ Purpose.** The purpose of this code is to establish minimum ~~standards~~ requirements to provide a reasonable level of safety, health, property protection and ~~public~~ general welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of fuel gas equipment or systems. **2018 International Swimming Pool and Spa Code** **[A] 101.3 ~~Intent.~~ Purpose.** The purpose of this code is to establish minimum ~~standards~~ requirements to provide a reasonable level of safety ~~and protection of health~~, health, property protection and ~~public~~ general welfare by regulating and controlling the design, construction, installation, quality of materials, location and maintenance or use of pools and spas.					

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		Decrease	**None**	**Increase**		
Sub Code:						
	2018 International Property Maintenance Code **[A] 101.3 ~~Intent.~~ Purpose.** ~~This code shall be construed to secure its expressed intent, which is to~~ ~~ensure public~~ The purpose of this code is to establish minimum requirements to provide a reasonable level of health, safety and general welfare insofar as they are affected by the continued *occupancy* and maintenance of structures and *premises*. Existing structures and *premises* that do not comply with these provisions shall be altered or repaired to provide a reasonable minimum level of health, safety and ~~safety~~ general welfare as required herein. **2018 International Zoning Code** **[A] 101.2 ~~Intent.~~ Purpose.** The purpose of this code is to ~~safeguard the health, property and public~~ establish minimum requirements to provide a reasonable level of health, safety, property protection and welfare by controlling the design, location, use or occupancy of all buildings and structures through the regulated and orderly development of land and land uses within this jurisdiction. **2018 International Wildland-Urban Interface Code** **[A] 101.3 ~~Objective.~~ Purpose.** The ~~objective~~ purpose of this code is to establish minimum regulations consistent with nationally recognized good practice for the safeguarding of life and for property protection. Regulations in this code are intended to mitigate the risk to life and structures from intrusion of fire from wildland fire exposures and fire exposures from adjacent structures and to mitigate structure fires from spreading to wildland fuels. The extent of this regulation is intended to be tiered commensurate with the relative level of hazard present. The unrestricted use of property in *wildland-urban interface areas* is a potential threat to life and property from fire and resulting erosion. Safeguards to prevent the occurrence of fires and to provide adequate fire protection facilities to control the spread of fire in *wildland-urban interface areas* shall be in accordance with this code. This code shall supplement the jurisdiction's building and fire codes, if such codes have been adopted, to provide for special					

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		Decrease	**None**	**Increase**		
Sub Code:						
	regulations to mitigate the fire- and life-safety hazards of the *wildland-urban interface areas*. **[A] 101.4 ~~Intent.~~ Purpose.** **[A] 101.4.1 Building.** ~~To~~ The purpose of this code is to provide an acceptable level of health, safety, and general welfare and to limit damage to property from events that are expected to impact buildings and structures. Accordingly, Part II of this code intends buildings and structures to provide for the following:					
ADM16-19 Part I	Change the existing definition for SECTION 103 to: **2018 International Building Code** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~ CODE COMPLIANCE AGENCY** **[A] 103.1 Creation of ~~enforcement~~ agency.** The ~~Department of Building Safety~~ [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the building official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The *building official* shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the building official shall have the authority to appoint a deputy building official, ~~the~~ other related technical officers, inspectors~~, plan examiners~~ and other employees. Such employees shall have powers as delegated by the building official. ~~For the maintenance of existing properties, see the International Property Maintenance Code.~~ **2018 International Fire Code** **SECTION 103** **~~DEPARTMENT OF FIRE PREVENTION~~ CODE COMPLIANCE AGENCY** **[A] 103.1 ~~General.~~ Creation of agency.** The ~~department of fire prevention is established within the jurisdiction under the~~		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~direction of the *fire code official*.~~ [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the fire code official. The function of the ~~department~~ agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The *fire code official* shall be appointed by the chief appointing authority of the jurisdiction.~~; and the *fire code official* shall not be removed from office except for cause and after full opportunity to be heard on specific and relevant charges by and before the appointing authority.~~ **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the fire code official shall have the authority to appoint a deputy fire code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the fire code official. **[A] ~~103.4~~ 104.7 Liability.** The *fire code official*, member of the board of appeals, officer or employee charged with the enforcement of this code, while acting for the jurisdiction, in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.7.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representatives of the jurisdiction until the final termination of the proceedings. The fire code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code; and any officer of the department of fire prevention, acting in good faith and without malice, shall be free from liability for acts performed under any of its provisions or by reason of any act or omission in the performance of official duties in connection therewith. **2018 International Plumbing Code**					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	SECTION 103 **~~DEPARTMENT OF PLUMBING INSPECTION~~ CODE COMPLIANCE AGENCY** **~~103.1 General.~~ Creation of agency.** The ~~department of plumbing inspection~~ [INSERT NAME OF DEPARTMENT] is hereby created and the ~~executive~~ official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction. **103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official. **~~103.4~~ 104.8 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. **~~103.4.1~~ 104.8.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representative of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Mechanical Code**					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	SECTION 103 **~~DEPARTMENT OF MECHANICAL INSPECTION~~ CODE COMPLIANCE AGENCY** **[A] 103.1 ~~General.~~ Creation of agency.** The ~~department of mechanical inspection~~ [INSERT NAME OF DEPARTMENT] is hereby created and the ~~executive~~ official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official. **[A] ~~103.4~~ 104.8 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.8.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Fuel Gas Code** **SECTION 103**					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~**DEPARTMENT OF INSPECTION**~~ **CODE COMPLIANCE AGENCY** **[A] 103.1 ~~General.~~ Creation of agency.** The ~~Department of Inspection~~ [INSERT NAME OF DEPARTMENT] is hereby created and the ~~executive~~ official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official. **[A] ~~103.4~~ 104.8 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.8.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Existing Building Code** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~ CODE COMPLIANCE AGENCY**					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] 103.1 Creation of ~~enforcement~~ agency. The ~~Department of Building Safety~~ [INSERT NAME OF DEPARTMENT] is hereby created , and the official ~~incharge~~ in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The *code official* shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, ~~the~~ other related technical officers, inspectors~~, plan examiners,~~ and other employees. Such employees shall have powers as delegated by the code official. **2018 International Swimming Pool and Spa Code** **SECTION 103** **~~DEPARTMENT OF BUILDING SAFETY~~ CODE COMPLIANCE AGENCY** **[A] 103.1 Creation of ~~enforcement~~ agency.** The ~~department of building safety~~ [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of ~~the~~ this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, ~~the~~ other related technical officers, inspectors~~, plans examiners~~ and other employees. Such employees shall have powers as delegated by the code official. **[A] ~~103.4~~ 104.8 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.8.1 Legal defenses.** Any suit or criminal complaint instituted against an officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for cost in any action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Property Maintenance Code** **SECTION 103** **~~DEPARTMENT OF PROPERTY MAINTENANCE INSPECTION~~ CODE COMPLIANCE AGENCY** **[A] 103.1 ~~General.~~ Creation of agency.** The ~~department of property maintenance inspection~~ [INSERT NAME OF DEPARTMENT] is hereby created and the ~~executive~~ official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The *code official* shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy ~~(s).~~ code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official. **[A] ~~103.4~~ 104.7 Liability.** The *code official*, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction, in good faith and without malice in the discharge of the duties required by this code or					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.7.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representative of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Private Sewage Disposal Code** **SECTION 103** **~~DEPARTMENT OF PRIVATE SEWAGE DISPOSAL INSPECTION~~** **CODE COMPLIANCE AGENCY** **[A] 103.1 ~~General.~~ Creation of agency.** The ~~Department of Private Sewage Disposal Inspection~~ [INSERT NAME OF DEPARTMENT] is hereby created and the ~~executive~~ official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of ~~the~~ this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official. **[A] ~~103.4~~ 104.7 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. **[A] ~~103.4.1~~ 104.7.1 Legal defense.** Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code. **2018 International Wildland-Urban Interface Code** **SECTION 103** **~~ENFORCEMENT~~ CODE COMPLIANCE AGENCY** **[A] 103.1 Creation of ~~enforcement~~ agency.** The ~~department of~~ [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code. **[A] 103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction. **[A] 103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a ~~deputy(s).~~ deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official.					
ADM27-19	Add new definition for SECTION 107 as follows: **2018 International Mechanical Code** **SECTION 107** **FEES** **107.2 Schedule of permit fees.** Where work requires a permit, a fee for each permit shall be paid as required, in accordance with		X			Helps correlate all the I-Codes together and makes it easier to understand where the

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	the schedule as established by the applicable governing authority. **107.3 Permit valuations.** The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as mechanical equipment and permanent systems. If, in the opinion of the code official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the code official. Final building permit valuation shall be set by the code official. **107.5 Related fees.** The payment of the fee for the construction, alteration, removal or demolition for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law. **107.6 Refunds.** The code official is authorized to establish a refund policy. **2018 International Plumbing Code** **SECTION 107** **FEES** **107.2 Schedule of permit fees.** Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority. **107.5 Related fees.** The payment of the fee for the construction, alteration, removal or demolition for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law. **107.6 Refunds.** The code official is authorized to establish a refund policy. **2018 International Property Maintenance Code** **SECTION 104**					requirements are located.

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	FEES **104.2 Refunds.** The code official is authorized to establish a refund policy. **2018 International Fuel Gas Code** **SECTION 107** **FEES** **107.2 Schedule of permit fees.** Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority. **107.3 Permit valuations.** The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as plumbing equipment and permanent systems. If, in the opinion of the code official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the code official. Final building permit valuation shall be set by the code official. **107.5 Related fees.** The payment of the fee for the construction, alteration, removal or demolition for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law. **107.6 Refunds.** The code official is authorized to establish a refund policy. **2018 International Swimming Pool and Spa Code** **SECTION 106** **FEES** **106.2 Schedule of permit fees.** Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	106.3 Permit valuations. The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as mechanical equipment and permanent systems. If, in the opinion of the code official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the code official. Final building permit valuation shall be set by the code official. **106.5 Related fees.** The payment of the fee for the construction, alteration, removal or demolition for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law. **106.6 Refunds.** The code official is authorized to establish a refund policy. Change the existing definitions for SECTION 107 to: **2018 International Mechanical Code** **[A] ~~106.5~~ 107.1 ~~Fees.~~ Payment of fees.** A permit shall not be ~~issued~~ valid until the fees prescribed ~~in Section 106.5.2~~ by law have been paid.~~, nor shall an~~ An amendment to a permit shall not be released until the additional fee, if any~~, due to an increase of the mechanical system~~, has been paid. **[A] ~~106.5.1~~ 107.4 Work commencing before permit issuance.** Any person who commences any work on a mechanical system before obtaining the necessary permits shall be subject to ~~100 percent of the usual permit fee~~ a fee established by the code official that shall be in addition to the required permit fees. **2018 International Plumbing Code** **~~106.6~~ 107.1 ~~Fees.~~ Payment of fees.** A permit shall not be ~~issued~~ valid until the fees prescribed ~~in Section 106.6.2~~ by law have been paid.~~, and an~~ An amendment to a permit shall not be released until the additional fee, if any~~, due to an increase of the plumbing systems~~, has been paid. **~~106.6.1~~ 107.4 Work commencing before permit issuance.** Any person who commences any work on a ~~plumbing~~ mechanical					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	system before obtaining the necessary permits shall be subject to ~~100 percent of the usual permit~~ a fee established by the code official that shall be in addition to the required permit fees. **2018 International Property Maintenance Code** **[A] ~~103.5~~ 104.1 Fees.** The fees for activities and services performed by the department in carrying out its responsibilities under this code shall be as ~~indicated in the following schedule~~ established by the applicable governing authority. ~~[JURISDICTION TO INSERT APPROPRIATE SCHEDULE.]~~ **2018 International Fuel Gas Code** **[A] ~~106.6~~ 107.1 ~~Fees.~~ Payment of fees.** A permit shall not be ~~issued~~ valid until the fees prescribed ~~in Section 106.6.2~~ by law have been paid.~~, nor shall an~~ An amendment to a permit shall not be released until the additional fee, if any~~, due to an increase of the installation~~, has been paid. **[A] ~~106.6.1~~ 107.4 Work commencing before permit issuance.** Any person who commences any work on ~~an installation~~ a mechanical system before obtaining the necessary permits shall be subject to ~~100 percent of the usual permit fee~~ a fee established by the code official that shall be in addition to the required permit fees. **2018 International Swimming Pool and Spa Code** **[A] ~~105.6~~106.1 ~~Fees.~~ Payment of fees.** A permit shall not be valid until the fees prescribed by law have been paid. An amendment to a permit shall not be released until the additional fee, if any, has been paid. **[A] ~~105.6.1~~ 106.4 Work commencing before permit issuance.** Any person who commences any work on a mechanical system before obtaining the necessary permits shall be subject to a fee ~~as indicated in the adopted fee schedule and would~~ established by the code official that shall be in addition to the required permit fees. Delete the existing definitions for [A] 106.5.2 Fee schedule, [A] 106.5.3 Fee refunds, 106.6.2 Fee schedule, 106.6.3 Fee					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	refunds, [A] 106.6.2 Fee schedule, [A] 106.6.3 Fee refunds, [A] 105.6.2 Fee schedule, and [A] 105.6.3 Fee refunds.					
ADM28-19	Change the existing definitions for SECTION 107 to: **2018 International Building Code** **SECTION 107** **~~SUBMITTAL~~ CONSTRUCTION DOCUMENTS** **2018 International Fire Code** **SECTION 106** **CONSTRUCTION DOCUMENTS** **[A] ~~105.4.1~~106.1 Submittals.** *Construction documents* and supporting data shall be submitted in two or more sets with each application for a permit and in such form and detail as required by the *fire code official*. The *construction documents* shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. **Exception:** The *fire code official* is authorized to waive the submission of *construction documents* and supporting data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of *construction documents* is not necessary to obtain compliance with this code. **[A] ~~105.4.1.1~~ 106.2 Examination of documents.** The *fire code official* shall examine or cause to be examined the accompanying *construction documents* and shall ascertain by such examinations whether the work indicated and described is in accordance with the requirements of this code. **[A] ~~105.4.2~~ 106.2.1 Information on construction documents.** *Construction documents* shall be drawn to scale on suitable material. Electronic media documents are allowed to be submitted where *approved* by the *fire code official*. *Construction documents* shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations as determined by the *fire code official*.		X			Provides consistency.

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~105.4.2.1~~ 106.2.2 Fire protection system shop drawings. Shop drawings for the fire protection system(s) shall be submitted to indicate compliance with this code and the *construction documents*, and shall be *approved* prior to the start of installation. Shop drawings shall contain all information as required by the referenced installation standards in Chapter 9. **[A] ~~105.4.3~~ 106.2.3 Applicant responsibility.** It shall be the responsibility of the applicant to ensure that the *construction documents* include all of the fire protection requirements and the shop drawings are complete and in compliance with the applicable codes and standards. **[A] ~~105.4.4~~ 106.2.4 Approved documents.** *Construction documents approved* by the *fire code official* are approved with the intent that such *construction documents* comply in all respects with this code. Review and approval by the *fire code official* shall not relieve the applicant of the responsibility of compliance with this code. **[A] ~~105.4.4.1~~ 106.2.4.1 Phased approval.** The *fire code official* is authorized to issue a permit for the construction of part of a structure, system or operation before the *construction documents* for the whole structure, system or operation have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such permit for parts of a structure, system or operation shall proceed at the holder's own risk with the building operation and without assurance that a permit for the entire structure, system or operation will be granted. **[A] ~~105.4.5~~ 106.3 Amended construction documents.** Work shall be installed in accordance with the *approved construction documents*, and any changes made during construction that are not in compliance with the *approved construction documents* shall be resubmitted for approval as an amended set of *construction documents*. **[A] ~~105.4.6~~ 106.4 Retention of construction documents.** One set of *construction documents* shall be retained by the *fire code official* for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	approved construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. **SECTION 107** **CONSTRUCTION DOCUMENTS** ~~**106.3.1**~~ **107.1 Construction documents.** Construction documents, engineering calculations, diagrams and other such data shall be submitted in two or more sets with each application for a permit. The code official shall require construction documents, computations and specifications to be prepared and designed by a registered design professional where required by state law. Construction documents shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. Construction documents for buildings more than two stories in height shall indicate where penetrations will be made for pipes, fittings and components and shall indicate the materials and methods for maintaining required structural safety, fire-resistance rating and fireblocking. **Exception:** The code official shall have the authority to waive the submission of construction documents, calculations or other data if the nature of the work applied for is such that reviewing of construction documents is not necessary to determine compliance with this code. ~~**106.5.6**~~ **107.2 Retention of construction documents.** One set of *approved* construction documents shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of *approved* construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. **2018 International Mechanical Code** **SECTION 107** **CONSTRUCTION DOCUMENTS**					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~106.3.1~~ 107.1 Construction documents. *Construction documents*, engineering calculations, diagrams and other data shall be submitted in two or more sets with each application for a permit. The code official shall require *construction documents*, computations and specifications to be prepared and designed by a *registered design professional* where required by state law. Where special conditions exist, the code official is authorized to require additional *construction documents* to be prepared by a *registered design professional*. *Construction documents* shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. *Construction documents* for buildings more than two stories in height shall indicate where penetrations will be made for mechanical systems, and the materials and methods for maintaining required structural safety, fire-resistance rating and fireblocking. **Exception:** The code official shall have the authority to waive the submission of *construction documents*, calculations or other data if the nature of the work applied for is such that reviewing of *construction documents* is not necessary to determine compliance with this code. **[A] ~~106.4.6~~ 107.2 Retention of construction documents.** One set of *approved construction documents* shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of *approved construction documents* shall be returned to the applicant, and said set shall be kept on the site of the building or job at all times during which the work authorized thereby is in progress. **2018 International Fuel Gas Code** **SECTION 107** **CONSTRUCTION DOCUMENTS** **[A] ~~106.3.1~~ 107.1 Construction documents.** *Construction documents*, engineering calculations, diagrams and other data shall be submitted in two or more sets with each application for a permit. The code official shall require *construction documents*, computations and specifications to be prepared and designed by					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	a registered design professional where required by state law. *Construction documents* shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. *Construction documents* for buildings more than two stories in height shall indicate where penetrations will be made for installations and shall indicate the materials and methods for maintaining required structural safety, fire-resistance rating and fireblocking. **Exception:** The code official shall have the authority to waive the submission of *construction documents*, calculations or other data if the nature of the work applied for is such that reviewing of *construction documents* is not necessary to determine compliance with this code. **[A] ~~106.5.6~~ 107.2 Retention of construction documents.** One set of *approved construction documents* shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of *approved construction documents* shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. **2018 International Swimming Pool and Spa Code** **SECTION 106** **CONSTRUCTION DOCUMENTS** **[A] ~~105.3~~ 106.1 Construction documents.** Construction documents, engineering calculations, diagrams and other such data shall be submitted in two or more sets with each application for a permit. The code official shall require construction documents, computations and specifications to be prepared and designed by a registered design professional where required by state law. Construction documents shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. **[A] ~~105.5.6~~ 106.2 Retention of construction documents.** One set of *approved* construction documents shall be retained by the code official for a period of not less than 180 days from date of					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	completion of the permitted work, or as required by state or local laws. One **set of *approved* construction documents shall be returned to the** applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. **2018 International Private Sewage Disposal Code** **SECTION 107** **CONSTRUCTION DOCUMENTS** **[A] ~~106.2.1~~ 107.1 Construction documents.** An application for a permit shall be accompanied by not less than two copies of construction documents drawn to scale, with sufficient clarity and detail dimensions showing the nature and character of the work to be performed. Specifications shall include pumps and controls, dose volume, elevation differences (vertical lift), pipe friction loss, pump performance curve, pump model and pump manufacturer. The code official is permitted to waive the requirements for filing construction documents where the work involved is of a minor nature. Where the quality of the materials is essential for conformity to this code, specific information shall be given to establish such quality, and this code shall not be cited, or the term "legal" or its equivalent used as a substitute for specific information. **[A] ~~106.3.6~~ 107.2 Retention of construction documents.** One set of approved construction documents shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of approved construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. **2018 International Wildland-Urban Interface Code** **SECTION 108** **~~PLANS AND SPECIFICATIONS~~ CONSTRUCTION DOCUMENTS** Delete the existing definition for [A] 105.4 Construction documents.					
ADM31-19 Part I	Add new definition for SECTION 108 as follows: **2018 International Plumbing Code**		X			Provides consistency

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	SECTION 108 **NOTICE OF APPROVAL** **2018 International Mechanical Code** **SECTION 108** **NOTICE OF APPROVAL** **2018 International Fuel Gas Code** **SECTION 108** **NOTICE OF APPROVAL** **2018 International Swimming Pool and Spa Code** **SECTION 108** **NOTICE OF APPROVAL** **2018 International Private Sewage Disposal Code** **SECTION 108** **NOTICE OF APPROVAL** Change the existing definitions for SECTION 108 to: **2018 International Plumbing Code** ~~**107.5**~~ **108.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. ~~**107.5.1**~~ **108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure, premise or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. **2018 International Mechanical Code**					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~107.4~~ 108.1 Approval. After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A] ~~107.4.1~~ 108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, on the basis of incorrect information supplied, or where it is determined that the building or structure, premise or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. **2018 International Fuel Gas Code** **[A] ~~107.4~~ 108.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A] ~~107.4.1~~ 108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, or on the basis of incorrect information supplied or where it is determined that the building or structure, premise, or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. **2018 International Swimming Pool and Spa Code** **[A] ~~106.17~~ 107.1 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A] ~~106.17.1~~ 107.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, or on the basis of the incorrect information supplied, or where it is determined that the building or structure, premise, system or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code. **2018 International Private Sewage Disposal Code**					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	**2021 IPC CHANGE SUMMARY**	**IPC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	[A] ~~107.7~~ 108.1 Approval. After the prescribed inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official. **[A] ~~107.7.1~~ 108.2 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, on the basis of incorrect information supplied, or where it is determined that the building or structure, premise or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.					
ADM40-19 Part I	Change the existing definitions for SECTION 113 to: **2018 International Building Code** **SECTION 113** **~~BOARD~~ MEANS OF APPEALS** **[A] 113.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the building official. **[A] 113.2 Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an ~~equally good~~ equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code or interpret the administration of this code. **[A] 113.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **2018 International Existing Building Code** **SECTION 112**		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~BOARD~~ MEANS OF APPEALS **[A] 112.1 General.** In order to hear and decide appeals of orders, decisions , or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing ~~body~~ authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the building official. **[A] 112.2 Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply , or an ~~equally good~~ equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code or interpret the administration of this code. **[A] 112.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **2018 International Fire Code** **SECTION 109** **~~BOARD~~ MEANS OF APPEALS** **[A] 109.1 Board of appeals established.** In order to hear and decide appeals of orders, decisions or determinations made by the fire code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing ~~body~~ authority and shall hold office at its pleasure. ~~The *fire code official* shall be an ex officio member of said board but shall not have a vote on any matter before the board.~~ The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the fire code official.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] 109.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted ~~hereunder~~ thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equivalent ~~method of protection or safety~~ or better form of construction is proposed. The board shall not have authority to waive requirements of this code or interpret the administration of this code. **[A] 109.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to hazards of fire, explosions, hazardous conditions or *fire protection systems*, and are not employees of the jurisdiction. **2018 International Wildland-Urban Interface Code** **SECTION 106** **MEANS OF APPEALS** **[A] 106.1 General.** ~~To determine the suitability of alternative materials and methods and to provide for reasonable interpretations of the provisions~~ In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby ~~is~~ created a board of ~~appeals consisting of five members who are qualified by experience and training to pass judgment on pertinent matters. The code official, *building official* and fire chief shall be ex officio members, and the code official shall act as secretary of the board. The~~ appeals. The board of appeals shall be appointed by the ~~legislative body~~ applicable governing authority and shall hold office at ~~their discretion.~~ its pleasure. The board shall adopt ~~reasonable~~ rules ~~and regulations~~ of procedure for conducting its ~~investigations~~ business and shall render all decisions and findings in writing to the ~~code official,~~ appellant with a duplicate copy to the ~~applicant~~ code official. **[A] 106.2 Limitations of authority.** ~~The board of appeals shall not have authority relative to interpretation of the administrative provisions of this code and~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equivalent or					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	better form of construction is proposed. The board shall not have authority to waive requirements of this code or interpret the administration of this code. **106.4 Administration.** The code official shall take immediate action in accordance with the decision of the board. **2018 International Plumbing Code** **SECTION 109** **MEANS OF ~~APPEAL~~ APPEALS** **~~109.1~~109.2 ~~Application for appeal.~~ Limitations on authority.** ~~Any person shall have the right to appeal a decision of the code official to the board of appeals.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply , or an ~~equally good~~ equivalent or better form of construction is proposed. The ~~application shall be filed on a form obtained from the code official within 20 days after the notice was served.~~ board shall not have authority to waive requirements of this code or interpret the administration of this code. **109.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. **109.4 Administration.** The code official shall take immediate action in accordance with the decision of the board. **SECTION 110** **BOARD OF APPEALS** **~~109.2~~ 110.1 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed. **2018 International Mechanical Code** **SECTION 109**					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	MEANS OF ~~APPEAL~~ APPEALS **[A] ~~109.1~~ 109.2 ~~Application for appeal.~~ Limitations on authority.** ~~A person shall have the right to appeal a decision of the code official to the board of appeals.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply , or an ~~equally good~~ equivalent or better form of construction is proposed. The ~~application shall be filed on a form obtained from the code official within 20 days after the notice was served.~~ board shall not have authority to waive requirements of this code or interpret the administration of this code. **109.4 Administration** The code official shall take immediate action in accordance with the decision of the board. **SECTION 110** **BOARD OF APPEALS** **[A] ~~109.2~~ 110.1 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years; one for 4 years; one for 3 years; one for 2 years; and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed. **2018 International Fuel Gas Code** **SECTION 109 (IFGC)** **MEANS OF APPEAL** **109.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **[A] ~~109.1~~109.2 ~~Application for appeal.~~ Limitations on authority.** ~~A person shall have the right to appeal a decision of the code~~					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~official to the board of appeals.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an ~~equally good~~ equivalent or better form of construction is proposed. The ~~application shall be filed on a form obtained from the code official within 20 days after the notice was served.~~ board shall not have authority to waive requirements of this code or interpret the administration of this code. **109.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. **109.4 Administration.** The code official shall take immediate action in accordance with the decision of the board. **SECTION 110** **BOARD OF APPEALS** **[A] ~~109.2~~ 110.1 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years; one for 4 years; one for 3 years; one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed. **2018 International Swimming Pool and Spa Code** **SECTION 108** **MEANS OF APPEAL** **108.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **[A] ~~108.1~~ 108.2 ~~Application for appeal.~~ Limitations on authority.** ~~Any person shall have the right to appeal a decision of the code~~					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~official to the board of appeals.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted ~~there under~~ thereunder have been incorrectly interpreted, the provisions of this code do not fully apply , or an ~~equally good~~ equivalent or better form of construction is proposed. The ~~application shall be filed on a form obtained from the code official within 20 days after the notice was served.~~ board shall not have authority to waive requirements of this code or interpret the administration of this code. **108.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. **108.4 Administration.** The code official shall take immediate action in accordance with the decision of the board. **SECTION 109** **BOARD OF APPEALS** **[A] ~~108.2~~ 109.1 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed. **2018 International Property Maintenance Code** **SECTION 111** **MEANS OF APPEAL** **111.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **[A] ~~111.1~~111.2 ~~Application for appeal.~~ Limitations on authority.** ~~Any person directly affected by a decision of the *code official* or~~					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~a notice or order issued under this code shall have the right to appeal to the board of appeals, provided that a written application for appeal is filed within 20 days after the day the decision, notice or order was served.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply~~, or the~~ or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code ~~are adequately satisfied by other means.~~ or interpret the administration of this code. **111.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. **111.4 Administration.** The code official shall take immediate action in accordance with the decision of the board. **[A] ~~111.8~~ 111.5 Stays of enforcement.** Appeals of notice and orders (other than *Imminent Danger* notices) shall stay the enforcement of the notice and order until the appeal is heard by the appeals board. **SECTION 112** **BOARD OF APPEALS** **[A] ~~111.2~~ 112.1 Membership of board.** The board of appeals shall consist of not less than three members who are qualified by experience and training to pass on matters pertaining to property maintenance and who are not employees of the jurisdiction. The *code official* shall be an ex-officio member but shall not vote on any matter before the board. The board shall be appointed by the chief appointing authority and shall serve staggered and overlapping terms. **2018 International Private Sewage Disposal Code** **SECTION 109** **MEANS OF APPEAL** **109.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **[A] ~~109.1~~ 109.2 ~~Application for appeal.~~ Limitations on authority.** ~~Any person shall have the right to appeal a decision of the code official to the board of appeals.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder ~~has~~ have been incorrectly interpreted, the provisions of this code do not fully apply or an ~~equally good~~ equivalent or better form of construction is proposed. The ~~application shall be filed on a form obtained from the code official within 20 days after the notice was served.~~ board shall not have authority to waive requirements of this code or interpret the administration of this code. **109.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. **109.4 Administration.** The code official shall take immediate action in accordance with the decision of the board. **SECTION 110** **BOARD OF APPEALS** **[A] ~~109.2~~ 110.1 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed. Add new definition for SECTION 113 as follows: **2018 International Building Code** **113.4 Administration.** The building official shall take immediate action in accordance with the decision of the board. **2018 International Existing Building Code**					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	113.4 Administration. The code official shall take immediate action in accordance with the decision of the board. **2018 International Fire Code** **109.4 Administration.** The fire code official shall take immediate action in accordance with the decision of the board. **2018 International Wildland-Urban Interface Code** **106.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. **2018 International Plumbing Code** **109.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **2018 International Mechanical Code** **109.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official. **109.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction. Delete the existing definition for [A] 109.1.1 Limitation of authority.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	**2021 IPC CHANGE SUMMARY**	**IPC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
ADM41-19 Part I	Change the existing definitions for SECTION 115 to: **2018 International Building Code** **SECTION 115** **STOP WORK ORDER** **[A] 115.1 Authority.** Where the *building official* finds any work regulated by this code being performed in a manner ~~either~~ contrary to the provisions of this code or <u>in a</u> dangerous or unsafe <u>manner</u>, the *building official* is authorized to issue a stop work order. **[A] 115.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property ~~involved~~, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work ~~will be permitted~~ <u>is authorized</u> to resume. <u>**115.3 Emergencies.** Where an emergency exists, the building official shall not be required to give a written notice prior to stopping the work.</u> **[A] ~~115.3~~<u>115.4</u> ~~Unlawful continuance.~~ <u>Failure to comply.</u>** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to ~~penalties as prescribed by law.~~<u>fines established by the authority having jurisdiction.</u> **2018 International Fire Code** **SECTION 112** **STOP WORK ORDER** **[A] 112.1 ~~Order.~~ <u>Authority.</u>** Where the *fire code official* finds any work regulated by this code being performed in a manner contrary to the provisions of this code, or in a dangerous or unsafe manner, the *fire code official* is authorized to issue a stop work order. **[A] 112.2 Issuance.** ~~A~~ <u>The</u> stop work order shall be in writing and shall be given to the owner of the property, ~~or to~~ the owner's		X			Standardizes the language and requirements for a stop work order throughout all the Codes

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	authorized agent, or ~~to~~ the person ~~doing~~ performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work is authorized to resume. **[A] 112.3 Emergencies.** Where an emergency exists, the fire code official shall not be required to give a written notice prior to stopping the work. **[A] 112.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be ~~liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~ subject to fines established by the authority having jurisdiction. **2018 International Plumbing Code** **SECTION 108** **VIOLATIONS** **2018 International Mechanical Code** **SECTION 108** **VIOLATIONS** **2018 International Fuel Gas Code** **SECTION 108 (IFGC)** **VIOLATIONS** **2018 International Existing Building Code** **SECTION 114** **STOP WORK ORDER** **[A] 114.1 Authority.** Where the *code official* finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a *dangerous* or *unsafe* manner, the *code official* is authorized to issue a stop work order. **[A] 114.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property ~~involved~~, the					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	owner's authorized agent or ~~to~~ the person ~~doing~~ performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work ~~will be permitted~~ is authorized to resume. **[A] ~~114.3~~ 114.4 ~~Unlawful continuance.~~ Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to ~~penalties as prescribed by law.~~ fines established by the authority having jurisdiction. **2018 International Swimming Pool and Spa Code** **SECTION 107** **VIOLATIONS** **2018 International Property Maintenance Code** **SECTION 112** **STOP WORK ORDER** **[A] 112.1 Authority.** ~~Whenever~~ Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. **[A] 112.2 Issuance.** ~~A~~ The stop work order shall be in writing and shall be given to the owner of the property, ~~to~~ the owner's authorized agent, or ~~to~~ the person ~~doing~~ performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. **[A] 112.3 Emergencies.** Where an emergency exists, the *code official* shall not be required to give a written notice prior to stopping the work. **[A] 112.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	violation or unsafe condition, shall be ~~liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~ subject to fines established by the authority having jurisdiction. **2018 International Private Sewage Disposal Code** **SECTION 108** **VIOLATIONS** **2018 International Wildland-Urban Interface Code** **SECTION 114** **STOP WORK ORDER** **[A] 114.1 Authority.** Where the code official finds any work regulated by this code being performed in a manner ~~either~~ contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. **[A] 114.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property ~~involved~~, ~~to~~ the owner's authorized agent or ~~to~~ the person ~~doing~~ performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work ~~will be permitted~~ is authorized to resume. **[A] 114.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. **[A] 114.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be ~~liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~ subject to fines established by the authority having jurisdiction. Add new definition for SECTION 109 as follows: **2018 International Plumbing Code** **SECTION 109** **STOP WORK ORDER**					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	109.1 Authority. Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. **109.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. **109.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. **109.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having jurisdiction. **2018 International Mechanical Code** **SECTION 109** **STOP WORK ORDER** **109.1 Authority.** Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. **109.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. **109.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	109.4 Failure to comply. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having jurisdiction. **2018 International Fuel Gas Code** **SECTION 109** **STOP WORK ORDER** **109.1 Authority.** Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. **109.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. **109.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. **109.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having jurisdiction. **2018 International Existing Building Code** **114.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. **2018 International Swimming Pool and Spa Code** **SECTION 108** **STOP WORK ORDER**					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	108.1 Authority. Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. **108.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. **108.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. **108.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having jurisdiction. **2018 International Private Sewage Disposal Code** **SECTION 109** **STOP WORK ORDER** **109.1 Authority.** Where the code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the code official is authorized to issue a stop work order. **109.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume. **109.3 Emergencies.** Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work.					

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CODE CHANGE #	**2021 IPC CHANGE SUMMARY**	**IPC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	109.4 Failure to comply. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having jurisdiction. Delete the existing definition for 108.5 Stop work orders, [A] 108.5 Stop work orders, [A] 108.5 Stop work orders, [A] 107.5 Stop work orders, and [A] 108.5 Stop work orders.					
ADM43-19 Part I	Change the existing definitions for APPENDIX B to: **2018 International Building Code** **APPENDIX B** **BOARD OF APPEALS** **SECTION B101** **GENERAL** **[A] ~~B101.2~~ B101.3 Membership of board.** The board ~~of appeals~~ shall consist of ~~persons~~ five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. ~~as follows:~~ ~~1. One for 5 years; one for 4 years; one for 3 years; one for 2 years; and one for 1 year.~~ ~~2. Thereafter, each new member shall serve for 5 years or until a successor has been appointed.~~ ~~The building official shall be an ex officio member of said board but shall have no vote on any matter before the board.~~ **[A] ~~B101.2.2~~ B101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction ~~one from each of the following professions or disciplines:~~ ~~1. Registered design professional with architectural experience or a builder or superintendent of building~~		X			Standardizes the language across the Codes and gives appropriate guidance to establish a board of appeals.

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~construction with not fewer than 10 years of experience, 5 of which shall have been in responsible charge of work.~~ ~~2. Registered design professional with structural engineering experience.~~ ~~3. Registered design professional with mechanical and plumbing engineering experience or a mechanical contractor with not fewer than 10 years of experience, 5 of which shall have been in responsible charge of work.~~ ~~4. Registered design professional with electrical engineering experience or an electrical contractor with not fewer than 10 years of experience, 5 of which shall have been in responsible charge of work.~~ ~~5. Registered design professional with fire protection engineering experience or a fire protection contractor with not fewer than 10 years of experience, 5 of which shall have been in responsible charge of work.~~ **[A] ~~B101.2.1~~ B101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years,~~ the same term or until a successor has been appointed. **[A] ~~B101.2.4~~ B101.3.4 Chairperson.** The board shall annually select one of its members to serve as chairperson. **[A] ~~B101.2.6~~ B101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~B101.2.5~~ B101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest.** A member ~~shall not hear an appeal in which that member has a~~ with any personal, professional or financial ~~interest.~~ interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~B101.2.7~~ B101.3.7 Compensation of members.** Compensation of members shall be determined by law.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~B101.2.3~~ B101.4 Rules and procedures. The board ~~is authorized to~~ shall establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **[A] ~~B101.3~~ B101.5 Notice of meeting.** The board shall meet upon notice from the chairperson, within 10 days of the filing of an appeal or at stated periodic meetings. **[A] ~~B101.3.1~~ B101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the building official and any person whose interests are affected shall be given an opportunity to be heard. **[A] ~~B101.3.3~~ B101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **[A] ~~B101.4~~ B101.7 Board decision.** The board shall modify or reverse the decision of the *building official* by a concurring vote of two-thirds of its members. The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **[A] ~~B101.4.1~~ B101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the ~~*building*~~ code *official*. **[A] ~~B101.4.2~~ B101.7.2 Administration.** The *building official* shall take immediate action in accordance with the decision of the board. **2018 International Fire Code** **APPENDIX A** **BOARD OF APPEALS**					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	**2021 IPC CHANGE SUMMARY**	**IPC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	SECTION A101 **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of ~~the International Fire Code~~ this code pursuant to the provisions of Section ~~108 of the International Fire Code.~~ 109. The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the fire code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.3 ~~Terms~~ Membership of ~~office.~~ board.** ~~Members shall be appointed for terms of 4 years. Members shall not be reappointed to serve more than two consecutive full terms.~~ The board shall consist of five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The fire code official shall be an ex officio member of said board but shall not vote on any matter before the board. **~~A101.3.2~~ A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. ~~Members appointed to fill a vacancy in an unexpired term shall be eligible for reappointment to two full terms.~~ **~~A101.5~~ A101.3.5 Secretary ~~of board.~~** The *~~fire code official~~* ~~shall act as secretary of the board and shall keep~~ chief appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all ~~its~~ proceedings, which shall set forth the reasons for ~~its decisions~~ the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **~~A101.8~~ A101.3.6 Conflict of interest.** ~~Members with a material~~ A member with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters.					

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		Decrease	None	Increase		
Sub Code:						
	~~A101.3.3~~ A101.3.8 Removal from ~~office~~ the board. ~~Members~~ A member shall be removed from ~~office~~ the board prior to the end of their terms only for ~~cause. Continued absence of any member~~ cause. Any member with continued absence from regular ~~meetings~~ meeting of the board ~~shall,~~ may be removed at the discretion of the ~~applicable governing body, render any such member liable to immediate removal from office.~~ chief appointing authority. **~~A101.10~~ A101.4 ~~Procedures.~~ Rules and procedures.** The board shall ~~be operated in accordance with the Administrative Procedures Act of the state in which it is established or shall establish rules and regulations for its own procedure not inconsistent~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **~~A101.7~~A101.5 ~~Meetings.~~ Notice of meetings.** The board shall meet ~~at regular intervals, to be determined by the chairman. In any event, the board shall meet~~ upon notice from the chairperson, within 10 days ~~after notice of appeal has been received.~~ the filing of an appeal or at stated periodic intervals. **~~A101.4~~ A101.5.2 Quorum.** Three members of the board shall constitute a quorum. ~~In varying the application of any provisions of this code or in modifying an order of the *fire code official*, affirmative votes of the majority present, but not less than three, shall be required.~~ **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for ~~consideration.~~ consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **2018 International Fuel Gas Code** **[A] ~~109.2~~ A101.3 Membership of board.** The board ~~of appeals~~ shall consist of five voting members appointed by the chief appointing authority ~~as follows: one for 5 years; one for 4 years;~~					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~one for 3 years;~~ ~~one for 2 years and one for 1 year. Thereafter,~~ ~~each new~~ of the jurisdiction. Each member shall serve for ~~5~~ [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **[A] ~~109.2.1~~ A101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction.~~one from each of the following professions or disciplines.~~ ~~1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~2. Registered design professional with structural engineering or architectural experience.~~ ~~3. Registered design professional with fuel gas and plumbing engineering experience; or a fuel gas contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~4. Registered design professional with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~5. Registered design professional with fire protection engineering experience; or a fire protection contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ **[A] ~~109.2.2~~ A101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years,~~ the same term or until a successor has been appointed. **[A] ~~109.2.3~~ A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	**2021 IPC CHANGE SUMMARY**	**IPC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	[A] ~~109.2.5~~ A101.3.5 Secretary. The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~109.2.4~~ A101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest.** A member ~~shall not hear an appeal in which that member has a~~ with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~109.2.6~~ A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **[A] ~~109.4.1~~ A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. **[A] ~~109.3~~ A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within 10 days of the filing of an appeal, or at stated periodic ~~meetings.~~ intervals. **[A] ~~109.5~~ A101.5.3 Postponed hearing.** ~~Where~~ When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **[A] ~~109.6~~ A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **[A] ~~109.6.1~~ A101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within					

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Sub Code:						
	three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **[A] ~~109.6.2~~ A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **[A] ~~109.7~~ A101.8 Court review.** Any person, whether or not a previous party ~~to~~ of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Mechanical Code** **[A] ~~109.2~~ A101.3 Membership of board.** The board ~~of appeals~~ shall consist of five voting members appointed by the chief appointing authority ~~as follows: one for 5 years; one for 4 years; one for 3 years; one for 2 years; and one for 1 year. Thereafter, each new~~ of the jurisdiction. Each member shall serve for ~~5~~ [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **[A] ~~109.2.1~~ A101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. ~~one from each of the following professions or disciplines.~~ ~~1. *Registered design professional* who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~2. *Registered design professional* with structural engineering or architectural experience.~~ ~~3. *Registered design professional* with mechanical and plumbing engineering experience; or a mechanical contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~4. *Registered design professional* with electrical engineering~~					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~experience; or an electrical contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ ~~5. *Registered design professional* with fire protection engineering experience; or a fire protection contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.~~ **[A] ~~109.2.2~~ A101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years,~~ the same term or until a successor has been appointed. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **[A] ~~109.2.3~~ A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. **[A] ~~109.2.5~~ A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~109.2.4~~ A101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest.** A member ~~shall not hear an appeal in which that member has a~~ with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~109.2.6~~ A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **[A] ~~109.4.1~~ A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the~~					

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		Decrease	None	Increase		
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	~~secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. **[A] ~~109.3~~ A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within 10 days of the filing of an appeal, or at stated periodic ~~meetings.~~ intervals. **[A] ~~109.5~~ A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **[A] ~~109.6~~ A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **[A] ~~109.6.1~~ A101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **[A] ~~109.6.2~~ A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **[A] ~~109.7~~ A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Plumbing Code** **~~109.2~~ A101.3 Membership of board.** The board ~~of appeals~~ shall consist of five voting members appointed by the chief appointing authority ~~as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new~~ of the jurisdiction. Each member shall serve for ~~5~~					

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		Decrease	None	Increase		
Sub Code:						
	[INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. ~~**109.2.1**~~ **A101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. ~~one from each of the following professions or disciplines:~~ ~~1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~2. Registered design professional with structural engineering or architectural experience.~~ ~~3. Registered design professional with mechanical and plumbing engineering experience; or a mechanical and plumbing contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~4. Registered design professional with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~5. Registered design professional with fire protection engineering experience; or a fire protection contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~**109.2.2**~~ **A101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years~~ the same term or until a successor has been appointed. ~~**109.2.3**~~ **A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	**2021 IPC CHANGE SUMMARY**	**IPC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~**109.2.5**~~ **A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. ~~**109.2.4**~~ **A101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest.** A member ~~shall not hear an appeal in which that member has~~ with any personal, professional or financial ~~interest.~~ interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. ~~**109.2.6**~~ **A101.3.7 Compensation of members.** Compensation of members shall be determined by law. ~~**109.4.1**~~ **A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. ~~**109.3**~~ **A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within 10 days of the filing of an appeal or at stated periodic ~~meetings.~~ intervals. ~~**109.4**~~ **A101.5.1 Open hearing.** ~~Hearings~~ All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. ~~**109.5**~~ **A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~109.6~~ **A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. ~~109.6.1~~ **A101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. ~~109.6.2~~ **A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. ~~109.7~~ **A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Private Sewage Disposal Code** **[A]** ~~109.2~~ **A101.3 Membership of board.** The board ~~of appeals~~ shall consist of five voting members appointed by the chief appointing authority ~~as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new~~ of the jurisdiction. Each member shall serve for ~~5~~ [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **[A]** ~~109.2.1~~ **A101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. ~~one from each of the following professions or disciplines.~~ ~~1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 years of which shall have been in responsible charge of~~					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~work.~~ ~~2. Registered design professional with structural engineering or architectural experience.~~ ~~3. Registered design professional with mechanical and plumbing engineering experience; or a mechanical and plumbing contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~4. Registered design professional with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~5. Registered design professional with fire protection engineering experience; or a fire protection contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ **[A] ~~109.2.2~~ A101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years~~ the same term or until a successor has been appointed. **[A] ~~109.2.3~~ A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. **[A] ~~109.2.5~~ A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~109.2.4~~ A101.3.6 ~~Disqualification~~ Conflict of ~~a member.~~ interest.** A member ~~shall not hear an appeal in which that member has~~ with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~109.2.6~~ A101.3.7 Compensation of members.** Compensation of members shall be determined by law.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~109.4.1~~ A101.4 ~~Procedure.~~ Rules and procedures. The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. **[A] ~~109.3~~ A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within 10 days of the filing of an appeal or at stated periodic ~~meetings.~~ intervals. **[A] ~~109.5~~ A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **[A] ~~109.6~~ A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **[A] ~~109.6.1~~ A101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **[A] ~~109.6.2~~ A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **[A] ~~109.7~~ A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Property Maintenance Code** **[A] ~~111.8~~ A101.2.2 Stays of enforcement.** Appeals of notice and orders ~~(other~~, other than Imminent Danger ~~notices)~~ notices,					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	shall stay the enforcement of the notice and order until the appeal is heard by the ~~appeals~~ board. **[A] ~~111.2~~A101.3 Membership of board.** The board ~~of appeals~~ shall consist of ~~not less than three members who are qualified by experience and training to pass on matters pertaining to property maintenance and who are not employees of the jurisdiction. The~~ five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ~~ex-officio~~ ex officio member of said board but shall not vote on any matter before the board. ~~The board shall be appointed by the chief appointing authority, and shall serve staggered and overlapping terms.~~ **[A] ~~111.2.1~~ A101.3.2 Alternate members.** The chief appointing authority ~~shall appoint not less than~~ is authorized to appoint two alternate members who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **[A] ~~111.2.2~~ A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. **[A] ~~111.2.4~~ A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified ~~person~~ clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~111.2.3~~ A101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest.** A member ~~shall not hear an appeal in which that member has a~~ with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[A] ~~111.2.5~~ A101.3.7 Compensation of members. Compensation of members shall be determined by law. **[A] ~~111.4.1~~ A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. **[A] ~~111.3~~ A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within ~~20~~ 10 days of the filing of an appeal, or at stated periodic ~~meetings.~~ intervals. **[A] ~~111.5~~ A101.5.3 Postponed hearing.** When ~~the full board is~~ five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **[A] ~~111.6~~ A101.7 Board decision.** The board shall only modify or reverse the decision of the code official ~~only~~ by a concurring vote of ~~a majority of the total number of appointed board~~ three or more members. **[A] ~~111.6.1~~ A101.7.1 ~~Records and copies.~~ Resolution.** The decision of the board shall be ~~recorded. Copies shall be~~ by resolution. Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **[A] ~~111.6.2~~ A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **[A] ~~111.7~~ A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	2018 International Swimming Pool and Spa Code **[A] ~~108.2~~ A101.3 Membership of board.** The board ~~of appeals~~ shall consist of five voting members appointed by the chief appointing authority ~~as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new~~ of the jurisdiction. Each member shall serve for ~~5~~ [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **[A] ~~108.2.1~~ A101.3.1 Qualifications.** The board ~~of appeals~~ shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. ~~one from each of the following professions or disciplines:~~ ~~1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~2. Registered design professional with structural engineering or architectural experience.~~ ~~3. Registered design professional with mechanical and plumbing engineering experience; or a mechanical and plumbing contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~4. Registered design professional with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ ~~5. Registered design professional with pool or spa experience; or a contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.~~ **[A] ~~108.2.2~~ A101.3.2 Alternate members.** The chief appointing authority ~~shall~~ is authorized to appoint two alternate members					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	who shall be called by the board ~~chairman~~ chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for ~~5 years~~ the same term or until a successor has been appointed. **[A] ~~108.2.3~~ A101.3.4 ~~Chairman.~~ Chairperson.** The board shall annually select one of its members to serve as ~~chairman.~~ chairperson. **[A] ~~108.2.5~~ A101.3.5 Secretary.** The chief ~~administrative officer~~ appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings ~~in the office of the chief administrative officer.~~ which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **[A] ~~108.2.4~~ A101.3.6 ~~Disqualification~~ Conflict of ~~member.~~ interest.** A member ~~shall not hear an appeal in which that member has~~ with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **[A] ~~108.2.6~~ A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **[A] ~~108.4.1~~A101.4 ~~Procedure.~~ Rules and procedures.** The board shall ~~adopt and make available to the public through the secretary procedures under which a hearing will be conducted.~~ establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be ~~received.~~ presented. **[A] ~~108.3~~A101.5 Notice of meeting.** The board shall meet upon notice from the ~~chairman~~ chairperson, within 10 days of the filing of an appeal or at stated periodic ~~meetings.~~ intervals. **[A] ~~108.4~~A101.5.1 Open hearing.** ~~Hearings~~ All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person					

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CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	whose interests are affected shall be given an opportunity to be heard. **[A] ~~108.5~~ A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **[A] ~~108.6~~ A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **[A] ~~108.6.1~~ A101.7.1 Resolution.** The decision of the board shall be by resolution. ~~Certified copies shall be~~ Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **[A] ~~108.6.2~~ A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **[A] ~~108.7~~ A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Wildland-Urban Interface Code** **SECTION 106** **APPEALS** **[A] 106.1 General.** ~~To determine the suitability of alternative materials and methods and to provide for reasonable interpretations of the provisions of this code, there shall be and hereby is created a board of appeals consisting of five members who are qualified by experience and training to pass judgment on pertinent matters.~~ The ~~code official, *building official* and fire chief shall be ex officio members, and the code official shall act as secretary of the board. The~~ board ~~of appeals~~ shall ~~be appointed by the legislative body and shall hold office at their discretion. The board shall~~ adopt reasonable rules and regulations for					

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		Decrease	None	Increase		
Sub Code:						
	conducting its investigations and shall render decisions and findings in writing to the code official, with a duplicate copy to the applicant. Delete the existing definition for [A] B101.1 Application, [A] B101.3.2 Procedure, A101.2 Membership, A101.2.1 Design professional, A101.2.2 Fire protection engineering professional, A101.2.3 Industrial safety professional, A101.2.4 General contractor, A101.2.5 General industry or business representative, A101.3.1 Initial appointments, and A101.9 Decisions. Add new definition for SECTION B101 as follows: **2018 International Building Code** **B101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 113 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the building official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **B101.2 Application for appeal.** Any person shall have the right to appeal a decision of the building official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the building official within 20 days after the notice was served. **B101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **B101.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	B101.3.3 Vacancies. Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **B101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **B101.5.2 Quorum.** Three members of the board shall constitute a quorum. **B101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **B101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Existing Building Code** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 112. The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.2 Application for appeal. Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3 Membership of board.** The board shall consist of five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **A101.3.1 Qualifications.** The board shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **A101.3.2 Alternate members.** The chief appointing authority is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **A101.3.4 Chairperson.** The board shall annually select one of its members to serve as chairperson.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.3.5 Secretary. The chief appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **A101.3.6 Conflict of interest.** A member with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **A101.4 Rules and procedures.** The board shall establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **A101.5 Notice of meeting.** The board shall meet upon notice from the chairperson, within 10 days of the filing of an appeal or at stated periodic intervals. **A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's					

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CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	representative shall have the right to request a postponement of the hearing. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **A101.7.1 Resolution.** The decision of the board shall be by resolution. Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board. **A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Fire Code** **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the fire code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the fire code official within 20 days after the notice was served.					

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		Decrease	None	Increase		
Sub Code:						
	A101.2.1 Limitation of authority. The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A102.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3.1 Qualifications.** The board shall consist of members who are qualified by experience and training to pass on matters pertaining to hazards of fire, explosions, hazardous conditions or fire protection systems, and are not employees of the jurisdiction. **A101.3.2 Alternate members.** The chief appointing authority is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **A101.3.4 Chairperson.** The board shall annually select one of its members to serve as chairperson. **A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the fire code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **A101.7 Board decision.** The board shall only modify or reverse the decision of the fire code official by a concurring vote of three or more members. **A101.7.1 Resolution.** The decision of the board shall be by resolution. Every decision shall be promptly filed in writing in the					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	office of the fire code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the fire code official. **A101.7.2 Administration.** The fire code official shall take immediate action in accordance with the decision of the board. **A101.8 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer. **2018 International Fuel Gas Code** **APPENDIX A** **BOARD OF APPEALS** **A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 109 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.2.2 Stays of enforcement. Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **[A] A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **2018 International Mechanical Code** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 109 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the					

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CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
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Sub Code:						
	code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **[A] A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **2018 International Plumbing Code** **APPENDIX A**					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	BOARD OF APPEALS **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section XXX (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.6 Legal counsel. The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **2018 International Private Sewage Disposal Code** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 109 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made.					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	A101.3.8 Removal from the board. A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **[A] A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **2018 International Property Maintenance Code** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 111 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an					

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CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.3.1 Qualifications.** The board shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **[A] A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **2018 International Swimming Pool and Spa Code** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101**					

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	GENERAL **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 108 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members					

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		Decrease	None	Increase		
Sub Code:						
	shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **2018 International Wildland-Urban Interface Code** **APPENDIX A** **BOARD OF APPEALS** **SECTION A101** **GENERAL** **A101.1 Scope.** A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 106 (Means of Appeals). The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the building official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. **A101.2 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served. **A101.2.1 Limitation of authority.** The board shall not have authority to waive requirements of this code or interpret the administration of this code. **A101.2.2 Stays of enforcement.** Appeals of notice and orders, other than Imminent Danger notices, shall stay the enforcement of the notice and order until the appeal is heard by the board. **A101.3 Membership of board.** The board shall consist of five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [INSERT NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide					

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		Decrease	None	Increase		
Sub Code:						
	continuity. The code official shall be an ex officio member of said board but shall not vote on any matter before the board. **A101.3.1 Qualifications.** The board shall consist of five individuals, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. **A101.3.2 Alternate members.** The chief appointing authority is authorized to appoint two alternate members who shall be called by the board chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for the same term or until a successor has been appointed. **A101.3.3 Vacancies.** Vacancies shall be filled for an unexpired term in the same manner in which original appointments are required to be made. **A101.3.4 Chairperson.** The board shall annually select one of its members to serve as chairperson. **A101.3.5 Secretary.** The chief appointing authority shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. **A101.3.6 Conflict of interest.** A member with any personal, professional or financial interest in a matter before the board shall declare such interest and refrain from participating in discussions, deliberations and voting on such matters. **A101.3.7 Compensation of members.** Compensation of members shall be determined by law. **A101.3.8 Removal from the board.** A member shall be removed from the board prior to the end of their terms only for cause. Any member with continued absence from regular meeting of the board may be removed at the discretion of the chief appointing authority.					

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		Decrease	None	Increase		
Sub Code:						
	A101.4 Rules and procedures. The board shall establish policies and procedures necessary to carry out its duties consistent with the provisions of this code and applicable state law. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be presented. **A101.5 Notice of meeting.** The board shall meet upon notice from the chairperson, within 10 days of the filing of an appeal or at stated periodic intervals. **A101.5.1 Open hearing.** All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard. **A101.5.2 Quorum.** Three members of the board shall constitute a quorum. **A101.5.3 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing. **A101.6 Legal counsel.** The jurisdiction shall furnish legal counsel to the board to provide members with general legal advice concerning matters before them for consideration. Members shall be represented by legal counsel at the jurisdiction's expense in all matters arising from service within the scope of their duties. **A101.7 Board decision.** The board shall only modify or reverse the decision of the code official by a concurring vote of three or more members. **A101.7.1 Resolution.** The decision of the board shall be by resolution. Every decision shall be promptly filed in writing in the office of the code official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the code official. **A101.7.2 Administration.** The code official shall take immediate action in accordance with the decision of the board.					

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Sub Code:						
	A101.8 Court review. Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer.					
F14-18 Part I	Add new definition for 311.2.2 Fire protection, 403.11.1.2 Lease plan, Security access turnstiles, 428.3.9 Automatic sprinkler systems, 506.2.2.1 Group H-2 or H-3 mixed occupancies, 506.2.4.1 Group H-2 or H-3 mixed occupancies, Plumbing, mechanical and electrical components, Surface-burning characteristics, 3104.5.3 Open sides on walkway, 2606.7.4 Automatic sprinkler system, and 1203.4 Transoms as follows: **2018 International Fire Code** **311.2.2 Fire protection.** Fire alarm, automatic sprinkler systems and stand-pipe systems shall be maintained in an operable condition at all times. **Exceptions:** 1. Where the premises have been cleared of all combustible materials and debris and, in the opinion of the fire code official, the type of construction, fire separation distance and security of the premises do not create a fire hazard. 2. Where approved by the fire code official, buildings that will not be heated and where fire protection systems will be exposed to freezing temperatures, fire alarm and automatic sprinkler systems are permitted to be placed out of service and standpipes are permitted to be maintained as dry systems (without an automatic water supply), provided that the building does not have contents or storage, and windows, doors and other openings are secured to prohibit entry by unauthorized persons. 3. Where approved by the fire code official, fire alarm and automatic sprinkler systems are permitted to be placed out of service in seasonally occupied buildings: that will not be		X			Necessary addition for clarification

Table 7. 2021 IPC Changes Cost Impact						
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		Decrease	None	Increase		
Sub Code:						
	heated; where fire protection systems will be exposed to freezing temperatures; where fire areas do not exceed 12,000 square feet (1115 m2); and that do not store motor vehicles or hazardous materials. **403.11.1.2 Lease plan.** In addition to the requirements of Section 404.2.2, a lease plan that includes the following information shall be prepared for each covered and open mall building: 1. Each occupancy, including identification of tenant. 2. Exits from each tenant space. 3. Fire protection features, including the following: 3.1. Fire department connections. 3.2. Fire command center. 3.3. Smoke management system controls. 3.4. Elevators, elevator machine rooms and controls. 3.5. Hose valve outlets. 3.6. Sprinkler and standpipe control valves. 3.7. Areas protected with automatic sprinkler systems and automatic fire-extinguishing systems. 3.8. Automatic fire detector zones. 3.9. Fire walls, fire barriers, fire partitions **903.1.1 Alternative protection.** Alternative automatic fire-extinguishing systems complying with Section 904 shall be permitted instead of automatic sprinkler system protection where recognized by the applicable standard and approved by the fire code official. **903.5 Testing and maintenance.** Automatic sprinkler systems shall be tested and maintained in accordance with Section 901. **[BE] 1010.3.2 Security access turnstiles.** Security access turnstiles that inhibit travel in the direction of egress utilizing a physical barrier shall be permitted to be considered as a component of the means of egress, provided that all of the following criteria are met: 1. The building is protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 903.3.1.1. 2. Each security access turnstile lane configuration has a minimum clear passage width of 22 inches (559 mm).					

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		Decrease	None	Increase		
Sub Code:						
	3. Any security access turnstile lane configuration providing a clear passage width of less than 32 inches (810 mm) shall be credited with a maximum egress capacity of 50 persons. 4. Any security access turnstile lane configuration providing a clear passage width of 32 inches (810 mm) or more shall be credited with a maximum egress capacity as calculated in accordance with Section 1005. 5. Each secured physical barrier shall automatically retract or swing to an unobstructed open position in the direction of egress, under each of the following conditions: 5.1. Upon loss of power to the turnstile or any part of the access control system that secures the physical barrier. 5.2. Upon actuation of a clearly identified manual release device with ready access that results in direct interruption of power to each secured physical barrier, after which such barriers remain in the open position for not less than 30 seconds. The manual release device shall be positioned at one of the following locations: 5.2.1. On the egress side of each security access turnstile lane. 5.2.2. At an approved location where it can be actuated by an employee assigned to the area at all times that the building is occupied. 5.3. Upon actuation of the building fire alarm system, if provided, after which the physical barrier remains in the open position until the fire alarm system is manually reset. Exception: Actuation of a manual fire alarm box. 5.4. Upon actuation of the building automatic sprinkler system or fire detection system, after which the physical barrier remains in the open position until the fire alarm system is manually reset. **2018 International Building Code** **428.3.9 Automatic sprinkler systems.** Buildings containing laboratory suites shall be equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.					

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Sub Code:						
	506.2.2.1 Group H-2 or H-3 mixed occupancies. For a building containing Group H-2 or H-3 occupancies, the allowable area shall be determined in accordance with Section 508.4.2, with the automatic sprinkler system increase applicable only to the portions of the building not classified as Group H-2 or H-3. **506.2.4.1 Group H-2 or H-3 mixed occupancies.** For a building containing Group H-2 or H-3 occupancies, the allowable area shall be determined in accordance with Section 508.4.2, with the automatic sprinkler system increase applicable only to the portions of the building not classified as Group H-2 or H-3. **Plumbing, mechanical and electrical components.** Periodic special inspection of plumbing, mechanical and electrical components shall be required for the following: 1. Anchorage of electrical equipment for emergency and standby power systems in structures assigned to Seismic Design Category C, D, E or F. 2. Anchorage of other electrical equipment in structures assigned to Seismic Design Category E or F. 3. Installation and anchorage of piping systems designed to carry hazardous materials and their associated mechanical units in structures assigned to Seismic Design Category C, D, E or F. 4. Installation and anchorage of ductwork designed to carry hazardous materials in structures assigned to Seismic Design Category C, D, E or F. 5. Installation and anchorage of vibration isolation systems in structures assigned to Seismic Design Category C, D, E or F where the approved construction documents require a nominal clearance of $^1/_4$ inch (6.4 mm) or less between the equipment support frame and restraint. 6. Installation of mechanical and electrical equipment, including duct work, piping systems and their structural supports, where automatic ~~fire~~ sprinkler systems are installed in structures assigned to Seismic Design Category C, D, E or F to verify one of the following: 6.1. Minimum clearances have been provided as required by Section 13.2.3 ASCE/SEI 7. 6.2. A nominal clearance of not less than 3 inches (76 mm) has been be provided between automatic sprinkler system drops and sprigs and: structural members not used collectively or independently to support the					

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Sub Code:						
	sprinklers; equipment attached to the building structure; and other systems' piping. Where flexible sprinkler hose fittings are used, special inspection of minimum clearances is not required. **2603.3 Surface-burning characteristics.** Unless otherwise indicated in this section, foam plastic insulation and foam plastic cores of manufactured assemblies shall have a flame spread index of not more than 75 and a smoke-developed index of not more than 450 where tested in the maximum thickness intended for use in accordance with ASTM E84 or UL 723. Loose fill-type foam plastic insulation shall be tested as board stock for the flame spread and smoke-developed indices. **Exceptions:** 1. Smoke-developed index for interior trim as provided for in Section 2604.2. 2. In cold storage buildings, ice plants, food plants, food processing rooms and similar areas, foam plastic insulation where tested in a thickness of 4 inches (102 mm) shall be permitted in a thickness up to 10 inches (254 mm) where the building is equipped throughout with an automatic ~~fire~~ sprinkler system in accordance with Section 903.3.1.1. The approved automatic sprinkler system shall be provided in both the room and that part of the building in which the room is located. 3. Foam plastic insulation that is a part of a Class A, B or C roof-covering assembly provided that the assembly with the foam plastic insulation satisfactorily passes NFPA 276 or UL 1256. The smoke-developed index shall not be limited for roof applications. 4. Foam plastic insulation greater than 4 inches (102 mm) in thickness shall have a maximum flame spread index of 75 and a smoke-developed index of 450 where tested at a minimum thickness of 4 inches (102 mm), provided that the end use is approved in accordance with Section 2603.9 using the maximum thickness and density intended for use. 5. Flame spread and smoke-developed indices for foam plastic interior signs in covered and open mall buildings provided that the signs comply with Section 402.6.4.					

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		Decrease	None	Increase		
Sub Code:						
	3104.5.3 Open sides on walkway. Where the distance between the connected buildings is more than 10 feet (3048 mm), the walls at the intersection of the pedestrian walkway and each building need not be fire-resistance rated provided that both sidewalls of the pedestrian walkway are not less than 50 percent open with the open area uniformly distributed to prevent the accumulation of smoke and toxic gases. The roof of the walkway shall be located not more than 40 feet (12 160 mm) above grade plane, and the walkway shall only be permitted to connect to the third or lower story of each building. **Exception:** Where the pedestrian walkway is protected with an automatic sprinkler system in accordance with Section 903.3.1.1, the roof of the walkway shall be located not more than 55 feet (16 764 mm) above grade plane and the walkway shall only be permitted to connect to the fifth or lower story of each building. **2606.7.4 ~~Fire suppression~~ Automatic sprinkler system.** In buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, plastic light-diffusing systems shall be protected both above and below unless the sprinkler system has been specifically approved for installation only above the light-diffusing system. Areas of light-diffusing systems that are protected in accordance with this section shall not be limited. **2018 International Existing Building Code** **Transoms.** In buildings equipped throughout with automatic sprinker systems of Group R-1, R-2 or R-3, existing transoms in corridors and other fire-resistance-rated walls may be maintained if fixed in the closed position. A sprinkler shall be installed on each side of the transom.					
F297-18 Part II	Change the existing definition for [F] 1202.1 Nonflammable medical gases to: **[F] 1202.1 Nonflammable medical gases.** Nonflammable medical gas systems, inhalation anesthetic systems and vacuum piping systems shall be ~~designed~~ installed, tested and ~~installed~~ labeled in accordance with NFPA 99. **Exceptions:**		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	1. This section shall not apply to portable systems or cylinder storage. 2. Vacuum system exhaust terminations shall comply with the International Mechanical Code.					
M10-18	Add new definitions for 307.1.2 Identification and 307.2.3.3 Identification as follows: **307.1.2 Identification.** ~~Where condensate piping is concealed, primary and secondary drain pipes that serve the same appliance and terminate together at a remote location shall be identified.~~ The termination of concealed condensate piping shall be marked to indicate whether the piping is connected to the primary or to the secondary drain. **307.2.3.3 Identification.** ~~Where condensate piping is concealed, primary and secondary drain pipes that serve the same appliance and terminate together at a remote location shall be identified.~~ The termination of concealed condensate piping shall be marked to indicate whether the piping is connected to the primary or to the secondary drain.		X			Clarification
M11-18	Add new definitions for 307.2.1.1 (IPC [M] 314.2.1.1) Condensate discharge as follows: **307.2.1.1 (IPC [M] 314.2.1.1) Condesate discharge.** Condensate drains shall not directly connect to any plumbing drain, waste or vent pipe. Condensate drains shall not discharge into a plumbing fixture other than a floor sink, floor drain, trench drain, mop sink, hub drain, standpipe, utility sink or laundry sink. Condensate drain connections to a lavatory wye branch tailpiece or to a bathtub overflow pipe, shall not be considered as discharging to a plumbing fixture. Except where discharging to grade outdoors, the point of discharge of condensate drains shall be located within the same occupancy, tenant space or dwelling unit as the source of the condensate.		X			Necessary addition for clarification
M14-18	Change the existing definition for 307.2.2 Drain pipe materials and sizes to: **307.2.2 Drain pipe materials and sizes.** Components of the condensate disposal system shall be ABS, cast ir~~o~~n, ~~galvanized steel~~, copper , and copper alloy, CPVC, cross-linked polyethylene, galvanized steel, PE-RT, polyethylene, ~~ABS~~ polypropylene, ~~CPVC,~~ PVC , or ~~polypropylene~~ PVDF pipe or tubing. Components shall be selected for the pressure and temperature rating of the installation. Joints and connections shall be made in accordance with the applicable provisions of Chapter 7 of the International Plumbing Code relative to the material type. Condensate waste and drain line size shall be not less than $^{3}/_{4}$-inch pipe size		X			Clarification

Table 7. 2021 IPC Changes Cost Impact						
CODE CHANGE #	2021 IPC CHANGE SUMMARY	IPC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~internal diameter~~ and shall not decrease in size from the drain pan connection to the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with Table 307.2.2.					

Table 8. 2021 IRC Mechanical Changes Cost Impact						
CODE CHANGE #	2021 IRC MECHANICAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
RM1-18	**CHAPTER 21** **HYDRONIC PIPING** **PRESS-CONNECT JOINT.** A permanent mechanical joint incorporating an elastomeric seal or an elastomeric seal and corrosion-resistant grip or bite ring. The joint is made with a pressing tool and jaw or ring approved by the fitting manufacturer.		X			Necessary addition for clarification
RM3-18	**M1307.7 Prohibited support.** Gypsum board shall not be used as a support base under an appliance.		X			Necessary addition for clarification
RM9-18	**M1411.3.1.2 Appliance, equipment and insulation in pans.** Where appliances, equipment or insulation are subject to water damage when auxiliary drain pans fill, that portion of the appliance, equipment and insulation shall be installed above the rim of the pan. Supports located inside of the pan to support the appliance or equipment shall be water resistant and approved.		X			Necessary addition for clarification
RM10-18	**M1411.6 Insulation of refrigerant piping.** Piping and fittings for refrigerant vapor (suction) lines shall be insulated with insulation having a thermal resistivity of not less than R-~~4~~ 3 and having external surface permeance not exceeding 0.05 perm [2.87 ng/(s • m^2 • Pa)] when tested in accordance with ASTM E96.	X	X		Decreasing insulation thermal resistivity may slightly decrease cost	Clarification
RM11-18	**M1411.8 Support of Refrigerant piping.** Refrigerant piping & tubing shall be securely fastened to a permanent support within 6 feet of the ~~compressor~~ condensing unit. ~~and within 3 feet of each subsequent bend or angle.~~	X				Decrease cost and ease design and construction
RM13-18	**M1502.3 Duct termination.** Exhaust ducts shall terminate on the outside of the building. Exhaust duct terminations shall be in accordance with the dryer manufacturer's installation instructions. If the manufacturer's instructions do not specify a termination location, the exhaust duct shall terminate not less than 3 feet (914 mm) in any direction from openings into buildings including openings in ventilated soffits. Exhaust duct terminations shall be equipped with a backdraft damper. Screens shall not be installed at the duct termination.		X	X	Cost may increase with extended duct	Clarification
RM22-18	**BALANCED VENTILATION.** Any combination of concurrently operating mechanical exhaust and mechanical supply whereby the total mechanical exhaust airflow rate ~~and~~ is within 10% of the total mechanical supply airflow rate ~~are substantially the same~~.		X		The change may not necessarily	Provide reasonable building

<table>
<tr><th colspan="7">Table 8. 2021 IRC Mechanical Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IRC MECHANICAL CHANGES SUMMARY</th><th colspan="3">IRC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>M1505.4.3 Mechanical ventilation rate. The whole house mechanical ventilation system shall provide outdoor air at a continuous rate as determined in accordance with Table M1505.4.3(1) or Equation 15-1.

Ventilation rate in cubic feet per minute =0.01~~×~~total square foot area of house + ~~7.5×number~~ 7.5 number of bedrooms + 1 (Equation 15-1)

Exceptions:
1. The whole-house mechanical ventilation system is permitted to operate intermittently where the system has controls that enable operation for not less than 25 percent of each 4-hour segment and the ventilation rate prescribed in Table M1505.4.3(1) is multiplied by the factor determined in accordance with Table M1505.4.3(2).
2. The minimum mechanical ventilation rate determined in accordance with Table M1505.4.3(1) or Equation 15-1 shall be reduced by ~~25%~~ 30%, provided that ~~all~~ both of the following conditions apply:
2.1. A ducted system supplies ~~recirculated~~ ventilation air directly to each bedroom and ~~the largest common area.~~
~~2.2. For continuously operating systems, not less than 70% of the air volume in the conditioned space is recirculated each hour through a ducted system, or for intermittently operating systems, an equivalent air recirculation is provided during each four hour period.~~to one or more of the following rooms:
2.1.1. Living room
2.1.2. Dinning room
2.1.3. Kitchen
2.2.~~2.3~~The whole-house ventilation system is a balanced ventilation system.</td><td></td><td></td><td></td><td>have cost savings</td><td>pressurization, if needed.</td></tr>
<tr><td>RM23-18</td><td>TABLE M1505.4.4
MINIMUM REQUIRED LOCAL EXHAUST RATES FOR ONE- AND TWO-FAMILY DWELLINGS
<table><tr><th>AREA TO BE EXHAUSTED</th><th>EXHAUST RATES[a]</th></tr><tr><td>Kitchens</td><td>100 cfm intermittent or 25 cfm continuous</td></tr><tr><td>Bathrooms-Toilet Rooms</td><td>Mechanical exhaust capacity of 50 cfm intermittent or 20 cfm continuous</td></tr></table>For SI: 1 cubic foot per minute = 0.0004719 m^3/s.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 8. 2021 IRC Mechanical Changes Cost Impact						
CODE CHANGE #	2021 IRC MECHANICAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	a. <u>The listed exhaust rate for bathrooms-toilet rooms shall equal or exceed the exhaust rate at a minimum static pressure of 0.25 inch wc in accordance with Section M1505.3.</u>					
RM24-18	**<u>BALANCED VENTILATION SYSTEM.</u>** <u>A ventilation system where the total supply airflow and total exhaust airflow are simultaneously within 10% of their average. The balanced ventilation system airflow is the average of the supply and exhaust airflows.</u> **M1505.1 General.** Where local exhaust or whole-house mechanical ventilation is provided, the ~~equipment~~ <u>ventilation system</u> shall be designed in accordance with this section. **M1505.4.3 Mechanical ventilation rate.** The whole house mechanical ventilation system shall provide outdoor air at a continuous rate ~~as~~ <u>not less than that</u> determined in accordance with Table M1505.4.3(1) or <u>not less than that determined by</u> Equation 15-1. Ventilation rate in cubic feet per minute = (0.01 × total square foot area of house) + [7.5 × (number of bedrooms + 1) **(Equation 15-1)** **Exceptions:** 1. <u>Ventilation rate credit. Where a whole-house mechanical balanced ventilation system is provided, the whole-house mechanical ventilation system rate shall be permitted to be adjusted by multiplying the ventilation rate determined in accordance with Table M1505.4.3(1) or by Equation 15-1 by 0.7.</u> 2. <u>Programmed intermittent operation.</u> The whole-house mechanical ventilation system is permitted to operate intermittently where the system has controls that enable operation for not less than 25 percent of each 4-hour segment and the ventilation rate prescribed in Table M1505.4.3(1)<u>, by Equation 15-1, or by Exception 1</u> is multiplied by the factor determined in accordance with Table M1505.4.3(2).	X				The 10% average improves on RM-22
RM29-18	**M1505.4.2 System controls.** The whole-house mechanical ventilation system shall be provided with controls that enable manual override. <u>Controls shall include text or a symbol indicating their function.</u>			X	Minimal	Clarification
RM30-18	**M1505.3 Exhaust equipment.** Exhaust ~~equipment serving single dwelling units~~ <u>fans and whole-house mechanical ventilation fans</u> shall be listed and labeled as providing the minimum required airflow in accordance with ANSI/AMCA 210-ANSI/ASHRAE 51.		X			Clarification

Table 8. 2021 IRC Mechanical Changes Cost Impact						
CODE CHANGE #	**2021 IRC MECHANICAL CHANGES SUMMARY**	**IRC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
RM32-18	**M1601.1.1 Above-ground duct systems.** Above-ground duct systems shall conform to the following: 1. Equipment connected to duct systems shall be designed to limit discharge air temperature to not greater than 250°F (121°C). 2. Factory-made ducts shall be listed and labeled in accordance with UL 181 and installed in accordance with the manufacturer's instructions. 3. Fibrous glass duct construction shall conform to the SMACNA Fibrous Glass Duct Construction Standards or NAIMA Fibrous Glass Duct Construction Standards. 4. Field-fabricated and shop-fabricated metal and flexible duct constructions shall conform to the SMACNA HVAC Duct Construction Standards-—Metal and Flexible except as allowed by Table M1601.1.1. Galvanized steel shall conform to ASTM A653. 5. The use of gypsum products to construct return air ducts or plenums is permitted, provided that the air temperature does not exceed 125°F (52°C) and exposed surfaces are not subject to condensation. 6. Duct systems shall be constructed of materials having a flame spread index of not greater than 200. 7. Stud wall cavities and the spaces between solid floor joists to be used as air plenums shall comply with the following conditions: 7.1. These cavities or spaces shall not be used as a plenum for supply air. 7.2. These cavities or spaces shall not be part of a required fire-resistance-rated assembly. 7.3. Stud wall cavities shall not convey air from more than one floor level. 7.4. Stud wall cavities and joist-space plenums shall be isolated from adjacent concealed spaces by tight-fitting fireblocking in accordance with Section ~~R602.8.~~R302.11. Fireblocking materials used for isolation shall comply with Section R302.11.1. 7.5. Stud wall cavities in the outside walls of building envelope assemblies shall not be utilized as air plenums. 8. Volume dampers, equipment and other means of supply, return and exhaust air adjustment used in system balancing shall be provided with access.		X			Clarification

Table 8. 2021 IRC Mechanical Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IRC MECHANICAL CHANGES SUMMARY</th><th colspan="3">IRC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td></td><td>M1601.4.5 Fireblocking. Duct installations shall be fireblocked in accordance with Section ~~R602.8~~ R302.11.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>RM33-18</td><td>M1601.1.1.7 Sealing. Building cavities used as plenums shall be sealed.</td><td></td><td></td><td>X</td><td></td><td>Necessary addition for clarification</td></tr>
<tr><td>RM34-18</td><td>M1802.4 Blocked vent switch. ~~The venting system for oil~~ Oil-fired appliances shall be equipped with a device that will stop burner operation in the event that the venting system is obstructed. Such device shall have a manual reset, and shall be installed in accordance with the manufacturer's instructions.</td><td></td><td></td><td>X</td><td></td><td>Clarification</td></tr>
<tr><td>RM35-18</td><td>M2101.14 Preparation of pipe ends. Pipe shall be cut square~~, reamed~~, and shall be free of burrs and obstructions. ~~CPVC, PE, and PVC pipe shall be chamfered.~~ Pipe ends shall have full-bore openings and shall ~~not be undercut.~~ be prepared in accordance with the pipe manufacturer's instructions.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>RM36-18</td><td>TABLE M2105.4
GROUND-SOURCE LOOP PIPE
<table>
<tr><th>MATERIAL</th><th>STANDARD</th></tr>
<tr><td>Chlorinated polyvinyl chloride (CPVC)</td><td>ASTM D2846; ASTM F437; ASTM F438; ASTM F439; ASTM F441; ASTM F442; CSA B137.6</td></tr>
<tr><td>Cross-linked polyethylene (PEX)</td><td>ASTM F876; CSA B137.5; CSA C448</td></tr>
<tr><td>High-density polyethylene (HDPE)</td><td>ASTM D2737; ASTM D3035; ASTM F714; AWWA C901; CSA B137.1; CSA C448; NSF 358-1</td></tr>
<tr><td>Polyethylene/aluminum/polyethylene (PE-AL-PE) pressure pipe</td><td>ASTM F1282; AWWA C 903; CSA B137.9</td></tr>
<tr><td>Polypropylene (PP-R)</td><td>ASTM F2389; CSA B137.11, NSF 358-2</td></tr>
<tr><td>Polyvinyl chloride (PVC)</td><td>ASTM D1785; ASTM D2241; CSA 137.3</td></tr>
<tr><td>Raised temperature polyethylene (PE-RT)</td><td>ASTM F2623; ASTM F2769, CSA B137.18; CSA C448</td></tr>
</table></td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 8. 2021 IRC Mechanical Changes Cost Impact

<table>
<tr><th>CODE CHANGE #</th><th>2021 IRC MECHANICAL CHANGES SUMMARY</th><th colspan="3">IRC COST IMPACT</th><th>ESTIMATED AMOUNT*</th><th>BENEFIT OF CHANGE</th></tr>
<tr><th></th><th></th><th>Decrease</th><th>None</th><th>Increase</th><th></th><th></th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td>RM38-18</td><td>TABLE M2105.5
GROUND-SOURCE LOOP PIPE FITTINGS
<table>
<tr><th>PIPE MATERIAL</th><th>STANDARD</th></tr>
<tr><td>Chlorinated polyvinyl chloride (CPVC)</td><td>ASTM D2846; ASTM F437; ASTM F438; ASTM F439; ASTM F1970; CSA B137.6</td></tr>
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<tr><td>High-density polyethylene (HDPE)</td><td>ASTM D2683; ASTM D3261; ASTM F1055; CSA B137.1; CSA C448; NSF 358-1</td></tr>
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<tr><td>Polypropylene (PP-R)</td><td>ASTM F2389; CSA B137.11; NSF 358-2</td></tr>
<tr><td>Polyvinyl chloride (PVC)</td><td>ASTM D2464; ASTM D2466; ASTM D2467; ASTM F1970, CSA B137.2; CSA B137.3</td></tr>
<tr><td>Raised temperature polyethylene (PE-RT)</td><td>ASTM D2683; ASTM D3261; ASTM F1055; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; CSA B137.1; CSA B137.18; CSA C448</td></tr>
</table></td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
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GROUND-SOURCE LOOP PIPE
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</table></td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
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Table 8. 2021 IRC Mechanical Changes Cost Impact

CODE CHANGE #	2021 IRC MECHANICAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						

Chlorinated polyvinyl chloride (CPVC)	ASTM D2846; ASTM F437; ASTM F438; ASTM F439; ASTM F441; ASTM F442; CSA B137.6
Cross-linked polyethylene (PEX)	ASTM F876; CSA B137.5
High-density polyethylene (HDPE)	ASTM D2737; ASTM D3035; ASTM F714; AWWA C901; CSA B137.1; CSA C448; NSF 358-1
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Polyvinyl chloride (PVC)	ASTM D1785; ASTM D2241; CSA 137.3
Raised temperature polyethylene (PE-RT)	ASTM F2623; ASTM F2769, CSA B137.18, NSF358-4

TABLE M2105.5
GROUND-SOURCE LOOP PIPE FITTINGS

PIPE MATERIAL	STANDARD
Chlorinated polyvinyl chloride (CPVC)	ASTM D2846; ASTM F437; ASTM F438; ASTM F439; ASTM F1970; CSA B137.6
Cross-linked polyethylene (PEX)	ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2159; ASTM F2434; CSA B137.5
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Table 8. 2021 IRC Mechanical Changes Cost Impact

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</table>
Add new standard(s) as follows:

NSF
NSF 358-4-2017: Polyethylene of raised temperature (PE-RT) pipe and fittings f or water-based ground-source (geothermal) heat pump systems
</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>RM40-18</td><td>
TABLE M2105.4
GROUND-SOURCE LOOP PIPE
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</table>
</td><td></td><td>X</td><td></td><td></td><td>Adds another acceptable standard for these materials</td></tr>
</table>

Table 8. 2021 IRC Mechanical Changes Cost Impact

CODE CHANGE #	2021 IRC MECHANICAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						

Polyethylene/aluminum/ polyethylene (PE-AL-PE) pressure pipe	ASTM F1282; AWWA C 903; CSA B137.9
Polypropylene (PP-R)	ASTM F2389; CSA B137.11, NSF 358-2
Polyvinyl chloride (PVC)	ASTM D1785; ASTM D2241; CSA 137.3
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Table 8. 2021 IRC Mechanical Changes Cost Impact						
CODE CHANGE #	2021 IRC MECHANICAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
RM41-18	**TABLE M2101.1** **HYDRONIC PIPING AND FITTING MATERIALS** **Reason:** ASTM's committee on plastics piping recently completed a new Standard, F3253 - Standard Specification for Crosslinked Polyethylene (PEX) Tubing with Oxygen Barrier for Hot - and Cold - Water Hydronic Distribution Systems. This new system standard covers both the oxygen barrier PEX tubing as well as the performance and material requirements for the fittings. While this standard essentially mirrors the existing ASTM F876 and F877 PEX standards from a dimensional standpoint and existing fittings interchangeability, it also mandates the inclusion of an oxygen barrier layer with defined pass/fail criteria essentially equal with the industry's long accepted norm of DIN 4726 concerning allowed oxygen permeation. This new standard also requires a minimum pull-out strength test for the fittings not included in ASTM F877 today. The inclusion of this new standard in no way changes the acceptance of the existing ASTM F876 and F877 which will remain in the mechanical hydronics code for the foreseeable future. This standard's project has been in works for nearly 4 years and represents the work and input from nearly all of the PEX tubing manufacturers in North America. Your support of this proposal is most appreciated. A similar proposal is being submitted for Chapter 12 of the IMC.		X			Offers an alternative that uses products which are relatively identical in cost to existing pipe and fitting materials.
RM42-18	**M2105.7 Preparation of pipe ends.** Pipe shall be cut square~~,~~ ~~reamed,~~ and shall be free of burrs and obstructions. ~~CPVC, PE and PVC pipe shall be chamfered.~~ Pipe ends shall have full-bore openings and shall ~~not be undercut.~~be prepared in accordance with the pipe manufacturer's instructions.		X			Clarification
RM43-18	**M2202.1 Materials.** Piping shall consist of steel pipe, copper and copper-alloy pipe and tubing, steel tubing conforming to ASTM A539 or stainless steel tubing conforming to ASTM A254 or ASTM ~~A539.~~ A269. Aluminum tubing shall not be used between the fuel-oil tank and the burner units.		X			Clarification
RM45-18	**M2202.2 Joints and fittings.** Piping shall be connected with ~~standard~~ fittings compatible with the piping material. Cast-iron fittings shall not be used for oil piping. Unions requiring gaskets or packings, right or left couplings, and sweat fittings employing solder having a melting point less than 1,000°F (538°C) shall not be used for oil piping. Threaded joints and connections shall be made tight with a lubricant or pipe thread compound.		X			Clarification

Table 9. 2021 IRC Plumbing Changes Cost Impact						
CODE CHANGE #	2021 IRC PLUMBING CHANGE SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
RP2-18	**P2503.5.1 Rough plumbing.** DWV systems shall be tested on completion of the rough piping installation by water or, for piping systems other than plastic, by air, without evidence of leakage. Either test shall be applied to the drainage system in its entirety or in sections after rough-in piping has been installed, as follows: 1. Water test. Each section shall be filled with water to a point not less than ~~5~~ 10 feet (~~1524~~ 3048 mm) above the highest fitting connection in that section, or to the highest point in the completed system. Water shall be held in the section under test for a period of 15 minutes. The system shall prove leak free by visual inspection. 2. Air test. The portion under test shall be maintained at a gauge pressure of 5 pounds per square inch (psi) (34 kPa) or 10 inches of mercury column (34 kPa). This pressure shall be held without introduction of additional air for a period of 15 minutes.		X			Provides the benefit of a more stringent test, subjecting the piping to more pressure.
RP4-18	**2018 International Residential Code** **Add new text as follows:** **P2709.4.1 Waste Fittings.** Flanged drains shall conform to ASME A112.18.2/CSA B125.2.		X			Necessary addition for clarification
RP5-18	**P2904.2.1 Temperature rating and separation from heat sources.** Except as provided for in Section P2904.2.2, sprinklers shall have a temperature rating of not less than 135°F (57°C) and not more than ~~170°F (77°C)~~ 225°F (107°C). Sprinklers shall be separated from heat sources as required by the sprinkler manufacturer's installation instructions.		X			Allows flexibility.
RP6-18	**P2904.2.3 Freezing areas.** Piping shall be protected from freezing as required by Section P2603.5 or by using one of the following: 1. A~~a~~ dry pipe automatic sprinkler system that is listed for residential occupancy applications. 2. ~~Where sprinklers are required in areas that are subject to freezing, d~~Dry-side-wall or dry-pendent sprinklers extending from a nonfreezing area into a freezing area ~~shall be installed~~.		X			Additional alternative to existing requirements for freeze protection
RP7-18	**P2904.3.2 Shutoff valves prohibited.** With the exception of shutoff valves for the entire water distribution system or a single master control valve for the automatic sprinkler system that is locked in the open position, valves shall not be installed in any location where the valve would isolate piping serving one or more sprinklers.		X			Adds an allowance to have a

<table>
<tr><th colspan="7">Table 9. 2021 IRC Plumbing Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IRC PLUMBING CHANGE SUMMARY</th><th colspan="3">IRC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>master control valve.</td></tr>
<tr><td>RP8-18</td><td>P2904.4.1.3 Other Ceiling Configurations. For ceiling configurations not addressed by Sections P2904.4.1.1 or P2904.4.1.2, the flow rate shall be subject to approval by the ~~fire~~ code official.</td><td>X</td><td></td><td></td><td></td><td>Correlates with NFPA 13D and exisiting installation practices for residential sprinklers protecting spaces with sloped and/or beamed ceilings.</td></tr>
<tr><td>RP9-18</td><td>TABLE P2904.6.2(2)
MINIMUM WATER METER PRESSURE LOSS (PLm)[a]
<table>
<tr><th>FLOW RATE(gallons per minute, gpm)[b]</th><th>5/8-INCH METER PRESSURE LOSS (pounds per square inch, psi)</th><th>3/4-INCH METER PRESSURE LESS(pounds per square inch, psi)</th><th>1-INCH METER PRESSURE LOSS (pounds per square inch, psi)</th></tr>
<tr><td>8</td><td>~~2~~ 3</td><td>~~1~~ 3</td><td>1</td></tr>
<tr><td>10</td><td>3</td><td>~~1~~ 3</td><td>1</td></tr>
<tr><td>12</td><td>4</td><td>~~1~~ 3</td><td>1</td></tr>
<tr><td>14</td><td>~~5~~6</td><td>~~2~~ 5</td><td>1</td></tr>
<tr><td>16</td><td>7</td><td>~~3~~ 6</td><td>1</td></tr>
<tr><td>18</td><td>9</td><td>~~4~~ 7</td><td>~~1~~ 2</td></tr>
<tr><td>20</td><td>11</td><td>~~4~~ 9</td><td>2</td></tr>
<tr><td>~~22~~ 23</td><td>~~NP~~ 14</td><td>~~5~~ 11</td><td>~~2~~ 3</td></tr>
<tr><td>~~24~~</td><td>~~NP~~</td><td>~~5~~</td><td>~~2~~</td></tr>
<tr><td>26</td><td>~~NP~~ 18</td><td>~~6~~ 14</td><td>~~2~~ 3</td></tr>
<tr><td>~~28~~</td><td>~~NP~~</td><td>~~6~~</td><td>~~2~~</td></tr>
<tr><td>~~30~~ 31</td><td>~~NP~~ 26</td><td>~~7~~ 22</td><td>~~2~~ 4</td></tr>
<tr><td>~~32~~ 39</td><td>~~NP~~ 38</td><td>~~7~~ 35</td><td>~~3~~ 6</td></tr>
<tr><td>~~34~~</td><td>~~NP~~</td><td>~~8~~</td><td>~~3~~</td></tr>
<tr><td>~~36~~ 52</td><td>NP</td><td>~~8~~ NP</td><td>~~3~~ 10</td></tr>
</table>
For SI: 1 inch = 25.4 mm, 1 pound per square inch = 6.895 kPa, 1 gallon per minute = 0.063 L/s.
NP = Not permitted unless the actual water meter pressure loss is known.
a. Table P2904.6.2(2) establishes conservative values for water meter pressure loss or installations where the water meter loss is unknown. Where the actual water meter pressure loss is ~~known~~ published and available from the meter manufacturer, P_m shall be the ~~actual loss.~~ published pressure loss for the selected meter.</td><td></td><td>X</td><td></td><td></td><td>Revises the water meter table in the IRC to better correlate with the water meter table in NFPA 13D, which was updated in the 2013 edition based on research that was published in an Fire Protection Research Foundation Report titled, " Residential Fire Sprinklers - Water Usage and Water Meter</td></tr>
</table>

Table 9. 2021 IRC Plumbing Changes Cost Impact						
CODE CHANGE #	2021 IRC PLUMBING CHANGE SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	b. Flow rate from Section P2904.4.2. Add 5 gpm to the flow rate required by Section P2904.4.2 where the water service pipe supplies more than one dwelling.					performance Study" in 2011.
RP10-18	**P2905.3 Hot water supply to fixtures.** The developed length of hot water piping, from the source of hot water to the fixtures that require hot water, shall not exceed ~~50~~ 100 feet ~~(15 240 mm)~~. Water heaters and recirculating system piping shall be considered to be sources of hot ~~or tempered~~ water.		X			Increases the hot water supply line length from the source of hot water to the fixtures that require hot or tempered water.
RP11-18	**P2906.21 Push-fit joints.** Push-fit joints shall be used only on copper-tube-size outside diameter dimensioned CPVC, PEX, PE-RT, and copper tubing. Push-fit joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions.		X			Clarification.
RP12-18	**P2909.1 Design.** Drinking water treatment units shall meet the requirements of NSF42, NSF 44, NSF 53, NSF ~~60~~ 62 or CSA B483.1.		X			Creates additional option for water treatment.
RP15-18	**TABLE AG101.1** **PLASTIC PIPING STANDARDS FOR VARIOUS APPLICATIONS[a, b]** **Reason:** This change is to add CSA B137.18 to the various applications in Table AG 101.1. CSA B137.18 is already included in the I Codes and is referenced in Chapter 44 - Reference Standards of the 2018 IRC.		X			Adds CSA B137.18 to the various applications in Table AG 101.1.

TABLE 10. FIRE PROTECTION AND LIFE SAFETY CHANGE COST IMPACT						
CODE CHANGE #	FIRE PROTECTION AND LIFE SAFETY CHANGE SUMMARY	COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Chapter 2: Definitions						
CCC IBC4-20, G1-18	Modified: The definition of a "Atrium" has changed.		X			Improves the definition of atrium.
FS62-18	Modified: The definition of "Ceiling Radiation Damper" has changed to show they can be utilized in static or dynamic systems.		X			Improves the definition of ceiling radiation damper.
ADM3-19 Part 1	Modified: The definition of "Change of Occupancy" has changed to narrow the scope where there is no occupancy change takes place.		X			Improves the definition of change of occupancy.
G5-18 PART 1	Modified: The definition of a "Emergency Escape and Rescue Opening" has changed to clarify that it is exterior.		X			Improves the definition of emergency escape and rescue opening.
FS53-18	Modified: The definition of "F Rating" has changed to accommodate new perimeter fire containment system requirements.		X			Improves the definition of F rating.
G34-18	New: A definition was added for "Fire Protective Curtain Assembly."		X			This was a necessary addition.
G10-19	New: A definition was added for "Fire-Retardant-Treated Wood."		X			This was a necessary addition.
G4-19 Part 1	New: A definition was added for "Glass Mat Gypsum Panel."		X			This was a necessary addition.
G4-18	Modified: The definition for "Grade Floor Emergency Escape and Rescue Opening" has been changed to coordinate with new measurement requirements.		X			Improves the definition of grade floor Emergency escape and rescue opening.
G5-19	Modified: The definition of "Gypsum Board" has changed to show its more generic usage.		X			Improves the definition of gypsum board.
G5-19	Modified: The definition of "Gypsum Panel Product" has changed and identified the appropriate code requirements.		X			Improves the definition of gypsum panel product.
G4-19 Part 1	New: A definition was added for "Gypsum Sheathing".		X			This was a necessary addition.
G4-19 Part 1	New: A definition was added for "Gypsum Wallboard".		X			This was a necessary addition.
S110-19	New: A definition was added for "Impact Protective System".		X			This was a necessary addition.
S168-19	New: A definition was added for "Individual Truss Member".		X			This was a necessary addition.
	New: A definition was added for "Life Safety Systems".		X			This was a necessary addition.

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CODE CHANGE #	FIRE PROTECTION AND LIFE SAFETY CHANGE SUMMARY	COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
G108-18	New: A definition was added for "Mass Timber". Needed for mass timber construction.		X			This was a necessary addition.
G39-18	New: A definition was added for "Mechanical-Access Enclosed Parking Garage".		X			This was a necessary addition.
FS2-19	New: A definition was added for "Nailable Substrate".		X			This was a necessary addition.
G108-18	New: A definition was added for "Noncombustible Protection (For Mass Timber)". Needed for mass timber construction.		X			This was a necessary addition.
G136-18	Modified: The definition of a "Penthouse" has changed to add stairs to it.		X			Improves the definition of penthouse.
FS53-18	New: A definition was added for "Perimeter Fire Containment System" to provide a simple phrase to use when describing the method of protecting the void at the intersection of an exterior curtain wall assembly and a fire-resistance-rated floor or floor/ceiling assembly.		X			This was a necessary addition.
N/A	Modified: The name for "Play Structure" has changed. Removed mention of children to allow for play structures serving all ages.		X			Improves the name of play structure.
G10-19	New: A definition was added for "Preservative-Treated Wood". Clarification to remove word "conditioned" from definition.		X			This was a necessary addition.
G103-18	Modified: The definition of a "Primary Structural Frame" has changed and updated to note newer technologies.		X			Improves the definition of the primary structural frame.
G48-18	New: A definition was added for "Puzzle Room".		X			This was a necessary addition.
G103-18	Modified: The definition of a "Secondary Structural Members" has changed and updated to note newer technologies.		X			Improves the definition of the secondary structural members.
FS38-18	Modified: The definition of a "Smoke Compartments" has changed and clarifies isolating interior areas.		X			Improves the definition of the smoke compartments members.
CCC IBC2-20	Modified: The definition of "Soft Contained Play Equipment Structure" has changed. Removed mention of children to allow for play structures serving all ages.		X			Improves the definition of soft contained play equipment structure.
FS60-18	New: A definition was added for "Terminated Stops".		X			This was a necessary addition.

TABLE 10. FIRE PROTECTION AND LIFE SAFETY CHANGE COST IMPACT						
CODE CHANGE #	FIRE PROTECTION AND LIFE SAFETY CHANGE SUMMARY	COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
G10-19	Modified: The definition of "Treated Wood" has changed. Clarification to remove word "conditioned" from definition.		X			Improves the definition of treated wood.
G12-18	Modified: The definition of "Vapor Permeable" has changed. Adding a test procedure that is more appropriate for some products		X			Improves the definition of vapor permeable.
G108-18	Modified: The definition of "Wall, Load-Bearing" has been changed. Added reference to Mass timber.		X			Improved the definition of load-bearing wall.
Chapter 3: Occupancy Classification and Use						
Section 306: Factory Group F						
G17-18, G18-18	306.2 Modified: Energy storage systems and water/sewer treatment facilities are considered a Group F-1 occupancy.		X			Clarifies and amends the list of moderate-hazard factory industrial occupancies.
Section 307: High-Hazard Group H						
F276-18, F293-18	307.1.1 Modified: Distilling or brewing of beverages or the storage of beer, distilled spirits, and wines and barrels and casks conforming to the IFC are not considered Group H.	X				These uses are not limited in quantity and will not be considered Group H. This is consistent with previous NFPA approaches
Section 311: Storage Group S						
F276-18	311.2 Modified: Storage of alcohol beverages over 16% are considered a Group S-1 occupancy		X			Clarifies and amends the list of moderate-hazard storage occupancies.
F276-18, G13-18	311.3 Modified: Storage of alcohol beverages up to and including 16% (regardless of container material) are considered a Group S-2 occupancy		X			Clarifies and amends the list of low-hazard storage occupancies.
Chapter 4: Special Detailed Requirements Based on Occupancy and Use						
Section 403: High-Rise Buildings						
G27-18, G13-19	403.2 Modified: Multiple section numbers are revised as a section was removed.		X			Provides an editorial clarification without code intent change.
G27-18, G13-19	403.2.2.1 Modified: Section title revised to clarify soft body impact wall assembly materials. Wall assembly nomenclature revised to "panels".		X			Provides an editorial clarification of the application of C1629/ C1629M without code intent change.
G27-18, G13-19	403.2.2.2 Modified: Section title revised to clarify hard body impact wall assembly		X			Provides an editorial clarification of the application of C1629/

TABLE 10. FIRE PROTECTION AND LIFE SAFETY CHANGE COST IMPACT						
CODE CHANGE #	FIRE PROTECTION AND LIFE SAFETY CHANGE SUMMARY	COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
	materials. Wall assembly and construction board nomenclature revised to “panels”.					C1629M without code intent change.
F110-18	403.3 Modified: Open parking garages are removed from being exempt from sprinkler systems.			X		Open parking garages over 48,000 sqft. require a sprinkler system.
G28-18	403.3.2 Modified: Fire pumps are required at 120 feet in building height for Type IVA and IVAB mass timber construction.		X			This was a necessary revision based on mass timber changes.
F45-18	403.4.5 Modified: Section title and description nomenclature modified from “emergency responder radio coverage” to “two-way emergency communication coverage”.		X			Change allows correlation with the IFC.
F196-18	403.4.8.2 Modified: Additional protection methods are provided to protect fuel line piping.		X			This is a design flexibility change by providing additional option.
G29-18	403.5.6 Removed: Emergency escape and rescue exception is removed for consistency.		X			These openings were never required in high-rises, so it was an unnecessary code requirement.
Section 404: Atriums						
G30-18, G31-18	404.1 Modified: This section was rewritten to clarify general scope.		X			This is intended as a clarification.
G32-18	404.5 Modified: A new exception is provided for atriums with more than two stories, which may not require a smoke control system when separated from all upper floors by shaft construction.	X				This is a design flexibility change to utilize a natural smoke sink in lieu of an active smoke control system.
G33-18	404.6 Modified: Additional exceptions are provided to address escalators and exit access stairways/ramps that penetrate the required horizontal assembly.	X				This is a design flexibility change to avoid having to provide draft curtains and closely spaced sprinklers/ limiting the opening if part of the atrium.
G31-18	404.9 Modified: Exit access travel distances rules are relocated to 1017.3.2 for atriums.		X			This consolidates atrium and means of egress requirements in Chapter 4 and Chapter 10, respectively.
G35-18	404.10 New: New requirements are provided for interior exit stairways in an atrium.		X			Atrium interior exit stairways must meet multiple requirements to be considered exits. Added clarification for

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CODE CHANGE #	FIRE PROTECTION AND LIFE SAFETY CHANGE SUMMARY	COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
						original code requirements.
G31-18, G35-18	404.11 Modified: Interior exit stairway discharge requirements are relocated to Section 1028 for atriums.		X			Consolidates atrium and means of egress requirements in Chapters 4 and 10, respectively.

Section 406: Motor-Vehicle-Related Occupancies								
G36-18		406.2.4 Modified: The exception for S-2 parking garages are not required to have sloped floor surfaces removed.			X			Sloping floors for the vehicle areas of parking garages has been reinstated for Group S-2 occupancies.
Section 407: Group I-2								
G42-18		407.3.1.1 New: Group I-2 corridor doors not requiring a fire protection rating have new requirements.		X				Expands the smoke-resistance criteria for Group I-2 corridor doors to match existing CMS criteria.
G43-18		407.4.4.1 Modified: Exit access through Group I-2 care suites has been revised.		X				This is a design flexibility change and has better consistency with CMS standards.
G48-18, G44-18		407.4.4.3 Modified: Group I-2 care suite access to corridors has been revised.		X				This is a design flexibility change and has better consistency with CMS standards.
G46-18		407.6.1 New: The activation of automatic-closing doors in defined in Group I-2 occupancies.			X			Activation must occur upon fire alarm or automatic sprinkler activation.
Section 411: Special Amusement Areas								
G48-18		411.5 New: New requirements are provided for puzzle rooms.			X			This was a necessary revision based on puzzle rooms becoming more popular.
Section 414: Hazardous Materials								
058	F288-18	414.2.3 Modified: Fire walls complying with Section 706 shall be considered separate buildings for purposes of number of control areas.	X					This is a design flexibility change.
Section 420: Groups I-1, R-1, R-2, R-3, and R-4								
059	G55-18, G56-18	Modified: Multiple section numbers are revised as a section was added.		X				Provides an editorial clarification without code intent change.
Section 422: Ambulatory Care Facilities								
060	G58-18	422.7 New: New requirements are provided for domestic cooking appliances in ambulatory care facilities.			X			Fire concerns for domestic cooking appliances are addressed.

Section 424: Play Structures							
061	G66-18	Modified: The section name was revised from "Children's Play Structures" to "Play Structures". This nomenclature is revised through the section.		X			Provides an editorial clarification without code intent change.
062	G66-18	424.2 Modified: A new requirement was provided for interior finishes for play structures exceeding 10 feet in height or 600 square feet in area.			X		Interior finish must meet the requirements in Table 803.13.
063	G66-18, G68-18	424.5 Modified: The area limitation was revised to 600 square feet in area for play structures without demonstrating adequate life safety approved by the building official.	X				This is a design flexibility change.
064	G66-18	424.5.1 New: Play structures exceeding the area or height limitation shall comply with Chapter 16.			X		The special investigation for play structures exceeding 600 square feet or 10 feet in height must include a structural design analysis.
Chapter 5: General Building Heights and Areas							
Section 503: General Building Height and Area Limitations							
065	G73-18, G136-18	503.1.4 Modified: Occupied roofs were clarified to not be included in the building height/number of stories. Exception 1 was clarified to require emergency voice/alarm clarification system notification for the occupied roof where required for the building.		X			Provides an editorial clarification without code intent change.
Section 504: Building Height and Number of Stories							
066	G75-18	Table 504.3 Modified: This table was modified to include new requirements for Type IVA, Type IVB, and Type IVC construction to determine allowable building height in feet above grade plane.		X			This was a necessary revision based on mass timber changes.
067	G77-18	504.4 Modified: Table 504.4 refers to stories above grade plane.		X			Provides an editorial clarification without code intent change.
068	G78-18, G80-18, G81-18	Table 504.4 Modified: This table was modified to include new requirements for Type IVA, Type IVB, and Type IVC construction to determine number of stories above grade plane. Stories for select Group S construction types were increased.		X			This was a necessary revision based on mass timber changes.
Section 506: Building Area							
069	G81-18, G84-18	Table 506.2 Modified: This table was modified to include new requirements for Type IVA, Type IVB, and Type IVC construction to determine allowable area factor in square feet. Allowable area factor for 1 story		X			This was a necessary revision based on mass timber changes.

		sprinklered Group I-3 Construction Type IIA was increased.					
070	G85-18	506.2.1 Modified: This section was simplified to single-occupancy buildings for determining allowable area in square feet.		X			Provides an editorial clarification without code intent change.
071	G85-18	506.2.2 Modified: This section was simplified to mixed-occupancy buildings for determining allowable area in square feet.		X			Provides an editorial clarification and reduces number of options for designers to sift through without code intent change.
072	G86-18	506.3.2 Modified: Modified language was provided as new methods are used to calculate the frontage increase factor in the following section.		X			This was a necessary change based on how the frontage increase factor is calculated.
073	G86-18	506.3.3 Modified: The frontage increase factor is based on a table in lieu of the equation previously used.			X		The calculation of frontage factor has been simplified. However, the weighted average was removed so the new resulting frontage increase factor can be slightly lower than previously calculated.
074	G86-18	506.3.3.1 New: The exception to 506.3.2 was moved to this section for Section 507 buildings frontage increase. The frontage increase factor for Section 507 Buildings is based on a table in lieu of the equation previously used.			X		The calculation of frontage factor has been simplified for Section 507 Buildings. However, the weighted average was removed so the new resulting frontage increase factor will be lower.
Section 508: Mixed Use and Occupancy							
075	G90-18	508.1 Modified: Live/Work units are considered applicable to Section 508.		X			This is intended as a clarification.
076	G88-18	Table 508.4 Modified: Dashed marks were replaced with their corresponding requirement.		X			Provides an editorial clarification without code intent change.
077	G89-18	508.4.4.1 Modified: Additional language was added for mass timber in fire barriers or horizontal assemblies.		X			This was a necessary revision based on mass timber changes.
078	G90-18	508.5 New: Live/work units, previously 419, was moved to Section 508.		X			This is intended as a clarification with no change to the technical requirements.
Section 509: Incidental Uses							

079	G92-18	Table 509.1 Modified: Stationary storage battery systems are removed from the incidental uses table. Section number changed to Table 509.1. All references to this table are changed accordingly.	X				Mass timber incidental areas have no cost associated as they are new allowances, but by removing the stationary storage battery systems these areas no longer need to meet the 10% area limitation.
080	G89-18	509.4.1.1 New: New requirements for mass timber are provided for incidental use separations.		X			This was a necessary revision based on mass timber changes.
Section 510: Special Provisions							
081	G95-18	510.2 Modified: The exception to condition 3 has an editorial clarification. Additional requirements are provided to allow combustible construction for interior exit stairways in “podium” or “pedestal” buildings. All other subsequent numbers are revised appropriately.	X				Provides allowance for combustible construction to be continued below podium as long as the rating is 3 hours in podium eliminating need for transition from wood to steel.
082	G98-18	510.5 Modified: For Group R-1 and R-2 of Type IIIA construction has a height increase of 10 feet in Table 504.3 and one story in Table 504.4 instead of being increased to six stories and 75 feet.		X			This correction adds clarity and coordination with the Height and Area tables.
Chapter 6: Types of Construction							
Section 601: General							
083	FS18-18, G101-18, G102-18, G103-18, G108-18	Table 601 Modified: Additional Type IV fire-resistance ratings are provided for mass timber. A fire-resistance rating footnote was modified, and a new fire-resistance rating footnote was added based on heavy timber. Building elements were clarified to be “structural” members.		X			This was a necessary revision based on mass timber changes.

Section 602: Construction Classification							
084	G108-18	602.4 Modified: This section was nearly completely rewritten based on the addition of mass timber construction for Type IV construction.		X			Mass timber (separate from heavy timber) is a construction type allowable by code.
Section 603: Combustible Materials in Types I and II							
085	G112-18, G113-18, G114-18	603.1 Modified: Wood nailers for parapet flashing and roof cants are permitted as a combustible material. Group I-2 and ambulatory care cannot use fire-retardant-treated wood as fire partition for shaft enclosures. Group I-2 roof construction containing fire-retardant-treated wood must be covered by a Class A roof covering/assembly.		X			This is common construction practice that is now clearly approved.
Chapter 7: Fire and Smoke Protective Features							
Section 703: Fire-Resistance Ratings and Fire Tests							
086	N/A	Modified: This section was reorganized with multiple section number changes.		X			Provides an editorial clarification without code intent change.
087	FS1-18	703.2 Modified: This section governs the fire-resistance rating for all building elements, components, or assemblies.		X			Provides an editorial clarification without code intent change.
088	FS1-18	703.2.1 New: This section governs fire-resistance ratings for tested assemblies		X			Provides an editorial clarification without code intent change.
089	FS1-18	703.2.2 Modified: This section governs fire-resistance ratings for analytical methods.		X			Provides an editorial clarification without code intent change.
090	FS1-18	703.2.3 New: Approved alternative methods for fire-resistance assemblies are relocated here.		X			Provides an editorial clarification without code intent change.
091	FS1-18, FS2-18, FS3-18	703.3.1 Modified: Section name revised to be Noncombustible materials. Additional materials can be proved to be noncombustible using ASTM E2652.		X			This is a design flexibility change.
092	FS5-18	703.6 New: Provides requirements to determine noncombustible protection time for mass timber.		X			This was a necessary revision based on mass timber changes.
093	FS6-18	703.7 New: Provides requirements for sealing adjacent mass timber elements.		X			This was a necessary revision based on mass timber changes.
Section 704: Fire-Resistance Ratings of Structural Members							
094	G103-18	704.4 Modified: Clarified members to be primary vs secondary structural members. Original intent remains the same.		X			Provides an editorial clarification without code intent change.

095	FS8-18	704.6.1 New: Secondary attachments to structural members require 12 inches of fire proofing.			X		This improves the protection of the primary structural members and is a best practice.
Section 705: Exterior Walls							
096	FS14-18	Table 705.2 Modified: Description of calculation for FSD was revised and simplified.		X			Provides an editorial clarification without code intent change.
097	FS16-18	705.2.3 Modified: This section was reorganized to provide clarity. Section name revised to Projection protection.		X			Provides an editorial clarification without code intent change.
098	FS18-18	705.5 Modified: Exterior walls are based on either Table 601 due to construction type or Table 705.5 due to fire separation distance.		X			Provides an editorial clarification without code intent change.
099	FS18-18, G108-18	Table 705.5 Modified: Table 602 has been moved to Section 705 and mass timber construction has been added to the table. All references to this table are changed accordingly.		X			This was a necessary revision based on mass timber changes and to consolidate exterior wall rating requirements in one location.
Section 706: Fire Walls							
100	FS22-18	706.1.1 Modified: Exception 2 clarifies party walls are applicable to the exception. The building official nomenclature has been revised.		X			Provides an editorial clarification without code intent change.
101	FS24-18	706.6.1 Modified: This section has been rewritten to add clarity to the stepped building approach.		X			Provides an editorial clarification without code intent change.
Section 707: Fire Barriers							
102	E102-18, FS26-18	707.4 Modified: Exterior walls where part of a required fire-resistance-rated exit passageway are included. The section and exception were slightly reorganized. Exterior walls are required to be fire-resistance rated if enclosing energy storage systems.		X			Provides a necessary clarification and coordinates exterior wall requirements for exit passageway and exit stairway.
103	FS27-18	707.5 Modified: A new exception for fire barrier continuity is provided for exit passageway enclosures to be “capped” with rated ceiling.	X				Provides clarification for a typical approach for exit passageway protection.
Section 708: Fire Partitions							
104	FS32-18, FS33-18	708.1 Modified: Fire partition separations at dwelling and sleeping units in Group R-1 and R-2; exit discharge vestibule vestibules; and walls separating ambulatory care facility for adjacent spaces corridors, or tenants must comply with Section 708.		X			Coordinated IBC requirements, provides clarification for better enforcement and application.

105	FS37-18	708.4.1 Modified: Supporting construction exception includes fire partition separations at ambulatory care facilities.	X				Now supporting construction for 1-hour partitions utilized to separate ambulatory care facilities is not required to be rated.
Section 709: Smoke Barriers							
106	FS38-18	Modified 709.4.1: Smoke barrier assemblies separating smoke compartments are clarified to separate interior areas of the building.	X				This is a design flexibility change.
Section 710: Smoke Partitions							
107	G42-18	Modified 710.5.2.1: Doors may have louvers in smoke partitions where allowed in Section 407.3.1.1.	X				This is a design flexibility change.
108	FS39-18	New 710.5.3: New pass-through openings are allowed in Group I-2, Condition 2 occupancies.	X				This is a design flexibility change.
Section 712: Vertical Openings							
109	G1-18, G31-18	712.1.7 Modified: This section was completely rewritten for atriums. Substance change includes Exception 2, where balconies or stories within Group A-1, A-4 and A-5 and mezzanines that comply with Section 505 are not considered a story as it applies to atriums.		X			Provides a clarification for better enforcement and application. Entire atrium definition has been updated and coordinated to centralize requirements.
Section 713: Shaft Enclosures							
110	FS41-18	713.12 Modified: This section has been completely rewritten for clarity of shaft top enclosures.		X			Provides a clarification for better enforcement and application.
111	FS44-18	713.13 Modified: Recycling chute have the same requirements as waste and linen chutes. Recycling nomenclature was added to all applicable sections. Section title was revised to include chute enclosures.		X			Provides a clarification for better enforcement and application.
Section 714: Penetrations							
112	FS50-18	714.5.2 Modified: Exception 7 to membrane penetrations was clarified to be a maximum of 2-hour fire-resistance-rated horizontal assemblies.		X			Provides a clarification for better enforcement and application and clarifies additional code intent.
Section 715: Joints and Voids							
113	N/A	Modified: The section name was revised from “Fire-Resistant Joint Systems” to “Joints and Voids”. This nomenclature is revised through the section. The section was reformatted and clarified with more consistence terminology. Multiple section numbers changed.		X			Provides a clarification for better enforcement and application.

114	FS51-18	715.1 New: A new description for joint and void provisions is provided.		X			Provides a clarification for better enforcement and application.
115	FS52-18	715.2 Modified: Installation requires the system or materials not to dislodge or loosen. Voids protected at exterior curtain walls and fire-resistance-rated floor intersection must be installed with listing criteria.		X			Current requirements are incomplete. New requirements are provided to protect all joints, though code intent has not changed.
116	FS51-18	715.3 Modified: Name nomenclature revised to “Fire-resistance-rated assembly intersections” due to reorganization.		X			Reorganized original requirements.
117	FS53-18, FS54-18	715.4 Modified: Name nomenclature revised to clarify fire-resistance-rated floor intersections. Assemblies must be protected by approved perimeter fire containment systems and must provide an F rating. Fire-resistance-rated floor intersections include both floor and floor ceiling assemblies. Voids are protected in lieu of being sealed.		X			Provides clarification and coordination of language for better enforcement and application.
118	FS53-18	715.4.1 Modified: The fire test criteria exception for exterior curtain wall/fire-resistance-rated floor intersections was moved to this section with no technical change.		X			Provides an editorial clarification without code intent change.
119	FS51-18, FS52-18	715.5 Modified: Voids are intended to be protected with a rated assembly in lieu of being sealed.		X			Provides an editorial clarification without code intent change.
120	FS51-18, FS52-18, FS53-18	715.6 Modified: To clarify voids between exterior curtain wall assemblies and vertical fire barriers.		X			Provides a clarification for better enforcement and application.
121	FS51-18, FS53-18, FS54-18	715.7 Modified: Section name revised to Curtain wall spandrels. All references to the previous name are revised. Referenced sections changed based on reorganization.		X			Provides an editorial clarification without code intent change.
Section 716: Opening Protectives							
122	FS26-18, FS56-18, FS59-18	Table 716.1(2) Modified: New double fire walls (NFPA 221) assembly type added to the opening protectives table. Multiple footnotes added and changed in the table to show new protection requirements for energy storage systems.			X		This is a design flexibility change and includes added requirements for energy storage system separations.
123	FS60-18	716.2.2.1.1 Modified: Terminated stops are prohibited on doors for smoke and draft controls.			X		Prohibits the use of terminated stops on door frames for smoke and draft protection of elevator lobbies.

124	FS26-18	716.2.5.4.1 New: Fire-protection-rated glazing is not permitted in fire door assemblies to enclose energy storage systems.			X		Only fire-resistance-rated glazing assemblies are permitted.
125	FS26-18	716.3.2.1.1 New: Fire-protection-rated glazing is not permitted in fire window assemblies to enclose energy storage systems.			X		Only fire-resistance-rated glazing assemblies are permitted.
126	G34-18	716.4 New: Fire protective curtain assemblies are a permitted opening protective.	X				This is a design flexibility change.
Section 717: Ducts and Air Transfer Openings							
127	FS62-18	717.2 Modified: Referenced sections for damper installation editorially clarified.		X			Provides an editorial clarification without code intent change.
128	FS62-18	717.2.3 New: Dampers used in static systems shall only be used in HVAC systems that shut down during a fire.		X			Provides a clarification for better enforcement and application.
129	FS62-18, FS64-18	717.3.1 Modified: References to dampers used in dynamic systems removed to be provided later in the section.		X			Provides a clarification to coordinate with other code updates.
130	FS65-18	717.3.3.1 Modified: Section name was revised to remove device. Fire damper actuation nomenclature revised.		X			Provides an editorial clarification without code intent change.
131	FS66-18	717.4 Modified: This section was completely revised to provide clarity and add substance by pointing to IFC and NFPA requirements for testing.		X			Provides a clarification and more restrictive requirements.
132	FS67-18	717.5.2 Modified: Nonmetal flexible air connectors are permitted at certain locations for Exception 3 of Fire barriers. Clarified duct systems must be fully ducted systems.	X				Clarifies that some situations with flex ducts are permitted to omit fire dampers.
133	FS70-18	717.5.3 Modified: Provides a minimum steel wall thickness of the duct and requires an exhaust fan at the top of the shaft to meet exception 1.1. Nomenclature for minimum and outside revised.			X		This is intended as a clarification and correlation. It could increase the cost by the new requirements.
134	FS70-18	717.5.3.1 New: Ducts providing continuous upward airflow to a shaft shall not have a damper.	X				Provides a clarification for better enforcement and application. Dampers can be omitted in these scenarios now.
135	FS64-18	717.6.2.1.1 New: Dynamic system dampers are designed with fans on during a fire.			X		Provides a clarification for better enforcement and application. Adding additional fans to coordinate dynamic dampers design with.
136	FS64-18	717.6.2.1.2 New: Static system dampers are provided with systems which are not designed to operate during a fire.	X				Provides a clarification for better enforcement and application. By providing

							options for static dampers, cost impact may be reduced.
Section 718: Concealed Spaces							
137	FS72-18, FS73-18	718.2.1 Modified: Fireblocking materials includes a revised description for cellulose insulation and also includes mass timber.		X			This is a design flexibility change to accommodate the new mass timber options and clarifying the cellulose testing requirements.
Section 721: Prescriptive Fire Resistance							
138	FS76-18	721.1(3) Modified: Item number 5-2.1 requires 5/8" Type X gypsum wallboard in lieu of 3/8".		X			This is a correction of a previous typo as 3/8" Type X gypsum are not readily available.
Section 722: Calculated Fire Resistance							
139	FS77-18	722.1 Modified: This section is reorganized for general calculated fire resistance. Substance change allows concrete assemblies to have calculated fire resistance in accordance with PCI 124.		X			Provides a clarification for better enforcement and application.
140	FS79-18	722.2.2.1.4 New: Flat plate concrete slabs with uniformly spaced hollow voids is an option for rated concrete floor and roof slabs.	X				This is a design flexibility change.
141	FS77-18	722.2.3.1 Modified: For precast prestressed concrete slab covers, the procedures now reference PCI 124.		X			Provides a clarification for better enforcement and application.
142	N/A	Figure 722.5.1(2) Modified: Figure notes moved with no substance change.		X			Provides an editorial clarification without code intent change.
143	N/A	Figure 722.5.1(3) Modified: Figure notes moved with no substance change.		X			Provides an editorial clarification without code intent change.
144	N/A	722.6.2.4 Modified: Referenced section revised based on the reorganization of Section 703.		X			Provides an editorial clarification without code intent change.
145	FS81-18	722.7 New: This section provides fire-resistance ratings for mass timber.		X			This was a necessary revision based on mass timber reviews and testing to create new mass timber construction types.
Chapter 8: Interior Finishes							
Section 803: Wall and Ceiling Finishes							

146	FS84-18	803.10 Modified: Site fabricated stretch systems must comply with requirements of Class A in accordance with Section 803.1.2			X		This is intended as a code clarification, but if previously misinterpreted, cost could be increased. Provides more restrictive requirements for site-fabricated stretch systems.
Section 806: Decorative Materials and Trim							
117	FS86-18	806.9 New: Combustible lockers must be considered an interior finish and comply with Section 803.		X			This coordinated combustible locker requirements with IFC requirements. No technical changes.
Chapter 9: Fire Protection and Life Safety Systems							
Section 901: General							
148	F97-18	901.1 Modified: Scope is clarified to include life safety systems.		X			Provides a clarification for better enforcement and application.
149	F97-18	901.2 Modified: Fire protection systems is clarified to include life safety systems.		X			Provides a clarification for better enforcement and application.
Section 903: Automatic Sprinkler Systems							
150	F102-18	903.2.4 Modified: The display and sale of upholstered furniture is moved to a later section for Group F-1 sprinkler system requirements.		X			Provides a clarification for better enforcement and application.
151	F276-18	903.2.4.2 New: Manufacturing distilled spirits requires a sprinkler system.			X		Imposes a new sprinkler requirement.
152	F102-18	903.2.4.3 New: A sprinkler system is required if the Group F-1 fire area is used for display and sale of upholstered furniture or mattress that exceeds 2,500 square feet.		X			Provides a clarification for better enforcement and application.
153	F102-18	903.2.7 Modified: The display and sale of upholstered furniture is moved to a later section for Group M sprinkler system requirements.		X			Provides a clarification for better enforcement and application.
154	F102-18	903.2.7.2 New: A sprinkler system is required if the Group M fire area is used for display and sale of upholstered furniture or mattress that exceeds 5,000 square feet.		X			Provides a clarification for better enforcement and application.
155	F102-18	903.2.9 Modified: The display and sale of upholstered furniture is moved to a later section for Group S-1 sprinkler system requirements.		X			Provides a clarification for better enforcement and application.
156	F276-18	903.2.9.3 New: Storage distilled spirits or wine requires a sprinkler system.			X		Imposes a new sprinkler requirement.

157	F276-18	903.2.9.4 New: A sprinkler system is required if the Group S-1 fire area is used for display and sale of upholstered furniture or mattress that exceeds 2,500 square feet. Exception is self-service storage of one story with all storage spaces accessed by the exterior.		X			Provides a clarification for better enforcement and application.
158	F110-18	903.2.10 Modified: Sprinkler systems must also be installed in open parking garages for fire areas exceeding 48,000 square feet.			X		Greater hazards of vehicles require open parking garages to need sprinkler systems.
159	G39-18	903.2.10.2 New: Sprinkler systems are required in mechanical-access enclosed parking garages.			X		Imposes a new sprinkler requirement.
160	F110-18	903.2.11.3 Modified: Open parking garages are removed from being exempt from sprinkler systems.			X		Open parking garages over 48,000 square feet will require a sprinkler system.
161	F112-18	903.2.11.6 Modified: Section title replaces suppression nomenclature with fire protection. Suppression nomenclature is replaced with protection.		X			Provides an editorial clarification without code intent change.
162	F112-18	Table 903.2.11.6 Modified: Section title replaces suppression nomenclature with protection.		X			Provides an editorial clarification without code intent change.
163	F117-18	903.3.1.2 Modified: The allowance for NFPA 13R systems to be permitted to be used has changed to be based on height above or below the lowest level of fire department access.			X	Substantial Cost Increase	Type 13R sprinkler systems will be permitted in significantly less buildings. Many buildings that would previously have permitted them, will now be required to have NFPA 13.
164	F119-18	903.3.1.2.2 Modified: Multiple conditions with corridors and balconies in the means of egress require sprinklers.			X		Additional sprinklers are required in more conditions in the means of egress in NFPA 13R system buildings.
165	F120-18	903.3.1.2.3 Modified: Provides a clarification where the lowest level of fire department access needed to meet the provisions in Section 503.		X			Provides a clarification for better enforcement and application. Will only affect jurisdictions not currently enforcing IFC requirements.
166	F123-18	903.4 Modified: Clarifies that underground key or hub gate valves in roadway boxes do not need supervision.		X			Provides a clarification for better enforcement and application.
167	F123-18	903.4.1 Modified: Exception moved to Section 903.4		X			Provides a necessary clarification.

Section 904: Alternative Automatic Fire-Extinguishing Systems							
168	F124-18, F124-18, G40-18, G55-18, F124-18	Modified: This section has reorganized Sections 904.12 through 904.14.		X			Provides an editorial clarification without code intent change.
169	F124-18	904.12 Modified: Aerosol fire-extinguishing systems are in accordance with NFPA 2010. Editorial clarifications were provided to the description.		X			This change is consistent with NFPA 2010.
170	F124-18, G40-18	904.14 Modified: The section title nomenclature has been revised from systems to facilities.		X			Provides a clarification for better enforcement and application.
Section 905: Standpipe Systems							
171	F126-18	905.3.1 Modified: Class I standpipes are allowed in all parking garages.	X				Provides a clarification for better enforcement and application.
172	FS153-18	905.3.8 Modified: This section no longer refers to rooftop gardens as it is not defined in Chapter 2. More consistent terminology used.		X			Provides a clarification for better enforcement and application.
173	F128-18	905.9 Modified: Clarifies all underground key or hub gate valves in roadway boxes do not need supervision and valves for dry manual standpipes are permitted to be locked in the open position.	x				Provides a clarification for better enforcement and application to provide consistency in the market and eliminate interpretations of the code.
174	F125-18	905.11 Modified: The fire code official can require locking caps on all standpipe outlets, instead of only dry standpipes.			X	Cap approx. $250 each	Provides the fire code official with more options.
Section 907: Standpipe Systems							
175	N/A	907.2 Modified: New requirements for Group S manual fire alarm systems were provided, changing the section numbers for Section 907.2.10 through Section 907.2.23.		X			Provides an editorial clarification without code intent change.
176	F136-18	907.2.2 Modified: Group B manual fire alarm system must activate occupant notification system.		X			Provides a necessary clarification.
177	F139-18	907.2.3 Modified: Editorial changes are provided for Exception 1 and 3. Manual fire alarm boxes are not required in Group E occupancies where manual activation is provided from a normally occupied location in addition to the other existing requirements.		X			Provides additional requirements to coordinate with how schools are typically designed.
178	F141-18	907.2.10 New: Manual fire alarm systems are required in Group S public and self-storage occupancies that are more than three stories			X		Imposes a new manual fire alarm requirement.

		in height, except when automatic sprinkler protection is provided.					
179	F45-18, F141-18	907.2.13.2 Modified: Provides a clarification where emergency responder radio systems are in-building two-way emergency responder communication systems.		X			Provides a clarification for better enforcement and application.
180	F203-18	907.2.23 Modified: Battery room requirements have been re-labeled as Energy storage system requirements.		X			Provides a clarification for better enforcement and application.
181	F144-18	907.4 Modified: This section is rewritten and reorganized with Section 907.5 without code intent change.		X			Provides an editorial clarification without code intent change.
182	F146-18	907.4.2.4 Modified: Provides a clarification that signs are required where not monitored by an approved supervising station accordance with Section 907.6.6.		X			Provides a clarification for better enforcement and application.
183	F144-18	907.5 Modified: This section is rewritten and reorganized with Section 907.4 without code intent change, excluding one substantive change see below notes.		X			New requirements for Group R-1 and R-2 occupant notification.
184	F144-18	907.5.1 New: Alarm activation and annunciation has been moved to this section. Annunciation shall also be activated where allowed by Section 907, at a constantly attended location.		X			Provides a clarification for better enforcement and application.
185	F144-18	907.5.1.1 New: Presignal feature has been moved to this section.		X			Provides an editorial clarification without code intent change.
186	F148-18	907.5.2.1.2 Modified: Maximum sound pressure has been adjusted to total sound pressure level by combining ambient sound pressure level with audible notification appliances shall not exceed 110 dBA. Audible alarm notification appliances are not required at 105 dBA average ambient noise.		X			Updated code requirements to match NFPA 72 requirements. Changes 110 dBA to be the combination of ambient and alarm sound. Increases the requirement to remove audible notification from 95 dBA to 105 dBA.
187	F144-18	907.5.2.1.3 New: This section addresses audible signal frequency in Group R-1 and R-2 occupancies.			X	Approx. $57 per sleeping room	Provides additional requirements for Group R-1 and R-2 sleeping rooms.
188	F149-18	907.5.2.2.5 Modified: Emergency voice/alarm communication systems shall be provided with standby power per NFPA 72 requirements.	X				This clarifies requirement and alignment with NFPA 72.
189	F152-18	907.5.2.3.3 Modified: Group R-2 occupancies are clarified to support future visible alarm notification appliances in accordance with		X			Provides an editorial clarification without code intent change.

		Chapter 11 of ICC A117.1. The future capability options were moved to a later section.					
190	F152-18	907.5.2.3.3.1 New: The future capacity (min. 5%) for visible alarm notification appliances were moved to this section and required to be wired equipment. The capability options were modified.			X		This is a current requirement, but it is more clearly quantified now. Depending on the contractor this may be more or less excess than they previously provided.
191	F112-18	907.6.4.2 Modified: For high rise building zoning, all fire protection systems must be zoned per floor.		X			Provides a clarification for better enforcement and application of the code requirements.
192	F154-18	907.6.6.1 Modified: This section was completely rewritten to provide transmission of alarm signals to a supervising station in accordance with NFPA 72.		X			This change provides consistency with NFPA 72.
193	F155-18	907.6.6.2 New: Transmission of alarm signal with monitor it yourself to a public safety answering point is not permitted unless allowed by the fire code official. The following section numbers were revised accordingly.		X			This change provides consistency with NFPA 72. Requires fire code official approval for monitor it yourself transmission.
Section 908: Emergency Alarm Systems							
194	F159-18	908.3 New: Emergency alarm system signals that interface with the Fire Alarm Control Unit shall be supervisory signals.		X			Provides a requirement for other emergency alarm systems interfacing with the FACP and only affects internal programming.
Section 909: Smoke Control Systems							
195	F161-18	909.17 Modified: All components that operate a smoke control system must achieve final operating state within 90 seconds of FACP detection signal.		X			Provides an enforceable requirement for smoke control components activating, but it is anticipated that all components of a smoke control system can easily configure and meet these requirements.
196	FS90-18	909.20 Modified: Smokeproof enclosures include pressurized stairs or pressurized entrance vestibules as an alternative.	X				Provides a clarification for better enforcement and application.
197	FS90-18	909.20.6 New: New requirements for smokeproof enclosures using a pressurized stair and pressurized entrance vestibule.	X				Use of pressurized vestibule and stairwell helps to meet minimum pressurization requirements without additional ducts/ fans.

198	FS90-18	909.20.7 Modified: As 906.20.6 is new, this section number was revised accordingly, and Section 906.20.6 is also referenced for ventilating equipment.		X			Provides a clarification for better enforcement and application.
Section 910: Smoke and Heat Removal							
199	F165-18	910.3.4 New: New requirements for vent operation are provided for smoke and heat vents to be operated by automatic and manual means.		X			Code intent remains the same and is coordinated with NFPA 2014 installation requirements.
200	F166-18	910.3.5 New: New requirements for fusible link temperature rating are provided for smoke and heat vents at 360 degrees per FM guidance and tests.			X		Smoke and heat vents are required to have a temperature rating of 360° F when installed in sprinklered area and operate by fusible link, but typically they were between 350 and 400 degrees.
Section 911: Fire Command Center							
201	F42-18	911.1 New: Fire Command Center is now required at all F-1 and S-1 buildings more than 500,000 square feet.			X	Approx. 0.06%	These types of buildings can be just as difficult for firefighting as high-rises. This provides a safe location for fire fighters with all equipment they need to manage the building.
202	F42-18	911.1.1 Modified: Nomenclature for accessibility of was revised for location and access to the fire command center.		X			Provides an editorial clarification without code intent change.
203	F42-18	911.1.3 Modified: Where the fire command center is required, it must be a minimum 96 square feet and 8 feet in both directions			X		Provides a minimum size for the fire command center
204	F42-18	911.1.7 New: New requirements for fire command center identification is provided.			X	Minor	Identification by an easily visible sign reading “FIRE COMMAND CENTER” located on the door is required.
Section 913: Fire Pumps							
205	F172-18	913.1 Modified: Fire pump for fire protection system shall be installed with this section and NFPA 20 except pump for NFPA 13D sprinkler systems, or Section P2904 of the IRC.		X			This clarifies original code intent and coordinates with NFPA 13D requirements.
206	F174-18	913.2.2 Modified: Cables supplying fire pumps may be protected using cable or raceways incased in a minimum of 2 inches of concrete except where a fire pump room or generator		X			This clarifies an option already permitted per NEC to protect the fire pump circuits.

		room is separated by fire-resistance-rated construction.					
Section 918: Emergency Responder Communication Coverage							
207	F45-18	Modified: The section name was revised from "Emergency Responder Radio Coverage" to "Emergency Responder Communication Coverage." This nomenclature is revised through the section.		X			This change is consistent with Section 510 of the IFC.
208	F45-18	918.1 Modified: Provides a clarification where emergency responder radio systems are in-building two-way emergency responder communication systems.		X			This change is consistent with Section 510 of the IFC. Requirements are the same and editorial in nature.
Chapter 10: Means of Egress							
Section 1003: General Means of Egress							
209	E4-18, E37-18	1003.5 Modified: Exception 1 to Elevation change was completely revised to steps at exterior doors complying with Section 1010.1.4.		X			This coordinated the code sections within IBC and points to new exterior door requirements
Section 1006: Number of Exits and Exit Access Doorways							
210	E11-18	1006.2.1 Modified: Unoccupied mechanical rooms and penthouses are not required to comply with common path measurements.	X				This clarifies the intent that unoccupied roofs must only meet travel distance to an exit requirement. Additional exits will no longer be required for these areas to meet common path of travel.
211	E13-18	1006.2.2 Modified: Egress based on use is clarified to include the numbers, configurations, and types of components of exits or access to exits.		X			Provides a clarification for better enforcement and application.
212	E15-18 PART I	1006.2.2.2 Modified: Exits and exit access doorways shall be equipped with panic hardware for refrigeration machinery rooms.			X		Provides additional protection to occupants due to risk of rapid release of hazardous or asphyxiant gases.
213	E17-18, E37-18	1006.2.2.4 New: Old text deleted and replaced with electrical room requirements. Directs to specific sections of NFPA 70 and required panic hardware per 1010.1.10.1.		X			This additional code clarifies existing NFPA 70 requirements.
214	E18-18	1006.3 Deleted: Stairways serving more than one story was relocated to a later section.		X			Clarifies existing code intent to streamline design and permit process.
215	E18-18	1006.3.1 New: The occupant load from stairways serving more than one story was		X			Clarifies existing code intent to streamline

		relocated to this section. The following section numbers were revised accordingly.					design and permit process.
216	E18-18	1006.3.2 New: Section name nomenclature revised to path of egress travel. New exceptions are provided for exit access stairways and ramps within an atrium and exterior exit access stairways and ramps between occupied roofs. Clarifies that a stair in atrium that is not part of the means of egress is always acceptable and not limited to the one adjacent story criteria. And an exit access stair from occupiable roof is permitted to pass through more than one adjacent story.		X			Clarifies existing code intent to streamline design and permit process.
217	E18-18, E24-18	1006.3.4 Modified: Common path of egress nomenclature was revised to exit access.		X			Provides consistency throughout code for use of common path of travel and exit access travel distance.
218	E18-18, E24-18	Table 1006.3.4(1) Modified: Common path of egress nomenclature was revised to exit access.		X			Provides consistency throughout code for use of common path of travel and exit access travel distance.
219	E18-18, E24-18	Table 1006.3.4(2) Modified: Common path of egress nomenclature was revised to exit access.		X			Provides consistency throughout code for use of common path of travel and exit access travel distance.
Section 1008: Means of Egress Illumination							
220	E27-18	1008.2.1 New: Along exit access stairways and exit stairways, illumination level shall be 10 foot-candles when the stairway is in use.			X	Minimal increase	Provides clarification for minimum lighting required under normal power already required by NFPA 1 and *101*. This level is not anticipated at all times the building is occupied.
221	E28-18	1008.3.1 Modified: Means of egress nomenclature was revised to exit or access to exits.		X			Provides an editorial clarification without code intent change.
222	E28-18, E37-18	1008.3.2 Modified: Means of egress nomenclature was revised to exit or access to exits.		X			Provides an editorial clarification without code intent change.
Section 1009: Accessible Means of Egress							
223	E30-18	1009.2.1 Modified: Elevators are required where an occupied roof is four or more stories above a level of exit discharge.			X	Only increase if not how currently interpreted.	Clarification of original code intent for occupied roofs to be provided accessible elevators if

							above the 3rd story of a building. Depending on original local code interpretation, this could be no cost or added cost to projects
224	E33-18	1009.6.2 Modified: An interior area of refuge is permitted on the level of exit discharge with direct access to an exterior exit door.	X			Only decrease if not how currently interpreted.	This clarifies design intent for interior areas of refuge being permitted in lieu of an exterior area of rescue assistance. Code intent has not changed.
225	E34-18	1009.6.3 Modified: Area of refuge size is increased to be 52 inches rather than 48 inches, for each 200 occupants or portion thereof.			X		Size of area of refuge was increased from 30”x48” to 30”x52” to be consistent with 2017 ICC A117.1.
226	E36-18	1009.8.1 Modified: The two -way communication must be to an approved supervising station.			X	Only increased depending on current interpretation.	Provides a clarification for better enforcement and application as “approved supervising station” is defined in chapter 2.
Section 1010: Doors, Gates, and Turnstiles							
227	E37-18	Modified: This section was nearly completely reorganized. Very few section numbers remained the same.		X			Provided to group like items together, no technical changes unless otherwise noted.
228	E38-18	Modified: The sections are adjusted to provide proper legal charging language for sections that were lacking including: 1020.1, 1024.1, 1026.1, 1027.1, 1028.1, 1029, 1029.1, 1029.2, 1029.3.		X			No technical changes provided, language updated for consistency and to help with legal adoption of IBC codes locally and is editorial in nature.
229	E37-18	1010.1 Modified: Section title nomenclature revised to General. This section was almost completely revised to add clarity and substance.		X			Provides a clarification for better enforcement and application.
230	E37-18, E39-18, E40-18	1010.1.1 Modified: The maximum width of a swinging door leaf is not limited. Additionally, the minimum clear opening width to non-accessible single-user shower or sauna compartments, toilet stalls or dressing, fitting, or changing rooms is 20 inches.	X				The maximum size of doors is already accommodated by other door requirements (force, etc.) but there will be a decrease due to the reduced minimum clear openings to 20 inches.
231	E41-18	1010.1.1.1 Modified: Section name nomenclature revised to be opening in lieu of width. Overhead door stops, power door		X			This provides common use terminology for door hardware and clarifies

		operators, and electromagnetic door locks are permitted to project into the clear opening.					allowances for other types of typically installed doors. This is already a typical practice.
232	E37-18, E42-18	1010.1.2 Modified: Section nomenclature revised to be egress door types. Side-hinged swing door, pivoted door, or balanced door types are applicable.		X			Balanced doors are clarified as acceptable egress door, which is consistent with the intent of the original provisions.
233	E42-18	1010.1.2.1 Modified: Side-hinged swing door, pivoted door, or balanced door types as applicable shall swing in the direction of egress travel.		X			Balanced doors are clarified as acceptable egress door, which is consistent with the intent of the original provisions.
234	E44-18	1010.1.3 Modified: This section was completely rewritten. Door opening force was removed and replaced with Forced to unlatch and open doors. Revised requirements are provided for required forces.		X			This modification updates and clarified door force and unlatching requirements to coordinate with accessibility and 2017 ICC A117.1 requirements.
235	E44-18	1010.1.3.2 New: New requirements are provided for manual horizontal sliding doors.			X		The latch for manual horizontal sliding door shall prevent the door from rebounding open when closed and coordinates with CMS requirements for when these types of doors are provided and required to latch.
236	E4-18	1010.1.5 Modified: Additional language provided regarding step down permitted at exterior doors in Group F, H, R-2, and S occupancies not part of an accessible route where the occupant load is low and trip hazard unlikely.			X		This language now coincides with the previous 2018 commentary removing the exception previously associated with Group R-3 and U occupancies.
237	E15-18 Part I	1010.1.10 Modified: Additional language added to coordinate with new requirements for panic hardware serving refrigeration machinery rooms.		X			The net effect of this comment is none, this is added language in a separate section and this language is just coordination.
238	E37-18, E54-18	1010.2.1 Modified: The unlatching for egress doors shall require not more than one motion in a single linear or rotational direction to release all latching and locking devices.			X		This provides clarification to reduce ambiguity during the design, construction and code

							inspection process and introduces the BHMA A156.41 requirements, which will mostly affect manufacturers but may trickle down to consumers.
239	E37-18, E52-18	1010.2.4 Modified: Locks and latches are permitted where occupants must egress from an exterior space through the building (other than egress courts), doors at balconies, decks or other exterior spaces serving individual dwelling or sleeping units, or sleeping units, private office spaces, or Group I-1, Condition 2 and Group I-2 occupancies where persons pose a security threat.		X			This is a design flexibility change.
240	E37-18, E48-18	1010.2.8 Modified: Locking arrangements in educational occupancies and Group I-4 occupancies must comply with modifications to fire door assemblies in accordance with NFPA 80, in addition to the other existing requirements. Remote locking or unlocking of doors from an approved location shall be permitted. Editorial clarifications were provided.		X			This change correlates recent changes to other NFPA and ICC codes associated with Educational Occupancy locking arrangements. No technical changes are provided.
241	E37-18, E53-18	1010.2.9 Modified: Exit access doors serving occupied exterior areas and courtrooms are permitted to be locked.			X	Increase to initial construction costs, but long term less expensive to avoid violations.	Locks are often provided in these locations, so this new requirement provides a safe, reasonable, and consistent approach for the safety of people occupying outdoor areas who must re-enter the building for egress.
242	E15-18 PART 1	1010.2.9.1 New: Panic hardware or fire exit hardware is required in refrigeration machinery rooms.			X		Provides additional protection to occupants due to risk of rapid release of hazardous or asphyxiant gases.
243	E64-18	1010.2.9.2 New: Panic hardware or fire exit hardware and door swing are clarified based on electrical equipment.		X			This aligns the code requirements in the IBC with NFPA 70 requirements, which were already required to be met per Chapter 27 of the IBC.
244	E37-18, E61-18	1010.2.12 Modified: Emergency lighting is required on the egress side of the door for			X		Provides additional requirements to ensure occupants will be

		electrically locked egress doors with sensor release.					provided with minimum egress illumination for door operation and reading the sign.
245	E37-18, E58-18	1010.2.13 Modified: Delayed egress is permitted for courtrooms in Group A-3 and B occupancies.		X			Provides clarification of the current code intent with no change to technical criteria.
246	E37-18, E46-18	1010.3.1 Modified: Emergency stop switches are required to be provided between 34 inches and 48 inches above the floor.			X		The emergency stop switch height AFF was revised to be between 34" and 48" from 24" and 48" to make requirement consistent with latest addition of ANSI/BHMA A156.27.
247	E37-18, E47-18	1010.3.3 Modified: An editorial clarification was provided for Criteria 2 noting that the door is only required to be openable from the egress side.		X			Provides clarification for original design intent and design alternative to meet security needs of a particular building.
248	E28-18, E37-18	1010.3.4 Modified: Means of egress nomenclature was revised to exit or access to exits.		X			Provides an editorial clarification without code intent change.
249	F14-18 PART 1	1010.5.2 Modified: Security access turnstiles may be utilized in buildings with an approved, supervised automatic sprinkler system.		X			Provides an editorial clarification without code intent change.
Section 1011: Stairways							
250	E66-18	1011.5.2 Modified: Stair riser heights are required to be measured between the stairway landing and the adjacent tread.		X			Provides clarification for better enforcement and application.
251	E68-18, E69-18, E70-18	1011.6 Modified: A door shall not project more than 7 inches into the required width of a landing. An exception to the measurement of stairway landings is provided for intermediate landings of curved stairway. An exception is provided for the minimum landing depth for stairway landings where a landing turns 90 degrees or more.	X	X X			This clarifies the original intent of the projections into the required width. Clarification for how to measure landings and design of curved stairways. Clarification of stair landing design intent, which has previously been in commentary noting that landings need not be rectangular.
252	G95-18	1011.7 Modified: Interior exit stairways may be combustible in podium style buildings in accordance with Section 510.2. Section was reorganized.	X				Provides allowance for combustible construction to be continued below podium as long as the

							rating is 3 hours in podium eliminating need for transition from wood to steel.
253	E71-18	1011.11 Modified: One or two steps necessary to get to a stationary platform lift do not need handrails provided they meet certain criteria.	X				This is a design flexibility change, for very specific use platform lifts typically used in court rooms.
Section 1013: Exit Signs							
254	E72-8, E73-18	1013.4 Modified: Where exit signs are provided at a horizontal exit or any other existing condition, they must have raised characters and braille exit signs.			X		This is a clarification of original design intent for these signs and clarifies that horizontal exits are considered exits. No technical changes provided.
Section 1015: Guards							
255	E77-18	1015.2 Modified: Guards are not required on the loading side of the station platforms on fixed guideways transit or passenger rail systems.		X			This proposal adds the exception that is commonly recognized and designed per NFPA 130.
256	E86-18	1015.7 Modified: The guard shall extend 30 inches beyond each end of roof access hatch parallel to the roof edge when within 10 ft of the roof edge.			X		Provides additional location where the guard is required for true life safety.
257	E80-18	1015.8 Modified: The bottom of the clear opening of an operable window is the point of measurement when child fall protection is required.		X			This is a clarification of how to measure height, but general design requirements are still the same.
Section 1016: Exit Access							
258	E85-18	1016.2 Modified: Where access to two or more exits or exit access doorways is required, one required exit cannot travel through an enclosed elevator lobby. If a tenant space only requires a single exit access path, it is permitted to go through the elevator lobby.		X			Clarification of code intent, general requirements are still the same.
Section 1017: Exit Access Travel Distance							
259	E86-18	1017.3 Modified: Where more than one exit is required, exit access travel distance shall be measured to the nearest exit.		X			Clarification of code intent, general requirements are still the same.
260	G31-18	1017.3.2 New: Provides exit access travel distance requirements for atriums and cannot be greater than 200 feet.		X			Relocates atrium egress requirements to Ch 10, no major technical changes.
Section 1019: Exit Access Stairways and Ramps							

261	E18-18, E88-18, E89-18	1019.3 Modified: Exit access stairways and ramps that only communicate between two adjacent stories do not require a shaft enclosure. Exterior exit access stairways or ramps between occupied roofs do not require a shaft enclosure. Editorial clarifications were provided.	X				Provides clarification for better enforcement and application.
Section 1020: Corridors							
262	E38-18, FS18-18	1020.1 New: A new description for corridors is provided with no technical change. The following section numbers were revised accordingly.		X			Provides a clarification for better enforcement and application.
263	E38-18, E91-18	1020.5 Modified: Group I-2, Condition 2 dead end corridors cannot exceed 30 feet if it is not serving patient rooms or patient treatment rooms		X			Provides more flexible dead-end requirements when outside of patient care areas to become more consistent with *NFPA 101* as adopted by CMS.
Section 1023: Interior Exit Stairways and Ramps							
264	E94-18, G95-18	1023.2 Modified: Provides clarification that fire-resistance-rated construction applies to enclosures of interior exit stairways. Interior exit stairways for podium buildings in accordance with Section 510.2 is provided as a new exception.		X			Provides clarification for better enforcement and application.
265	E98-18	1023.5 Modified: Structural elements supporting the interior exit stairway, or ramp, or enclosure can penetrate into the interior exit stairway or ramp enclosure.		X			Provides clarification for better enforcement and application.
266	N/A	1023.8 Modified: Section title nomenclature revised to barrier at level of exit discharge.		X			Provides an editorial clarification without code intent change.
267	E72-18	1023.9 Modified: The bottom of the stairway identification sign is required to be at least 5 feet above the floor landing and readily visible with open or closed doors. Floor level stairway identification signs were relocated to a later section.		X			This is a code clarification and reorganization but signs are already required by code.
268	E72-18	1023.11 New: Where provided floor level signs are required to be tactile floor-level signs with braille.		X			This is a code clarification and reorganization but signs are already required by code.
Section 1024: Exit Passageways							
269	E38-18	1024.1 Modified: Section title nomenclature revised to general.		X			Provides an editorial clarification without code intent change.

270	E101-18	1024.6 Modified: Equipment and ductwork necessary for independent ventilation can penetrate into or through and exit passageway.		X			Provides clarification for better enforcement and application and coordination with exit enclosure requirements.
271	E102-18	1024.8 New: New requirements are provided for exit passageway exterior walls to be consistent with stair exposure criteria.			X		Clarifies that exterior walls of exit passageway need to meet the same requirements as a stair enclosure.
Section 1026: Horizontal Exits							
272	E38-18	1026.1 Modified: Section title nomenclature revised to General.		X			Provides an editorial clarification without code intent change.
Section 1027: Exterior Exit Stairways and Ramps							
273	E38-38	1027.1 Modified: Section title nomenclature revised to General. Description for exterior exit stairways and ramps was clarified.		X			Provides clarification for better enforcement and application.
Section 1028: Exit Discharge							
274	E38-18	1028.1 New: A new description for exit discharge is provided with multiple section numbers revised accordingly.		X			Provides clarification for better enforcement and application.
275	E38-18, G31-18	1028.2 Modified: Atriums are included as an area for Exception 1 for interior exit discharge.		X			Provides clarification for better enforcement and application.
Section 1029: Egress Courts							
276	E38-18	New: This section completely revised, previously was 1028.4, for clarity and substance.		X			Provides clarification for better enforcement and application.
Section 1030: Assembly							
277	E38-18	Modified: This section number was revised based on the addition of Section 1029.		X			Provides an editorial clarification without code intent change.
278	E38-18, E106-18	1030.16 Modified: Provides additional requirements for stepped aisles that require two handrails with seating on one side.			X		This is anticipated to assist with design of social stairs which are becoming more popular.
279	E38-18	1030.16.1 Modified: Section name nomenclature revised to include mid-aisle. Where two handrails are required for a stepped aisle, the mid handrail is discontinuous.			X		Provides better language for the stepped aisles that require two handrails due to the changes of the previous section.
Section 1031: Emergency Escape and Rescue:							
280	E38-18	Modified: This section number was revised based on the addition of Section 1029.		X			Provides an editorial clarification without code intent change.

281	E107-18	1031.1 New: A new description for emergency escape and rescue is provided. The following section numbers were revised accordingly.		X			Provides clarification for better enforcement and application and coordination of IRC and IBC requirements.
282	E38-18, E107-18	1031.2 Modified: Storm shelters are not required to comply with for emergency escape and rescue requirements. Editorial clarifications were provided.		X			Provides clarification for better enforcement and application and coordination of IRC and IBC requirements.
283	E107-18	1031.3 New: New requirements are provided for emergency escape and rescue openings.		X			Provides clarification for better enforcement and application and coordination of IRC and IBC requirements.
284	E110-18	1031.4 New: New requirements are provided for emergency escape and rescue doors to be swinging or sliding door.		X			Provides clarification for better enforcement and application and coordination of IRC and IBC requirements.
285	E38-18, E107-18	1031.5 Modified: Section name nomenclature was revised to area wells from window wells. The section was nearly completely rewritten to add clarity and substance.		X			Provides clarification for better enforcement and application and coordination of IRC and IBC requirements.
286	E38-18, E107-18, E110-18, E111-18	1031.6 Modified: Most changes are editorial in nature for clarification. A substantive change includes the reference to existing buildings is removed.			X		Coordination of IRC and IBC requirements and addition of stair/ ladder requirements.

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
S1-18	**Revise as follows:** **[P] 1502.1 General.** Design and installation of roof drainage systems shall comply with this Section and Section ~~1502~~ 1611 of this code ~~and Sections 1106 and 1108, as applicable,~~ and Chapter 11 of the International Plumbing Code. **[P] 1502.2 Secondary (emergency overflow) drains or scuppers.** Where roof drains are required, secondary (emergency overflow) roof drains or scuppers shall be provided where the roof perimeter construction extends above the roof in such a manner that water will be entrapped if the primary drains allow buildup for any reason. The installation and sizing of secondary emergency overflow drains, leaders and conductors shall comply with ~~Sections 1106 and 1108, as applicable,~~ Section 1611 of this code and Chapter 11 of the International Plumbing Code.		X			Clarification
S3-18	**[BF] 1505.8 Building-integrated photovoltaic (BIPV) products.** ~~Building-integrated photovoltaic~~ BIPV products installed as the roof covering shall be tested, listed and labeled for fire classification in accordance with Section 1505.1. **[BF] 1505.9 Rooftop-mounted photovoltaic (PV) panel systems.** Rooftop ~~rack~~-mounted photovoltaic (PV) panel systems shall be tested, listed and identified with a fire classification in accordance with UL 1703 and UL 2703. The fire classification shall comply with Table 1505.1 based on the type of construction of the building.		X			Clarification
S4-18	**1505.9 Roof top mounted photovoltaic panel systems.** Rooftop rack-mounted photovoltaic panel systems shall be tested, listed and identified with a fire classification in accordance with UL 1703 and UL 2703. ~~Listed systems shall include roof-mounting hardware.~~ Listed systems shall be installed in accordance with the manufacturer's installation instructions and its listing. The fire classification shall comply with Table 1505.1 based on the type of construction of the building.			X	Minimal	Clarification
S9-18	**[BF] 1508.1 General.** The use of above-deck thermal insulation shall be permitted provided that such insulation is covered with an approved roof covering and passes the tests of NFPA 276 or UL 1256 when tested as an assembly. **Exceptions:**		X			Clarification

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		Decrease	None	Increase		
Sub Code:						
	1. Foam plastic roof insulation shall conform to the material and installation requirements of Chapter 26. 2. Where a concrete or composite metal and concrete roof deck is used and the above-deck thermal insulation is covered with an approved roof covering.					
S11-18	**~~[BG]~~ 1510.2.4 Type of construction.** Penthouses shall be constructed ~~with walls, floors and roofs~~ of building elements as required for the type of construction of the building on which such penthouses are built. **Exceptions:** 1. On buildings of Type I construction, the exterior walls and roofs of penthouses with a fire separation distance greater than 5 feet (1524 mm) and less than 20 feet (6096 mm) shall be permitted to have not less than a 1-hour fire-resistance rating. The exterior walls and roofs of penthouses with a fire separation distance of 20 feet (6096 mm) or greater shall not be required to have a fire-resistance rating. 2. On buildings of Type I construction two stories or less in height above grade plane or of Type II construction, the exterior walls and roofs of penthouses with a fire separation distance greater than 5 feet (1524 mm) and less than 20 feet (6096 mm) shall be permitted to have not less than a 1-hour fire-resistance rating or a lesser fire-resistance rating as required by Table 602 and be constructed of fire-retardant-treated wood. The exterior walls and roofs of penthouses with a fire separation distance of 20 feet (6096 mm) or greater shall be permitted to be constructed of fire-retardant-treated wood and shall not be required to have a fire-resistance rating. Interior framing and walls shall be permitted to be constructed of fire-retardant-treated wood. 3. On buildings of Type III, IV or V construction, the exterior walls of penthouses with a fire separation distance greater than 5 feet (1524 mm) and less than 20 feet (6096 mm) shall be permitted to have not less than a 1-hour fire-resistance rating or a lesser fire-resistance rating as required by Table 602. On buildings of Type III, IV or VA construction, the exterior walls of penthouses with a fire separation distance of 20 feet (6096 mm) or greater shall be permitted to be of heavy timber construction complying with Sections 602.4 and 2304.11 or noncombustible construction or fire-retardant-treated wood and shall not be required to have a fire-resistance rating.		X			Clarification

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		Decrease	None	Increase		
Sub Code:						
S13-18	~~**[BG] 1510.7 Photovoltaic panels and modules.** Rooftop-mounted photovoltaic panels and modules shall be designed in accordance with this section.~~ ~~**[BG] 1510.7.1 Fire classification.** Rooftop-mounted photovoltaic panels and modules shall have the fire classification in accordance with Section 1505.9.~~ ~~**[BG] 1510.7.2 Photovoltaic panels and modules.** Rooftop-mounted photovoltaic panels and modules shall be listed and labeled in accordance with UL 1703 and shall be installed in accordance with the manufacturer's instructions.~~ ~~**SECTION 1512**~~ ~~**PHOTOVOLTAIC PANELS AND MODULES**~~ ~~**1512.1 Photovoltaic panels and modules.** Photovoltaic panels and modules installed on a roof or as an integral part of a roof assembly shall comply with the requirements of this code and the International Fire Code.~~		X			Clarification
S14-18	**[BF] 1705.14 Sprayed fire-resistant materials.** Special inspections and tests of sprayed fire-resistant materials applied to floor, roof and wall assemblies and structural members shall be performed in accordance with Sections 1705.14.1 through 1705.14.6. Special inspections shall be based on the fire-resistance design as designated in the approved construction documents. The tests set forth in this section shall be based on samplings from specific floor, roof and wall assemblies and structural members. Special inspections and tests shall be performed after the rough installation of electrical, automatic sprinkler, mechanical and plumbing systems and suspension systems for ceilings, <u>and before concealed,</u> where applicable.		X			Clarification
S15-18	**[BF] 1705.14 Sprayed fire-resistant materials.** Special inspections and tests of sprayed fire-resistant materials applied to floor, roof and wall assemblies and structural members shall be performed in accordance with Sections 1705.14.1 through 1705.14.6. Special inspections shall be based on the fire-resistance design as designated in the approved construction documents. The tests set forth in this section shall be based on samplings from specific floor, roof and wall assemblies and structural members. Special inspections and tests shall be performed <u>during construction with an addition visual inspection</u> after the rough installation of electrical, automatic sprinkler, mechanical and plumbing systems and suspension systems for ceilings, where applicable.		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
S16-18	**[BF] 1705.14 Sprayed fire-resistant materials.** Special inspections and tests of sprayed fire-resistant materials applied to floor, roof and wall assemblies and structural members shall be performed in accordance with Sections 1705.14.1 through 1705.14.6. Special inspections shall be based on the fire-resistance design as designated in the approved construction documents. The tests set forth in this section shall be based on samplings from specific floor, roof and wall assemblies and structural members. Special inspections and tests shall be performed after the rough installation of electrical, automatic sprinkler, mechanical and plumbing systems and suspension systems for ceilings, where applicable. <u>The required sample size shall not exceed 110% of that specified by the referenced standards in Sections 1705.14.4.1 through 1704.14.4.9.</u>		X			Clarification
S19-18	**1705.15 Mastic and intumescent fire-resistant coatings.** Special inspections and tests for mastic and intumescent fire-resistant coatings applied to structural elements and decks shall be performed in accordance with AWCI 12-B. Special inspections and tests shall be based on the fire-resistance design as designated in the approved construction documents. Special Inspections and tests shall be performed <u>during construction with an additional visual inspection</u> after the rough installation of electrical, automatic sprinkler, mechanical and plumbing systems and suspension systems for ceilings, and before concealed, where applicable.		X			Clarification
S21-18	**[BF] 1705.17 Fire-resistant penetrations and joints.** In high-rise buildings ~~or~~ <u>,</u> in buildings assigned to Risk Category III or IV<u>, or fire areas containing Group R occupancies with an occupant load greater than 250</u>, special inspections for through-penetrations, membrane penetration firestops, fire-resistant joint systems and perimeter fire barrier systems that are tested and listed in accordance with Sections 714.4.1.2, 714.5.1.2, 715.3 and 715.4 shall be in accordance with Section 1705.17.1 or 1705.17.2.			X	Minimal	Clarification
FS1-19	[BS] PORCELAIN TILE. ~~Tile that conforms to the requirements of ANSI A137.1.3, Section 3.0 for ceramic~~ <u>Ceramic</u> tile having an absorption of 0.5 percent or less in accordance with ANSI A137.1, ~~Section 4.1 and Section 6.1 Table 10.~~<u>Table 10 or ANSI A137.3, Tables 4 or 5.</u> **TABLE 1404.2** **MINIMUM THICKNESS OF WEATHER COVERINGS** *Portions of table not shown remain unchanged.* **COVERING TYPE** | **MINIMUM THICKNESS (inches)** Porcelain tile | ~~0.25~~ <u>0.125 nominal</u> For SI: 1 inch = 25.4 mm, 1 ounce = 28.35 g, 1 square foot = 0.093 m^2.		X			Clarification

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		Decrease	None	Increase		
Sub Code:						
	a. Wood siding of thicknesses less than 0.5 inch shall be placed over sheathing that conforms to Section 2304.6. b. Exclusive of texture. c. As measured at the bottom of decorative grooves. d. 16 ounces per square foot for cold-rolled copper and lead-coated copper, 12 ounces per square foot for copper shingles, high-yield copper and lead-coated high-yield copper. [BS] 1404.10.2 Exterior adhered masonry veneers—porcelain tile. Adhered units weighing more than 3.5 pounds per square foot (0.17 kN/m^2) shall not exceed ~~$^5/_8$ inch (15.8 mm) thickness and 24 inches (610~~ 48 inches (1219 mm) in any face dimension nor more than ~~3~~ 9 square feet ~~(0.28~~ (0.8 m^2) in total face area and shall not weigh more than ~~9 pounds psf (0.43~~ 6 pounds per square foot (0.29 kN/m^2). Adhered units weighing less than or equal to 3.5 pounds per square foot (0.17 kN/m^2) shall not exceed 72 inches (1829 mm) in any face dimension nor more than 17.5 square feet (1.6 m^2) in total face area. *Porcelain tile* shall be adhered to an approved backing system.					
FS2-19	**Nailable Substrate.** A product or material such as framing, sheathing, or furring, composed of wood or wood-based materials or other materials providing equivalent fastener withdrawal resistance. **[BS] 1404.14.1 Application.** The siding shall be applied over sheathing or materials listed in Section 2304.6. Siding shall be applied to conform to the *water-resistive barrier* requirements in Section 1402. Siding and accessories shall be installed in accordance with *approved* manufacturer's instructions. Unless otherwise specified in the *approved* manufacturer's instructions, nails used to fasten the siding and accessories shall have a minimum 0.313-inch (7.9 mm) head diameter and $^1/_8$-inch (3.18 mm) shank diameter. The nails shall be corrosion resistant and shall be long enough to penetrate a nailable substrate not less than ~~3/4 inch (19 mm)~~ 1 1/4- inch (32 mm). For cold-formed steel light-frame construction, corrosion-resistant fasteners shall be used. Screw fasteners shall penetrate the cold-formed steel framing not fewer than three exposed threads. Other fasteners shall be installed in accordance with the *approved* construction documents and manufacturer's instructions. Where the siding is installed horizontally, the fastener spacing shall not exceed 16 inches (406 mm) horizontally and 12 inches (305 mm) vertically. Where the siding is installed vertically, the fastener spacing shall not exceed 12 inches (305 mm) horizontally and 12 inches (305 mm) vertically.		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
FS3-19	**[BS] 1404.14 Vinyl siding.** Vinyl siding conforming to the requirements of this section and complying with ASTM D3679 shall be permitted on *exterior walls* where the design wind pressure determined in accordance with Section ~~1609.3.1~~ 1609 does not exceed 30 psf. Where the design wind pressure exceeds 30 psf, tests or calculations indicating compliance with Chapter 16 shall be submitted. Vinyl siding shall be secured to the building so as to provide weather protection for the *exterior walls* of the building. **1404.14.1.1 Fasteners and fastener penetration for wood construction.** Unless otherwise specified in the approved manufacturer's instructions, nails used to fasten the siding and accessories shall be corrosion resistant and have a minimum 0.313-inch (7.9 mm) head diameter and 1/$_8$-inch (3.18 mm) shank diameter. The ~~total penetrative~~ penetration into nailable substrate shall be ~~not less than~~ at least 1 1/4 ~~inch "~~ inches (32 mm). **1404.14.1.2 Fasteners and fastener penetration for cold-formed steel light ~~fame~~ frame construction.** For cold-formed steel light-frame ~~light-framed~~ construction, corrosion resistant fasteners shall be used. Screw fasteners shall penetrate ~~the cold-formed steel framing at least three exposed threads~~ through the steel with a minimum of three exposed threads. Other fasteners shall be installed in accordance with the approved construction documents and manufacturer's instructions. **1404.14.1~~.2~~.3 Fastener spacing.** Unless specified otherwise by the approved manufacturer's instructions, fasteners shall be installed in the ~~center~~ middle third of the slots of the nail hem and maximum spacing between fasteners shall be 16 inches (406 mm) for horizontal siding and 12 inches (305 mm) for vertical siding.			X	Minimal	Clarification
G2-19	**[BS] DANGEROUS.** Any building, structure or portion thereof that meets any of the conditions described below shall be deemed dangerous: 1. The building or structure has collapsed, has partially collapsed, has moved off its foundation or lacks the necessary support of the ground. 2. There exists a significant risk of collapse, detachment or dislodgment of any portion, member, appurtenance or ornamentation of the building or structure under ~~service loads.~~ permanent, routine, or frequent loads; under actual loads already in effect; or under snow, wind, rain, flood, earthquake, or other environmental loads when such loads are imminent.		X			Clarification

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CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[BS] DANGEROUS. Any building, structure or portion thereof that meets any of the conditions described below shall be deemed dangerous: 1. The building or structure has collapsed, has partially collapsed, has moved off its foundation, or lacks the necessary support of the ground. 2. There exists a significant risk of collapse, detachment or dislodgement of any portion, member, appurtenance or ornamentation of the building or structure under ~~service loads.~~ permanent, routine, or frequent loads; under actual loads already in effect; or under snow, wind, rain, flood, earthquake, or other environmental loads when such loads are imminent.					
G3-19	**[BS] DEAD LOAD.** The weight of materials of construction incorporated into the building, including, but not limited		X			Clarification
G4-19 Part I	**GLASS MAT GYPSUM PANEL.** A gypsum panel consisting of a noncombustible core primarily of gypsum, surfaced with glass mat partially or completely embedded in the core. **GYPSUM SHEATHING.** Gypsum panel products specifically manufactured with enhanced water resistance for use as a substrate for exterior surface materials. **GYPSUM WALLBOARD.** A gypsum board used primarily as an interior surfacing for building structures.		X			Necessary addition for clarification
G4-19 Part II	**GLASS MAT GYPSUM PANEL.** A gypsum panel consisting of a noncombustible core primarily of gypsum, surfaced with glass mat partially or completely embedded in the core. **GYPSUM SHEATHING.** Gypsum panel products specifically manufactured with enhanced water resistance for use as a substrate for exterior surface materials. **GYPSUM WALLBOARD.** A gypsum board used primarily as an interior surfacing for building structures.		X			Clarification
G5-19	**[BS] GYPSUM BOARD.** The generic name for a family of sheet products consisting of a noncombustible core primarily of gypsum with paper surfacing. ~~Gypsum wallboard, gypsum sheathing, gypsum base for gypsum veneer plaster, exterior gypsum soffit board, predecorated gypsum board and water-resistant gypsum backing board complying with the standards listed in Tables 2506.2, 2507.2~~		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~and Chapter 35 are types of gypsum board.~~ **[BS] GYPSUM PANEL PRODUCT.** The general name for a family of sheet products consisting essentially of gypsum complying with the standards specified in Tables 2506.2 and 2507.2, and Chapter 35. Gypsum board and glass mat gypsum panels are examples of gypsum panel products. **[BS] GYPSUM BOARD.** ~~Gypsum wallboard, gypsum sheathing, gypsum base for gypsum veneer plaster, exterior gypsum soffit board, predecorated gypsum board or water-resistant gypsum backing board complying with the standards listed in Tables 2506.2 and 2507.2 and Chapter 35 of the International Building Code.~~ The generic name for a family of sheet products consisting of a noncombustible core primarily of gypsum with paper surfacing.					
G8-19	**[BS] POSITIVE ROOF DRAINAGE.** ~~The drainage condition in which an evaluation is required for all loading deflections of the roof deck, and additional slope shall be provided to ensure drainage of the roof within 48 hours of precipitation.~~ 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.		X			Clarification
G9-19	**Revise as follows:** **[BF] STEEP SLOPE.** A roof slope ~~greater than~~ two units vertical in 12 units horizontal (17-percent slope) or greater.		X			Clarification
G10-19	~~**[BS] TREATED WOOD.** Wood products that are conditioned to enhance fire-retardant or preservative properties.~~ **FIRE-RETARDANT-TREATED WOOD.** Wood products that, when impregnated with chemicals by a pressure process or other means during manufacture, exhibit reduced surface-burning characteristics and resist propagation of fire. **PRESERVATIVE-TREATED WOOD.** Wood products that, when impregnated with chemicals by a pressure process or other means during manufacture, exhibit reduced susceptibility to damage by fungi, insects or marine borers.		X			Clarification
G11-19	**Underpinning.** The alteration of an existing foundation to transfer loads to a lower elevation using new piers, piles, or other permanent structural support elements installed below the existing foundation.		X			Necessary addition for clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IBC STRUCTURAL CHANGE SUMMARY**	**IBC STRUCTURAL COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
G12-19 Part I	**[BS] WINDBORNE DEBRIS REGION.** Areas within hurricane-prone regions located: 1. Within 1 mile (1.61 km) of the ~~coastal~~ mean high-water line, where an Exposure D condition exists upwind at the waterline and the basic design wind speed, *V*, is 130 mph (58 m/s) or greater; or 2. In areas where the basic design wind speed is 140 mph (63.6 m/s) or greater. 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).		X			Clarification
G12-19 Part II	**[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 ~~coastal~~ mean high-water line where an Exposure D condition exists upwind at the waterline 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 (63.6 m/s) or greater; or Hawaii.		X			Clarification
G13-19	**[BS] 403.2.3 Structural integrity of interior exit stairways and elevator hoistway enclosures.** For *high-rise buildings of Risk Category* III or IV in accordance with Section 1604.5, and for all buildings that are more than 420 feet (128 m) in *building height*, enclosures for *interior exit stairways* and elevator hoistway enclosures shall comply with Sections 403.2.3.1 through 403.2.3.4. **[BS] 403.2.3.1 Wall assembly materials - Soft Body Impact.** The ~~wall assemblies~~ panels making up the enclosures for *interior exit stairways* and elevator hoistway enclosures shall meet or exceed Soft Body Impact Classification Level 2 as measured by the test method described in ASTM C1629/C1629M. **[BS] 403.2.3.2 Wall assembly materials - Hard Body Impact.** The ~~face of the wall assemblies~~ panels making up the enclosures for *interior exit stairways* and elevator hoistway enclosures that are not exposed to the interior of the enclosures for *interior exit stairways* or elevator hoistway enclosure shall be ~~constructed~~ in accordance with one of the following ~~methods~~:		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	The wall assembly shall incorporate ~~not~~ no fewer than two layers of impact-resistant ~~construction board~~ panels, each of which meets or exceeds Hard Body Impact Classification Level 2 as measured by the test method described in ASTM C1629/C1629M. The wall assembly shall incorporate ~~not~~ no fewer than one layer of impact-resistant ~~construction material~~ panels that meets or exceeds Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M. The wall assembly incorporates multiple layers of any material, tested in tandem, that meets or exceeds Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M. **[BS] 403.2.3.3 Concrete and masonry walls.** Concrete or masonry walls shall be deemed to satisfy the requirements of Sections 403.2.3.1 and 403.2.3.2. **[BS] 403.2.3.4 Other wall ~~assemblies~~ materials.** Any other wall ~~assembly~~ materials that ~~provides~~ provide impact resistance equivalent to that required by Sections 403.2.3.1 and 403.2.3.2 for Hard Body Impact Classification Level 3, as measured by the test method described in ASTM C1629/C1629M, shall be permitted.					
G14-19	[BS] 403.2.3.2 Wall assembly materials. The ~~exterior~~ face of the wall assemblies making up the enclosures for *interior exit stairways* and elevator hoistway enclosures that is not exposed to the interior of the enclosures shall be constructed in accordance with one of the following methods: 1. The wall assembly shall incorporate not fewer than two layers of impact-resistant construction board each of which meets or exceeds Hard Body Impact Classification Level 2 as measured by the test method described in ASTM C1629/C1629M. 2. The wall assembly shall incorporate not fewer than one layer of impact-resistant construction material that meets or exceeds Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M. 3. The wall assembly incorporates multiple layers of any material, tested in tandem, that meets or exceeds Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M.		X			Clarification

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CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	[BS] 403.2.3.4 Other wall assemblies. Any other wall assembly that provides impact resistance equivalent to that required by Sections 403.2.3.1 for Soft Body Impact Classification Level ~~3~~2 and 403.2.3.2 for Hard Body Impact Classification Level 3, as measured by the test method described in ASTM C1629/C1629M, shall be permitted.					
G15-19	**3307.2 Excavation retention systems.** Where a ~~retaining~~ retention system is used to provide support of an excavation for protection of adjacent *structures*, the system shall conform to the requirements in Section 3307.2.1 through 3307.2.3. **3307.2.1 Excavation retention system design.** Excavation retention systems shall be designed by a registered design professional to provide vertical and lateral support. **3307.2.2 Excavation retention system monitoring.** The retention system design shall include requirements for monitoring of the system and adjacent structures for horizontal and vertical movement. ~~The earth retention system design shall be modified as determined by the monitoring.~~ **3307.2.3 Retention system removal.** Elements of the system shall only be removed or decommissioned when adequate replacement support is provided by backfill or by the new structure. Removal or decommissioning shall be performed in such a manner that protects the adjacent property.		X			Clarification
G16-19	**G101.5 Designation of floodplain administrator.** The [INSERT JURISDICTION'S SELECTED POSITION TITLE] is designated as the floodplain administrator and is authorized and directed to enforce the provisions of this appendix. The floodplain administrator is authorized to delegate performance of certain duties to other employees of the jurisdiction. Such designation shall not alter any duties and powers of the building official. **G103.1 Permit applications.** All applications for permits ~~must~~ shall comply with the following: 1. The ~~*building official*~~ floodplain administrator shall review all permit applications to determine whether proposed development is located in flood hazard areas established in Section G102.2. 2. Where a proposed development site is in a flood hazard area, all development to which this appendix is applicable as specified in Section G102.1 shall be designed and constructed with methods, practices and materials that minimize flood damage and that are in accordance with this code and ASCE 24.		X			Clarifies and amends the Designation of floodplain administrator list

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Sub Code:						
	G103.2 Other permits. It shall be the responsibility of the ~~*building official*~~ floodplain administrator to ensure that approval of a proposed development shall not be given until proof that necessary permits have been granted by federal or state agencies having jurisdiction over such development. **G103.3 Determination of design flood elevations.** If design flood elevations are not specified, the ~~*building official*~~ floodplain administrator is authorized to require the applicant to meet one of the following: 1. Obtain, review and reasonably utilize data available from a federal, state or other source. 2. Determine the design flood elevation in accordance with accepted hydrologic and hydraulic engineering techniques. Such analyses shall be performed and sealed by a registered design professional. Studies, analyses and computations shall be submitted in sufficient detail to allow review and approval by the ~~*building official.*~~ floodplain administrator. The accuracy of data submitted for such determination shall be the responsibility of the applicant. **G103.4 Activities in riverine flood hazard areas.** In riverine flood hazard areas where design flood elevations are specified but floodways have not been designated, the ~~*building official*~~ floodplain administrator shall not permit any new construction, substantial improvement or other development, including fill, unless the applicant submits an engineering analysis prepared by a registered design professional, demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated flood hazard area encroachment, will not increase the design flood elevation more than 1 foot (305 mm) at any point within the community. **G103.5 Floodway encroachment.** Prior to issuing a permit for any floodway encroachment, including fill, new construction, substantial improvements and other development or land-disturbing activity, the ~~*building official*~~ floodplain administrator shall require submission of a certification, prepared by a registered design professional, along with supporting technical data, demonstrating that such development will not cause any increase of the base flood level.					

	G103.6 Watercourse alteration. Prior to issuing a permit for any alteration or relocation of any watercourse, the ~~*building official*~~ floodplain administrator shall require the applicant to provide notification of the proposal to the appropriate authorities of all adjacent government jurisdictions, as well as appropriate state agencies. A copy of the notification shall be maintained in the permit records and submitted to FEMA. **G103.6.1 Engineering analysis.** The ~~*building official*~~ floodplain administrator shall require submission of an engineering analysis, prepared by a registered design professional, demonstrating that the flood-carrying capacity of the altered or relocated portion of the watercourse will not be decreased. Such watercourses shall be maintained in a manner that preserves the channel's flood-carrying capacity. **G103.7 Alterations in coastal areas.** Prior to issuing a permit for any alteration of sand dunes and mangrove stands in coastal high-hazard areas and coastal A zones, the ~~*building official*~~ floodplain administrator shall require submission of an engineering analysis, prepared by a registered design professional, demonstrating that the proposed alteration will not increase the potential for flood damage. **G103.8 Records.** The ~~*building official*~~ floodplain administrator shall maintain a permanent record of all permits issued in flood hazard areas, including supporting certifications and documentation required by this appendix and copies of inspection reports, design certifications and documentation of elevations required in Section 1612 of this code and Section R322 of the International Residential Code. **G103.9 Inspections.** Development for which a permit under this appendix is required shall be subject to inspection. The ~~*building official*~~ floodplain administrator or the ~~*building official's*~~ floodplain administrator's designee shall make, or cause to be made, inspections of all development in flood hazard areas authorized by issuance of a permit under this appendix. **G104.1 Required.** Any person, owner or owner's authorized agent who intends to conduct any development in a flood hazard area shall first make application to the ~~*building official*~~ floodplain administrator and shall obtain the required *permit*. **G104.2 Application for permit.** The applicant shall file an application in writing on a form furnished by the ~~*building official.*~~ floodplain administrator. Such application shall: 1. Identify and describe the development to be covered by the permit. 2. Describe the land on which the proposed development is to be conducted by legal description, street address or similar description that will readily identify and definitely locate the site.					

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Sub Code:						
	3. Include a site plan showing the delineation of flood hazard areas, floodway boundaries, flood zones, design flood elevations, ground elevations, proposed fill and excavation and drainage patterns and facilities. 4. Include in subdivision proposals and other proposed developments with more than 50 lots or larger than 5 acres (20 234 m2), base flood elevation data in accordance with Section 1612.3.1 if such data are not identified for the flood hazard areas established in Section G102.2. 5. Indicate the use and occupancy for which the proposed development is intended. 6. Be accompanied by construction documents, grading and filling plans and other information deemed appropriate by the ~~*building official*~~ floodplain administrator. 7. State the valuation of the proposed work. 8. Be signed by the applicant or the applicant's authorized agent. **G104.3 Validity of permit.** The issuance of a permit under this appendix shall not be construed to be a permit for, or approval of, any violation of this appendix or any other ordinance of the jurisdiction. The issuance of a permit based on submitted documents and information shall not prevent the ~~*building official*~~ floodplain administrator from requiring the correction of errors. The ~~*building official*~~ floodplain administrator is authorized to prevent occupancy or use of a structure or site that is in violation of this appendix or other ordinances of this jurisdiction. **G104.4 Expiration.** A permit shall become invalid if the proposed development is not commenced within 180 days after its issuance, or if the work authorized is suspended or abandoned for a period of 180 days after the work commences. Extensions shall be requested in writing and justifiable cause demonstrated. The ~~*building official*~~ floodplain administrator is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. **G104.5 Suspension or revocation.** The ~~*building official*~~ floodplain administrator is authorized to suspend or revoke a permit issued under this appendix wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or code of this jurisdiction.					

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		Decrease	**None**	**Increase**		
Sub Code:						
	G105.2 Records. The ~~*building official*~~ floodplain administrator shall maintain a permanent record of all variance actions, including justification for their issuance. **G105.7 Conditions for issuance.** Variances shall only be issued by the board of appeals where all of the following criteria are met: 1. A technical showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site renders the elevation standards inappropriate. 2. A determination that failure to grant the variance would result in exceptional hardship by rendering the lot undevelopable. 3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, nor create nuisances, cause fraud on or victimization of the public or conflict with existing local laws or ordinances. 4. A determination that the variance is the minimum necessary, considering the flood hazard, to afford relief. 5. Notification to the applicant in writing over the signature of the ~~building official~~ floodplain administrator that the issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as $25 for $100 of insurance coverage, and that such construction below the base flood level increases risks to life and property.					
G17-19	**G103.10 Use of changed technical data.** The ~~building official~~ floodplain administrator and the applicant shall not use changed flood hazard area boundaries or base flood elevations for proposed buildings or developments unless the ~~building official~~ floodplain administrator or applicant has applied for a conditional Flood Insurance Rate Map (FIRM) revision and has received the approval of the Federal Emergency Management Agency (FEMA).		X			Clarification
G18-19	**G105.1 General.** The ~~jurisdiction shall establish or designate a board to~~ board of appeals established pursuant to Section 113, or other established or designated board, shall hear and decide requests for variances. The board shall base its determination on technical justifications, and has the right to attach such conditions to variances as it deems necessary to further the purposes and objectives of this appendix and Section 1612.		X			Clarification
G19-19	**G105.4 Functionally dependent facilities ~~uses~~.** A variance is authorized to be issued for the construction or substantial improvement of a ~~structure and for other development necessary for~~		X			Clarification

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Sub Code:						
	~~the conduct of a~~ functionally dependent facility ~~use~~ provided that the criteria in Section 1612.1 are met and the variance is the minimum necessary to allow the construction or substantial improvement, and that all due consideration has been given to methods and materials that minimize flood damages during the design flood and do not create additional threats to public safety. **G201.2 Definitions.** **DEVELOPMENT.** Any man-made change to improved or unimproved real estate, including but not limited to, buildings or other structures, temporary structures, temporary or permanent storage of materials, mining, dredging, filling, grading, paving, excavations, operations and other land-disturbing activities. **FUNCTIONALLY DEPENDENT FACILITY ~~USE~~.** A facility ~~use~~ that cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities necessary for the loading or unloading of cargo or passengers, and shipbuilding and ship repair facilities. The term does not include long-term storage, manufacture, sales or service facilities.					
G20-19	**G201.2 Definitions.** **MANUFACTURED HOME.** A structure that is transportable in one or more sections, built on a permanent chassis, designed for use with or without a permanent foundation when attached to the required utilities, and constructed to the Federal ~~Mobile~~ Manufactured Home Construction and Safety Standards and rules and regulations promulgated by the U.S. Department of Housing and Urban Development. The term also includes mobile homes, park trailers, travel trailers and similar transportable structures that are placed on a site for 180 consecutive days or longer. **SECTION G1101** **REFERENCED STANDARDS** HUD 24 CFR Part 3280 (~~2008~~ 2018) | Manufactured Home Construction and Safety Standards | G201		X			Clarification
S5-19	**1511.3 Roof replacement.** *Roof replacement* shall include the removal of all existing layers of ~~roof coverings and~~ roof assembly materials down to the roof deck. **Exception:** Where the existing roof assembly includes an ice barrier membrane that is adhered to the roof deck, the existing ice barrier membrane shall be permitted to remain in place and covered with		X			Clarification

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Sub Code:						
	an additional layer of ice barrier membrane in accordance with Section 1507.					
S10-19	**1511.5 Reinstallation of materials.** Existing slate, clay or cement tile shall be permitted for reinstallation, except that damaged, cracked or broken slate or tile shall not be reinstalled. Existing vent flashing, metal edgings, drain outlets, collars and metal counterflashings shall not be reinstalled where rusted, damaged or deteriorated. ~~Aggregate~~ Existing ballast that is damaged, cracked or broken shall not be reinstalled. Existing aggregate surfacing materials from built-up roofs shall not be reinstalled.	X				Clarification
S12-19	**1503.3.1 Fire-resistance-rated parapet walls.** Parapet walls required by section 705.11 shall be coped or covered with ~~non-combustible,~~ weatherproof materials of a width not less than the thickness of the parapet wall such that the fire resistance rating of the wall is not decreased.		X			Clarification
S13-19	**1503.3.1 Fire-resistance-rated parapet walls.** Parapet walls required by section 705.11 shall be coped or covered with ~~non-combustible,~~ weatherproof materials of a width not less than the thickness of the parapet wall such that the fire resistance rating of the wall is not decreased.	X				Clarification
S14-19	**1504.2 Wind resistance of clay and concrete tile.** Wind loads on clay and concrete tile roof coverings shall be in accordance with Section 1609.5. **1504.2.1 Testing.** Testing of concrete and clay roof tiles shall be in accordance with Sections 1504.2.1.1, 1504.2.1.2 and ~~1504.2.1.2.~~1504.2.1.3. **1504.2.1.1 Overturning resistance.** Concrete and clay roof tiles shall be tested to determine their resistance to overturning due to wind in accordance with Chapter 15 and either SBCCI SSTD 11 or ASTM C1568. **1504.2.1.2 Wind tunnel testing.** Where concrete and clay roof tiles do not satisfy the limitations in Chapter 16 for rigid tile, a wind tunnel test shall be used to determine the wind characteristics of the concrete or clay tile roof covering in accordance with Chapter 15 and either SBCCI SSTD 11 ~~and Chapter 15~~ or ASTM C1569. **1504.2.1.3 Air permeability testing.** The lift coefficient for concrete and clay tile shall be 0.2 or shall be determined in accordance with SBCCI SSTD 11 or ASTM C1570.		X			Clarification

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		Decrease	None	Increase		
Sub Code:						
S15-19	**1504.4 Ballasted low-slope single-ply roof systems.** Ballasted low-slope (roof slope < 2:12) single-ply roof system coverings installed in accordance with Sections 1507.12 and 1507.13 shall be designed in accordance with ~~Section 1504.8 and~~ ANSI/SPRI RP-4. **1504.8 Surfacing and ballast materials in hurricane-prone regions.** For a building located in a hurricane-prone region as defined in Section 202, or on any other building with a mean roof height exceeding that permitted by Table 1504.8 based on the exposure category and basic wind speed at the site, the following materials shall not be used on the roof: 1. Aggregate used as surfacing for roof coverings. 2. Aggregate, gravel or stone used as ballast. **Exception:** Ballasted single-ply roof systems complying with Section 1504.4		X			Clarification
S16-19	**1504.5 Edge systems for low-slope roofs.** Metal edge systems, except gutters and counterflashing, installed on built-up, modified bitumen and single-ply roof systems having a slope less than 2:12, shall be designed and installed for wind loads in accordance with Chapter 16 and tested for resistance in accordance with Test Methods RE-1, RE-2 and RE-3 of ANSI/SPRI ES-1, except basic design wind speed, V, shall be determined from Figures 1609.3(1) through 1609.3(8) as applicable.		X			Clarification
S17-19	**1504.5.1 Gutter securement for low-slope roofs.** ~~External gutters~~ Gutters that are used to secure the perimeter edge of the roof membrane on low-slope (less than 2:12 slope) built-up, modified bitumen, and single ply roofs, shall be designed, constructed and installed to resist wind loads in accordance with Section 1609 and shall be tested in accordance with Test Methods G-1 and G-2 of SPRI GT-1.			X	Minimal	Clarification
S18-19	**1504.7 Impact resistance.** Roof coverings installed on low-slope roofs (roof slope < 2:12) in accordance with Section 1507 shall resist impact damage based on the results of tests conducted in accordance with ASTM D3746, ASTM D4272 or the "Resistance to Foot Traffic Test" in ~~Section 5.5 of~~ FM 4470.		X			Clarification
S21-19	**1504.8 Wind resistance of aggregate-surfaced roofs.** Parapets shall be provided for aggregate surfaced roofs and shall comply with Table 1504.8. **TABLE 1504.8 MINIMUM REQUIRED PARAPET HEIGHT (INCHES) FOR AGGREGATE SURFACED ROOFS**			X	Minimal	Clarification
S22-19	**1506.1 Scope.** The requirements set forth in this section shall apply to the application of roof-covering materials specified herein. Roof coverings shall be applied in accordance with this chapter and the roof		X			Clarification

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CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	covering listing as required by Section 1505. Installation of roof coverings shall comply with the applicable provisions of Section 1507.					
S24-19	1507.1.1 Underlayment. Underlayment for asphalt shingles, clay and concrete tile, metal roof shingles, mineral-surfaced roll roofing, slate and slate-type shingles, wood shingles, wood shakes, metal roof panels and *photovoltaic shingles* shall conform to the applicable standards listed in this chapter. Underlayment materials required to comply with ASTM D226, D1970, D4869 and D6757 shall bear a label indicating compliance with the standard designation and, if applicable, type classification indicated in Table 1507.1.1(1). Underlayment shall be applied in accordance with Table 1507.1.1(2). Underlayment shall be attached in accordance with Table 1507.1.1(3). **Exceptions:** ~~1. As an alternative, self-adhering polymer modified bitumen underlayment complying with ASTM D1970 and installed in accordance with the manufacturer's installation instructions for the deck material, roof ventilation configuration and climate exposure for the roof covering to be installed shall be permitted.~~ ~~2.~~1. As an alternative, a minimum 4-inch-wide (102 mm) strip of self-adhering polymer modified bitumen membrane complying with ASTM D1970 and installed in accordance with the manufacturer's installation instructions for the deck material shall be applied over all joints in the roof decking. An approved underlayment for the applicable roof covering for design wind speeds less than 120 mph (54 m/s) shall be applied over the 4-inch-wide (102 mm) membrane strips. ~~3.~~2. As an alternative, two layers of underlayment complying with ASTM D226 Type II or ASTM D4869 Type IV shall be permitted to be installed as follows: Apply a 19-inch (483 mm) strip of underlayment parallel with the eave. Starting at the eave, apply 36-inch-wide (914 mm) strips of underlayment felt, overlapping successive sheets 19 inches (483 mm). The underlayment shall be attached with corrosion-resistant fasteners in a grid pattern of 12 inches (305 mm) between side laps with a 6-inch (152 mm) spacing at side and end laps. End laps shall be 4 inches (102 mm) and shall be offset by 6 feet (1829 mm). Underlayment shall be attached using metal or plastic cap nails with a nominal cap diameter of not less than 1 inch (25.4 mm). Metal caps shall have a thickness of not less than 32-gage sheet metal. Power-driven metal caps shall have		X			Clarification

<table>
<tr><th colspan="7">Table 12. 2021 IBC STRUCTURAL Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC STRUCTURAL CHANGE SUMMARY</th><th colspan="3">IBC STRUCTURAL COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>a thickness of not less than 0.010 inch (mm). Thickness of the outside edge of plastic caps shall be not less than 0.035 inch (mm). The cap nail shank shall be not less than 0.083 inch for ring shank cap nails and 0.091 inch (mm) for smooth shank cap nails. The cap nail shank shall have a length sufficient to penetrate through the roof sheathing or not less than $^3/_4$ inch (19.1 mm) into the roof sheathing.
~~4.~~3. Structural metal panels that do not require a substrate or underlayment.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>S25-19</td><td>1507.3.1 Deck requirements. Concrete and clay tile shall be installed only over solid ~~structural~~ sheathing ~~boards~~.

<u>Exception:</u>
<u>Spaced lumber sheathing shall be permitted in Seismic Design Categories A, B and C.</u></td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>S28-19</td><td>1507.3.6 Fasteners. Tile fasteners shall be corrosion resistant and not less than 11-gage, <u>[0.120 inch (3 mm)],</u> $^5/_{16}$-inch (8.0 mm) head, and of sufficient length to penetrate the deck not less than $^3/_4$ inch (19.1 mm) or through the thickness of the deck, whichever is less. Attaching wire for clay or concrete tile shall not be smaller than 0.083 inch (2.1 mm). Perimeter fastening areas include three tile courses but not less than 36 inches (914 mm) from either side of hips or ridges and edges of eaves and gable rakes.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>S31-19</td><td>TABLE 1507.12.2
SINGLE-PLY ROOFING MATERIAL STANDARDS
<table><tr><th>MATERIAL</th><th>MATERIAL STANDARD</th></tr><tr><td>Chlorosulf<u>ona</u>ted polyethylene (CSPE) or polyisobutylene (PIB)</td><td>ASTM D5019</td></tr><tr><td>Ethylene propylene diene monomer (EPDM)</td><td>ASTM D4637</td></tr><tr><td>Ketone Ethylene Ester (KEE)</td><td>ASTM D6754</td></tr><tr><td>Polyvinyl Chloride (PVC) <u>or (PVC/KEE)</u></td><td>ASTM D4434</td></tr><tr><td>Thermoplastic polyolfin (TPO)</td><td>ASTM D6878</td></tr></table></td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>S32-19</td><td>1507.15 Liquid-applied roofing. The installation of liquid-applied roofing shall comply with the provisions of this section.

1507.15.1 Slope. Liquid-applied roofing shall have a design slope of not less than one-fourth unit vertical in 12 units horizontal (2-percent slope).

1507.15.2 Material standards. Liquid-applied roofing shall comply with ASTM C836, ASTM C957~~, ASTM D1227~~ or ASTM ~~D3468, ASTM D6083, ASTM D6694 or ASTM D6947~~ <u>D3468</u>.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact

<table>
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<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td>S33-19 Part I</td><td>TABLE 1504.1.1
CLASSIFICATION OF STEEP SLOPE ROOF SHINGLES TESTED IN ACCORDANCE WITH ASTM D3161 OR D7158
<table>
<tr><th>MAXIMUM BASIC WIND SPEED, V, FROM FIGURES 1609.3(1)-(8) OR ASCE 7(mph)</th><th>MAXIMUM ALLOWABLE STRESS DESIGN WIND SPEED, V_{asd}, FROM TABLE 1609.3.1 (mph)</th><th>ASTM D7158[a] CLASSIFICATION</th><th>ASTM D3161 or UL 7103 CLASSIFICATION</th></tr>
<tr><td>110</td><td>85</td><td>D, G or H</td><td>A, D or F</td></tr>
<tr><td>116</td><td>90</td><td>D, G or H</td><td>A, D or F</td></tr>
<tr><td>129</td><td>100</td><td>G or H</td><td>A, D or F</td></tr>
<tr><td>142</td><td>110</td><td>G or H</td><td>F</td></tr>
<tr><td>155</td><td>120</td><td>G or H</td><td>F</td></tr>
<tr><td>168</td><td>130</td><td>H</td><td>F</td></tr>
<tr><td>181</td><td>140</td><td>H</td><td>F</td></tr>
<tr><td>194</td><td>150</td><td>H</td><td>F</td></tr>
</table>
For SI: 1 foot = 304.8 mm; 1 mph = 0.447 m/s.
a. The standard calculations contained in ASTM D7158 assume Exposure Category B or C and building height of 60 feet or less. Additional calculations are required for conditions outside of these assumptions.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>S33-19 Part II</td><td>TABLE R905.16.6
Classification of Photovoltaic Shingles
<table>
<tr><td>MAXIMUM ULTIMATE DESIGN WIND SPEED, V_{ult} FROM FIGURE R301.2(5)A (mph)</td><td>MAXIMUM BASIC WIND SPEED, V_{ASD} FROM TABLE R301.2.1.3(mph)</td><td>~~UL 7103[a] SHINGLE CLASSIFICATION~~</td><td>UL 7103 SHINGLE CLASSIFICATION</td></tr>
<tr><td>110</td><td>85</td><td>~~D, G or H~~</td><td>A, D or F</td></tr>
<tr><td>116</td><td>90</td><td>~~D, G or H~~</td><td>A, D or F</td></tr>
<tr><td>129</td><td>100</td><td>~~G or H~~</td><td>A, D or F</td></tr>
<tr><td>142</td><td>110</td><td>~~G or H~~</td><td>F</td></tr>
<tr><td>155</td><td>120</td><td>~~G or H~~</td><td>F</td></tr>
<tr><td>168</td><td>130</td><td>~~H~~</td><td>F</td></tr>
<tr><td>181</td><td>140</td><td>~~H~~</td><td>F</td></tr>
<tr><td>194</td><td>150</td><td>~~H~~</td><td>F</td></tr>
</table>
~~a. The standard calculations contained in UL7103 assume Exposure Category B or C and a building height of 60 feet or less. Additional calculations are required for conditions outside of these assumptions.~~</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>S34-19 Part I</td><td>[BG] 1510.7.2 Photovoltaic panels and modules. Rooftop-mounted photovoltaic panels and modules shall be listed and labeled in accordance with UL 1703, or with both UL 61730-1 and UL 61730-2, and shall be installed in accordance with the manufacturer’s instructions.</td><td></td><td>X</td><td></td><td></td><td>Provides an alternate compliance option</td></tr>
</table>

<table>
<tr><th colspan="7">Table 12. 2021 IBC STRUCTURAL Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC STRUCTURAL CHANGE SUMMARY</th><th colspan="3">IBC STRUCTURAL COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>1507.17.6 Material standards. Photovoltaic shingles shall be listed and labeled in accordance with UL 1703 or with both UL 61730-1 and UL 61730-2.

1507.18.5 Material standards. BIPV roof panels shall be listed and labeled in accordance with UL 1703 or with both UL 61730-1 and UL 61730-2.

3111.3.1 Equipment. Photovoltaic panels and modules shall be listed and labeled in accordance with UL 1703 or with both UL 61730-1 and UL 61730-2. Inverters shall be listed and labeled in accordance with UL 1741. Systems connected to the utility grid shall use inverters listed for utility interaction.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>S34-19 Part II</td><td>R324.3.1 Equipment listings. Photovoltaic panels and modules shall be listed and labeled in accordance with UL 1703 or with both UL 61730-1 and UL 61730-2. Inverters shall be listed and labeled in accordance with UL 1741. Systems connected to the utility grid shall use inverters listed for utility interaction.

R905.16.4 Material standards. Photovoltaic shingles shall be listed and labeled in accordance with UL 1703 or with both UL 61730-1 and UL 61730-2.

R905.17.5 Material standards. BIPV roof panels shall be listed and labeled in accordance with UL 1703 or with both UL 61730-1 and UL 61730-2.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>S35-19</td><td>TABLE 1509.2
ROOF COATING MATERIAL STANDARDS<table><tr><th>MATERIAL</th><th>STANDARD</th></tr><tr><td>Acrylic coating</td><td>ASTM D6083</td></tr><tr><td>Asphaltic emulsion coating</td><td>ASTM D1227</td></tr><tr><td>Asphalt coating</td><td>ASTM D2823</td></tr><tr><td>Asphalt roof coating</td><td>ASTM D4479</td></tr><tr><td>Aluminum-pigmented asphalt coating</td><td>ASTM D2824</td></tr><tr><td>Silicone coating</td><td>ASTM D6694</td></tr><tr><td>Moisture-cured polyurethane coating</td><td>ASTM D6947</td></tr></table></td><td></td><td>X</td><td></td><td></td><td>Provides an alternate compliance option</td></tr>
<tr><td>S36-19</td><td>[BS] LIVE LOAD, ROOF. A load on a roof produced:

1. During maintenance by workers, equipment and materials; or</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

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	2. During the life of the structure by movable objects such as planters or other similar small decorative appurtenances that are not occupancy related.~~; or~~ ~~3. By the use and occupancy of the roof such as for roof gardens or assembly areas.~~ **SECTION 1602** **NOTATIONS** **1602.1 Notations.** The following notations are used in this chapter: *D* = Dead load. D_i = Weight of ice in accordance with Chapter 10 of ASCE 7. *E* = Combined effect of horizontal and vertical earthquake induced forces as defined in Section 2.3.6 of ASCE 7. *F* = Load due to fluids with well-defined pressures and maximum heights. F_a = Flood load in accordance with Chapter 5 of ASCE 7. *H* = Load due to lateral earth pressures, ground water pressure or pressure of bulk materials. *L* = ~~Roof live load greater than 20 psf (0.96 kN/m²) and floor live~~ Live load. L_r = Roof live load ~~of 20 psf (0.96 kN/m²) or less~~. *R* = Rain load. *S* = Snow load. T = Cumulative effects of self-straining load forces and effects. V_{asd} = Allowable stress design wind speed, miles per hour (mph) (km/hr) where applicable. V = Basic design wind speeds, miles per hour (mph) (km/hr) determined from Figures 1609.3(1) through 1609.3(8) or ASCE 7. *W* = Load due to wind pressure. W_i = Wind-on-ice in accordance with Chapter 10 of ASCE 7.					
S39-19	**1603.1.4 Wind design data.** The following information related to wind loads shall be shown, regardless of whether wind loads govern the design of the lateral force-resisting system of the structure: 1. Basic design wind speed, *V*, miles per hour and allowable stress design wind speed, V_{asd}, as determined in accordance with Section 1609.3.1. 2. *Risk category*. 3. Wind exposure. Applicable wind direction if more than one wind exposure is utilized. 4. Applicable internal pressure coefficient. 5. Design wind pressures and their applicable zones with dimensions to be used for exterior component and cladding		X			Clarification

<table>
<tr><th colspan="7">Table 12. 2021 IBC STRUCTURAL Changes Cost Impact</th></tr>
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<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>materials not specifically designed by the registered design professional responsible for the design of the structure, psf (kN/m^2).
~~6. Roof pressure coefficient (GC_p) zones locations and dimensions.~~</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>S40-19</td><td>SECTION 1604
GENERAL DESIGN REQUIREMENTS

1604.3 Serviceability. Structural systems and members thereof shall be designed to have adequate stiffness to limit deflections as indicated in Table 1604.3. ~~Drift limits applicable to earthquake loading shall be in accordance with ASCE 7 Chapter 12, 13, 15 or 16, as applicable.~~</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>S44-19</td><td>TABLE 1604.5
RISK CATEGORY OF BUILDINGS AND OTHER STRUCTURES
<table><tr><th>RISK CATEGORY</th><th>NATURE OF OCCUPANCY</th></tr><tr><td>III</td><td>Buildings and other structures that represent a substantial hazard to human life in the event of failure, including but not limited to:
•Buildings and other structures whose primary occupancy is public assembly with an occupant load greater than 300.
•Buildings and other structures containing one or more public assembly spaces, each having an occupant load greater than 300 and a cumulative occupant load of ~~the~~ these public assembly spaces of greater than 2,500.
•Buildings and other structures containing Group E occupancies with an occupant load greater than 250.
•Buildings and other structures containing educational occupancies for students above the 12th grade with an occupant load greater than 500.
•Group I-2, Condition 1 occupancies with 50 or more care recipients.
•Group I-2, Condition 2 occupancies not having emergency surgery or emergency treatment facilities.
•Group I-3 occupancies.
•Any other occupancy with an occupant load greater than 5,000.[a]
•Power-generating stations, water treatment facilities for potable water, wastewater treatment facilities and other public utility facilities not included in Risk Category IV.
•Buildings and other structures not included in Risk Category IV containing quantities of toxic or explosive materials that:
Exceed maximum allowable quantities per control area as given in Table 307.1(1) or 307.1(2) or per outdoor control area in accordance with the International Fire Code; and
Are sufficient to pose a threat to the public if released.[b]</td></tr></table>a. For purposes of occupant load calculation, occupancies required by Table 1004.5 to use gross floor area calculations shall be permitted to use net floor areas to determine the total occupant load.
b. Where approved by the building official, the classification of buildings and other structures as Risk Category III or IV based on their quantities of toxic, highly toxic or explosive materials is permitted to be reduced to Risk Category II, provided that it can be demonstrated by a hazard assessment in accordance with Section 1.5.3 of ASCE 7 that a release of the toxic, highly toxic or explosive materials is not sufficient to pose a threat to the public.</td><td></td><td></td><td>X</td><td>Minimal</td><td>Clarification</td></tr>
<tr><td>S45-19</td><td>TABLE 1604.5
RISK CATEGORY OF BUILDINGS AND OTHER STRUCTURES

Portions of table not shown remain unchanged.</td><td></td><td></td><td>X</td><td>Minimal</td><td>Clarification</td></tr>
</table>

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<tr><th colspan="7">Table 12. 2021 IBC STRUCTURAL Changes Cost Impact</th></tr>
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<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>
<table>
<tr><th>RISK CATEGORY</th><th>NATURE OF OCCUPANCY</th></tr>
<tr><td>III</td><td>Buildings and other structures that represent a substantial hazard to human life in the event of failure, including but not limited to:
•Buildings and other structures whose primary occupancy is public assembly with an occupant load greater than 300.
•Buildings and other structures containing Group E or Group I-4 occupancies or combination therof, with an occupant load greater than 250.
•Buildings and other structures containing educational occupancies for students above the 12th grade with an occupant load greater than 500.
•Group I-2, Condition 1 occupancies with 50 or more care recipients.
•Group I-2, Condition 2 occupancies not having emergency surgery or emergency treatment facilities.
•Group I-3 occupancies.
•Any other occupancy with an occupant load greater than 5,000.[a]
•Power-generating stations, water treatment facilities for potable water, wastewater treatment facilities and other public utility facilities not included in Risk Category IV.
•Buildings and other structures not included in Risk Category IV containing quantities of toxic or explosive materials that:
Exceed maximum allowable quantities per control area as given in Table 307.1(1) or 307.1(2) or per outdoor control area in accordance with the International Fire Code ; and
Are sufficient to pose a threat to the public if released.[b]</td></tr>
</table>
a. For purposes of occupant load calculation, occupancies required by Table 1004.5 to use gross floor area calculations shall be permitted to use net floor areas to determine the total occupant load.
b. Where approved by the building official, the classification of buildings and other structures as Risk Category III or IV based on their quantities of toxic, highly toxic or explosive materials is permitted to be reduced to Risk Category II, provided that it can be demonstrated by a hazard assessment in accordance with Section 1.5.3 of ASCE 7 that a release of the toxic, highly toxic or explosive materials is not sufficient to pose a threat to the public.
</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>S47-19</td><td>SECTION 1605
LOAD COMBINATIONS

1605.1 General. Buildings and other structures and portions thereof shall be designed to resist the Strength Load Combinations specified in ASCE 7 Section 2.3, the Allowable Stress Design Load</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

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Sub Code:						
	Combinations specified in ASCE 7 Section 2.4, or the Alternative Allowable Stress Design Load Combinations of Section 1605.2. **Exceptions:** 1. The modifications to Load Combinations of ASCE 7 Section 2.3, ASCE 7 Section 2.4, and Section 1605.2 specified in ASCE 7 Chapter 18 and 19 shall apply. 2. When the Allowable Stress Design Load Combinations of ASCE 7 Section 2.4 are used, flat roof snow loads of 30 psf (1.44kN/m^2) and roof live loads of 30 psf (1.44 kN/m^2) or less need not be combined with seismic load. Where flat roof snow loads exceed 30 psf (1.44kN/m^2), 20 percent shall be combined with seismic loads. 3. Where the Allowable Stress Design Load Combinations of ASCE 7 Section 2.4 are used, crane hook loads need not be combined with roof live loads or with more than three-fourths of the snow load or one-half of the wind loads. **1605.2 Load combinations using strength design or load and resistance factor design.** **1605.2.1 Other loads.** **1605.3 Load combinations using allowable stress design.** **1605.3.1 Basic load combinations.** **1605.3.1.1 Stress increases.** **1605.3.1.2 Other loads.** **1605.2 Alternative allowable stress design load combinations.** In lieu of the Load Combinations in ASCE 7 Section 2.4, structures and portions thereof shall be permitted to be designed for the most critical effects resulting from the following combinations. Where using these alternative allowable stress load combinations that include wind or seismic loads, allowable stresses are permitted to be increased or load combinations reduced where permitted by the material chapter of this code or the referenced standards. For load combinations that include the counteracting effects of dead and wind loads, only two-thirds of the minimum dead load likely to be in place during a design wind event shall be used. Where using allowable stresses that have been increased or load combinations					

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		Decrease	None	Increase		
Sub Code:						
	that have been reduced as permitted by the material chapter of this code or the referenced standards, where wind loads are calculated in accordance with Chapters 26 through 31 of ASCE 7, the coefficient (ω) in the following equations shall be taken as 1.3. For other wind loads, (ω) shall be taken as 1. Where allowable stresses have not been increased or load combinations have not been reduced as permitted by the material chapter of this code or the referenced standards, (ω) shall be taken as 1. Where using these alternative load combinations to evaluate sliding, overturning and soil bearing at the soil-structure interface, the reduction of foundation overturning from Section 12.13.4 in ASCE 7 shall not be used. Where using these alternative basic load combinations for proportioning foundations for loadings, which include seismic loads, the vertical seismic *load effect*, E_v, in Equation 12.4-4 of ASCE 7 is permitted to be taken equal to zero. Where required by ASCE 7 Chapters 12, 13, and 15, the Load Combinations including overstrength of ASCE 7 Sections 2.3.6 shall be used. **(Equation 16-1)** **(Equation 16-2)** **(Equation 16-3)** **(Equation 16-4)** **(Equation 16-5)** **(Equation 16-6)** **Exceptions:** 1. Crane hook loads need not be combined with roof live loads or with more than three-fourths of the snow load or one-half of the wind load. ~~2.~~ Flat roof snow loads of 30 psf (1.44 kN/m^2) or less and roof live loads of 30 psf (1.44 kN/m^2) or less need not be combined with seismic loads. Where flat roof snow loads exceed 30 psf (1.44 kN/m^2), 20 percent shall be combined with seismic loads. ~~3. Where required by ASCE 7 Chapter 12, 13, and 15, the Load Combinations including overstrength of ASCE 7 Section 2.3.6 shall be used.~~ **1605.3.2.1 Other loads.**					

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	1607.14 Crane loads. The crane live load shall be the rated capacity of the crane. Design loads for the runway beams, including connections and support brackets, of moving bridge cranes and monorail cranes shall include the maximum wheel loads of the crane and the vertical impact, lateral and longitudinal forces induced by the moving crane. ~~Crane hook loads need not be combined with roof live load or with more than three-fourths of the snow loads or one-half of the wind load.~~					
S48-19	**1605.3.2 Alternative basic load combinations.** In lieu of the basic load combinations specified in Section 1605.3.1, structures and portions thereof shall be permitted to be designed for the most critical effects resulting from the following combinations. Where using these alternative basic allowable stress load combinations that include wind or seismic loads, allowable stresses are permitted to be increased or load combinations reduced where permitted by the material chapter of this code or the referenced standards. For load combinations that include the counteracting effects of dead and wind loads, only two-thirds of the minimum dead load likely to be in place during a design wind event shall be used. Where using ~~allowable stresses that have been increased or load combinations that have been reduced as permitted by the material chapter of this code or the referenced standards, where wind loads are calculated in accordance with Chapters 26 through 31 of ASCE 7, the coefficient (ω) in the following equations shall be taken as 1.3. For other wind loads, (ω) shall be taken as 1. Where allowable stresses have not been increased or load combinations have not been reduced as permitted by the material chapter of this code or the referenced standards, (ω) shall be taken as 1. Where using~~ these alternative load combinations to evaluate sliding, overturning and soil bearing at the soil-structure interface, the reduction of foundation overturning from Section 12.13.4 in ASCE 7 shall not be used. Where using these alternative basic load combinations for proportioning foundations for loadings, which include seismic loads, the vertical seismic *load effect*, E_v, in Equation 12.4-4 of ASCE 7 is permitted to be taken equal to zero. $D + L + (L_r \text{ or } S \text{ or } R)$ **(Equation 16-17)** $D + L + 0.6\,\omega W$ $D + L + 0.6W$ **(Equation 16-18)** ~~$D + L + 0.6\,\omega W + S/2$~~ $D + L + 0.6W + S/2$ **(Equation 16-19)**		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IBC STRUCTURAL CHANGE SUMMARY**	**IBC STRUCTURAL COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	$D + L + S + 0.6\,\omega W/2$ $D + L + S + 0.6W/2$ **(Equation 16-20)** $D + L + S + E/1.4$ **(Equation 16-21)** $0.9D + E/1.4$ **(Equation 16-22)** **Exceptions**: 1. Crane hook loads need not be combined with roof live loads or with more than three-fourths of the snow load or one-half of the wind load. 2. Flat roof snow loads of 30 psf (1.44 kN/m^2) or less and roof live loads of 30 psf (1.44 kN/m^2) or less need not be combined with seismic loads. Where flat roof snow loads exceed 30 psf (1.44 kN/m^2), 20 percent shall be combined with seismic loads.					
S49-19	**1606.2 ~~Design dead load.~~** Weights of materials of construction. For purposes of design, the actual weights of materials of construction ~~and fixed service equipment~~ shall be used. In the absence of definite information, values used shall be subject to the approval of the *building official*. **1606.3 Weight of fixed service equipment.** In determining dead loads for purposes of design, the weight of fixed service equipment, including the maximum weight of the contents of fixed service equipment, shall be included. The components of fixed service equipment that are variable, such as liquid contents and movable trays, shall not be used to counteract forces causing overturning, sliding, and uplift conditions in accordance with Section 1.3.6 of ASCE 7. **Exceptions:** 1. Where force effects are the result of the presence of the variable components, the components are permitted to be used to counter those load effects. In such cases, the structure shall be designed for force effects with the variable components present and with them absent. 2. For the calculation of seismic force effects, the components of fixed service equipment that are variable, such as liquid contents and movable trays, need not exceed those expected during normal operation.		X			Clarifies how to handle equipment & coordinates for ASCE 7
S50-19	**1606.3 Photovoltaic panel systems.** The weight of photovoltaic panel systems, their support system, and ballast shall be considered as dead load.		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC STRUCTURAL CHANGE SUMMARY</th><th colspan="3">IBC STRUCTURAL COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td>S51-19</td><td>1606.3 Vegetative and landscaped roofs. The weight of all landscaping and hardscaping materials <u>for vegetative and landscaped roofs</u> shall be considered as dead load. The weight shall be computed considering both fully saturated soil and drainage layer materials and fully dry soil and drainage layer materials to determine the most severe load effects on the structure.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>S53-19</td><td>TABLE 1607.1
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L0, AND MINIMUM CONCENTRATED LIVE LOADS[g]

Portions of table not shown remain unchanged.
<table>
<tr><th>OCCUPANCY OR USE</th><th>UNIFORM (psf)</th><th>CONCENTRATED (pounds)</th></tr>
<tr><td>4. Assembly areas</td><td></td><td>—</td></tr>
<tr><td>Fixed seats (fastened to floor)</td><td>60[m]</td><td></td></tr>
<tr><td>Follow spot, projections and control rooms</td><td>50</td><td></td></tr>
<tr><td>Lobbies</td><td>100[m]</td><td></td></tr>
<tr><td>Movable seats</td><td>100[m]</td><td></td></tr>
<tr><td>Stage floors</td><td>150[n]</td><td></td></tr>
<tr><td>Platforms (assembly)</td><td>100[m]</td><td></td></tr>
<tr><td><u>Reviewing stands, grandstands and bleachers</u></td><td><u>100[c,m]</u></td><td></td></tr>
<tr><td><u>Stadiums and arenas with fixed seats (fastened to the floor)</u></td><td><u>60[c,m]</u></td><td></td></tr>
<tr><td>Other assembly areas</td><td>100[m]</td><td></td></tr>
<tr><td>24. Recreational uses:</td><td></td><td>—</td></tr>
<tr><td>Bowling alleys, poolrooms and similar uses</td><td>75[m]</td><td></td></tr>
<tr><td>Dance halls and ballrooms</td><td>100[m]</td><td></td></tr>
<tr><td>Gymnasiums</td><td>100[m]</td><td></td></tr>
<tr><td>Ice skating rink</td><td>250[n]</td><td></td></tr>
<tr><td><s>Reviewing stands, grandstands and bleachers</s></td><td><s>100[c, m]</s></td><td></td></tr>
<tr><td>Roller skating rink</td><td>100[m]</td><td></td></tr>
<tr><td><s>Stadiums and arenas with fixed seats (fastened to floor)</s></td><td><s>60[c, m]</s></td><td></td></tr>
</table>
c. Design in accordance with ICC 300.
m. Live load reduction is not permitted.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>S54-19</td><td>TABLE 1607.1
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L0, AND MINIMUM CONCENTRATED LIVE LOADS[g]

Portions of table not shown remain unchanged.
<table>
<tr><th>OCCUPANCY OR USE</th><th>UNIFORM (psf)</th><th>CONCENTRATED (pounds)</th></tr>
</table>
<s>g. Where snow loads occur that are in excess of the design conditions, the structure shall be designed to support the loads due to the</s></td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

<table>
<tr><th colspan="7">Table 12. 2021 IBC STRUCTURAL Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC STRUCTURAL CHANGE SUMMARY</th><th colspan="3">IBC STRUCTURAL COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>~~increased loads caused by drift buildup or a greater snow design determined by the building official (see~~ ~~Section 1608).~~</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>S55-19</td><td>TABLE 1607.1
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L_0, AND
MINIMUM CONCENTRATED LIVE LOADS[g]
<table>
<tr><th>OCCUPANCY OR USE</th><th>UNIFORM (psf)</th><th>CONCENTRATED (pounds)</th></tr>
<tr><td>6. Catwalks for maintenance <u>and service</u> access</td><td>40</td><td>300</td></tr>
<tr><td>35. Yards and terraces, pedestrian</td><td>100[m]</td><td>—</td></tr>
</table></td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>S56-19</td><td>TABLE 1607.1
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L0 , AND
MINIMUM CONCENTRATED LIVE LOADS[g]

Portions of table not shown remain unchanged.
<table>
<tr><th>OCCUPANCY OR USE</th><th>UNIFORM (psf)</th><th>CONCENTRATED (pounds)</th></tr>
<tr><td><u>14. Fixed ladders</u></td><td><u>See Section 1607.16</u></td><td></td></tr>
</table>
<u>1607.16 Fixed ladders.</u> <u>Fixed ladders with rungs shall be designed to resist a single concentrated load of 300 lb (1.33 kN) in accordance with Section 4.5.4 of ASCE 7. Where rails of fixed ladders extend above a floor or platform at the top of the ladder, each side rail extension shall be designed to resist a single concentrated load of 100 lb (0.445 kN) in accordance with Section 4.5.4 of ASCE 7. Ships ladders shall be designed to resist the stair loads given in Table 1607.1.</u>

1011.15 Ships ladders. Ships ladders are permitted to be used in Group I-3 as a component of a means of egress to and from control rooms or elevated facility observation stations not more than 250 square feet (23 m^2) with not more than three occupants and for access to unoccupied roofs. The minimum clear width at and below the handrails shall be 20 inches (508 mm). <u>Ships ladders shall be designed for the live loads indicated in Section 1607.16</u>

1011.16 Ladders. Permanent ladders shall not serve as a part of the means of egress from occupied spaces within a building. Permanent ladders shall be constructed in accordance with Section 306.5 of the International Mechanical Code <u>and designed for the live loads indicated in Section 1607.16</u>. Permanent ladders shall be permitted to provide access to the following areas:</td><td></td><td></td><td>X</td><td>Minimal</td><td>Coordinates requirements for fixed ladders in the IBC with the referenced design load standard, Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE 7)</td></tr>
</table>

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	1. Spaces frequented only by personnel for maintenance, repair or monitoring of equipment. 2. Nonoccupiable spaces accessed only by catwalks, crawl spaces, freight elevators or very narrow passageways. 3. Raised areas used primarily for purposes of security, life safety or fire safety including, but not limited to, observation galleries, prison guard towers, fire towers or lifeguard stands. 4. Elevated levels in Group U not open to the general public. 5. Nonoccupied roofs that are not required to have *stairway* access in accordance with Section 1011.12.1. 6. Where permitted to access equipment and appliances in accordance with Section 306.5 of the International Mechanical Code.					
S57-19	**TABLE 1607.1 MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L0, AND MINIMUM CONCENTRATED LIVE LOADS** ~~a. Floors in garages or portions of buildings used for the storage of motor vehicles shall be designed for the uniformly distributed live loads of this table or the following concentrated loads: (1) for garages restricted to passenger vehicles accommodating not more than nine passengers, 3,000 pounds acting on an area of $4^{1}/_{2}$inches by $4^{1}/_{2}$inches; (2) for mechanical parking structures without slab or deck that are used for storing passenger vehicles only, 2,250 pounds per wheel.~~ ~~b. The loading applies to stack room floors that support nonmobile, double-faced library book stacks, subject to the following limitations:~~ ~~1. The nominal book stack unit height shall not exceed 90 inches.~~ ~~2. The nominal shelf depth shall not exceed 12 inches for each face.~~ ~~3. Parallel rows of double-faced book stacks shall be separated by aisles not less than 36 inches wide.~~ c. Design in accordance with ICC 300. ~~d. Other uniform loads in accordance with an approved method containing provisions for truck loadings shall be considered where appropriate.~~ ~~e. The concentrated wheel load shall be applied on an area of 4.5 inches by 4.5 inches.~~ ~~f. The minimum concentrated load on stair treads shall be applied on an area of 2 inches by 2 inches. This load need not be assumed to act concurrently with the uniform load.~~		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	g. Where snow loads occur that are in excess of the design conditions, the structure shall be designed to support the loads due to the increased loads caused by drift buildup or a greater snow design determined by the building official (see Section 1608). h. See Section 1604.8.3 for decks attached to exterior walls. ~~i. Uninhabitable attics without storage are those where the maximum clear height between the joists and rafters is less than 42 inches, or where there are not two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses. This live load need not be assumed to act concurrently with any other live load requirements.~~ ~~j. Uninhabitable attics with storage are those where the maximum clear height between the joists and rafters is 42 inches or greater, or where there are two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses.~~ ~~The live load need only be applied to those portions of the joists or truss bottom chords where both of the following conditions are met:~~ ~~i. The attic area is accessible from an opening not less than 20 inches in width by 30 inches in length that is located where the clear height in the attic is not less than 30 inches.~~ ~~ii. The slopes of the joists or truss bottom chords are not greater than two units vertical in 12 units horizontal.~~ ~~The remaining portions of the joists or truss bottom chords shall be designed for a uniformly distributed concurrent live load of not less than 10 pounds per square foot.~~ ~~k. Attic spaces served by stairways other than the pull-down type shall be designed to support the minimum live load specified for habitable attics and sleeping rooms.~~ l. Areas of occupiable roofs, other than roof gardens and assembly areas, shall be designed for appropriate loads as approved by the building official. Unoccupied landscaped areas of roofs shall be designed in accordance with Section 1607.13.3. m. Live load reduction is not permitted. n. Live load reduction is only permitted in accordance with Section 1607.11.1.2 or Item 1 of Section 1607.11.2. o. Live load reduction is only permitted in accordance with Section 1607.11.1.3 or Item 2 of Section 1607.11.2.					

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CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	1607.7 Passenger vehicle garages. Floors in garages or portions of a building used for the storage of motor vehicles shall be designed for the uniformly distributed live loads indicated in Table 1607.1 or the following concentrated load: 1. For garages restricted to passenger vehicles accommodating not more than nine passengers, 3,000 pounds (13.35 kN) acting on an area of 4.5 inches by 4.5 inches(114 mm by 114 mm). 2. For mechanical parking structures without slab or deck that are used for storing passenger vehicles only, 2,250 pounds (10 kN) per wheel. ~~**1607.7**~~ **1607.8 Heavy vehicle loads.** Floors and other surfaces that are intended to support vehicle loads greater than a 10,000-pound (4536 kg) gross vehicle weight rating shall comply with Sections 1607.7.1 through 1607.7.5. **1607.17 Library stack rooms.** The live loading indicated in Table 1607.1 for library stack rooms applies to stack room floors that support nonmobile, double-faced library book stacks, subject to the following limitations: 1. The nominal book stack unit height shall not exceed 90 inches (2,290 mm). 2. The nominal shelf depth shall not exceed 12 inches (305 mm) for each face. 3. Parallel rows of double-faced book stacks shall be separated by aisles not less than 36 inches (914 mm) wide. **1607.18 Sidewalks, vehicular driveways, and yards subject to trucking.** The live loading indicated in Table 1607.1 for sidewalks, vehicular driveways, and yards subject to trucking shall comply with the requirements of this section. **1607.18.1 Uniform loads.** In addition to the loads indicated in Table 1607.1, other uniform loads in accordance with an approved method which contains provisions for truck loading, shall be considered where appropriate.					

	1607.18.2 Concentrated loads. The concentrated wheel load indicated in Table 1607.1 shall be applied on an area of 4.5 inches by 4.5 inches (114 mm by 114 mm). **1607.19 Stair treads.** The concentrated load indicated in Table 1607.1 for stair treads shall be applied on an area of 2 inches by 2 inches (51 mm by 51 mm). This load need not be assumed to act concurrently with the uniform load. **1607.20 Residential Attics** The live loads indicated in Table 1607.1 for attics in residential occupancies shall comply with the requirements of this section. **1607.20.1 Uninhabitable attics without storage.** In residential occupancies, uninhabitable attic areas without storage are those where the maximum clear height between the joists and rafters is less than 42 inches (1067 mm), or where there are not two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches (1067 mm) in height by 24 inches (610 mm) in width, or greater, within the plane of the trusses. The live load in Table 1607.1 need not be assumed to act concurrently with any other live load requirement. **1607.20.2 Uninhabitable attics with storage.** In residential occupancies, uninhabitable attic areas with storage are those where the maximum clear height between the joist and rafter is 42 inches (1067 mm) or greater, or where there are two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches (1067 mm) in height by 24 inches (610 mm) in width, or greater, within the plane of the trusses. The live load in Table 1607.1 need only be applied to those portions of the joists or truss bottom chords where both of the following conditions are met: 1. The attic area is accessed from an opening not less than 20 inches (508 mm) in width by 30 inches (762 mm) in length that is located where the clear height in the attic is not less than 30 inches (762 mm). 2. The slope of the joists or truss bottom chords is not greater than two units vertical in 12 units horizontal. The remaining portions of the joists or truss bottom chords shall be designed for a uniformly distributed concurrent live load of not less than 10 pounds per square foot (0.48 kN/m^2). **1607.20.3 Attics served by stairs.** Attic spaces served by stairways other than the pull-down type shall be designed to support the minimum live load specified for habitable attics and sleeping rooms.					
S58-19	**TABLE 1607.1** **MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L0 , AND MINIMUM CONCENTRATED LIVE LOADS[g]**		X			Clarification

<table>
<tr><th colspan="7">Table 12. 2021 IBC STRUCTURAL Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC STRUCTURAL CHANGE SUMMARY</th><th colspan="3">IBC STRUCTURAL COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>
Portions of table not shown remain unchanged.
<table>
<tr><th>OCCUPANCY OR USE</th><th>UNIFORM (psf)</th><th>CONCENTRATED (pounds)</th></tr>
<tr><td>24. Recreational uses:</td><td></td><td>—</td></tr>
<tr><td>Bowling alleys, poolrooms and similar uses</td><td>75[m]</td><td></td></tr>
<tr><td>Dance halls and ballrooms</td><td>100[m]</td><td></td></tr>
<tr><td>Gymnasiums</td><td>100[m]</td><td></td></tr>
<tr><td>Ice skating rink</td><td>250[n]</td><td></td></tr>
<tr><td>~~Reviewing stands,~~ Bleachers, folding and telescopic seating and grandstands ~~and bleachers~~</td><td>100[c, m] (see Section 1607.16)</td><td></td></tr>
<tr><td>Roller skating rink</td><td>100[m]</td><td></td></tr>
<tr><td>Stadiums and arenas with fixed seats (fastened to floor)</td><td>60[c, m] (see Section 1607.16)</td><td></td></tr>
</table>
~~c. Design in accordance with ICC 300~~.

1607.16 Seating for assembly uses. Bleachers, folding and telescopic seating and grandstands shall be designed for the loads specified in ICC 300. Stadiums and arenas with fixed seats shall be designed for the horizontal sway loads in Section 1607.16.1.

1607.16.1 Horizontal sway loads. The design of stadiums and arenas with fixed seats shall include horizontal swaying forces applied to each row of seats as follows:

1. 24 lb per linear foot (0.35 kN/m) of seat applied in a direction parallel to each row of seats, and
2. 10 lb per linear foot (0.15 kN/m) of seat applied in a direction perpendicular to each row of seats.

The parallel and perpendicular horizontal swaying forces are not required to be applied simultaneously.
</td><td></td><td></td><td></td><td></td></tr>
<tr><td>S59-19</td><td>Committee Reason: This proposal coordinates the Roof live load item in Table 1607.1 of the IBC with the Roof live load item in Table 4.3-1 in the referenced design load standard, Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE 7). Both the content and the layout of the Roof item is revised for coordination, including the associated footnote, Footnote L. The modification revises the wording for improved readability and replaces an item which was inadvertently deleted. (Vote: 14-0)</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>S61-19</td><td>TABLE 1607.1
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L0 , AND MINIMUM CONCENTRATED LIVE LOADS[g]
Portions of table not shown remain unchanged.</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	OCCUPANCY OR USE / **UNIFORM (psf)** / **CONCENTRATED (pounds)** 31. Storage areas above ceilings / 20 / ~~31~~ 32. Storage warehouses (shall be designed for heavier loads if required for anticipated storage) / / — Heavy / 250[n] / Light / 125[n] /					
S62-19	**TABLE 1607.1** **MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L0 , AND MINIMUM CONCENTRATED LIVE LOADS[g]** *Portions of table not shown remain unchanged.* **OCCUPANCY OR USE** / **UNIFORM (psf)** / **CONCENTRATED (pounds)** 5. Balconies and decks[h] / 1.5 times the live load for the area served, not required to exceed 100 / — ~~h. See Section 1604.8.3 for decks attached to exterior walls.~~		X			Clarification
S63-19	**1607.2 Loads not specified.** For occupancies or uses not designated in ~~Table 1607.1~~Section 1607, the live load shall be determined in accordance with a method *approved* by the *building official*.		X			Clarification
S66-19	**1607.8.1.1 Concentrated load.** Handrails and guards shall be designed to resist a concentrated load of 200 pounds (0.89 kN) in accordance with Section ~~4.5.1.1 of~~ 4.5.1 of ASCE 7.		X			Clarification
S67-19	**1607.8.1.2 ~~Intermediate rails.~~ Guard component loads.** ~~Intermediate rails (all those except the handrail), balusters and panel fillers shall~~ Balusters, panel fillers, and guard infill components, including all rails except the handrail and the top rail, shall be designed to resist a concentrated load of 50 pounds (0.22 kN) in accordance with Section ~~4.5.1.1 of~~ 4.5.1.2 of ASCE 7.		X			Clarification
S68-19	**1607.8.2 Grab bars, shower seats and accessible benches ~~bench seats.~~** Grab bars, shower seats and *accessible* benches ~~bench seats~~ shall be designed to resist a single concentrated load of 250 pounds (1.11 kN) applied in any direction at any point on the grab bar, ~~or~~ shower seat, or seat of the accessible bench so as to produce the maximum load effects.		X			Clarification
S69-19	**1607.10.4 Fall arrest and lifeline anchorages.** In addition to any other applicable live loads, fall arrest and lifeline anchorages and structural elements that support these anchorages shall be designed for a live load of not less than 3,100 pounds (13.8 kN) for each attached lifeline, in ~~every~~ any direction that a fall arrest load can be applied.		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IBC STRUCTURAL CHANGE SUMMARY**	**IBC STRUCTURAL COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
S70-19	**1607.10.4 Fall arrest. ~~and~~ lifeline and rope descent system anchorages.** In addition to any other applicable live loads, fall arrest ~~and lifeline~~ , lifeline, and rope descent system anchorages and structural elements that support these anchorages shall be designed for a live load of not less than 3,100 pounds (13.8 kN) for each attached ~~lifeline~~ line, in every direction that ~~a fall arrest~~ the load can be applied. Anchorages of horizontal lifelines and the structural elements that support these anchorages shall be designed for the maximum tension that develops in the horizontal lifeline from these live loads.			X	Minimal	Clarification
S71-19	**1607.13 Roof loads.** The structural supports of roofs and marquees shall be designed to resist wind and, where applicable, snow and earthquake loads, in addition to the dead load of construction and the appropriate live loads as prescribed in this section, or as set forth in Table 1607.1. The live loads acting on a sloping surface shall be assumed to act vertically on the horizontal projection of that surface. **1607.13.1 Distribution of roof loads.** Where uniform roof live loads are reduced to less than 20 psf (0.96 kN/m^2) in accordance with Section 1607.13.2.1 and are applied to the design of structural members arranged so as to create continuity, the reduced roof live load shall be applied to adjacent spans or to alternate spans, whichever produces the most unfavorable *load effect*. See Section 1607.13.2 for reductions in minimum roof live loads and Section 7.5 of ASCE 7 for partial snow loading. **1607.13.2 ~~General.~~ Reduction in uniform roof live loads.** The minimum uniformly distributed live loads of roofs and marquees, L_o, in Table 1607.1 are permitted to be reduced in accordance with Section 1607.13.2.1. **1607.13.2.1 Ordinary roofs, awnings and canopies.** Ordinary flat, pitched and curved roofs, and awnings and canopies other than of fabric construction supported by a skeleton structure, are permitted to be designed for a reduced uniformly distributed roof live load, L_r, as specified in the following equations or other controlling combinations of loads as specified in Section 1605, whichever produces the greater *load effect*. In structures such as greenhouses, where special scaffolding is used as a work surface for workers and materials during maintenance and repair operations, a lower roof load than specified in the following equations shall not be used unless *approved* by the *building official*.		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Such structures shall be designed for a minimum roof live load of 12 psf (0.58 kN/m^2). $L_r = L_o R_1 R_2$ **(Equation 16-26)** where: $0.58 \le L_r \le 0.96$ L_o = Unreduced roof live load per square foot (m^2) of horizontal projection supported by the member (see Table 1607.1). L_r = Reduced roof live load per square foot (m^2) of horizontal projection supported by the member. where: $12 \le L_r \le 20$ For SI: $L_r = L_o R_1 R_2$ The reduction factors R_1 and R_2 shall be determined as follows: $R_1 = 1$ for $A_t \le 200$ square feet (18.58 m^2) **(Equation 16-27)** $R_1 = 1.2 - 0.001A_t$ for 200 square feet $< A_t <$ 600 square feet **(Equation 16-28)** For SI: $1.2 - 0.011A_t$ for 18.58 square meters $< A_t <$ 55.74 square meters $R_1 = 0.6$ for $A_t \ge 600$ square feet (55.74 m^2) **(Equation 16-29)** where: A_t = Tributary area (span length multiplied by effective width) in square feet (m^2) supported by the member, and $R_2 = 1$ for $F \le 4$ **(Equation 16-30)** $R_2 = 1.2 - 0.05F$ for $4 < F < 12$ **(Equation 16-31)** $R_2 = 0.6$ for $F \ge 12$ **(Equation 16-32)** where:					

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	F = For a sloped roof, the number of inches of rise per foot (for SI: *F* = 0.12 × slope, with slope expressed as a percentage), or for an arch or dome, the rise-to-span ratio multiplied by 32. ~~**1607.13.3**~~ **1607.13.2.2 Occupiable roofs.** Areas of roofs that are occupiable, such as *vegetative roofs*, roof gardens or for assembly or other similar purposes, and marquees are permitted to have their uniformly distributed live loads reduced in accordance with Section 1607.11. ~~**1607.13.3.1**~~ **1607.13.3 Vegetative and landscaped roofs.** The weight of all landscaping materials shall be considered as dead load and shall be computed on the basis of saturation of the soil as determined in accordance with Section 3.1.4 of ASCE 7. The uniform design live load in unoccupied landscaped areas on roofs shall be 20 psf (0.958 kN/m^2). The uniform design live load for occupied landscaped areas on roofs shall be determined in accordance with Table 1607.1.					
S72-19	~~**1607.13.5.2.1**~~ **1607.13.5.3 Photovoltaic panels installed on open grid roof structures.** Structures with open grid framing and without a roof deck or sheathing supporting photovoltaic panel systems shall be designed to support the uniform and concentrated roof live loads specified in Section 1607.13.5.1, except that the uniform roof live load shall be permitted to be reduced to 12 psf (0.57 kN/m^2). ~~**1607.13.5.3**~~ **1607.13.5.4** ~~**Photovoltaic panels or modules installed as an independent structure.**~~ **Ground-mounted photovoltaic (PV) panel systems.** ~~Solar photovoltaic panels or modules~~ Ground-mounted *photovoltaic (PV) panel systems* that are independent structures and do not have accessible/occupied space underneath are not required to accommodate a roof photovoltaic live load~~, provided that the area under the structure is restricted to keep the public away~~. Other loads and combinations in accordance with Section 1605 shall be accommodated. ~~Solar photovoltaic panels or modules that are designed to be the roof, span to structural supports and have accessible/occupied space underneath shall have the panels or modules and all supporting structures designed to support a roof photovoltaic live load, as defined in Section 1607.13.5.1 in combination with other applicable loads. Solar photovoltaic panels or modules in this application are not permitted to be classified as "not accessible" in accordance with Section 1607.13.5.1.~~ ~~**1607.13.5.4**~~ **1607.13.5.5 Ballasted photovoltaic panel systems.** Roof structures that provide support for ballasted *photovoltaic panel*		X			Clarification

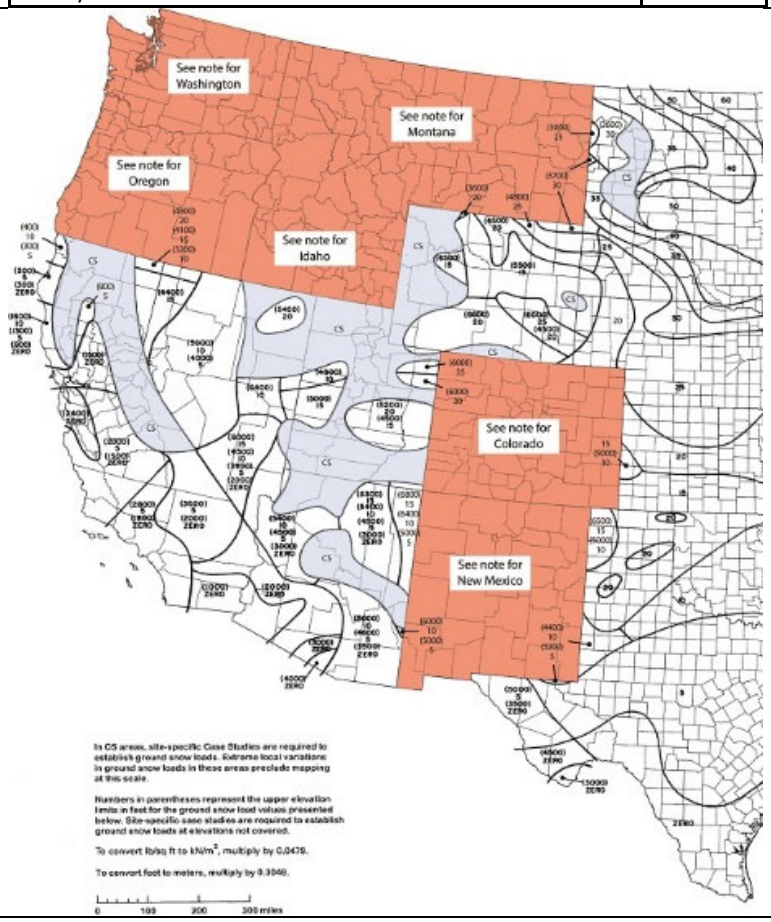
<table>
<tr><th colspan="7">Table 12. 2021 IBC STRUCTURAL Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC STRUCTURAL CHANGE SUMMARY</th><th colspan="3">IBC STRUCTURAL COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>systems shall be designed, or analyzed, in accordance with Section 1604.4; checked in accordance with Section 1604.3.6 for deflections; and checked in accordance with Section 1611 for ponding.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>S73-19</td><td>1607.14.2 Vertical impact force. The maximum wheel loads of the crane shall be increased by the following percentages to <s>determine</s> account for the <s>induced</s> effects of vertical impact or vibration <s>force</s>:
<table><tr><td>Monorail cranes (powered)</td><td>25 percent</td></tr><tr><td>Cab-operated or remotely operated bridge cranes (powered)</td><td>25 percent</td></tr><tr><td>Pendant-operated bridge cranes (powered)</td><td>10 percent</td></tr><tr><td>Bridge cranes or monorail cranes with hand-geared bridge, trolley and hoist</td><td>0 percent</td></tr></table></td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
<tr><td>S74-19</td><td> 
</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IBC STRUCTURAL CHANGE SUMMARY**	**IBC STRUCTURAL COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	NOTE: See ASCE 7 Tables~~:~~ 7.2-2 for Colorado~~,~~ ~~; see~~ Table 7.2-3 for Idaho~~,~~ ~~; see~~ Table 7.2-4 for Montana~~,~~ ~~; see~~ Table 7.2-5 for Washington~~,~~ ~~; see~~ Table 7.2-6 for New Mexico~~,~~ ~~; see~~ Table 7.2-7 for Oregon~~,~~ and~~; see~~ Table 7.2-8 for New Hampshire. **FIGURE 1608.2** **GROUND SNOW LOADS, p_g, FOR THE UNITED STATES (psf)**					
S76-19	**1610.2 Uplift loads on floor and foundations.** Basement floors, slabs on ground, foundations, and similar approximately horizontal elements below grade shall be designed to resist uplift loads where applicable. The upward pressure of water shall be taken as the full hydrostatic pressure applied over the entire area. The hydrostatic load shall be measured from the underside of the ~~construction~~ element being evaluated. The design for upward loads caused by expansive soils shall comply with Section 1808.6.			X	Minimal	Clarification
S77-19	**Revise as follows:** **1610.1 General.** Foundation walls and retaining walls shall be designed to resist lateral soil loads from adjacent soil. Soil loads specified in Table 1610.1 shall be used as the minimum design lateral soil loads unless determined otherwise by a geotechnical investigation in accordance with Section 1803. Foundation walls and other walls in which horizontal movement is restricted at the top shall be designed for at-rest pressure. Retaining walls free to move and rotate at the top shall be permitted to be designed for active pressure. ~~Design lateral~~ Lateral pressure from surcharge loads shall be added to the lateral ~~earth pressure~~ soil load. ~~Design lateral~~ Lateral pressure shall be increased if expansive soils are present at the site ~~are expansive~~. Foundation walls shall be designed to support the weight of the full hydrostatic pressure of undrained backfill unless a drainage system is installed in accordance with Sections 1805.4.2 and 1805.4.3. **Exception:** Foundation walls extending not more than 8 feet (2438 mm) below grade and laterally supported at the top by flexible diaphragms shall be permitted to be designed for active pressure.		X			Clarification
S79-19	**Revise as follows:**			X	Minimal	Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IBC STRUCTURAL CHANGE SUMMARY**	**IBC STRUCTURAL COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	1611.1 Design rain loads. Each portion of a roof shall be designed to sustain the load of rainwater ~~that will accumulate on it if the primary drainage system for that portion is blocked plus the uniform load caused by water that rises above the inlet of the secondary drainage system at its design flow~~ as per the requirements of Chapter 8 of ASCE 7. The design rainfall shall be based on the 100-year ~~hourly rainfall rate indicated in Figure 1611.1~~ 15-minute duration event, or on other rainfall rates determined from *approved* local weather data. Alternatively, a design rainfall of twice the 100-year hourly rainfall rate indicated in Figure 1611.1 shall be permitted. $R = 5.2(d_s + d_h)$ **(Equation 16-35)** where: d_h = Additional depth of water on the undeflected roof above the inlet of secondary drainage system at its design flow (in other words, the hydraulic head), in inches (mm). d_s = Depth of water on the undeflected roof up to the inlet of secondary drainage system when the primary drainage system is blocked (in other words, the static head), in inches (mm). R = Rain load on the undeflected roof, in psf (kN/m^2). Where the phrase "undeflected roof" is used, deflections from loads (including dead loads) shall not be considered when determining the amount of rain on the roof. For SI: $R = 0.0098(d_s + d_h)$ **1611.2 Ponding instability.** Susceptible bays of roofs shall be evaluated for ponding instability in accordance with ~~Section 8.4~~ Chapter 7 and Chapter 8 of ASCE 7.					
S80-19	**1612.4 Flood hazard documentation.** The following documentation shall be prepared and sealed by a *registered design professional* and submitted to the *building official*: 1. For construction in *flood hazard areas* other than *coastal high hazard areas* or *coastal A zones*: 1.1. The elevation of the lowest floor, including the basement, as required by the lowest floor elevation inspection in Section 110.3.3 and for the final inspection in Section 110.3.11.1. 1.2. For fully enclosed areas below the design flood elevation where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Section 2.7.2.1 of ASCE 24, *construction documents* shall include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.7.2.2 of ASCE 24. 1.3. For dry floodproofed nonresidential buildings, *construction documents* shall include a statement that the dry floodproofing is designed in accordance with ASCE 24 and shall include the flood emergency plan specified in Chapter 6 of ASCE 24. 2. For construction in *coastal high hazard areas* and *coastal A zones*: 2.1. The elevation of the bottom of the lowest horizontal structural member as required by the lowest floor elevation inspection in Section 110.3.3 and for the final inspection in Section 110.3.11.1. 2.2. *Construction documents* shall include a statement that the building is designed in accordance with ASCE 24, including that the pile or column foundation and building or structure to be attached thereto is designed to be anchored to resist flotation, collapse and lateral movement due to the effects of wind and flood loads acting simultaneously on all building components, and other load requirements of Chapter 16. 2.3. For breakaway walls designed to have a resistance of more than 20 psf (0.96 kN/m^2) determined using *allowable stress design*, *construction documents* shall include a statement that the breakaway wall is designed in accordance with ASCE 24.					
S81-19	**1612.4 Flood hazard documentation.** The following documentation shall be prepared and sealed by a *registered design professional* and submitted to the *building official*: 1. For construction in flood hazard areas other than coastal high hazard areas or coastal A zones: 1.1. The elevation of the lowest floor, including the basement, as required by the lowest floor elevation inspection in Section 110.3.3 and for the final inspection in Section 110.3.11.1. 1.2. For fully enclosed areas below the design flood elevation where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in Section 2.7.2.1 of ASCE 24, construction documents shall include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.7.2.2 of ASCE 24. 1.3. For dry floodproofed nonresidential buildings, construction		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	documents shall include a statement that the dry floodproofing is designed in accordance with ASCE 24. 2. For construction in coastal high hazard areas and coastal A zones: 2.1. The elevation of the bottom of the lowest horizontal structural member as required by the lowest floor elevation inspection in Section 110.3.3 and for the final inspection in Section 110.3.11.1. 2.2. Construction documents shall include a statement that the building is designed in accordance with ASCE 24, including that the pile or column foundation and building or structure to be attached thereto is designed to be anchored to resist flotation, collapse and lateral movement due to the effects of wind and flood loads acting simultaneously on all building components, and other load requirements of Chapter 16. 2.3. For breakaway walls designed to have a resistance of more than 20 psf (0.96 kN/m2) determined using allowable stress design, construction documents shall include a statement that the breakaway wall is designed in accordance with ASCE 24. 2.4. For breakaway walls where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in Section 2.7.2.1 of ASCE 24, construction documents shall include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.7.2.2 of ASCE 24.					
S90-19	**1704.6 Structural observations.** Where required by the provisions of Section 1704.6.1, 1704.6.2 or 1704.6.3, the owner or the owner's authorized agent shall employ a *registered design professional* to perform structural observations. The structural observer shall visually observe representative locations of structural systems, details, and load paths for general conformance to ~~the design intent as defined in~~ the approved construction documents. Structural observation does not include or waive the responsibility for the inspections in Section 110 or the *special inspections* in Section 1705 or other sections of this code. Prior to the commencement of observations, the structural observer shall submit to the *building official* a written statement identifying the frequency and extent of structural observations. At the conclusion of the work included in the permit, the structural observer shall submit to the *building official* a written statement that the site visits have been made and identify any reported deficiencies		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	that, to the best of the structural observer's knowledge, have not been resolved.					
S92-19	**1704.6.1 Structural observations for structures.** Structural observations shall be provided for those structures where one or more of the following conditions exist: 1. The structure is classified as Risk Category III or IV. 2. The structure is a high-rise building. 3. The structure is assigned to Seismic Design Category E, and is greater than two stories above the grade plane. ~~3.~~4. Such observation is required by the registered design professional responsible for the structural design. ~~4.~~5. Such observation is specifically required by the building official. ~~**1704.6.2 Structural observations for seismic resistance.** Structural observations shall be provided for those structures assigned to Seismic Design Category D, E or F where one or more of the following conditions exist:~~ ~~1. The structure is classified as Risk Category III or IV.~~ ~~2. The structure is assigned to Seismic Design Category E, is classified as Risk Category I or II, and is greater than two stories above the grade plane.~~ ~~**1704.6.3 Structural observations for wind resistance.** Structural observations shall be provided for those structures sited where V is 130 mph (58 m/sec) or greater and the structure is classified as Risk Category III or IV.~~		X			Clarification
S97-19	**TABLE 1705.3** **REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION**			X	Minimal	Incorporates recent ACI 550.5 standard
S99-19	**1705.4.1 ~~Empirically designed masonry, glass~~ Glass unit masonry and masonry veneer in Risk Category IV.** *Special inspections* and tests for ~~empirically designed masonry,~~ glass unit masonry or masonry veneer designed in accordance with Section ~~2109,~~ 2110 or Chapter 14, respectively, where they are part of a structure classified as *Risk Category* IV shall be performed in accordance with TMS 402, Level B Quality Assurance.		X			Clarification
S100-19	**1705.5.3 Mass timber construction.** *Special inspections* of Mass Timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1705.5.3. **TABLE 1705.5.3**			X	Minimal	Necessary addition for clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC STRUCTURAL CHANGE SUMMARY</th><th colspan="3">IBC STRUCTURAL COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td><u>REQUIRED SPECIAL INSPECTIONS OF MASS TIMBER CONSTRUCTION</u>

<table>
<tr><th>Type</th><th>Continuous Special Inspection</th><th>Periodic Special Inspection</th></tr>
<tr><td><u>1. Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.</u></td><td><u>-</u></td><td><u>X</u></td></tr>
<tr><td><u>2. Inspect erection of mass timber construction</u></td><td><u>-</u></td><td><u>X</u></td></tr>
<tr><td><u>3. Inspection of connections where installation methods are required to meet design loads</u></td><td><u>-</u></td><td><u>-</u></td></tr>
<tr><td><u>3.1. Threaded fasteners</u></td><td><u>-</u></td><td><u>-</u></td></tr>
<tr><td><u>3.1.1. Verify use of proper installation equipment.</u></td><td><u>-</u></td><td><u>X</u></td></tr>
<tr><td><u>3.1.2. Verify use of pre-drilled holes where required.</u></td><td><u>-</u></td><td><u>X</u></td></tr>
<tr><td><u>3.1.3. Inspect screws, including diameter, length, head type, spacing, installation angle, and depth.</u></td><td><u>-</u></td><td><u>X</u></td></tr>
<tr><td><u>3.2. Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads</u></td><td><u>X</u></td><td><u>-</u></td></tr>
<tr><td><u>3.3. Adhesive anchors not defined in 3.2.</u></td><td><u>-</u></td><td><u>X</u></td></tr>
<tr><td><u>3.4. Bolted connections</u></td><td><u>-</u></td><td><u>X</u></td></tr>
<tr><td><u>3.5. Concealed connections</u></td><td><u>-</u></td><td><u>X</u></td></tr>
</table></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>S102-19</td><td>1705.6 Soils. Special inspections and tests of existing site soil conditions, fill placement and load-bearing requirements shall be performed in accordance with this section and Table 1705.6. The approved geotechnical report and the construction documents prepared by the registered design professionals shall be used to determine compliance. ~~During fill placement, the special inspector shall verify that proper materials and procedures are used in accordance with the provisions of the approved geotechnical report.~~

Exception:
Where Section 1803 does not require reporting of materials and procedures for fill placement, the special inspector shall verify that the in-place dry density of the compacted fill is not less than 90 percent of the maximum dry density at optimum moisture content determined in accordance with ASTM D1557.

TABLE 1705.6
REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS
<table>
<tr><th>TYPE</th><th>CONTINUOUS SPECIAL INSPECTION</th><th>PERIODIC SPECIAL INSPECTION</th></tr>
<tr><td>1.Verify materials below shallow foundations are adequate to achieve the design bearing capacity.</td><td>—</td><td>X</td></tr>
<tr><td>2.Verify excavations are extended to proper depth and have reached proper material.</td><td>—</td><td>X</td></tr>
<tr><td>3.Perform classification and testing of compacted fill materials.</td><td>—</td><td>X</td></tr>
</table></td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						

4.<u>During fill placement,</u> verify use of proper materials <u>and procedures in accordance with the provisions of the *approved* geotechnical report.</u> <u>Verify</u> densities and lift thicknesses during placement and com-paction of compacted fill.	X	—
5.Prior to placement of compacted fill, inspect subgrade and verify that site has been pre-pared properly.	—	X

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.	<u>In accordance with 1705.2</u>	
6.For concrete elements and concrete-filled elements, perform tests and additional special inspections in accordance with Section 1705.3.	<u>In accordance with 1705.3</u>	
7.For specialty elements, perform additional inspections as defined in the statement of special inspections.	<u>In accordance with Statement of Special Inspections</u>	

TABLE 1705.8
REQUIRED SPECIAL INSPECTIONS AND TESTS OF CAST-IN-PLACE DEEP FOUNDATION ELEMENTS

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1.Inspect drilling operations and maintain complete and accurate records for each element.	X	—

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact							
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		Decrease	**None**	**Increase**		
Sub Code:						
	2.Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end-bearing strata capacity. Record concrete or grout volumes. — X —					
	3.For concrete elements, perform tests and additional special inspections in accordance with Section 1705.3. — In accordance with 1705.3 —					
S103-19	**1705.10 Structural Integrity of Deep Foundation Elements.** ~~When directed by the registered design professional in responsible charge or by the building official,~~ Whenever there is a reasonable doubt as to the structural integrity of a deep foundation element, an engineering assessment shall be required. ~~for structural integrity shall be conducted a deep foundation element~~. The engineering assessment shall include tests for defects performed in accordance with ASTM D4945, ASTM D5882, ASTM D6760, or ASTM D7949 or other *approved* method.		X			Clarification
S104-19	**1705.11 Special inspections for wind resistance.** *Special inspections* for wind resistance specified in Sections 1705.11.1 through 1705.11.3, unless exempted by the exceptions to Section 1704.2, are required for buildings and structures constructed in the following areas: 1. In wind Exposure Category B, where V_{asd} ~~as determined in accordance with Section 1609.3.1 is 120~~ is 150 miles per hour (~~52.8~~ 67 m/sec) or greater. 2. In wind Exposure Category C or D, where V_{asd} ~~as determined in accordance with Section 1609.3.1 is 110~~ is 140 mph (~~49~~ 62.6 m/sec) or greater.		X			Clarification
S105-19	**1705.12.2 Structural wood.** For the *seismic force-resisting systems* of structures assigned to *Seismic Design Category* C, D, E or F: 1. *Continuous special inspection* shall be required during field gluing operations of elements of the seismic force-resisting system. 2. *Periodic special inspection* shall be required for nailing, bolting, anchoring and other fastening of elements of the seismic force-resisting system, including wood shear walls, wood diaphragms, drag struts, braces, shear panels and hold-downs. **Exception:** *Special inspections* are not required for wood shear walls, shear panels and diaphragms, including nailing, bolting, anchoring and other fastening to other elements of the seismic force-resisting system, where the lateral resistance is provided by structural sheathing, and the specified fastener spacing at the panel edges is more than 4 inches (102 mm) on center.		X			Clarification

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		Decrease	None	Increase		
Sub Code:						
S107-19	**1705.12.7 Storage racks.** ~~If required by the Engineer of Record~~ ~~S~~storage racks, that are 8 feet in height or greater and assigned to Seismic Design Category D, E, or F, shall be provided with *periodic special inspection* as required by ~~inspected by an inspector designated by the Engineer of Record as detailed in~~ Table 1705.12.7. ~~for adherence with the approved construction documents.~~ **TABLE 1705.12.7** **REQUIRED INSPECTIONS OF STORAGE RACK SYSTEMS** **2209.3 Certification.** For rack s~~S~~torage s~~S~~tructures that are 8 feet in height or greater to the top load level and assigned to Seismic Design Category D, E, or F~~, if required by the Engineer of Record,~~ at completion of the storage rack installation, ~~the Engineer of Record shall submit~~ a *certificate of compliance* shall be submitted to the owner or the owner's authorized agent stating that the work was performed in accordance with *approved construction documents* ~~and with specifications listed in this section~~. ~~MH16.1: 2012: Specification for the Design, Testing and Utilization of Industrial Steel Storage Racks~~			X	Minimal	Clarification
S108-19	**1709.5 Exterior window and door assemblies.** The design pressure rating of exterior windows and doors in buildings shall be determined in accordance with Section 1709.5.1 or 1709.5.2. For exterior windows and doors tested in accordance with Sections 1709.5.1 or 1709.5.2, required design wind pressures determined from ASCE 7 shall be permitted to be converted to allowable stress design by multiplying by 0.6. **Exception:** Structural wind load design pressures for window ~~units smaller~~ or door assemblies other than the size tested in accordance with Section 1709.5.1 or 1709.5.2 shall be permitted to be ~~higher~~ different than the design value of the tested ~~unit~~ assembly provided such ~~higher~~ pressures are determined by accepted engineering ~~analysis.~~ analysis or validated by an additional test of the window or door assembly to the alternative allowable design pressure in accordance with Section 1709.5.2. Components of the ~~small unit~~ alternate size assembly shall be the same as the tested ~~unit. Where such calculated design pressures are~~ or labeled assembly. Where engineering analysis is used, ~~they~~ it shall be ~~validated by an additional test of the window unit having the highest allowable design pressure~~.performed in accordance with		X			Provides convenient way to validate exterior windows and doors wind test results based on existing test results

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Sub Code:						
	the analysis procedures of AAMA 2502.					
S109-19	**1709.5.2 Exterior windows and door assemblies not provided for in Section 1709.5.1.** Exterior window and door assemblies shall be tested in accordance with ASTM E330. Exterior window and door assemblies containing glass shall comply with Section 2403. The design pressure for testing shall be calculated in accordance with Chapter 16. Each assembly shall be tested for 10 seconds at a load equal to 1.5 times the design pressure. **1709.5.2.1 Garage doors and rolling doors.** Garage doors and rolling doors shall be tested in accordance with either ASTM E 330 or ANSI/DASMA 108, and shall meet the ~~acceptance~~ pass/fail criteria of ANSI/DASMA 108. Garage doors and rolling doors shall ~~have~~ be *labeled* with a permanent *label* ~~label~~ identifying the door manufacturer, the door model/series number, the positive and negative design wind pressure rating, the installation instruction drawing reference number, and the applicable test standard.			X		Clarification
S110-19	**1709.5.3 Wind-borne debris protection.** Protection of exterior glazed openings in buildings located in windborne debris regions shall be in accordance with Section 1609.~~1.~~2. **1709.5.3.1 Impact protective systems testing and labeling.** Impact protective systems shall be tested for impact resistance by an approved independent laboratory for compliance with ASTM E 1886 and ASTM E 1996 and~~. Impact protective systems shall also be tested~~ for design wind pressure ~~by an approved independent laboratory~~ for compliance with ASTM E 330. Required design wind pressures shall be determined in accordance with ~~Section 1609.6 or~~ ASCE 7, and for the purposes of this section, multiplied by 0.6 to convert to allowable stress design. Impact protective systems shall have a permanent label applied in accordance with Section 1703.5.4 identifying the manufacturer ,product designation, performance characteristics, and approved inspection agency.~~ Impact protective systems shall have a permanent label applied in accordance with Section 1703.5.4 that provides traceability to the manufacturer, product designation, and performance characteristics.~~			X		Clarification
S111-19	**1803.5.7 Excavation near foundations.** Where excavation will reduce support from any foundation, a *registered design professional* shall prepare an assessment of the structure as determined from examination of the structure, ~~the review of~~ available design documents, available subsurface data, and,		X			Clarification

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Sub Code:						
	if necessary, excavation of test pits. The *registered design professional* shall determine the requirements for ~~underpinning~~ support and protection of any existing foundation and prepare site-specific plans, details and sequence of work for submission. Such support shall be provided by underpinning, ~~sheeting and~~ bracing, excavation retention systems, or by other means acceptable to the *building official*.					
S112-19	**1804.1 Excavation near foundations.** Excavation for any purpose shall not reduce vertical or lateral support for any foundation or adjacent foundation without first underpinning or protecting the foundation against detrimental lateral or vertical movement, or both, in accordance with Section 1803.5.7.		X			Clarification
S115-19	**1807.2.4 Segmental Retaining Walls.** Dry-cast concrete units used in the construction of segmental retaining walls shall comply with ASTM C1372.		X			Necessary addition for clarification
S117-19	**1808.8.1 Concrete or grout strength and mix proportioning.** Concrete or grout in foundations shall have a specified compressive strength (f'_c) not less than the largest applicable value indicated in Table 1808.8.1. Where concrete ~~is placed through a funnel hopper at the top of a deep foundation element, the concrete mix shall be designed and proportioned so as to produce a cohesive workable mix having a slump of not less than 4 inches (102 mm) and not more than 8 inches (204 mm). Where concrete~~ or grout is to be pumped, the mix design including slump shall be adjusted to produce a pumpable mixture.		X			Clarification
S122-19	**1809.5.1 Frost Protection at Required Exits.** Frost protection shall be provided at exterior landings for all required exits with outward swinging doors. Frost protection shall only be required to the extent necessary to ensure the unobstructed opening of the required exit doors. ~~**Exception:** Landings that serve exits which do not have outward swinging doors.~~			X	Minimal	Clarification
S124-19	**TABLE 1810.3.2.6** **ALLOWABLE STRESSES FOR MATERIALS USED IN DEEP FOUNDATION ELEMENTS** *Portions of table not shown remain unchanged.* **MATERIAL TYPE AND CONDITION** / **MAXIMUM ALLOWABLE STRESS[a]** 1. Concrete or grout in compression[b] Cast-in-place with a permanent casing in accordance with Section 1810.3.2.7 or Section 1810.3.5.3.4 — $0.4 f'_c$ $0.33 f'_c$ $0.3f'_c$	X				Clarification

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<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC STRUCTURAL CHANGE SUMMARY</th><th colspan="3">IBC STRUCTURAL COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td></td><td>
<table>
<tr><td>Cast-in-place in ~~a pipe, tube,~~ other permanent casing or rock
Cast-in-place without a permanent casing
Precast nonprestressed
Precast prestressed</td><td>$0.33f'_c$
$0.33f'_c - 0.27 f_{pc}$</td></tr>
</table>
a. f ′ cis the specified compressive strength of the concrete or grout; fpcis the compressive stress on the gross concrete section due to effective prestress forces only; fy is the specified yield strength of reinforcement; Fy is the specified minimum yield stress of steel; Fu is the specified minimum tensile stress of structural steel.
b. The stresses specified apply to the gross cross-sectional area within the concrete surface. Where a temporary or permanent casing is used, the inside face of the casing shall be considered to be the concrete surface.
</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>S125-19</td><td>
TABLE 1810.3.2.6
ALLOWABLE STRESSES FOR MATERIALS USED IN DEEP FOUNDATION ELEMENTS

Portions of table not shown remain unchanged.
<table>
<tr><th>MATERIAL TYPE AND CONDITION</th><th>MAXIMUM ALLOWABLE STRESS[a]</th></tr>
<tr><td>3. Steel in compression
Cores within concrete-filled pipes or tubes
Pipes, tubes or H-piles, where justified in accordance with Section 1810.3.2.8
Pipes or tubes for micropiles
Other pipes, tubes or H-piles
Helical piles</td><td>
$0.5 F_y \le 32{,}000$ psi

$0.5 F_y \le 32{,}000$ psi
$0.4 F_y \le 32{,}000$ psi
$0.35 F_y \le$ ~~16,000~~ 24,000 psi
$0.6 F_y \le 0.5 F_u$</td></tr>
<tr><td>5. Steel in tension
Pipes, tubes or H-piles, where justified in accordance with Section 1810.3.2.8
Other pipes, tubes or H-piles
Helical piles</td><td>

$0.5F_y \le 32{,}000$ psi
$0.35 F_y \le$ ~~16,000~~ 24,000 psi
$0.6 F_y \le 0.5 F_u$</td></tr>
</table>
a. f ′ c is the specified compressive strength of the concrete or grout; fpcis the compressive stress on the gross concrete section due to effective prestress forces only; fy is the specified yield strength of reinforcement; Fy is the specified minimum yield stress of steel; Fu is the specified minimum tensile stress of structural steel.
</td><td>X</td><td></td><td></td><td></td><td>Clarification</td></tr>
</table>

<table>
<tr><th colspan="7">Table 12. 2021 IBC STRUCTURAL Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IBC STRUCTURAL CHANGE SUMMARY</th><th colspan="3">IBC STRUCTURAL COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>b. The stresses specified apply to the gross cross-sectional area within the concrete surface. Where a temporary or permanent casing is used, the inside face of the casing shall be considered to be the concrete surface.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>S126-19</td><td>TABLE 1810.3.2.6
ALLOWABLE STRESSES FOR MATERIALS USED IN DEEP FOUNDATION ELEMENTS

Portions of table not shown remain unchanged.
<table><tr><th>MATERIAL TYPE AND CONDITION</th><th>MAXIMUM ALLOWABLE STRESS[a]</th></tr><tr><td>4. Nonprestressed reinforcement in tension
Within micropiles
Other conditions
For load combinations that do not include wind or seismic loads
For load combinations that include wind or seismic loads</td><td>0.6 f_y

0.5 $f_y \le$ ~~24,000~~ 30,000 psi

0.5 $f_y \le$ 40,000 psi</td></tr></table>a. f ′ c is the specified compressive strength of the concrete or grout; fpcis the compressive stress on the gross concrete section due to effective prestress forces only; fy is the specified yield strength of reinforcement; Fy is the specified minimum yield stress of steel; Fu is the specified minimum tensile stress of structural steel.
b. The stresses specified apply to the gross cross-sectional area within the concrete surface. Where a temporary or permanent casing is used, the inside face of the casing shall be considered to be the concrete surface.</td><td>X</td><td></td><td></td><td></td><td>Clarification</td></tr>
<tr><td>127-19</td><td>1810.3.2.6 Allowable stresses. The allowable stresses for materials used in deep foundation elements shall not exceed those specified in Table 1810.3.2.6.
TABLE 1810.3.2.6
ALLOWABLE STRESSES FOR MATERIALS USED IN DEEP FOUNDATION ELEMENTS

a. f ′ c is the specified compressive strength of the concrete or grout; fpcis the compressive stress on the gross concrete section due to effective prestress forces only; fy is the specified yield strength of reinforcement; Fy is the specified minimum yield stress of steel; Fu is the specified minimum tensile stress of structural steel.
b. The stresses specified apply to the gross cross-sectional area ~~within~~ of the concrete ~~surface~~ for precast prestressed piles and</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

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CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
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	to the net cross-sectional area for all other piles. Where a temporary or permanent casing is used, the inside face of the casing shall be considered ~~to be~~ the outer edge of the concrete ~~surface~~ cross-section.					
S129-19	**1810.3.3.1 Allowable axial load.** The allowable axial load on a deep foundation element shall be determined in accordance with Sections 1810.3.3.1.1 through 1810.3.3.1.9. **Exception:** ~~Load testing is not required where~~ Where approved by the building official, load testing is not required.	X				Clarification
S130-19	**1810.3.3.1.9 Helical piles.** The allowable axial design load, P_a, of helical piles shall be determined as follows: $P_a = 0.5\,P_u$ **(Equation 18-4)** where P_u is the least value of: ~~1.~~ Base capacity plus shaft resistance of the helical pile. The base capacity is equal to the sum of the areas of the helical bearing plates times the ultimate bearing capacity of the soil or rock comprising the bearing stratum. The shaft resistance is equal to ~~only~~ the area of the shaft above the uppermost helical bearing plate times the ultimate skin resistance ~~shall be considered.~~ 2. Ultimate capacity determined from well-documented correlations with installation torque. 3. Ultimate capacity determined from load tests when required by Section 1810.3.3.1.2. 4. Ultimate axial capacity of pile shaft. 5. Ultimate axial capacity of pile shaft couplings. 6. Sum of the ultimate axial capacity of helical bearing plates affixed to pile.	X				Clarification
S131-19	**1810.3.4 Subsiding soils or strata.** Where deep foundation elements are installed through subsiding ~~fills~~ soils or other subsiding strata and derive support from underlying firmer materials, consideration shall be given to the downward frictional forces potentially imposed on the elements by the subsiding upper strata. Where the influence of subsiding ~~fills~~ soils or strata is considered as imposing loads on the element, the allowable stresses specified in this chapter shall be permitted to be increased where satisfactory substantiating data are submitted.		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IBC STRUCTURAL CHANGE SUMMARY**	**IBC STRUCTURAL COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
S132-19	**1810.3.11.2 Seismic Design Categories D through F.** For structures assigned to *Seismic Design Category* D, E or F, deep foundation element resistance to uplift forces or rotational restraint shall be provided by anchorage into the pile cap, designed considering the combined effect of axial forces due to uplift and bending moments due to fixity to the pile cap. Anchorage shall develop not less than 25 percent of the strength of the element in tension. Anchorage into the pile cap shall comply with the following: In the case of uplift, the anchorage shall be capable of developing the least of the following: 1. In the case of uplift, the anchorage shall be capable of developing the least of the following: 1.1. The nominal tensile strength of the longitudinal reinforcement in a concrete element. 1.2. The nominal tensile strength of a steel element. 1.3. The frictional force developed between the element and the soil multiplied by 1.3. **Exception:** The anchorage is permitted to be designed to resist the axial tension force resulting from the seismic load effects including overstrength factor in accordance with Section 2.3.6 or 2.4.5 of ASCE 7. 2. In the case of rotational restraint, the anchorage shall be designed to resist the axial and shear forces, and moments resulting from the seismic load effects including overstrength factor in accordance with Section 2.3.6 or 2.4.5 of ASCE 7 or the anchorage shall be capable of developing the full axial, bending and shear nominal strength of the element. 3. The connection between the pile cap and the steel H-piles or unfilled steel pipe piles in structures assigned to Seismic Design Category D, E, or F shall be designed for a tensile force of not less than 10 percent of the pile compression capacity. ~~**Exception**~~ **Exceptions:** 1. Connection tensile capacity need not exceed the strength required to resist seismic load effects including overstrength of ASCE 7 Section 12.4.3 or 12.14.3.2. 2. Connections need not be provided where the foundation or supported structure does not rely on the tensile capacity of the piles for stability under the design seismic force.		X			Clarification

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CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Where the vertical lateral-force-resisting elements are columns, the pile cap flexural strengths shall exceed the column flexural strength. The connection between batter piles and pile caps shall be designed to resist the nominal strength of the pile acting as a short column. Batter piles and their connection shall be designed to resist forces and moments that result from the application of seismic load effects including overstrength factor in accordance with Section 2.3.6 or 2.4.5 of ASCE 7.					
S133-19	**1810.3.6 Splices.** Splices shall be constructed so as to provide and maintain true alignment and position of the component parts of the deep foundation element during installation and subsequent thereto and shall be designed to resist the axial and shear forces and moments occurring at the location of the splice during driving and for design load combinations. Where deep foundation elements of the same type are being spliced, splices shall develop not less than 50 percent of the bending strength of the weaker section. Where deep foundation elements of different materials or different types are being spliced, splices shall develop the full compressive strength and not less than 50 percent of the tension and bending strength of the weaker section. Where structural steel cores are to be spliced, the ends shall be milled or ground to provide full contact and shall be full-depth welded. ~~**Exception:** Splices conforming to generally accepted engineering practices where approved by the *building official* for buildings assigned to Seismic Design Category A or B.~~ **Exception:** For buildings assigned to Seismic Design Category A or B, splices need not comply with the 50 percent tension and bending strength requirements where justified by supporting data. Splices occurring in the upper 10 feet (3048 mm) of the embedded portion of an element shall be designed to resist at allowable stresses the moment and shear that would result from an assumed eccentricity of the axial load of 3 inches (76 mm), or the element shall be braced in accordance with Section 1810.2.2 to other deep foundation elements that do not have splices in the upper 10 feet (3048 mm) of embedment.	X				Clarification
S134-19	**1810.3.8 Precast concrete piles.** Precast concrete piles shall be designed and detailed in accordance with ACI 318. **Exceptions:**		X			Clarification

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		Decrease	**None**	**Increase**		
Sub Code:						
	1. For ~~Or~~ precast prestressed piles in Seismic Design Category C, the minimum ~~spiral reinforcement~~ volumetric ratio of spirals or circular hoops required by Section 18.13.5.10.4 of ACI 318 shall not apply in cases where the design includes full consideration of load combinations specified in ASCE 7, Section 2.3.6 or Section 2.4.5 and the applicable overstrength ~~a~~ factor, Ω_0. In such cases, minimum ~~spiral~~ transverse reinforcement index shall be as specified in Section 13.4.5.6 of ACI 318. 2. For precast prestressed piles in Seismic Design Categories D through F, the minimum ~~spiral reinforcement~~ volumetric ratio of spirals or circular hoops required by Section 18.13.5.10.5(c) of ACI 318 shall not apply in cases where the design includes full consideration of load combinations specified in ASCE 7, Section 2.3.6 or Section 2.4.5 and the applicable overstrength factor, Ω_0. In such cases, minimum ~~spiral~~ transverse reinforcement shall be as specified in Section 13.4.5.6 of ACI 318.					
S135-19	**1810.3.11.1 Seismic Design Categories C through F.** For structures assigned to *Seismic Design Category* C, D, E or F, concrete deep foundation elements shall be connected to the pile cap in accordance with ACI 318. For resistance to uplift forces, anchorage of steel pipes, tubes or H-piles to the pile cap shall be made by means other than concrete bond to the bare steel section. Concrete-filled steel pipes or tubes shall have reinforcement of not less than 0.01 times the cross-sectional area of the concrete fill developed into the cap and extending into the fill a length equal to two times the required cap embedment, but not less than the development length in tension of the reinforcement. ~~**1810.3.11.1**~~ **1810.3.11.2 Seismic Design Categories D through F.** For structures assigned to *Seismic Design Category* D, E or F, deep foundation element resistance to uplift forces or rotational restraint shall be provided by anchorage into the pile cap, designed considering the combined effect of axial forces due to uplift and bending moments due to fixity to the pile cap. Anchorage shall develop not less than 25 percent of the strength of the element in tension. Anchorage into the pile cap shall comply with the following: 1. In the case of uplift, the anchorage shall be capable of developing the least of the following:		X			Clarification

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CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	1.1. The nominal tensile strength of the longitudinal reinforcement in a concrete element. 1.2. The nominal tensile strength of a steel element. 1.3. The frictional force developed between the element and the soil multiplied by 1.3. **Exception:** The anchorage is permitted to be designed to resist the axial tension force resulting from the seismic load effects including overstrength factor in accordance with Section 2.3.6 or 2.4.5 of ASCE 7. 2. In the case of rotational restraint, the anchorage shall be designed to resist the axial and shear forces, and moments resulting from the seismic load effects including overstrength factor in accordance with Section 2.3.6 or 2.4.5 of ASCE 7 or the anchorage shall be capable of developing the full axial, bending and shear nominal strength of the element. Where the vertical lateral-force-resisting elements are columns, the pile cap flexural strengths shall exceed the column flexural strength. The connection between batter piles and pile caps shall be designed to resist the nominal strength of the pile acting as a short column. Batter piles and their connection shall be designed to resist forces and moments that result from the application of seismic load effects including overstrength factor in accordance with Section 2.3.6 or 2.4.5 of ASCE 7.					
S136-19	**1810.3.12 Grade beams.** ~~For structures assigned to *Seismic Design Category* D, E or F, grade~~ Grade beams shall comply with the provisions ~~in Section 18.13.3~~ of ACI 318 ~~for grade beams, except where they are~~. **Exception:** Grade beams designed to resist the seismic load effects including overstrength factor in accordance with Section 2.3.6 or 2.4.5 of ASCE 7.		X			Clarification

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		Decrease	None	Increase		
Sub Code:						
	1810.3.13 Seismic ties. ~~For structures assigned to Seismic Design Category C, D, E or F, individual deep foundations shall be interconnected by ties. Unless it can be demonstrated that equivalent restraint is provided by reinforced concrete beams within slabs on grade or reinforced concrete slabs on grade or confinement by competent rock, hard cohesive soils or very dense granular soils, ties shall be capable of carrying, in tension or compression, a force equal to the lesser of the product of the larger pile cap or column design gravity load times the seismic coefficient, SDS, divided by 10, and 25 percent of the smaller pile or column design gravity load.~~ Seismic ties shall comply with the provisions of ACI 318. **Exception:** In Group R-3 and U occupancies of light-frame construction, deep foundation elements supporting foundation walls, isolated interior posts detailed so the element is not subject to lateral loads or exterior decks and patios are not subject to interconnection where the soils are of adequate stiffness, subject to the approval of the *building official*.					
S137-19	**Modify proposal as follows:** **1810.4.1.2 Shafts in unstable soils.** Where cast-in-place deep foundation elements are formed through unstable soils, the open hole shall be stabilized by a casing, ~~suitable~~ slurry, or other *approved* method prior to placing the concrete. Where the casing is withdrawn during concreting, the level of concrete shall be maintained above the bottom of the casing at a sufficient height to offset any hydrostatic or lateral soil pressure. Driven casings shall be mandrel driven their full length in contact with the surrounding soil.	X				Clarification
S138-19	**1810.4.1.3 Driving near uncased concrete.** Deep foundation elements shall not be driven within six element diameters center to center in granular soils or within one-half the element length in cohesive soils of an uncased element filled with concrete less than 48 hours old unless *approved* by the *building official*. ~~During~~ If driving near uncased concrete elements~~,~~ causes ~~if~~ the concrete surface in any completed element to rise~~s~~ or drop~~s~~ significantly or bleed~~s~~ additional water, the ~~previously~~ completed element shall be replaced. Driven uncased deep foundation elements shall not be installed in soils that could cause heave.		X			Clarification
S139-19	**1810.4.1.3 Driving near uncased concrete.** Deep foundation elements shall not be driven within six element diameters center to center in granular soils or within one-half the element length in cohesive soils of an uncased element filled with concrete less than 48 hours old unless *approved* by the *building official*. If the concrete surface in any completed element rises or drops, the element shall be replaced.		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~Driven uncased deep foundation elements shall not be installed in soils that could cause heave.~~					
S140-19	**Revise as follows:** **1810.4.5 Vibratory driving.** Vibratory drivers shall only be used to install deep foundation elements where the element load capacity is verified by load tests in accordance with Section 1810.3.3.1.2. The installation of production elements shall be controlled according to power consumption, rate of penetration or other *approved* means that ensure element capacities equal or exceed those of the test elements. **Exceptions:** 1. The pile installation is completed by driving with an impact hammer in accordance with Section 1810.3.3.1.1. 2. The pile is to be used only for lateral resistance.	X				Clarification
S141-19	**1810.4.11 Helical piles.** Helical piles shall be installed to specified embedment depth and torsional resistance criteria as determined by a *registered design professional*. The torque applied during installation shall not exceed the manufacturer's rated maximum ~~allowable~~ installation torque resistance of the helical pile.		X			Clarification
S143-19	**1901.2 Plain and reinforced concrete.** Structural concrete shall be designed and constructed in accordance with the requirements of this chapter and ACI 318 as amended in Section 1905 of this code. Except for the provisions of Sections 1904 and 1907, the design and construction of slabs on grade shall not be governed by this chapter unless they transmit vertical loads or lateral forces from other parts of the structure to the soil. ~~Precast concrete diaphragms in buildings assigned to *Seismic Design Category* C, D, E or F shall be designed in accordance with the requirements of ASCE 7, Section 14.2.4.~~		X			Clarification
S145-19	**Modify proposal as follows:** **1901.3 Anchoring to concrete.** Anchoring to concrete shall be in accordance with ACI 318 as amended in Section 1905, and applies to cast-in (headed bolts, headed studs and hooked J- or L-bolts)~~;~~, post-installed expansion (torque-controlled and displacement-controlled)~~;~~, undercut, screw, and adhesive~~; and screw~~ anchors.		X			Clarification
S147-19	**1901.7 Tolerances for structural concrete.** Where not indicated in construction documents, structural tolerances for concrete structural elements shall be in accordance with this section. **1901.7.1 Cast-in-place concrete tolerances.** Structural tolerances for cast-in-place concrete structural elements shall be in accordance with ACI 117.		X			Clarification

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	Exceptions: 1. Group R-3 detached one or two-family dwellings are not required to comply with this section 2. Shotcrete is not required to comply with this section **1901.7.2 Precast concrete tolerances.** Structural tolerances for precast concrete structural elements shall be in accordance with ACI ITG-7. **Exception:** Group R-3 detached one or two-family dwellings are not required to comply with this section.					
S148-19	**1902.1.1 Design displacement.** Design displacement at each level be the total lateral ~~displacement~~ deflection at the level calculated ~~expected~~ for the design ~~basis~~ earthquake using the procedures defined in ~~, as specified by~~ *Section 12.8.6 of ASCE 7.*		X			Clarification
S149-19	**1903.1 General.** Materials used to produce concrete, concrete itself and testing thereof shall comply with the applicable standards listed in ACI 318. ~~**Exception:** The following standards as referenced in Chapter 35 shall be permitted to be used.~~ ~~1. ASTM C150~~ ~~2. ASTM C595~~ ~~3. ASTM C1157~~		X			Clarification
S152-19	**SECTION 1906** **FOOTINGS FOR LIGHT-FRAME CONSTRUCTION** **1906.1 Plain concrete footings.** For Group R-3 occupancies and buildings of other occupancies less than two stories above grade plane of light-frame construction, the required thickness of plain concrete footings is permitted to be ~~reduced to~~ 6 inches (152 mm), provided that the footing does not extend more than 4 inches (102 mm) on either side of the supported wall.		X			Clarification
S155-19	**1908.1 General.** Shotcrete ~~is mortar or concrete that is pneumatically projected at high velocity onto a surface. Except as specified in this section, shotcrete shall conform to the requirements of this chapter for plain or reinforced concrete~~ shall be in accordance with the requirements of ACI 318.		X			Clarification

	1908.2 Proportions and materials. Shotcrete proportions shall be selected that allow suitable placement procedures using the delivery equipment selected and shall result in finished in-place hardened shotcrete meeting the strength requirements of this code. **1908.3 Aggregate.** Coarse aggregate, if used, shall not exceed $^3/_4$ inch (19.1 mm). **1908.4 Reinforcement.** Reinforcement used in shotcrete construction shall comply with the provisions of Sections 1908.4.1 through 1908.4.4. **1908.4.1 Size.** The maximum size of reinforcement shall be No. 5 bars unless it is demonstrated by preconstruction tests that adequate encasement of larger bars will be achieved. **1908.4.2 Clearance.** Where No. 5 or smaller bars are used, there shall be a minimum clearance between parallel reinforcement bars of $2^1/_2$ inches (64 mm). When bars larger than No. 5 are permitted, there shall be a minimum clearance between parallel bars equal to six diameters of the bars used. Where two curtains of steel are provided, the curtain nearer the nozzle shall have a minimum spacing equal to 12 bar diameters and the remaining curtain shall have a minimum spacing of six bar diameters. **Exception:** Subject to the approval of the building official, required clearances shall be reduced where it is demonstrated by preconstruction tests that adequate encasement of the bars used in the design will be achieved. **1908.4.3 Splices.** Lap splices of reinforcing bars shall utilize the noncontact lap splice method with a minimum clearance of 2 inches (51 mm) between bars. The use of contact lap splices necessary for support of the reinforcing is permitted where approved by the building official, based on satisfactory preconstruction tests that show that adequate encasement of the bars will be achieved, and provided that the splice is oriented so that a plane through the center of the spliced bars is perpendicular to the surface of the shotcrete. **1908.4.4 Spirally tied columns.** Shotcrete shall not be applied to spirally tied columns. **1908.5 Preconstruction tests.** Where preconstruction tests are required by Section 1908.4, a test panel shall be shot, cured, cored or sawn, examined and tested prior to commencement of the project. The sample panel shall be representative of the project and simulate job conditions as closely as possible. The panel thickness and reinforcing shall reproduce the thickest and most congested area specified in the structural design. It shall be shot at the same angle, using the same nozzleman and with the same concrete mix design that will be used on the project. The equipment used in preconstruction testing shall be the same equipment used in the					

	~~work requiring such testing, unless substitute equipment is approved by the building official. Reports of preconstruction tests shall be submitted to the building official as specified in Section 1704.5.~~ ~~**1908.6 Rebound.** Any rebound or accumulated loose aggregate shall be removed from the surfaces to be covered prior to placing the initial or any succeeding layers of shotcrete. Rebound shall not be used as aggregate.~~ ~~**1908.7 Joints.** Except where permitted herein, unfinished work shall not be allowed to stand for more than 30 minutes unless edges are sloped to a thin edge. For structural elements that will be under compression and for construction joints shown on the approved construction documents, square joints are permitted. Before placing additional material adjacent to previously applied work, sloping and square edges shall be cleaned and wetted.~~ ~~**1908.8 Damage.** In-place shotcrete that exhibits sags, sloughs, segregation, honeycombing, sand pockets or other obvious defects shall be removed and replaced. Shotcrete above sags and sloughs shall be removed and replaced while still plastic.~~ ~~**1908.9 Curing.** During the curing periods specified herein, shotcrete shall be maintained above 40°F (4°C) and in moist condition.~~ ~~**1908.9.1 Initial curing.** Shotcrete shall be kept continuously moist for 24 hours after shotcreting is complete or shall be sealed with an approved curing compound.~~ ~~**1908.9.2 Final curing.** Final curing shall continue for seven days after shotcreting, or for three days if high-early-strength cement is used, or until the specified strength is obtained. Final curing shall consist of the initial curing process or the shotcrete shall be covered with an approved moisture-retaining cover.~~ ~~**1908.9.3 Natural curing.** Natural curing shall not be used in lieu of that specified in this section unless the relative humidity remains at or above 85 percent, and is authorized by the registered design professional and approved by the building official.~~ ~~**1908.10 Strength tests.** Strength tests for shotcrete shall be made by an approved agency on specimens that are representative of the work and that have been water soaked for not fewer than 24 hours prior to testing. Where the maximum-size aggregate is larger than $^3/_8$ inch (9.5 mm), specimens shall consist of not less than three 3-inch-diameter (76 mm) cores or 3-inch (76 mm) cubes. Where the maximum-size aggregate is $^3/_8$ inch (9.5 mm) or smaller, specimens shall consist of not less than 2-inch-diameter (51 mm) cores or 2-inch (51 mm) cubes.~~ ~~**1908.10.1 Sampling.** Specimens shall be taken from the in-place work or from test panels, and shall be taken not less than once each~~					

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	~~shift, but not less than one for each 50 cubic yards (38.2 m^3) of shotcrete.~~ ~~**1908.10.2 Panel criteria.** Where the maximum-size aggregate is larger than $^3/_8$ inch (9.5 mm), the test panels shall have minimum dimensions of 18 inches by 18 inches (457 mm by 457 mm). Where the maximum-size aggregate is $^3/_8$ inch (9.5 mm) or smaller, the test panels shall have minimum dimensions of 12 inches by 12 inches (305 mm by 305 mm). Panels shall be shot in the same position as the work, during the course of the work and by the nozzlemen doing the work. The conditions under which the panels are cured shall be the same as the work.~~ ~~**1908.10.3 Acceptance criteria.** The average compressive strength of three cores from the in-place work or a single test panel shall equal or exceed 0.85 f'_c with no single core less than 0.75 f'_c. The average compressive strength of three cubes taken from the in-place work or a single test panel shall equal or exceed f'_c with no individual cube less than 0.88 f'_c. To check accuracy, locations represented by erratic core or cube strengths shall be retested.~~					
S156-19	**2109.2.4.8 Exterior finish.** Exterior finishes applied to adobe masonry walls shall be of any type permitted by ~~this code and shall comply with the provisions of~~ this section ~~and~~ or ~~with~~ Chapter 14, except where stated otherwise in this section. **2109.2.4.8.1 ~~Purpose, and type~~ Where required.** Unstabilized adobe masonry walls shall ~~be finished on their exterior with a plaster of any type in this section to provide protection from weather~~ receive a weather protective exterior finish in accordance with ~~this code~~ Section 2109.2.4.8. **2109.2.4.8.2 ~~Vapor retarders and v~~Vapor permeance.** ~~Class I and II vapor retarders shall not be used on any adobe masonry wall, nor shall any other material be used that has a vapor permeance rating of less than 5 perms.~~ Plaster and finish assemblies shall have a vapor permeance of not less than 5 perms. **Exception:** Insulation products applied to the exterior of stabilized adobe masonry walls in Climate Zones 2B, 3B, 4B and 5B shall have no vapor permeance requirement.		X			Clarification

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	2109.2.4.8.3 Plaster thickness and coats. Plaster applied to adobe masonry shall be not less than 7/8" (22 mm) and not greater than 2 inches (51 mm) thick. Plaster shall be applied in not less than two coats. **2109.2.4.8.4 Plaster application.** ~~Plaster shall be~~ Where plaster is applied directly to adobe masonry walls, no intermediate membrane shall be used. ~~any type of membrane to facilitate transpiration of moisture from the masonry units, and to secure a mechanical bond between the masonry and plaster~~. **2109.2.4.8.5 Lath for plaster.** Lath shall be provided for all plasters, except ~~as otherwise~~ where not required elsewhere in ~~this section~~ Section 2019.2.4.8. Fasteners shall be corrosion resistant and spaced at a maximum of 16 inches (406mm) on center ~~maximum~~ with a minimum 1-1/2 inches (38 mm) penetration into the adobe wall. Metal lath shall comply with ASTM C1063, as modified by this section, and shall be corrosion resistant. Plastic lath shall comply with ASTM C1788, as modified by this section. Wood substrates shall be protected with #15 asphalt felt, an *approved* wood preservative or other protective coating prior to lath application. **2109.2.4.8.6 Cement plaster.** Cement plaster shall conform to ASTM C926 and shall comply with Chapter 25, except that the proportion of lime in plaster coats shall not be less than 1 part lime to ~~6~~4 parts cement ~~to allow a minimum acceptable vapor permeability.~~ The combined thickness of cement plaster coats shall not ~~be more than~~ exceed 1 inch (25mm).					
S157-19	~~**2109.2.4.8.1 Conditions where lathing is not required.** For unstabilized adobe walls finished with clay-lime plaster, lathing shall be allowed to be omitted at the discretion of the Building Official when evidence of adequate mechanical bonding is demonstrated to and approved by the building official.~~ ~~**2109.2.4.8.2**~~ **2109.2.4.8.7 Lime Plaster.** Lime plaster is any plaster with a binder composed of calcium hydroxide, ~~(CaOH)~~ including Type N or S hydrated lime, hydraulic lime, natural hydraulic lime, or slaked quicklime. Hydrated lime shall comply with ASTM C206. Hydraulic lime shall comply with ASTM C1707. Natural hydraulic lime shall comply with ASTM C141 and EN 459. Quicklime shall comply with ASTM C5.		X			Clarification

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		Decrease	**None**	**Increase**		
Sub Code:						
S158-19	**2109.2.4.8 Exterior finish.** *Exterior walls* constructed of unstabilized adobe units shall have their exterior surface covered with not fewer than two coats of Portland cement plaster having a minimum thickness of 3/4 inch (19.1 mm) and conforming to ASTM C926. Lathing shall comply with ASTM C1063. Fasteners shall be spaced at 16 inches (406 mm) on center maximum. Exposed wood surfaces shall be treated with an *approved* wood preservative or other protective coating prior to lath application. **2109.2.4.8.1 Cement-lime plaster.** Cement-lime plaster shall be any plaster mix type CL, F or FL, as described in ASTM C926.		X			Adds cement-lime for adobe walls and removes ambiguities
S159-19	~~**2109.2.4.8.1**~~ **2109.2.4.8.9 Clay Plaster.** Clay plaster shall comply with this section. ~~**2109.2.4.8.2**~~ **2109.2.4.8.9.1 General.** Clay plaster shall be any plaster having a clay or clay subsoil binder. Such plaster shall contain sufficient clay to fully bind the ~~sand, fine~~ aggregate ~~or other granular material~~, and shall be permitted to contain reinforcing fibers. Acceptable reinforcing fibers include chopped straw, sisal, and animal hair. ~~**2109.2.4.8.3**~~ **2109.2.4.8.9.2 Clay subsoil requirements.** The suitability of clay subsoil shall be determined in accordance with the Figure 2 Ribbon Test and the Figure 3 Ball Test in the appendix of ASTM E2392/E2392M. ~~**2109.2.4.8.4**~~ **2109.2.4.8.9.3 Weather exposed locations.** Clay plaster exposed to water from direct or wind-driven rain, or snow~~, or irrigation spray~~ shall be finished with an ~~clay-lime plaster, lime plaster, or other~~ approved erosion-resistant finish. The use of clay plasters shall not be permitted on weather exposed parapets. ~~**2109.2.4.8.5**~~ **2109.2.4.8.9.4 Prohibited finish coat.** Plaster containing Portland cement shall not be permitted as a finish over clay plaster. ~~**2109.2.4.8.6**~~ **2109.2.4.8.9.5 Conditions where lathing is not required.** For unstabilized adobe walls finished with unstabilized clay plaster, lathing shall not be required.	X				Clarification

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		Decrease	None	Increase		
Sub Code:						
S160-19	**2205.2.1.1 Seismic Design Category B or C.** Structures assigned to *Seismic Design Category* B or C shall be of any construction permitted in Section 2205. Where a response modification coefficient, *R*, in accordance with ASCE 7, Table 12.2-1, is used for the design of structures assigned to *Seismic Design Category* B or C, the structures shall be designed and detailed in accordance with the requirements of AISC 341. Beam-to-column moment connections in special moment frames and intermediate moment frames shall be prequalified in accordance with AISC 341 Section K1, qualified by testing in accordance with AISC 341 Section K2, or shall be prequalified in accordance with AISC 358. **Exception:** The response modification coefficient, *R*, designated for "Steel systems not specifically detailed for seismic resistance, excluding cantilever column systems" in ASCE 7, Table 12.2-1, shall be permitted for systems designed and detailed in accordance with AISC 360, and need not be designed and detailed in accordance with AISC 341. **2205.2.1.2 Seismic Design Category D, E or F.** Structures assigned to *Seismic Design Category* D, E or F shall be designed and detailed in accordance with AISC 341, except as permitted in ASCE 7, Table 15.4-1. Beam-to-column moment connections in special moment frames and intermediate moment frames shall be prequalified in accordance with AISC 341 Section K1, qualified by testing in accordance with AISC 341 Section K2, or shall be prequalified in accordance with AISC 358.		X			Provides updates to the latest prequalified connections.
S161-19	**[BS] STORAGE RACKS, STEEL.** Cold-formed or hot-rolled steel structural members which are formed into steel storage racks, including pallet storage racks, movable-shelf racks, rack-supported systems, automated storage and retrieval systems (stacker racks), push-back racks, pallet-flow racks, case-flow racks, pick modules and rack-supported platforms. Other types of racks, such as drive-in or drive-through racks, cantilever racks, portable racks or racks made of materials other than steel, are not considered storage racks for the purpose of this code.		X			Clarifies what requirements apply to steel storage racks

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	[BS] STORAGE RACKS, STEEL CANTILEVERED. A framework or assemblage composed of cold-formed or hot-rolled steel structural members, primarily in the form of vertical columns, extended bases, horizontal arms projecting from the faces of the columns, and longitudinal (down-aisle) bracing between columns. There may be shelf beams between the arms, depending on the products being stored; this definition does not include other types of racks such as pallet storage racks, drive-in racks, drive-through racks, or racks made of materials other than steel. **Revise as follows:** **2209.1 ~~Storage~~ Steel storage racks.** The design, testing and utilization of steel *storage racks* made of cold-formed or hot-rolled steel structural members shall be in accordance with RMI ANSI/MH 16.1. Where required by ASCE 7, the seismic design of *steel storage racks* shall be in accordance with Section 15.5.3 of ASCE 7. **2209.2 ~~Cantilevered steel~~ Steel cantilevered storage racks.** The design, testing, and utilization of *steel cantilevered storage racks* made of cold-formed or hot-rolled steel structural members shall be in accordance with RMI ANSI/MH 16.3. Where required by ASCE 7, the seismic design of *steel cantilevered storage racks* ~~steel~~ shall be in accordance with Section 15.5.3 of ASCE 7. **1705.12.7 Storage racks.** *Periodic special inspection* is required for the anchorage of *steel storage racks* and *steel cantilevered storage racks* that are 8 feet (2438 mm) or greater in height in structures assigned to *Seismic Design Category* D, E or F.					
S166-19	**2303.2 Fire-retardant-treated wood.** *Fire-retardant-treated wood* is any wood product that, when impregnated with chemicals by a pressure process or other means during manufacture, shall have, when tested in accordance with ASTM E84 or UL 723, a *listed* flame spread index of 25 or less. Additionally, 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 $10^1/_2$ feet (3200 mm) beyond the centerline of the burners at any time during the ~~extended 30-minute~~ test.		X			Clarification
S167-19	**2303.2.3 Fire Testing Of Wood Structural Panels.** Wood structural panels shall be tested with a ripped or cut longitudinal gap of 1/8" (3.2 mm).		X			Clarification
S168-19	**PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT (*PITMR*).** Restraint that is used to prevent local buckling of an individual truss chord or web member because of the axial forces in the individual		X			Clarification

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Sub Code:						
	truss member. **PERMANENT INDIVIDUAL TRUSS MEMBER DIAGONAL BRACING (*PITMDB*).** Structural member or assembly intended to permanently stabilize the *PITMR*'s. **INDIVIDUAL TRUSS MEMBER.** A truss chord or truss web. **2303.4.1.1 Truss design drawings.** The written, graphic and pictorial depiction of each individual truss shall be provided to the *building official* for approval prior to installation. Truss design drawings shall be provided with the shipment of trusses delivered to the job site. Truss design drawings shall include, at a minimum, the following information: 1. Slope or depth, span and spacing. 2. Location of all joints and support locations. 3. Number of plies if greater than one. 4. Required bearing widths. 5. Design loads as applicable, including: 5.1. Top chord live load. 5.2. Top chord dead load. 5.3. Bottom chord live load. 5.4. Bottom chord dead load. 5.5. Additional loads and locations. 5.6. Environmental design criteria and loads (such as wind, rain, snow, seismic). 6. Other lateral loads, including drag strut loads. 7. Adjustments to wood member and metal connector plate design value for conditions of use. 8. Maximum reaction force and direction, including maximum uplift reaction forces where applicable. 9. Joint connection type and description, such as size and thickness or gage, and the dimensioned location of each joint connector except where symmetrically located relative to the joint interface. 10. Size, species and grade for each wood member. 11. Truss-to-truss connections and truss field assembly requirements. 12. Calculated span-to-deflection ratio and maximum vertical and horizontal deflection for live and total load as applicable. 13. Maximum axial tension and compression forces in the truss members.					

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	14. Required permanent individual truss member restraint location and the method and details of restraint~~/~~ and diagonal bracing to be used in accordance with Section 2303.4.1.2. **2303.4.1.2 Permanent individual truss member restraint (PITMR) and permanent individual truss member diagonal bracing (PITMDB).** Where ~~permanent restraint of truss members is required on~~ the truss design drawings designate the need for *permanent individual truss member restraint,* it shall be accomplished by one of the following methods: 1. ~~Permanent individual truss member restraint/bracing shall be~~ *PITMR* and *PITMDB* installed using standard industry lateral restraint ~~/~~and diagonal bracing details in accordance with ~~generally~~ TPI 1 section 2.3.3.1.1, accepted engineering practice, or Figures 2303.4.1.2(1a), (2a), and (3). ~~Locations for lateral restraint shall be identified on the truss design drawing.~~ 2. *Individual truss member* reinforcement in place of the specified lateral restraints (i.e., buckling reinforcement such as T-reinforcement, L-reinforcement, proprietary reinforcement, etc.) such ~~2.The trusses shall be designed so~~ that the buckling of any *individual truss member* is resisted internally by the individual ~~truss through suitable means (for example, buckling reinforcement by T-reinforcement or L-reinforcement, proprietary reinforcement).~~ truss. The buckling reinforcement of *individual truss members* ~~of the trusses~~ shall be installed as shown on the truss design drawing or on supplemental truss member buckling reinforcement details provided by the truss designer or in accordance with Figures 2303.4.1.2 (1b) and (2b). 3. A project-specific ~~permanent individual truss member restraint/bracing design shall be permitted to be specified~~ *PITMR* and *PITMDB* design provided by any *registered design professional*. **2303.4.1.2.1 Trusses installed without a diaphragm** Trusses installed without a diaphragm on the top or bottom chord shall require a project specific PITMR and PITMDB design prepared by a registered design professional. **Exception:** Group U occupancies.					

2303.4.1.3 Trusses spanning 60 feet or greater. The *owner* or the *owner*'s authorized agent shall contract with any qualified *registered design professional* for the design of the temporary installation restraint ~~/~~and diagonal bracing and the ~~permanent individual truss member restraint/bracing~~ *PITMR* and *PITMDB* for all trusses with clear spans 60 feet (18 288 mm) or greater.

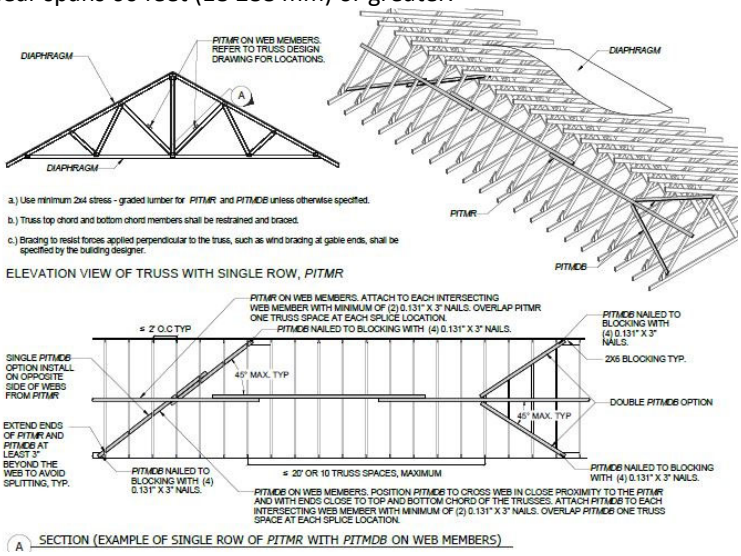
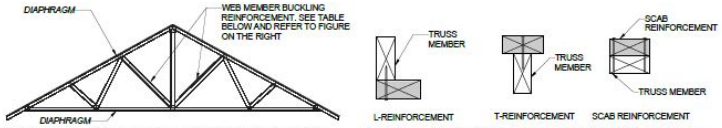


FIGURE 2303.4.1.2.(1a)
PITMR AND PITMDB FOR TRUSS WEB MEMBERS REQUIRING ONE ROW OF PITMR



a.) Truss top chord and bottom chord members shall be restrained and braced.
b.) Bracing to resist forces applied perpendicular to the truss, such as wind bracing at gable ends, shall be specified by the building designer.
c.) Use the table below unless project specific web member reinforcement is provided on the truss design drawing or supplemental truss buckling reinforcement details are provided by the truss designer.

NUMBER OF ROWS OF PITMR SPECIFIED ON WEB MEMBER	SIZE OF TRUSS WEB	TYPE AND SIZE OF WEB REINFORCEMENT[1] FOR T, L OR SCAB[2]	GRADE OF WEB REINFORCEMENT	MINIMUM LENGTH OF WEB REINFORCEMENT	MINIMUM CONNECTION OF WEB REINFORCEMENT TO WEB
ONE	2x4	2x4	Same species and grade or better than web member	90% of web or extend to within 6" of end of web member, whichever is greater	(0.131" x 3") nails at 6" on-center[2]
	2x6	2x6			
	2x8	2x8			

[1]Maximum allowable web length is 14'
[2]Attach Scab reinforcement to web with two rows of minimum 0.131" x 3" nails at 6" on-center

FIGURE 2303.4.1.2.(1b)
ALTERNATIVE INSTALLATION USING BUCKLING REINFORCEMENT FOR TRUSS WEB MEMBERS IN LIEU OF ONE ROW OF *PITMR*

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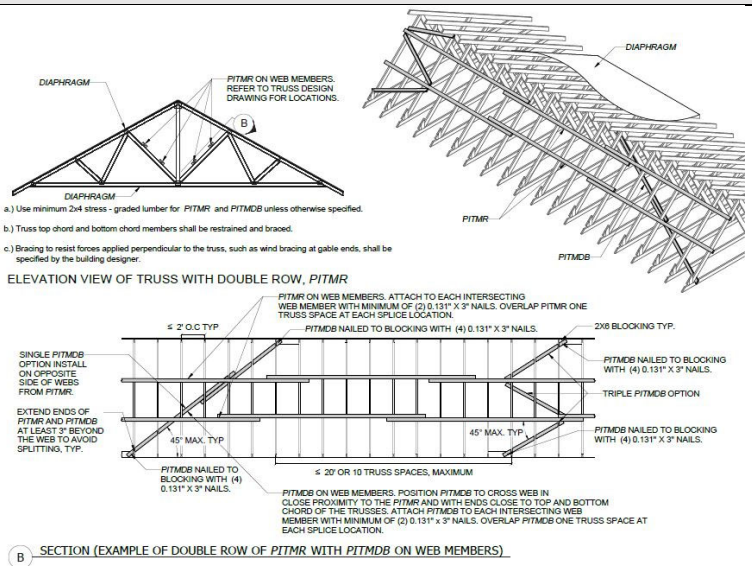
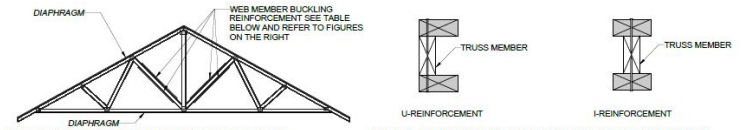
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		Decrease	None	Increase		
Sub Code:						
	 **FIGURE 2303.4.1.2.(2a)** **PITMR AND PITMDB FOR TRUSS WEB MEMBERS REQUIRING TWO ROWS OF PITMR**  a.) Truss top chord and bottom chord members shall be restrained and braced. b.) Bracing to resist forces applied perpendicular to the truss, such as wind bracing at gable ends, shall be specified by the building designer. c.) Use the table below unless project specific web member reinforcement is provided on the truss design drawing or supplemental truss buckling reinforcement details are provided by the truss designer. NUMBER OF ROWS OF PITMR SPECIFIED ON WEB MEMBER | SIZE OF TRUSS WEB | TYPE AND SIZE OF WEB FOR I OR U REINFORCEMENT[1] | GRADE OF WEB REINFORCEMENT | MINIMUM LENGTH OF WEB REINFORCEMENT | MINIMUM CONNECTION OF WEB REINFORCEMENT TO WEB TWO | 2x4 | (2) -2x4 | Same species and grade or better than web member | 90% of web or extend to within 6" of end of web member, whichever is greater | (0.131" x 3") nails at 6" on-center 2x6 | (2) -2x6 2x8 | (2) -2x8 [1]Maximum allowable web length is 14' **FIGURE 2303.4.1.2.(2b)** **ALTERNATIVE INSTALLATION USING BUCKLING REINFORCEMENT FOR TRUSS WEB MEMBERS IN LIEU OF TWO ROWS OF *PITMR*** **FIGURE 2303.4.1.2.(2a)** **PITMR AND PITMDB FOR TRUSS WEB MEMBERS REQUIRING TWO ROWS OF PITMR**					

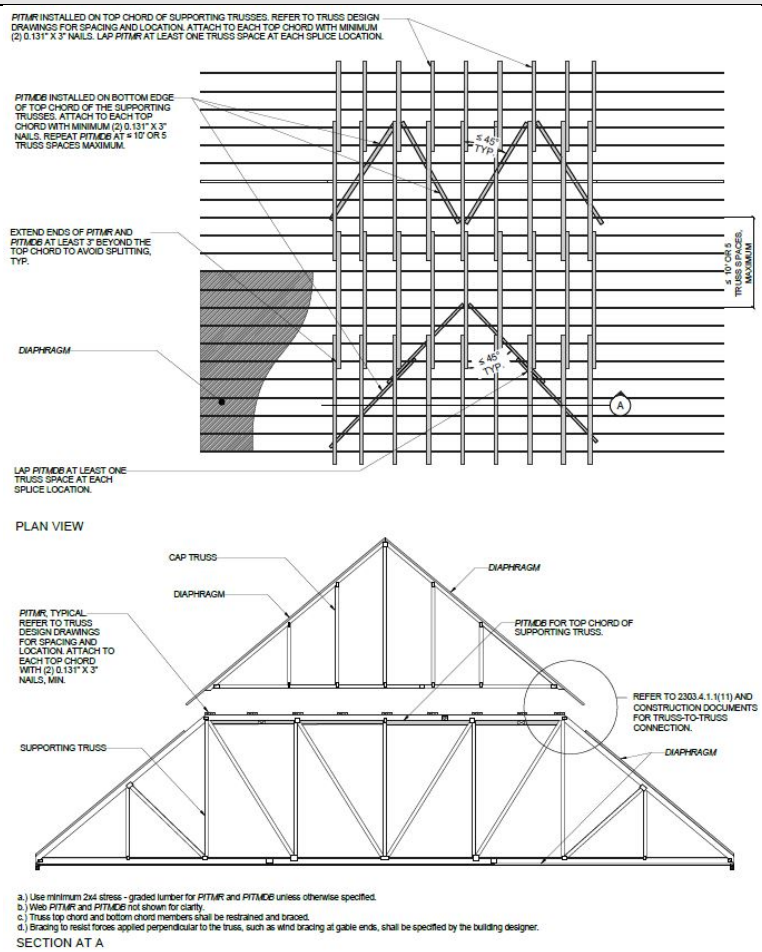
Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IBC STRUCTURAL CHANGE SUMMARY**	**IBC STRUCTURAL COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	 **FIGURE 2303.4.1.2 (3)** **PITMR AND PITMDB FOR FLAT PORTION OF TOP CHORD IN A PIGGYBACK ASSEMBLY**					
S169-19	**2303.7 Shrinkage.** Consideration shall be given in design ~~to~~ for the ~~possible effect~~ effects of wood cross-grain dimensional changes ~~considered vertically~~ that ~~may~~ occur ~~in lumber fabricated in a green condition.~~as a result of changes in the wood moisture content after installation.		X			Clarification
S170-19	**2304.10.1 Connection fire resistance rating.** Fire resistance ratings for connections in Type IV-A, IV-B, or IV-C construction shall be determined by one of the following: 1. Testing in accordance with Section 703.2 where the connection is part of the fire resistance test.		X			Necessary addition for clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
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	2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required fire resistance rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.					
S172-19	**2304.9 Lumber decking.** Lumber decking shall be designed and installed in accordance with the general provisions of this code and Sections 2304.9.1 through 2304.9.5.3. Other lumber decking patterns and connection designs shall be substantiated through engineering analysis. **2304.9.1 General.** Each piece of lumber decking shall be square-end trimmed. Where random lengths are furnished, each piece shall be square end trimmed across the face so that not less than 90 percent of the pieces are within 0.5 degrees (0.00873 rad) of square. The ends of the pieces shall be permitted to be beveled up to 2 degrees (0.0349 rad) from the vertical with the exposed face of the piece slightly longer than the opposite face of the piece. Tongue-and-groove decking shall be installed with the tongues up on sloped or pitched roofs with pattern faces down. **2304.9.2 Layup patterns.** Lumber decking is permitted to be laid up following one of five standard patterns as defined in Sections 2304.9.2.1 through 2304.9.2.5. ~~Other patterns are permitted to be used provided that they are substantiated through engineering analysis.~~		X			Clarification
S173-19	**TABLE 2304.10.1** **FASTENING SCHEDULE** a. Nails spaced at 6 inches at intermediate supports where spans are 48 inches or more. For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to Section 2305. Nails for wall sheathing are permitted to be common, box or casing. b. Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked). c. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule and the ceiling joist is fastened to the top plate in accordance with this schedule, the			X	Minimal	Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	number of toenails in the rafter shall be permitted to be reduced by one nail. d. RSRS-01 is a Roof Sheathing Ring Shank nail meeting the specifications in ASTM F1667. e. Tabulated fastener requirements apply where the ultimate design wind speed is less than 140 mph. For wood structural panel roof sheathing attached to gable end roof framing and to intermediate supports within 48 inches of roof edges and ridges, nails shall be spaced at 4 inches on center where the ultimate design wind speed is greater than 130 mph in Exposure B or greater than 110 mph in Exposure C. Spacing exceeding 6 inches on center at intermediate supports shall be permitted where the fastening is designed per the AWC NDS. f. Fastening is only permitted where ~~Where~~ the ultimate design wind speed is less than or equal to 110 mph~~, roof sheathing attachment using the specified fasteners shall be installed 3 inches on center at all supports~~.					
S174-19	**TABLE 2304.10.1** **FASTENING SCHEDULE** a. Nails spaced at 6 inches at intermediate supports where spans are 48 inches or more. For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to Section 2305. Nails for wall sheathing are permitted to be common, box or casing. b. Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked). c. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule and the ceiling joist is fastened to the top plate in accordance with this schedule, the number of toenails in the rafter shall be permitted to be reduced by one nail. d. RSRS-01 is a Roof Sheathing Ring Shank nail meeting the specifications in ASTM F1667. e. Nails and staples are carbon steel meeting the specifications of ASTM F1667. Connections using nails and staples of other materials, such as stainless steel, shall be designed by acceptable engineering practice or approved under Section 104.11.		X			Clarification

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CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
S175-19	**2304.12.1 Locations requiring waterborne preservatives or naturally durable wood.** Wood used above ground in the locations specified in Sections 2304.12.1.1 through 2304.12.1.5~~, 2304.12.3 and 2304.12.5~~ shall be naturally durable wood or *preservative-treated wood* using waterborne preservatives, in accordance with AWPA U1 for above-ground use. **2304.12.1.1 Joists, girders and subfloor.** Wood joists or wood structural floors that are closer than 18 inches (457 mm) or wood girders that are closer than 12 inches (305 mm) to the exposed ground in crawl spaces or unexcavated areas located within the perimeter of the building foundation shall be of naturally durable or *preservative-treated wood*. **2304.12.1.2 Wood supported by exterior foundation walls.** Wood framing members, including wood sheathing, that are in contact with exterior foundation walls and are less than 8 inches (203 mm) from exposed earth shall be of naturally durable or *preservative-treated wood*. **2304.12.1.3 Exterior walls below grade.** Wood framing members and furring strips in direct contact with the interior of exterior masonry or concrete walls below grade shall be of naturally durable or *preservative-treated wood*. **2304.12.1.4 Sleepers and sills.** Sleepers and sills on a concrete or masonry slab that is in direct contact with earth shall be of naturally durable or *preservative-treated wood*. **2304.12.1.5 Wood siding.** Clearance between wood siding and earth on the exterior of a building shall be not less than 6 inches (152 mm) or less than 2 inches (51 mm) vertical from concrete steps, porch slabs, patio slabs and similar horizontal surfaces exposed to the weather except where siding, sheathing and wall framing are of naturally durable or *preservative-treated wood*.		X			Clarification

	2304.12.2 Other locations. Wood used in the locations specified in Sections 2304.12.2.1 through 2304.12.2.5 shall be naturally durable wood or *preservative-treated* wood in accordance with AWPA U1. *Preservative-treated* wood used in interior locations shall be protected with two coats of urethane, shellac, latex epoxy or varnish unless waterborne preservatives are used. Prior to application of the protective finish, the wood shall be dried in accordance with the manufacturer's recommendations. **2304.12.2.1 Girder ends.** The ends of wood girders entering exterior masonry or concrete walls shall be provided with a $^1/_2$-inch (12.7 mm) airspace on top, sides and end, unless naturally durable or *preservative-treated wood* is used. **2304.12.2.2 Posts or columns.** Posts or columns supporting permanent structures and supported by a concrete or masonry slab or footing that is in direct contact with the earth shall be of naturally durable or *preservative-treated wood*. **Exception:** Posts or columns that meet all of the following: 1. Are not exposed to the weather, or are protected by a roof, eave, overhang, or other covering if exposed to the weather. 2. Are supported by concrete piers or metal pedestals projected not less than 1 inch (25 mm) above the slab or deck and are separated from the concrete pier by an impervious moisture barrier. 3. Are located not less than 8 inches (203 mm) above exposed earth. **2304.12.2.3 Supporting member for permanent appurtenances.** Naturally durable or *preservative-treated wood* shall be utilized for those portions of wood members that form the structural supports of buildings, balconies, porches or similar permanent building appurtenances where such members are exposed to the weather without adequate protection from a roof, eave, overhang or other covering to prevent moisture or water accumulation on the surface or at joints between members. **Exception:** Buildings located in a geographical region where experience has demonstrated that climatic conditions preclude the need to use durable materials where the structure is exposed to the weather. **2304.12.2.4 Laminated timbers.** The portions of glued-laminated timbers that form the structural supports of a building or other structure and are exposed to weather and not fully protected from moisture by a roof, eave or similar covering shall be pressure treated with preservative or be manufactured from naturally durable or *preservative-treated wood*. **2304.12.2.5 Supporting members for permeable floors and roofs.** Wood structural members that support moisture-permeable floors					

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CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	or roofs that are exposed to the weather, such as concrete or masonry slabs, shall be of naturally durable or *preservative-treated wood* unless separated from such floors or roofs by an impervious moisture barrier. The impervious moisture barrier system protecting the structure supporting floors shall provide positive drainage of water that infiltrates the moisture-permeable floor topping. **2304.12.2.6 Ventilation beneath balcony or elevated walking surfaces.** Enclosed framing in exterior balconies and elevated walking surfaces that are exposed to rain, snow or drainage from irrigation shall be provided with openings that provide a net free cross-ventilation area not less than $^{1}/_{150}$ of the area of each separate space. **2304.12.3 Wood in contact with the ground or fresh water.** Wood used in contact with exposed earth shall be naturally durable for both decay and termite resistance or preservative treated in accordance with AWPA U1 for soil or fresh water use. **Exception:** Untreated wood is permitted where such wood is continuously and entirely below the ground-water level or submerged in fresh water. **2304.12.3.1 Posts or columns.** Posts and columns that are supporting permanent structures and embedded in concrete that is exposed to the weather or in direct contact with the earth shall be of *preservative-treated wood*. **2304.12.4 Termite protection.** In geographical areas where hazard of termite damage is known to be very heavy, wood floor framing in the locations specified in Section 2304.12.1.1 and exposed framing of exterior decks or balconies shall be of naturally durable species (termite resistant) or preservative treated in accordance with AWPA U1 for the species, product preservative and end use or provided with *approved* methods of termite protection. **2304.12.5 Wood used in retaining walls and cribs.** Wood installed in retaining or crib walls shall be preservative treated in accordance with AWPA U1 for soil and fresh water use.					

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CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
S176-19	**2304.12.2.3 Supporting member for permanent appurtenances.** Naturally durable or *preservative-treated wood* shall be utilized for those portions of wood members that form the structural supports of buildings, balconies, porches or similar permanent building appurtenances where such members are exposed to the weather without adequate protection from a roof, eave, overhang or other covering to prevent moisture or water accumulation on the surface or at joints between members. **Exception:** ~~Buildings~~ Sawn lumber in buildings located in a geographical region where experience has demonstrated that climatic conditions preclude the need to use durable materials where the structure is exposed to the weather. ~~**2304.12.2.4 Laminated timbers.** The portions of glued-laminated timbers that form the structural supports of a building or other structure and are exposed to weather and not fully protected from moisture by a roof, eave or similar covering shall be pressure treated with preservative or be manufactured from naturally durable or preservative-treated wood.~~		X			Clarification
S177-19	**2304.12.2 Other locations.** Wood used in the locations specified in Sections 2304.12.2.1 through ~~2304.12.2.5~~ 2304.12.2.9 shall be naturally durable wood or *preservative-treated* wood in accordance with AWPA U1. *Preservative-treated* wood used in interior locations shall be protected with two coats of urethane, shellac, latex epoxy or varnish unless waterborne preservatives are used. Prior to application of the protective finish, the wood shall be dried in accordance with the manufacturer's recommendations. **2304.12.2.1 Girder ends.** The ends of wood girders entering exterior masonry or concrete walls shall be provided with a $^1/_2$-inch (12.7 mm) airspace on top, sides and end, unless naturally durable or *preservative-treated wood* is used. **2304.12.2.2 Posts or columns.** Posts or columns supporting permanent structures and supported by a concrete or masonry slab or footing that is in direct contact with the earth shall be of naturally durable or *preservative-treated wood*. **Exception:** Posts or columns that meet all of the following: 1. Are not exposed to the weather, or are protected by a roof, eave, overhang, or other covering if exposed to the weather. 2. Are supported by concrete piers or metal pedestals		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
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Sub Code:						
	projected not less than 1 inch (25 mm) above the slab or deck and are separated from the concrete pier by an impervious moisture barrier. 3. Are located not less than 8 inches (203 mm) above exposed earth. **2304.12.2.3 Supporting member for permanent appurtenances.** Naturally durable or *preservative-treated wood* shall be utilized for those portions of wood members that form the structural supports of buildings, balconies, porches or similar permanent building appurtenances where such members are exposed to the weather without adequate protection from a roof, eave, overhang or other covering to prevent moisture or water accumulation on the surface or at joints between members. **Exception:** Buildings located in a geographical region where experience has demonstrated that climatic conditions preclude the need to use durable materials where the structure is exposed to the weather. **2304.12.2.4 Laminated timbers.** The portions of glued-laminated timbers that form the structural supports of a building or other structure and are exposed to weather and not fully protected from moisture by a roof, eave or similar covering shall be pressure treated with preservative or be manufactured from naturally durable or *preservative-treated wood*. **2304.12.2.5 Supporting members for permeable floors and roofs.** Wood structural members that support moisture-permeable floors or roofs that are exposed to the weather, such as concrete or masonry slabs, shall be of naturally durable or *preservative-treated wood* unless separated from such floors or roofs by an impervious moisture barrier. The impervious moisture barrier system protecting the structure supporting floors shall provide positive drainage of water that infiltrates the moisture-permeable floor topping. **2304.12.2.6 Ventilation beneath balcony or elevated walking surfaces.** Enclosed framing in exterior balconies and elevated walking surfaces that are exposed to rain, snow or drainage from irrigation shall be provided with openings that provide a net free cross-ventilation area not less than $^{1}/_{150}$ of the area of each separate space.					

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IBC STRUCTURAL CHANGE SUMMARY**	**IBC STRUCTURAL COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~**2304.12.3**~~ **2304.12.2.7 Wood in contact with the ground or fresh water.** Wood used in contact with exposed earth shall be naturally durable for both decay and termite resistance or preservative treated in accordance with AWPA U1 for soil or fresh water use. **Exception:** Untreated wood is permitted where such wood is continuously and entirely below the ground-water level or submerged in fresh water. ~~**2304.12.3.1**~~ **2304.12.2.7.1 Posts or columns.** Posts and columns that are supporting permanent structures and embedded in concrete that is exposed to the weather or in direct contact with the earth shall be of *preservative-treated wood*. ~~**2304.12.4**~~ **2304.12.2.8 Termite protection.** In geographical areas where hazard of termite damage is known to be very heavy, wood floor framing in the locations specified in Section 2304.12.1.1 and exposed framing of exterior decks or balconies shall be of naturally durable species (termite resistant) or preservative treated in accordance with AWPA U1 for the species, product preservative and end use or provided with *approved* methods of termite protection. ~~**2304.12.5**~~ **2304.12.2.9 Wood used in retaining walls and cribs.** Wood installed in retaining or crib walls shall be preservative treated in accordance with AWPA U1 for soil and fresh water use. ~~**2304.12.6**~~ **2304.12.3 Attic ventilation.** For *attic* ventilation, see Section 1202.2.2. ~~**2304.12.7**~~ **2304.12.4 Under-floor ventilation (crawl space).** For under-floor ventilation (crawl space), see Section 1202.4.					
S178-19	**2304.12.2.6 Ventilation beneath balcony or elevated walking surfaces.** Enclosed framing in exterior balconies and elevated walking surfaces that ~~are exposed to rain, snow or drainage from irrigation~~ have *weather-exposed surfaces* shall be provided with openings that provide a net free cross-ventilation area not less than $^1/_{150}$ of the area of each separate space.		X			Clarification
S180-19	**TABLE 2306.1.4** **ALLOWABLE LOADS FOR LUMBER DECKING** *Portions of table not shown remain unchanged.* **PATTERN** | **ALLOWABLE AREA LOAD[a, b]** (Flexure | Deflection)	X				Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	3-inch and 4-inch decking: $\sigma_b = \frac{8\ \cancel{20} F_b' d^2}{\cancel{3}\ l^2 6}$; $\sigma_\Delta = \frac{116 \Delta E' d^3}{l^4\ 12}$ For SI: 1 inch = 25.4 mm. a. σ_b = Allowable total uniform load limited by bending. σ_Δ = Allowable total uniform load limited by deflection. b. d = Actual decking thickness. l = Span of decking. F_b' = Allowable bending stress adjusted by applicable factors. E = Modulus of elasticity adjusted by applicable factors.					
S181-19	**2306.1.4 Lumber decking.** The capacity of lumber decking arranged according to the patterns described in Section 2304.9.2 shall be the lesser of the capacities determined for ~~flexure~~ moment and deflection according to the formulas in Table 2306.1.4. **TABLE 2306.1.4** **ALLOWABLE LOADS FOR LUMBER DECKING** a. ~~σ~~ w_b = Allowable total uniform load limited by ~~bending.~~ moment. ~~b. σ~~ w_Δ = Allowable total uniform load limited by deflection. d = Actual decking thickness. l = Span of decking. F_b' = Allowable bending stress adjusted by applicable factors. E = Modulus of elasticity adjusted by applicable factors.		X			Clarification
S182-19	**TABLE 2306.3(3)** **ALLOWABLE SHEAR VALUES FOR WIND OR SEISMIC FORCES FOR SHEAR WALLS OF LATH AND PLASTER OR GYPSUM BOARD WOOD FRAMED WALL ASSEMBLIES UTILIZING STAPLES** a. These shear walls shall not be used to resist loads imposed by masonry or concrete walls (see AWC SDPWS). Values shown are for short-term loading due to wind or seismic loading. Walls resisting seismic loads shall be subject to the limitations in Section 12.2.1 of ASCE 7. Values shown shall be reduced 25 percent for normal loading. b. Applies to fastening at studs, top and bottom plates and blocking. c. Except as noted, shear values are based on a maximum framing spacing of 16 inches on center. d. Maximum framing spacing of 24 inches on center. e. All edges are blocked, and edge fastening is provided at all supports and all panel edges. f. Staples shall have a minimum crown width of 7/16 inch, measured outside the legs, and shall be installed with their crowns parallel to the long dimension of the framing members. g. Staples for the attachment of gypsum lath and woven-wire lath shall have a minimum crown width of 3/4 inch, measured outside the legs.		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
S183-19 Part I	**2308.5.6 Cripple walls.** Foundation cripple walls shall be framed of studs that are not less than the size of the studding above ~~and~~. Exterior cripple wall studs shall be not less than 14 inches (356 mm) in length, or shall be framed of solid blocking. Where exceeding 4 feet (1219 mm) in height, such walls shall be framed of studs having the size required for an additional *story*. See Section 2308.6.6 for cripple wall bracing.	X				Clarification
S183-19 Part II	**R602.9 Cripple walls.** Foundation cripple walls shall be framed of studs not smaller than the studding above. Where exceeding 4 feet (1219 mm) in height, such walls shall be framed of studs having the size required for an additional *story*. ~~Cripple~~ Exterior cripple walls with a stud height less than 14 inches (356 mm) shall be continuously sheathed on one side with wood structural panels fastened to both the top and bottom plates in accordance with Table R602.3(1), or the cripple walls shall be constructed of solid blocking. Cripple walls shall be supported on continuous foundations.	X				Clarification
S184-19 Part I	**2308.5.9 Cutting and notching.** In exterior walls and bearing partitions, a wood ~~studs are permitted to~~ stud shall not be cut or notched ~~to a depth not exceeding 25 percent of the width of the stud. Cutting or notching of studs to a depth not greater than 40 percent of the width of the stud is permitted in nonbearing partitions not supporting~~ in excess of 25 percent of its depth. In nonbearing partitions that do not support loads other than the weight of the partition, a stud shall not be cut or notched in excess of 40 percent of its depth.		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IBC STRUCTURAL CHANGE SUMMARY**	**IBC STRUCTURAL COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	2308.5.10 Bored holes. ~~Bored holes not greater than~~ The diameter of bored holes in wood studs shall not exceed 40 percent of the stud ~~width are permitted to be bored in any wood stud. Bored holes not greater than~~ depth. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud ~~width are permitted in nonbearing partitions or~~ depth in nonbearing partitions. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud depth in any wall where each ~~bored~~ stud is doubled, provided that not more than two such successive doubled studs are so bored. The edge of ~~a~~ the bored hole shall not be ~~nearer~~ closer than 5/8 inch (15.9 mm) to the edge of the stud. Bored holes shall not be located at the same section of stud as a cut or notch. **[BS] 302.3.3 Stud cutting and notching.** In exterior walls and bearing partitions, ~~any~~ a wood stud ~~is permitted to~~ shall not be cut or notched ~~to a depth not exceeding~~ in excess of 25 percent of its ~~width. Cutting or notching of studs to a depth not greater than 40 percent of the width of the stud is permitted in nonload-bearing partitions supporting no loads other than the weight of the partition~~ depth. In nonbearing partitions that do not support loads other than the weight of the partition, a stud shall not be cut or notched in excess of 40 percent of its depth. **[BS] C101.2 Stud cutting and notching.** In exterior walls and bearing partitions, ~~any~~ a wood stud ~~is permitted to~~ shall not be cut or notched ~~to a depth not exceeding~~ in excess of 25 percent of its ~~width. Cutting or notching of studs to a depth not greater than 40 percent of the width of the stud is permitted in nonbearing partitions supporting no~~ depth. In nonbearing partitions that do not support loads other than the weight of the partition, a stud shall not be cut or notched in excess of 40 percent of its depth. **[BS] C101.3 Bored holes.** The diameter of bored holes in wood studs shall not exceed 40 percent of the stud depth. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud depth in nonbearing partitions. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud depth in any wall where each stud is doubled, provided that not more than two such successive doubled studs are so bored. The edge of the bored hole shall be not ~~be~~ closer than $^5/_8$ inch (15.9 mm) to the edge of the stud. Bored holes shall be not located at the same section of stud as a cut or notch.					
S184-19 Part II	**R602.6 Drilling and notching of studs.** Drilling and notching of studs shall be in accordance with the following:		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
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		Decrease	None	Increase		
Sub Code:						
	1. Notching. ~~Any~~ A stud in an exterior wall or bearing partition shall ~~be permitted to~~ not be cut or notched to a depth ~~not~~ exceeding 25 percent of its ~~width.~~ depth. Studs in nonbearing partitions shall ~~be permitted to~~ not be notched to a depth ~~not to exceed~~ exceeding 40 percent of a single stud ~~width.~~ depth. 2. ~~Drilling. Any stud shall be permitted to be bored or drilled, provided that the diameter of the resulting hole is not more than 60~~ Boring. The diameter of bored holes in studs shall not exceed 60 percent of the stud ~~width~~ depth, the edge of the hole ~~is~~ shall not ~~more~~ be less than $^5/_8$ inch (16 mm) ~~to~~ from the edge of the stud, and the hole ~~is~~ shall not be located in the same section as a cut or notch. ~~Studs~~ Where the diameter of a bored hole in a stud located in exterior walls or bearing partitions ~~drilled~~ is over 40 percent ~~and up to 60 percent~~ such stud shall be doubled ~~with~~ and not more than two successive doubled studs shall be so bored. See Figures R602.6(1) and R602.6(2). **Exception:** ~~Use of~~ Where *approved* stud shoes ~~is permitted where they~~ are installed in accordance with the manufacturer's ~~recommendations.~~ instructions.					
S185-19	**Revise as follows:** **2308.6.6.2 Cripple wall bracing in Seismic Design Categories D and E.** For the purposes of this section, cripple walls in *Seismic Design Categories* D and E ~~having~~ shall not have a stud height exceeding 14 inches (356 mm) ~~shall be considered to be a story and~~ , and studs shall be ~~braced~~ solid blocked in accordance with ~~Table 2308.6.1. Where interior braced wall lines occur without a continuous foundation below, the length of parallel exterior cripple wall bracing shall be one and one-half times the lengths required by Table 2308.6.1. Where the cripple wall sheathing type used is Method WSP or DWB and this additional length of bracing cannot be provided, the capacity of WSP or DWB sheathing shall be increased by reducing the spacing of fasteners along the perimeter of each piece of sheathing to 4 inches (102 mm) on center.~~ Section 2308.5.6 for the full dwelling perimeter and for the full length of interior braced walls lines supported on foundations, excepting ventilation and access openings.		X			Clarification
S186-19	**TABLE 2308.6.3(1)** **BRACING METHODS** *Portions of table not shown remain unchanged.* **METHODS, MATERIAL** | **MINIMUM THICKNESS** | **FIGURE** | **CONNECTION CRITERIA[a]** (Fasteners | Spacing)		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
	Sub Code:					
	PCP Portland cement plaster | Section 2510 to studs at maximum of 16" o.c. |  | $1^1/_2$" long, 11 gage, 0.120" dia., $^7/_{16}$" dia. head nails or $^7/_8$" long, 16 gage staples | 6" o.c. on all framing members For SI: 1 foot = 304.8 mm, 1 degree = 0.01745 rad. a. Method LIB shall have gypsum board fastened to one or more side(s) with nails or screws					
S187-19	**Further modify as follows:** **2018 International Building Code**		X			Clarification

H_C/H_R	Heel Joint Connection Adjustment Factor
1/3	1.5
1/4	1.33
1/5	1.25
1/6	1.2
1/10 or less	1.11

TABLE 2308.7.3.1
RAFTER TIE CONNECTIONS

a. 10d common (3" x 0.148") nails shall be permitted to be substituted for 16d common ($3^1/_2$" × 0.162") nails where the required number of nails is taken as 1.2 times the required number of 16d common nails, rounded up to the next full nail.
b. Rafter tie heel joint connections are not required where the ridge is supported by a load-bearing wall, header or ridge beam.
c. Where intermediate support of the rafter is provided by vertical struts or purlins to a load-bearing wall, the tabulated heel joint connection requirements are permitted to be reduced proportionally to the reduction in span.
d. Equivalent nailing patterns are required for ceiling joist to ceiling joist lap splices.
e. Connected members shall be of sufficient size to prevent splitting due to nailing.
f. For snow loads less than 30 pounds per square foot, the required number of nails is permitted to be reduced by multiplying by the ratio of actual snow load plus 10 divided by 40, but not less than the number required for no snow load.
g. Applies to roof live load of 20 psf or less.
h. Tabulated heel joint connection requirements assume that ceiling joists or rafter ties are located at the bottom of the attic space. Where ceiling joists or rafter ties are located higher in the attic, heel joint connection requirements shall be increased by the following factors:

where:

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	H_C = Height of ceiling joists or rafter ties measured vertically ~~above~~ from the top of the rafter support walls to the bottom of the ceiling joists or rafter ties. H_R = Height of roof ridge measured vertically ~~above~~ from the top of the rafter support walls to the bottom of the roof ridge. When H_C / H_R exceeds 1/3, connections shall be designed in accordance with accepted engineering practice. i. Tabulated requirements are based on 10 psf roof dead load in combination with the specified roof snow load and roof live load.					
S188-19	**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. Light-transmitting plastic glazing shall also meet the applicable requirements of Chapter 26.		X			Clarification
S189-19	**2403.3 Glass Framing.** To be considered firmly supported, the framing members for each individual pane of glass shall be designed so that the deflection of the edge of the glass perpendicular to the glass pane does not exceed $^1/_{175}$ of the glass edge length where the glass edge length is not more than 13 feet 6 inches (4115 mm) or 1/240 of the glass edge length + 1/4 inch (6.4 mm) where the glass edge length is greater than 13 feet 6 inches (4115 mm), when subjected to the larger of the positive or negative load where loads are combined as specified in Section 1605.		X			Clarification
S190-19	**2405.1 Scope.** This section applies to the installation of glass and other transparent, translucent or opaque glazing material installed at a slope of more than 15 degrees (0.26 rad) from the vertical plane, including glazing materials in skylights, roofs and sloped walls. **2405.2 Allowable glazing materials and limitations.** Sloped glazing shall be any of the following materials, subject to the listed limitations. 1. For monolithic glazing systems, the glazing material of the single light or layer shall be laminated glass with a minimum 30-mil (0.76 mm) polyvinyl butyral (or equivalent) interlayer, wired glass, light-transmitting plastic materials meeting the requirements of Section 2607, heat-strengthened glass or fully tempered glass. 2. For multiple-layer glazing systems, each light or layer shall consist of any of the glazing materials specified in Item 1. Annealed glass is permitted to be used as specified in Exceptions 2 and 3 of Section 2405.3.		X			Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Laminated glass and plastic materials described above shall not require the screening or height restrictions provided in Section 2405.3. For additional requirements for plastic skylights, see Section 2610. Glass-block construction shall conform to the requirements of Section 2110.1. **2405.3 Screening.** Where used in monolithic glazing systems, annealed, heat-strengthened, ~~and~~ fully tempered and wired glass shall have broken glass retention screens installed below the glazing material. The screens and their fastenings shall be: capable of supporting twice the weight of the glazing; firmly and substantially fastened to the framing members; and installed within 4 inches (102 mm) of the glass. The screens shall be constructed of a noncombustible material not thinner than No. 12 B&S gage (0.0808 inch) with mesh not larger than 1 inch by 1 inch (25 mm by 25 mm). In a corrosive atmosphere, structurally equivalent noncorrosive screen materials shall be used. Annealed, ~~H~~heat-strengthened ~~glass~~, fully tempered ~~glass~~ and wired glass, where used in multiple-layer glazing systems as the bottom glass layer over the walking surface, shall be equipped with screening that conforms to the requirements for monolithic glazing systems. **Exception:** In monolithic and multiple-layer sloped glazing systems, the following applies: 1. Fully tempered glass installed without protective screens where glazed between intervening floors at a slope of 30 degrees (0.52 rad) or less from the vertical plane shall have the highest point of the glass 10 feet (3048 mm) or less above the walking surface. 2. Screens are not required below any glazing material, including annealed glass, where the walking surface below the glazing material is permanently protected from the risk of falling glass or the area below the glazing material is not a walking surface. 3. Any glazing material, including annealed glass, is permitted to be installed without screens in the sloped glazing systems of commercial or detached noncombustible greenhouses used exclusively for growing plants and not open to the public, provided that the height of the greenhouse at the ridge does not exceed 30 feet (9144 mm) above grade. 4. Screens shall not be required in individual dwelling units in					

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Groups R-2, R-3 and R-4 where fully tempered glass is used as single glazing or as both panes in an insulating glass unit, and the following conditions are met: 4.1. Each pane of the glass is 16 square feet (1.5 m2) or less in area. 4.2. The highest point of the glass is 12 feet (3658 mm) or less above any walking surface or other accessible area. 4.3. The glass thickness is 3/16 inch (4.8 mm) or less. 5. Screens shall not be required for laminated glass with a 15-mil (0.38 mm) polyvinyl butyral (or equivalent) interlayer used in individual dwelling units in Groups R-2, R-3 and R-4 within the following limits: 5.1. Each pane of glass is 16 square feet (1.5 m2) or less in area. 5.2. The highest point of the glass is 12 feet (3658 mm) or less above a walking surface or other accessible area.					
S192-19	**2407.1.2 Guards with structural glass balusters ~~panels.~~** Guards with structural glass balusters, whether vertical posts, columns or panels, shall be installed with an attached top rail or handrail. The top rail or handrail shall be supported by not fewer than three glass balusters, or shall be otherwise supported to remain in place should one glass baluster fail. **Exception:** An attached top rail or handrail is not required where the glass ~~balusters~~ panels are laminated glass with two or more glass plies of equal thickness and of the same glass type. The balusters shall be tested to remain in place as a barrier following impact or glass breakage in accordance with ASTM E2353.		X			Clarification
S196-19	**2510.6.1 Dry climates.** One of the following shall apply for dry (B) *climate zones*: 1. The *water-resistive barrier* shall be two layers of 10-minute Grade D paper or have a water resistance equal to or greater than two layers of *water-resistive barrier* complying with ASTM E2556, Type I. The individual layers shall be installed independently such that each layer provides a separate continuous plane and any flashing, installed in accordance with Section 1404.4 and intended to drain to the *water-resistive barrier*, is directed between the layers. 2. The *water-resistive barrier* shall be 60-minute Grade D paper or have a water resistance equal to or greater than one layer of *water-resistive barrier* complying with ASTM E2556, Type II. The water-resistive barrier shall be separated from the stucco			X	Minimal	Clarification

Table 12. 2021 IBC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IBC STRUCTURAL CHANGE SUMMARY	IBC STRUCTURAL COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	by a layer of foam plastic insulating sheathing or other nonwater absorbing layer, or a drainage space. **2510.6.2 Moist or marine climates.** In moist (A) or marine (C) *climate zones*, water-resistive barrier shall comply with of one of the following: 1. In addition to complying with Item 1 or 2 of Section 2510.6.1, a space or drainage material not less than ~~minimum~~ 3/16 inch (4.8 mm) in depth ~~space~~ shall be applied ~~added~~ to the exterior side of the *water-resistive barrier.* 2. In addition to complying with Item 2 of Section 2510.6.1, drainage on the exterior side of the water-resistive barrier shall have ~~a space with~~ a minimum drainage efficiency of 90% as measured in accordance with ASTM E2273 or Annex A2 of ASTM E2925 ~~is added to the exterior side of the *water-resistive barrier.*~~					

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IRC STRUCTURAL CHANGES SUMMARY**	**IRC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
RB163-19	**R102.7.1 Additions, alterations or repairs.** *Additions*, *alterations* or repairs to any structure shall conform to the requirements for a new structure without requiring the existing structure to comply with the requirements of this code, unless otherwise stated. *Additions*, *alterations,* repairs and relocations shall not cause an existing structure to become ~~unsafe or adversely affect the performance of the building.~~ less compliant with the provisions of this code than the existing building or structure was prior to the addition, alteration or repair. An existing building together with its additions shall comply with the height limits of this code. Where the alteration causes the use or occupancy to be changed to one not within the scope of this code, the provisions of the International Existing Building Code shall apply.		X			Clarification
RB164-19	**TABLE R403.1(1) MINIMUM WIDTH AND THICKNESS FOR CONCRETE FOOTINGS FOR LIGHT-FRAME CONSTRUCTION (inches)[a, b, c, d]** *(No change to portions of tables or footnotes not shown)* d. Where the building width perpendicular to the wall footing is less than 32 feet, a 2 inch decrease in footing width and 1 inch decrease in footing depth is permitted for every 4 feet of decrease in building width, provided the minimum width is 12 inches (mm) and minimum depth is 6 inches (mm). **TABLE R403.1(2) MINIMUM WIDTH AND THICKNESS FOR CONCRETE FOOTINGS FOR LIGHT-FRAME CONSTRUCTION WITH BRICK VENEER OR LATH AND PLASTER (inches)[a, b, c, d]** d. Where the building width perpendicular to the wall footing is less than 32 feet, a 2 inch decrease in footing width and 1 inch decrease in footing depth is permitted for every 4 feet of decrease in building width, provided the minimum width is 12 inches (mm) and minimum depth is 6 inches (mm). **TABLE R403.1(3) MINIMUM WIDTH AND THICKNESS FOR CONCRETE FOOTINGS WITH CAST-IN-PLACE CONCRETE OR PARTIALLY GROUTED MASONRY WALL CONSTRUCTION (inches)[a, b, c, d]** d. Where the building width perpendicular to the wall footing is less than 32 feet, a 2 inch decrease in footing width and 1 inch decrease in footing depth is permitted for every 4 feet of decrease in building width, provided the minimum width is 12 inches (mm) and minimum depth is 6 inches (mm).			X		Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IRC STRUCTURAL CHANGES SUMMARY**	**IRC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
RB166-19	**R404.1.3.3.6 Form materials and form ties.** Forms shall be made of wood, steel, aluminum, plastic, a composite of cement and foam insulation, a composite of cement and wood chips, or other *approved* material suitable for supporting and containing concrete. Forms shall be ~~accurately~~ positioned and secured before placing concrete and shall provide sufficient strength to contain concrete during the concrete placement operation. Form ties shall be steel, solid plastic, foam plastic, a composite of cement and wood chips, a composite of cement and foam plastic, or other suitable material capable of resisting the forces created by fluid pressure of fresh concrete. **R403.1.6 Foundation anchorage.** Wood sill plates and wood walls supported directly on continuous foundations shall be anchored to the foundation in accordance with this section. Cold-formed steel framing shall be anchored directly to the foundation or fastened to wood sill plates in accordance with Section R505.3.1 or R603.3.1, as applicable. Wood sill plates supporting cold-formed steel framing shall be anchored to the foundation in accordance with this section. Wood sole plates at all exterior walls on monolithic slabs, wood sole plates of *braced wall panels* at building interiors on monolithic slabs and all wood sill plates shall be anchored to the foundation with minimum $^1/_2$-inch-diameter (12.7 mm) anchor bolts spaced not greater than 6 feet (1829 mm) on center or *approved* anchors or anchor straps spaced as required to provide equivalent anchorage to $^1/_2$-inch-diameter (12.7 mm) anchor bolts. Bolts shall extend not less than 7 inches (178 mm) into concrete or grouted cells of concrete masonry units. The bolts shall be located in the middle third of the width of the plate. A nut and washer shall be tightened on each anchor bolt. There shall be not fewer than two bolts per plate section with one bolt located not more than 12 inches (305 mm) or less than seven bolt diameters from each end of the plate section. Interior bearing wall sole plates on monolithic slab foundation that are not part of a *braced wall panel* shall be positively anchored with *approved* fasteners. Sill plates and sole plates shall be protected against decay and termites where required by Sections R317 and R318. Anchor bolts shall be permitted to be located ~~after~~ the while concrete is ~~placed~~ still plastic and before it has set ~~in accordance with ACI 332~~. Where anchor bolts resist placement or the consolidation of concrete around anchor bolts is impeded, the	X				Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	concrete shall be vibrated to ensure full contact between the anchor bolts and concrete. **Exceptions:** 1. Walls 24 inches (610 mm) total length or shorter connecting offset braced wall panels shall be anchored to the foundation with not fewer than one anchor bolt located in the center third of the plate section and shall be attached to adjacent braced wall panels at corners as shown in Item 9 of Table R602.3(1). 2. Connection of walls 12 inches (305 mm) total length or shorter connecting offset *braced wall panels* to the foundation without anchor bolts shall be permitted. The wall shall be attached to adjacent braced wall panels at corners as shown in Item 9 of Table R602.3(1).					
RB168-19	**Reason:** To add some uniformity to the IRC Code, the following modification is proposed to the Table headers. Section R404.1 applies to foundation walls, which could be constructed with either masonry or concrete. Since the creation of the IRC, the masonry and concrete wall sections have been written and modified by different interest groups. In some instances there has been a lack of coordination between code provisions for the two materials. This is an attempt to bridge some of those differences so that the users of the IRC can see uniform language across the code. It is proposed that all affected Tables use the header "MAXIMUM UNSUPPORTED WALL HEIGHT" to describe these similar conditions.		X			Consolidates terminology across tables regardless of the materials to make it clear that the intent is the same for all tables
RB169-19	**R404.1.2.1 Masonry foundation walls**. Concrete masonry and clay masonry foundation walls shall be constructed as set forth in Table R404.1.1(1), R404.1.1(2), R404.1.1(3) or R404.1.1(4) and shall comply with applicable provisions of Section R606. In buildings assigned to Seismic Design Categories D_0, D_1 and D_2, concrete masonry and clay masonry foundation walls shall also comply with Section R404.1.4.1. Rubble stone masonry foundation walls shall be constructed in accordance with Sections R404.1.8 and R606.4.2. Rubble stone masonry walls shall not be used in Seismic Design Categories D_0, D_1 and D_2 or in townhouses in Seismic Design Category C.		X			Clarification
RB171-19	**R404.1.3.3.7.1 Steel reinforcement.** Steel reinforcement shall comply with the requirements of ASTM A615, A706, or A996. ASTM A996 bars produced from rail steel shall be Type R. In buildings assigned to Seismic Design Category A, B or C, the minimum yield strength of reinforcing steel shall be 40,000 psi (Grade 40) (276 MPa). In buildings assigned to Seismic Design Category D_0, D_1 or D_2, ~~reinforcing steel shall~~	X				Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IRC STRUCTURAL CHANGES SUMMARY**	**IRC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~comply with~~ the ~~requirements of ASTM A706 for low-alloy steel with a~~ minimum yield strength ~~of~~ shall be 60,000 psi (Grade 60) (414 MPa).					
RB173-19	**R406.2 Concrete and masonry foundation waterproofing.** In areas where a high water table or other severe soil-water conditions are known to exist, exterior foundation walls that retain earth and enclose interior spaces and floors below *grade* shall be waterproofed from the higher of (a) the top of the footing or (b) 6 inches (152 mm) below the top of the basement floor, to the finished *grade*. Walls shall be waterproofed in accordance with one of the following: 1. Two-ply hot-mopped felts. 2. Fifty-five-pound (25 kg) roll roofing. ~~3. Six-mil (0.15 mm) polyvinyl chloride.~~ ~~4. Six mil (0.15 mm)polyethylene~~ 5. Forty mil (1 mm) polymer modified asphalt 6. Sixty-mil (1.5 mm) flexible polymer cement. 7. One-eighth-inch (3 mm) cement-based, fiber-reinforced, waterproof coating. 8. Sixty-mil (1.5 mm) solvent-free liquid-applied synthetic rubber. All joints in membrane waterproofing shall be lapped and sealed with an adhesive compatible with the membrane. **Exception:** Organic-solvent-based products such as hydrocarbons, chlorinated hydrocarbons, ketones and esters shall not be used for ICF walls with expanded polystyrene form material. Use of plastic roofing cements, acrylic coatings, latex coatings, mortars and pargings to seal ICF walls is permitted. Cold-setting asphalt or hot asphalt shall conform to Type C of ASTM D449. Hot asphalt shall be applied at a temperature of less than 200°F (93°C).			X		Clarification
RB176-19	**SECTION R408** **UNDER-FLOOR SPACE** **R408.1 ~~Ventilation.~~ Moisture Control.** The under-floor space between the bottom of the floor joists and the earth under any building (except space occupied by a *basement*) shall ~~have ventilation openings through foundation walls or exterior walls. The minimum net area of ventilation openings shall be not less than 1 square foot (0.0929 m^2) for each 150 square feet (14 m^2) of under-floor space area, unless the ground surface is covered by a Class 1 vapor retarder material. Where a Class 1 vapor retarder material is used, the minimum net area of ventilation openings shall be not less than 1 square foot (0.0929 m^2) for each 1,500 square feet (140 m^2) of under-floor space area. One such ventilating opening shall be within~~		X			Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IRC STRUCTURAL CHANGES SUMMARY**	**IRC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	~~3 feet (914 mm) of each corner of the~~ building <u>comply with Section R408.2 or Section R408.3</u>. **R408.2 Openings for under-floor ventilation.** <u>Ventilation openings through foundation or exterior walls surrounding the under-floor space shall be provided in accordance with this section.</u> The minimum net area of ventilation openings shall be not less than 1 square foot (0.0929 m^2) for each 150 square feet (14 m^2) of under-floor area. One ventilation opening shall be within 3 feet (915 mm) of each <u>external</u> corner of the ~~building.~~ <u>under-floor space.</u> Ventilation openings shall be covered for their height and width with any of the following materials provided that the least dimension of the covering shall not exceed $^1/_4$ inch (6.4 mm)<u>, and operational louvers are permitted</u>: 1. Perforated sheet metal plates not less than 0.070 inch (1.8 mm) thick. 2. Expanded sheet metal plates not less than 0.047 inch (1.2 mm) thick. 3. Cast-iron grill or grating. 4. Extruded load-bearing brick vents. 5. Hardware cloth of 0.035 inch (0.89 mm) wire or heavier. 6. Corrosion-resistant wire mesh, with the least dimension being $^1/_8$ inch (3.2 mm) thick. ~~**Exception**~~ **Exceptions:** 1. The total area of ventilation openings shall be permitted to be reduced to $^1/_{1,500}$ of the under-floor area where the ground surface is covered with an *approved* Class I vapor retarder material ~~and the required openings are placed to provide cross ventilation of the space. The installation of operable louvers shall not be prohibited.~~ 2. <u>Where the ground surface is covered with an approved class 1 vapor retarder material, ventilation openings are not required to be within 3 feet (915 mm) of each external corner of the under-floor space provided the openings are placed to provide cross ventilation of the space.</u> **R408.3 Unvented crawl space.** ~~Ventilation openings in~~ <u>For unvented</u> under-floor spaces ~~specified in Sections R408.1 and R408.2 shall not be required where~~ the following items ~~are~~ <u>shall be</u> provided: 1. Exposed earth ~~is~~ <u>shall be</u> covered with a continuous Class I vapor retarder. Joints of the vapor retarder shall overlap by 6 inches (152 mm) and shall be sealed or taped. The edges of the vapor retarder shall extend not less than 6 inches (152 mm) up the stem wall and shall be attached and sealed to the stem wall or insulation.					

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IRC STRUCTURAL CHANGES SUMMARY**	**IRC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	2. One of the following ~~is~~ shall be provided for the under-floor space: 2.1. Continuously operated mechanical exhaust ventilation at a rate equal to 1 cubic foot per minute (0.47 L/s) for each 50 square feet (4.7 m2) of crawl space floor area, including an air pathway to the common area (such as a duct or transfer grille), and perimeter walls insulated in accordance with Section N1102.2.11 of this code. 2.2. Conditioned air supply sized to deliver at a rate equal to 1 cubic foot per minute (0.47 L/s) for each 50 square feet (4.7 m2) of under-floor area, including a return air pathway to the common area (such as a duct or transfer grille), and perimeter walls insulated in accordance with Section N1102.2.11 of this code. 2.3. Plenum in existing structures complying with Section M1601.5, if under-floor space is used as a plenum. 2.4. Dehumidification sized to provide 70 pints (33 liters) of moisture removal per day for every 1,000 square feet (93 m2) of crawl space floor area.					
RB177-19	**SECTION R408** **UNDER-FLOOR SPACE** **R408.3 Unvented crawl space.** Ventilation openings in under-floor spaces specified in Sections R408.1 and R408.2 shall not be required where the following items are provided: 1. Exposed earth is covered with a continuous Class I vapor retarder. Joints of the vapor retarder shall overlap by 6 inches (152 mm) and shall be sealed or taped. The edges of the vapor retarder shall extend not less than 6 inches (152 mm) up the stem wall and shall be attached and sealed to the stem wall or insulation. 2. One of the following is provided for the under-floor space: 2.1. Continuously operated mechanical exhaust ventilation at a rate equal to 1 cubic foot per minute (0.47 L/s) for each 50 square feet (4.7 m2) of crawl space floor area, including an air pathway to the common area (such as a duct or transfer grille), and perimeter walls insulated in accordance with Section N1102.2.11 of this code. 2.2. Conditioned air supply sized to deliver at a rate equal to 1 cubic foot per minute (0.47 L/s) for each 50 square feet (4.7 m2) of under-floor area, including a return air pathway to the common area (such as a duct or transfer grille), and perimeter walls insulated in accordance with Section N1102.2.11 of this code. 2.3. Plenum in existing structures complying with Section M1601.5, if under-floor space is used as a plenum.	X				Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	2.4. Dehumidification sized ~~to provide 70 pints (33 liters) of moisture removal per day for every 1,000 square feet (93 m2) of crawl space floor area.~~ in accordance with the manufacturer's specifications.					
RB178-19	**R408.8 Under-floor vapor retarder.** In Climate Zones 1A, 2A, and 3A below the warm-humid line, a continuous Class I or II vapor retarder shall be provided on the exposed face of air permeable insulation installed between the floor joists and exposed to the grade in the under-floor space. The vapor retarder shall have a maximum water vapor permeance of 1.5 perms when tested in accordance with Procedure B of ASTM E96. **Exception:** The vapor retarder shall not be required in unvented crawl spaces constructed in accordance with Section R408.3.			X		Necessary addition for clarification
RB179-19	**Reason:** In 2012, full-scale testing of visually-graded southern pine lumber was underway and preliminary results indicated that some changes to visually-graded southern pine design values would be required. Unfortunately, the testing and certification of design values were not going to be completed in time to submit new design tables to the 2015 IRC, if required. Several 2012 IRC tables, which had been based on minimum design values for No. 2 grade Hem-Fir or SPF lumber, also applied to No. 2 grade southern pine. As an interim recommendation until new design values could be certified, a sentence was added to those tables restricting the applicability to No.1 grade or better southern pine lumber. Since that time, new design values for southern pine have been certified. Bending design values for No. 2 grade southern pine are slightly less than No. 2 grade Hem-Fir lumber, but Modulus of Elasticity (MOE) and shear design values are higher than those for Hem-Fir. Analysis of the tabulated cantilever spans in Tables R502.3.3(1) and R502.3.3(2) has confirmed that the spans were deflection-controlled based on the MOE of No. 2 grade of Hem-Fir lumber. Since No. 2 grade southern pine lumber has a higher MOE value than No. 2 grade Hem-Fir lumber, there is no need for the added sentence at the end of footnote "b" in Table R502.3.3(1) and at the end of footnote "a" in Table R502.3.3(2) restricting the applicability to No. 1 or better southern pine lumber.	X				Updates footnotes for Southern Pine
RB180-19	**R505.1.1.1 Alternate Applications.** Cold-formed steel floor framing for buildings exceeding the applicability limits of Section R505.1.1 are permitted to be designed and constructed in accordance with AISI S230, subject to the limits therein.		X			Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	R603.1.1.1 Alternate Applications. Cold-formed steel wall framing for buildings exceeding the applicability limits of Section R603.1.1 are permitted to be designed and constructed in accordance with AISI S230, subject to the limits therein. **R804.1.1.1 Alternate Applications.** Cold-formed steel roof and ceiling framing for buildings exceeding the applicability limits of Section R804.1.1 are permitted to be designed and constructed in accordance with AISI S230, subject to the limits therein.					
RB181-19	**R505.1.3 Floor trusses.** Cold-formed steel trusses shall be designed, braced and installed in accordance with AISI S230 Section D8. In absence of specific bracing requirements, trusses shall be braced in accordance with accepted industry practices, such as the SBCA *Cold-Formed Steel Building Component Safety Information (CFSBCSI), Guide to Good Practice for Handling, Installing & Bracing of Cold-Formed Steel Trusses*. Truss members shall not be notched, cut or altered in any manner without an *approved* design. **R804.3.6 Roof trusses.** Cold-formed steel trusses shall be designed and installed in accordance with AISI S230 Section F6. In absence of specific bracing requirements, trusses shall be braced in accordance with accepted industry practices, such as the SBCA *Cold-Formed Steel Building Component Safety Information (CFSBCSI), Guide to Good Practice for Handling, Installing & Bracing of Cold-Formed Steel Trusses*. Trusses shall be connected to the top track of the load-bearing wall in accordance with Table R804.3, either with the required number of No. 10 screws applied through the flange of the truss or by using a 54-mil (1.37 mm) clip angle with the required number of No. 10 screws in each leg.		X			Clarification
RB184-19	**TABLE R507.3.1** **MINIMUM FOOTING SIZE FOR DECKS**	X				Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						

LIVE OR GROUND SNOW LOAD[b] (psf)	TRIBUTARY AREA[e] (sq. ft.)	SOIL BEARING CAPACITY[a,c,d] 1500 psf			2000 psf			≥ 3000 psf		
		Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness[f] (inches)	Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness[f] (inches)	Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness[f] (inches)
40	5	7	8	6	7	8	6	7	8	6
	20	10	~~10~~ 12	6	9	9	6	7	8	6
	40	14	~~14~~ 16	~~7~~ 6	12	~~13~~ 14	6	10	~~10~~ 12	6
	60	17	~~18~~ 19	~~9~~ 6	15	~~15~~ 17	~~9~~ 6	12	~~13~~ 14	6
	80	20	22	7	17	19	6	14	16	6
	100	22	25	8	19	21	6	15	17	6
	120	24	27	9	21	23	7	17	19	6
	140	26	29	10	22	25	8	18	21	6
	160	28	31	11	24	27	9	20	22	7
50	5	7	8	6	7	8	6	7	8	6
	20	11	~~12~~ 13	6	10	~~10~~ 11	6	8	~~8~~ 9	6
	40	~~16~~ 15	~~16~~ 17	6	~~8~~ 13	~~14~~ 15	6	11	~~12~~ 13	6
	60	19	21	6	16	18	6	13	15	6
	80	21	24	8	19	21	6	15	17	6
	100	24	27	9	21	23	7	17	19	6
	120	26	30	10	23	26	8	19	21	6
	140	28	32	11	25	28	9	20	23	7
	160	30	34	12	26	30	10	21	24	8
60	5	7	8	6	7	8	6	7	8	6
	20	12	~~13~~ 14	6	11	~~11~~ 12	6	9	~~9~~ 10	6
	40	~~17~~ 16	~~18~~ 19	6	~~15~~ 14	~~15~~ 16	8	12	~~13~~ 14	6
	60	20	23	7	17	20	6	14	16	6
	80	23	26	9	20	23	7	16	19	6
	100	26	29	10	22	25	8	18	21	6
	120	28	32	11	25	28	9	20	23	7
	140	31	35	12	27	30	10	22	24	8
	160	33	37	13	28	32	11	23	26	9
70	5	7	8	6	7	8	6	7	8	6
	20	~~13~~ 12	14	7 6	11	~~12~~ 13	6	9	10	6
	40	18	~~19~~ 20	~~9~~ 6	~~16~~ 15	17	~~8~~ 6	~~13~~ 12	14	~~7~~ 6
	60	21	24	8	19	21	6	15	17	6
	80	25	28	9	21	24	8	18	20	6
	100	28	31	11	24	27	9	20	22	7
	120	30	34	12	26	30	10	21	24	8
	140	33	37	13	28	32	11	23	26	9
	160	35	40	15	30	34	12	25	28	9

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m^2, 1 pound per square foot = 0.0479 kPa.

a. Interpolation permitted, extrapolation not permitted.

b. Based on highest load case: Dead + Live or Dead + Snow.

c. Footing dimensions shall allow complete bearing of the post.

d. If the support is a brick or CMU pier, the footing shall have a minimum 2-inch projection on all sides.

e. Area, in square feet, of deck surface supported by post and footings.

f. Minimum thickness shall only apply to plain concrete footings.

R507.4 Deck posts. For single-level decks, wood ~~deck~~ post size shall be in accordance with Table R507.4.

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						

R507.4 Deck posts. For single-level decks, wood ~~deck~~ post size shall be in accordance with Table R507.4.

TABLE R507.4
DECK POST HEIGHT

Portions of table not shown remain unchanged.

LOADS [b] (psf)	POST SPECIES [c]	POST SIZE [d]	~~TRIBUTARY AREA [g,h] (sqft)~~ MAXIMUM DECK POST HEIGHT [g] (feet-inches) Tributary Area [g,h] (sqft)							
			20	40	60	80	100	120	140	160
40 Live Load	Southern Pine	4 x 4	14-0	13-8	11-0	9-5	8-4	7-5	6-9	6-2
		4 x 6	14-0	14-0	13-11	12-0	10-8	9-8	8-10	8-2
		6 x 6	14-0	14-0	~~11-0~~ 14-0	14-0	14-0	14-0	14-0	14-0
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0
	Douglas Fir [e], Hem-fir [e], SPF [e]	4 x 4	14-0	13-6	10-10	9-3	8-0	7-0	6-2	5-3
		4 x 6	14-0	14-0	13-10	11-10	10-6	9-5	8-7	7-10
		6 x 6	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0
	Redwood [f], Western Cedars [f]	4 x 4	14-0	~~12-1~~ 13-2	~~9-8~~ 10-3	~~8-2~~ 8-1	~~7-1~~ 5-8	~~6-2~~ NP	~~5-3~~ NP	~~4-2~~ NP
		4 x 6	14-0	14-0	~~12-4~~ 13-6	~~10-7~~ 11-4	~~9-4~~ 9-9	8-4	~~7-7~~ 6-9	~~6-11~~ 4-7
		6 x 6	14-0	14-0	14-0	14-0	14-0	14-0	~~14-0~~ 13-7	~~12-10~~ 9-7
	Ponderosa Pine [f], Red Pine [f]	8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0
50 Ground Snow Load	Southern Pine	4 x 4	14-0	12-2	9-10	8-5	7-5	~~9-7~~ 6-7	5-11	5-4
		4 x 6	14-0	14-0	12-6	10-9	9-6	8-7	7-10	7-3
		6 x 6	14-0	14-0	14-0	14-0	14-0	14-0	14-0	13-4
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0
	Douglas Fir [e], Hem-fir [e], SPF [e]	4 x 4	14-0	12-1	9-8	8-2	7-1	6-2	5-3	4-2
		4 x 6	14-0	14-0	12-4	10-7	9-4	8-4	7-7	6-11
		6 x 6	14-0	14-0	14-0	14-0	14-0	14-0	14-0	12-10
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0
	Redwood [f], Western Cedars [f]	4 x 4	14-0	11-8	9-0	6-10	3-7	NP	NP	NP
		4 x 6	14-0	14-0	12-0	10-0	8-6	7-0	5-3	NP
		6 x 6	14-0	14-0	14-0	14-0	14-0	14-0	10-8	2-4
	Ponderosa Pine [f], Red Pine [f]	8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0
	Southern Pine	4 x 4	14-0	11-1	8-11	7-7	6-7	5-10	5-2	4-6
		4 x 6	14-0	14-0	11-4	9-9	8-7	7-9	7-1	6-6
		6 x 6	14-0	14-0	14-0	14-0	14-0	14-0	12-9	11-2
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT: Decrease	IRC COST IMPACT: None	IRC COST IMPACT: Increase	ESTIMATED AMOUNT*	BENEFIT OF CHANGE

Sub Code:

60 Ground Snow Load	Douglas Fir [e], Hem-fir [e], SPF [e]	4 x 4	14-0	10-11	8-8	7-3	6-2	5-0	3-7	NP
		4 x 6	14-0	13-11	~~112~~ 11-2	9-7	8-4	7-5	6-8	5-11
		6 x 6	14-0	14-0	14-0	14-0	14-0	14-0	12-2	10-2
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0
	Redwood [f], Western Cedars f, Ponderosa Pine f, Red Pine f	4 x 4	14-0	10-6	7-9	4-7	NP	NP	NP	NP
		4 x 6	14-0	13-7	10-9	8-9	7-0	4-9	NP	NP
		6 x 6	14-0	14-0	14-0	14-0	14-0	9-9	NP	NP
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0
70 Ground Snow Load	Southern Pine	4 x 4	14-0	10-2	8-2	6-11	5-11	5-2	4-4	3-4
		4 x 6	14-0	12-11	10-5	8-11	7-10	7-1	6-5	5-10
		6 x 6	14-0	14-0	14-0	14-0	14-0	12-9	10-11	8-7
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0
	Douglas Fir [e], Hem-fir [e], SPF [e]	4 x 4	14-0	10-1	7-11	6-6	5-3	3-7	NP	NP
		4 x 6	14-0	12-10	10-3	8-9	7-7	6-8	5-10	4-11
		6 x 6	14-0	14-0	14-0	14-0	14-0	12-2	9-9	5-9
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0
	Redwood [f], Western Cedars [f], Ponderosa Pine [f], Red Pine [f]	4 x 4	14-0	9-5	6-5	NP	NP	NP	NP	NP
		4 x 6	14-0	12-6	9-8	7-7	5-3	NP	NP	NP
		6 x 6	14-0	14-0	14-0	14-0	10-8	NP	NP	NP
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa., NP = Not Permitted

a. Measured from the underside of the beam to top of footing or pier.

b. 10 psf dead load. Snow load not assumed to be concurrent with live load.

c. No. 2 grade, wet service factor included.

d. Notched deck posts shall be sized to accommodate beam size per in accordance with Section R507.5.2

e. Includes incising factor.

f. Incising factor not included.

g. Area, in square feet, of deck surface supported by post and footings.

h. Interpolation permitted. Extrapolation not permitted.

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						

TABLE R507.5(1)
MAXIMUM DECK BEAM SPAN - 40 PSF LIVE LOAD [c]

BEAM SPECIES [d]	BEAM SIZE [e]	~~DECK JOIST SPAN [a,b,f] (feet)~~ MAXIMUM BEAM SPAN [a,b,f] (feet-inches) Deck Joist Span [a,j] (feet)						
		6	8	10	12	14	16	18
Southern Pine	1 – 2 × 6	4-7	4-0	3-7	3-3	3-0	2-10	~~2-7~~ 2-8
	1 – 2 × 8	~~5-10~~ 5-11	5-1	~~4-6~~ 4-7	~~4-1~~ 4-2	3-10	3-7	~~3-4~~ 3-5
	1 – 2 × 10	~~6-11~~ 7-0	6-0	~~5-4~~ 5-5	4-11	~~4-6~~ 4-7	4-3	4-0
	1 – 2 × 12	~~8-2~~ 8-3	7-1	6-4	~~5-9~~ 5-10	~~5-4~~ 5-5	5-0	~~4-8~~ 4-9
	2 – 2 × 6	~~6-10~~ 6-11	5-11	~~5-3~~ 5-4	4-10	4-6	~~4-2~~ 4-3	~~3-11~~ 4-0
	2 – 2 × 8	~~8-8~~ 8-9	~~7-6~~ 7-7	6-9	6-2	~~5-8~~ 5-9	5-4	5-0
	2 – 2 × 10	10-4	~~8-11~~ 9-0	8-0	~~7-3~~ 7-4	6-9	6-4	~~5-11~~ 6-0
	2 – 2 × 12	12-2	~~10-6~~ 10-7	9-5	8-7	~~7-11~~ 8-0	7-5	7-0
	3 – 2 × 6	8-6	7-5	6-8	6-1	~~5-7~~ 5-8	5-3	4-11
	3 – 2 × 8	10-11	~~9-5~~ 9-6	~~8-5~~ 8-6	~~7-8~~ 7-9	~~7-1~~ 7-2	6-8	~~6-9~~ 6-4
	3 – 2 × 10	~~12-11~~ 13-0	11-2	10-0	~~9-1~~ 9-2	~~8-5~~ 8-6	7-11	~~7-5~~ 7-6
	3 – 2 × 12	15-3	~~13-2~~ 13-3	~~11-9~~ 11-10	10-9	~~9-11~~ 10-0	9-4	~~8-9~~ 8-10
Douglas fir-larch [g], Hem-fir [g], Spruce-pine-fir [g]	1– 2 x 6	4-1	3-6	3-0	~~2-6~~ 2-8	~~2-1~~ 2-5	~~1-10~~ 2-3	~~1-7~~ 2-1
	1–2 x 8	5-6	~~4-9~~ 4-8	4-0	~~3-8~~ 3-6	~~2-9~~ 3-2	~~2-5~~ 2-11	~~2-1~~ 2-9
	1– 2 x 10	6-8	5-10	5-1	~~4-2~~ 4-6	~~3-6~~ 4-1	~~3-1~~ 3-9	~~2-8~~ 3-6
	1– 2 x 12	7-9	6-9	6-0	~~5-1~~ 5-6	~~4-4~~ 5-0	3-9	~~3-3~~ 3-6
	2-2 x 6	6-1	5-3	4-9	4-4	~~4-0~~ 3-11	~~3-8~~ 3-7	3-3
	2-2 x 8	8-2	7-1	6-4	5-9	~~5-4~~ 5-2	~~4-10~~ 4-8	~~4-9~~ 4-4
	2-2 x 10	10-0	8-7	7-9	7-0	6-6	~~6-1~~ 6-0	~~5-5~~ 5-6
	2-2 x 12	11-7	10-0	8-11	8-2	7-7	7-1	~~6-7~~ 6-8
	3 – 2 × 6	7-8	~~6-7~~ 6-8	~~5-11~~ 6-0	~~5-5~~ 5-6	~~5-0~~ 5-1	~~4-8~~ 4-9	~~4-5~~ 4-6
	3 – 2 × 8	10-3	8-10	7-11	7-3	6-8	6-3	5-11
	3 – 2 × 10	12-6	10-10	9-8	8-10	8-2	7-8	7-2
	3 – 2 × 12	14-6	12-7	11-3	10-3	9-6	8-11	8-5
Redwood [h], Western Cedars [h], Ponderosa Pine [h], Red Pine [h]	1 - 2 x 6	4-2	3-7	3-1	~~2-7~~ 2-9	~~2-2~~ 2-6	~~1-10~~ 2-3	~~1-8~~ 2-2
	1 - 2 x 8	5-4	4-7	4-1	~~3-4~~ 3-7	~~2-10~~ 3-3	~~2-6~~ 3-0	~~2-2~~ 2-10
	1 - 2 x 10	6-6	5-7	5-0	~~4-0~~ 4-7	~~3-8~~ 4-2	~~3-2~~ 3-10	~~2-9~~ 3-7
	1 - 2 x 12	7-6	6-6	5-10	~~5-3~~ 5-4	~~4-5~~ 4-11	~~3-10~~ 4-7	~~3-5~~ 4-4
	2 - 2 x 6	6-2	5-4	4-10	4-5	~~4-1~~ 4-0	~~3-9~~ 3-8	3-4
	2 - 2 x 8	7-10	6-10	6-1	5-7	5-2	4-10	~~4-4~~ 4-5
	2 - 2 x10	9-7	8-4	7-5	6-9	6-3	5-10	5-6
	2 - 2 x 12	11-1	9-8	8-7	7-10	7-3	6-10	6-5
	3 - 2 x 6	7-8	6-9	6-0	5-6	5-1	4-9	4-6
	3 - 2 x 8	9-10	8-6	7-7	6-11	6-5	6-0	5-8
	3 - 2 x 10	12-0	10-5	9-4	8-6	7-10	7-4	6-11
	3 - 2 x 12	13-11	12-1	10-9	9-10	9-1	8-6	8-1

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

a. Interpolation permitted. Extrapolation not permitted.

b. Beams supporting a single span of joists with or without cantilever.

c. Dead load = 10 psf, L/Δ = 360 at main span, L/Δ = 180 at cantilever Snow load not assumed to be concurrent with live load.

d. No. 2 grade, wet service factor included.

e. Beam depth shall be equal to or greater than the depth intersecting joist for a flush beam connection.

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						

f. Beam cantilevers are limited to the adjacent beam's span divided by 4.

g. Includes incising factor.

h. Incising factor not included.

i. Deck joist span as shown in Figure R507.5

TABLE R507.5(2)
MAXIMUM DECK BEAM SPAN - 50 PSF GROUND SNOW LOAD [c]

BEAM SPECIES [d]	BEAM SIZE [e]	~~DECK JOIST SPAN~~ [a,i] MAXIMUM BEAM SPAN [a,b,f] (feet-inches) Deck Joist Span [a,i] (feet)						
		6	8	10	12	14	16	18
Southern Pine	1-2x6	~~4 2~~ 4-6	~~3 8~~ 3-11	~~3 3~~ 3-6	~~2 11~~ 3-2	~~2 9~~ 2-11	~~2 5~~ 2-9	~~2 2~~ 2-7
	1-2x8	~~5 4~~ 5-9	~~4 7~~ 4-11	~~4 1~~ 4-5	~~3 9~~ 4-0	~~3 6~~ 3-9	~~3 3~~ 3-6	~~2 10~~ 3-3
	1-2x10	~~6 4~~ 6-9	~~5 6~~ 5-10	~~4 11~~ 5-3	~~4 6~~ 4-9	~~4 2~~ 4-5	~~3 10~~ 4-2	~~3 8~~ 3-11
	1-2x12	~~7 6~~ 8-0	~~6 5~~ 6-11	~~5 9~~ 6-2	~~5 3~~ 5-8	~~4 10~~ 5-3	~~4 7~~ 4-11	~~4 3~~ 4-7
	2-2x6	~~6 3~~ 6-8	~~5 5~~ 5-9	~~4 10~~ 5-2	~~4 5~~ 4-9	~~4 1~~ 4-4	~~3 10~~ 4-1	~~3 7~~ 3-10
	2-2x8	~~7 11~~ 8-6	~~6 10~~ 7-4	~~6 2~~ 6-7	~~5 7~~ 6-0	~~5 2~~ 5-7	~~4 10~~ 5-2	~~4 7~~ 4-11
	2-2x10	~~9 5~~ 10-1	~~8 2~~ 8-9	~~7 3~~ 7-10	~~6 8~~ 7-1	~~6 2~~ 6-7	~~5 9~~ 6-2	~~5 5~~ 5-10
	2-2x12	~~11 1~~ 11-11	~~9 7~~ 10-3	~~8 7~~ 9-2	~~7 10~~ 8-5	~~7 0~~ 7-9	~~6 9~~ 7-3	~~6 5~~ 6-10
	3-2x6	~~7 10~~ 7-11	~~6 9~~ 7-2	~~6 1~~ 6-6	~~5 6~~ 5-11	~~5 1~~ 5-6	~~4 9~~ 5-1	~~4 6~~ 4-10
	3-2x8	~~9 11~~ 10-5	~~8 7~~ 9-3	~~7 8~~ 8-3	~~7 0~~ 7-6	~~6 6~~ 6-11	~~6 16~~ 6-6	~~5 9~~ 6-2
	3-2x10	~~11 9~~ 12-8	~~10 2~~ 10-11	~~9 1~~ 9-9	~~8 4~~ 8-11	~~7 8~~ 8-3	~~7 2~~ 7-9	~~6 9~~ 7-3
	3-2x12	~~13 11~~ 14-11	~~12 0~~ 12-11	~~10 9~~ 11-6	~~9 10~~ 10-6	~~9 1~~ 9-9	~~8 6~~ 9-1	~~8 0~~ 8-7
Douglas fir-larch [g], Hem-fir [g], Spruce-pine-fir [g]	1-2x6	~~3 0~~ 4-0	~~3 3~~ 3-5	~~2 6~~ 2-11	~~2 1~~ 2-7	~~1 9~~ 2-4	~~1 6~~ 2-2	~~1 4~~ 2-0
	1-2x8	~~5 0~~ 5-4	~~4 3~~ 4-7	~~3 4~~ 3-11	~~2 9~~ 3-5	~~2 3~~ 3-1	~~2 0~~ 2-10	~~1 9~~ 2-8
	1-2x10	~~6 1~~ 6-7	~~5 4~~ 5-8	~~4 9~~ 4-11	~~3 6~~ 4-5	~~2 11~~ 4-0	~~2 6~~ 3-8	~~2 3~~ 3-5
	1-2x12	~~7 1~~ 7-7	~~6 2~~ 6-7	~~5 2~~ 5-11	~~4 3~~ 5-4	~~3 7~~ 4-10	~~3 1~~ 4-6	~~2 9~~ 4-2
	2-2x6	~~5 7~~ 6-0	~~4 10~~ 5-2	~~4 4~~ 4-7	~~3 11~~ 4-2	~~3 6~~ 3-10	~~3 0~~ 3-5	~~2 8~~ 3-2
	2-2x8	~~7 5~~ 8-0	~~6 5~~ 6-11	~~5 9~~ 6-2	~~5 3~~ 5-8	~~4 7~~ 5-0	~~4 0~~ 4-7	~~3 6~~ 4-2
	2-2x10	~~9 1~~ 9-9	~~7 10~~ 8-5	~~7 0~~ 7-7	~~6 5~~ 6-11	~~5 11~~ 6-4	~~5 1~~ 5-10	~~4 6~~ 5-4
	2-2x12	~~10 7~~ 11-4	~~9 2~~ 9-10	~~8 2~~ 8-9	~~7 5~~ 8-0	~~6 11~~ 7-5	~~6 3~~ 6-11	~~5 6~~ 6-6
	3-2x6	~~7 0~~ 7-6	~~6 0~~ 6-6	~~5 5~~ 5-9	~~4 11~~ 5-3	~~4 7~~ 4-11	~~4 3~~ 4-7	~~4 0~~ 4-4
	3-2x8	~~9 4~~ 10-0	~~8 1~~ 8-8	~~7 3~~ 7-9	~~6 7~~ 7-1	~~6 1~~ 6-6	~~5 8~~ 6-1	~~5 4~~ 5-8
	3-2x10	~~11 5~~ 12-3	~~9 10~~ 10-7	~~8 10~~ 9-6	~~8 1~~ 8-8	~~7 5~~ 8-0	~~7 0~~ 7-6	~~6 7~~ 7-0
	3-2x12	~~13 3~~ 14-3	~~11 6~~ 12-4	~~10 3~~ 11-0	~~9 5~~ 10-1	~~8 8~~ 9-4	~~8 1~~ 8-9	~~7 8~~ 8-3
Redwood [h], Western Cedars [h], Ponderosa Pine [h], Red Pine [h]	1-2x6	~~3 10~~ 4-1	~~3 4~~ 3-6	~~2 7~~ 3-0	~~2 2~~ 2-8	~~1 10~~ 2-5	~~1 7~~ 2-3	~~1 5~~ 2-1
	1-2x8	~~4 10~~ 5-2	~~4 2~~ 4-6	~~3 5~~ 4-0	~~2 10~~ 3-6	~~2 4~~ 3-2	~~2 1~~ 2-11	~~1 10~~ 2-9
	1-2x10	~~5 11~~ 6-4	~~5 1~~ 5-6	~~4 4~~ 4-11	~~3 7~~ 4-6	~~3 0~~ 4-1	~~2 8~~ 3-9	~~2 4~~ 3-6
	1-2x12	~~6 10~~ 7-4	~~5 11~~ 6-4	~~5 4~~ 5-8	~~4 4~~ 5-2	~~3 8~~ 4-10	~~3 2~~ 4-6	~~2 10~~ 4-3
	2-2x6	~~5 8~~ 6-1	~~4 11~~ 5-3	~~4 5~~ 4-8	~~4 0~~ 4-4	~~3 7~~ 3-11	~~3 1~~ 3-6	~~2 9~~ 3-3
	2-2x8	~~7 2~~ 7-8	~~6 3~~ 6-8	~~5 7~~ 5-11	~~5 1~~ 5-5	~~4 8~~ 5-0	~~4 1~~ 4-8	~~3 8~~ 4-3
	2-2x10	~~8 9~~ 9-5	~~7 7~~ 8-2	~~6 9~~ 7-3	~~6 2~~ 6-8	~~5 9~~ 6-2	~~5 3~~ 5-9	~~4 8~~ 5-5
	2-2x12	~~10 2~~ 10-11	~~8 10~~ 9-5	~~7 10~~ 8-5	~~7 2~~ 7-8	~~6 8~~ 7-2	~~6 3~~ 6-8	~~5 8~~ 6-3
	3-2x6	7-1	~~6 2~~ 6-5	~~5 6~~ 5-11	~~5 0~~ 5-5	~~4 8~~ 5-0	~~4 4~~ 4-8	~~4 1~~ 4-5
	3-2x8	~~9 0~~ 9-4	~~7 9~~ 8-4	~~6 11~~ 7-5	~~6 4~~ 6-10	~~5 11~~ 6-4	~~5 6~~ 5-11	~~5 2~~ 5-7
	3-2x10	~~11 0~~ 11-9	~~9 6~~ 10-2	~~8 6~~ 9-1	~~7 9~~ 8-4	~~7 2~~ 7-8	~~6 9~~ 7-2	~~6 4~~ 6-9
	3-2x12	~~12 9~~ 13-8	~~11 0~~ 11-10	~~9 10~~ 10-7	~~9 0~~ 9-8	~~8 4~~ 8-11	~~7 9~~ 8-4	~~7 4~~ 7-10

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
	Sub Code:					

a. Interpolation allowed. Extrapolation is not allowed.
b. Beams supporting a single span of joists with or without cantilever.
c. Dead load = 10 psf, L/Δ = 360 at main span, L/Δ = 180 at cantilever. Snow load not assumed to be concurrent with live load.
d. No. 2 grade, wet service factor included.
e. Beam depth shall be equal to or greater than the depth of intersecting joist for a flush beam connection.
f. Beam cantilevers are limited to the adjacent beam's span divided by 4.
g. Includes incising factor
h. Incising factor not included.
i. Deck joist span as shown in Figure R507.5

TABLE R507.5(3)
MAXIMUM DECK BEAM SPAN - 60 PSF GROUND SNOW LOAD [c]

Portions of table not shown remain unchanged.

BEAM SPECIES [d]	BEAM SIZE [e]	~~DECK JOIST SPAN [a,b] (feet)~~ MAXIMUM BEAM SPAN [a,b,i] (feet-inches) Deck Joist Span [a,i] (feet) 6	8	10	12	14	16	18
Southern Pine	1-2x6	~~3-11~~ 4-2	~~3-4~~ 3-7	~~3-0~~ 3-3	~~2-9~~ 2-11	~~2-5~~ 2-9	~~2-1~~ 2-6	~~1-10~~ 2-5
	1-2x8	~~4-11~~ 5-3	~~4-0~~ 4-7	~~3-10~~ 4-1	~~3-6~~ 3-9	~~3-2~~ 3-5	~~2-9~~ 3-3	~~2-5~~ 3-0
	1-2x10	~~5-10~~ 6-3	~~5-1~~ 5-5	~~4-6~~ 4-10	~~4-2~~ 4-5	~~3-10~~ 4-1	~~3-6~~ 3-10	~~3-1~~ 3-7
	1-2x10	~~6-11~~ 7-5	~~6-0~~ 6-5	~~5-4~~ 5-9	~~4-10~~ 5-3	~~4-6~~ 4-10	~~4-3~~ 4-6	~~3-10~~ 4-3
	2-2x6	~~5-9~~ 6-2	~~5-0~~ 5-4	~~4-6~~ 4-9	~~4-1~~ 4-4	~~3-9~~ 4-0	~~3-6~~ 3-9	~~3-1~~ 3-7
	2-2x8	~~7-4~~ 7-10	~~6-4~~ 6-10	~~5-8~~ 6-1	~~5-2~~ 5-7	~~4-9~~ 5-2	~~4-6~~ 4-10	~~4-3~~ 4-6
	2-2x10	~~8-8~~ 9-4	~~7-8~~ 8-1	~~6-9~~ 7-3	~~6-2~~ 6-7	~~5-8~~ 6-1	~~5-4~~ 5-8	~~5-0~~ 5-4
	2-2x12	~~10-3~~ 11-0	~~9-11~~ 9-6	~~7-11~~ 8-6	~~7-3~~ 7-9	~~6-8~~ 7-2	~~6-3~~ 6-9	~~5-11~~ 6-4
	3-2x6	~~7-3~~ 7-5	~~6-6~~ 6-9	~~5-7~~ 6-0	~~5-1~~ 5-6	~~4-8~~ 5-1	~~4-5~~ 4-9	~~4-2~~ 4-6
	3-2x8	~~9-2~~ 9-9	~~7-11~~ 8-6	~~7-1~~ 7-8	~~6-6~~ 6-11	~~6-0~~ 6-5	~~5-7~~ 6-0	~~5-3~~ 5-8
	3-2x10	~~10-11~~ 11-8	~~9-5~~ 10-2	~~8-5~~ 9-1	~~7-8~~ 8-3	~~7-2~~ 7-8	~~6-8~~ 7-2	~~6-3~~ 6-9
	3-2x12	~~12-10~~ 13-9	~~11-2~~ 11-11	~~9-11~~ 10-8	~~9-1~~ 9-9	~~8-5~~ 9-0	~~7-10~~ 8-5	~~7-5~~ 7-11
Douglas fir-larch [g], Hem-fir [g], Spruce-pine-fir [g]	1-2x6	~~3-5~~ 3-8	~~2-9~~ 3-1	~~2-2~~ 2-8	~~1-10~~ 2-4	~~1-6~~ 2-2	~~1-3~~ 2-0	~~1-1~~ 1-10
	1-2x8	~~4-0~~ 5-0	~~3-8~~ 4-1	~~2-10~~ 3-6	~~2-4~~ 3-1	~~1-11~~ 2-10	~~1-8~~ 2-7	~~1-6~~ 2-5
	1-2x10	~~5-0~~ 6-1	~~4-8~~ 5-2	~~3-8~~ 4-6	~~3-0~~ 4-0	~~2-6~~ 3-7	~~2-2~~ 3-4	~~1-11~~ 3-2
	1-2x12	~~6-7~~ 7-1	~~5-8~~ 6-1	~~4-5~~ 5-5	~~3-7~~ 4-10	~~3-1~~ 4-5	~~2-7~~ 4-1	~~2-3~~ 3-10
	2-2x6	~~5-2~~ 5-6	~~4-5~~ 4-9	~~4-0~~ 4-3	~~3-6~~ 3-10	~~3-0~~ 3-5	~~1-11~~ 3-1	~~1-8~~ 2-10
	2-2x8	~~6-11~~ 7-5	~~5-11~~ 6-5	~~5-4~~ 5-9	~~4-8~~ 5-0	~~3-11~~ 4-6	~~3-5~~ 4-1	~~3-0~~ 3-9
	2-2x10	~~8-5~~ 9-0	~~7-8~~ 7-10	~~6-6~~ 7-0	~~5-11~~ 6-4	~~5-1~~ 5-9	~~4-8~~ 5-2	~~3-10~~ 4-10
	2-2x12	~~9-9~~ 10-6	~~8-5~~ 9-1	~~7-7~~ 8-1	~~6-11~~ 7-5	~~6-2~~ 6-10	~~5-4~~ 6-4	~~4-8~~ 5-10
	3-2x6	~~6-5~~ 6-11	~~5-7~~ 6-0	~~5-0~~ 5-4	~~4-7~~ 4-11	~~4-0~~ 4-6	~~3-11~~ 4-2	~~3-5~~ 3-10
	3-2x8	~~8-8~~ 9-3	~~7-6~~ 8-0	~~6-8~~ 7-2	~~6-1~~ 6-6	~~5-8~~ 6-1	~~5-2~~ 5-6	~~4-7~~ 5-0
	3-2x10	~~10-7~~ 11-4	~~9-2~~ 9-10	~~8-2~~ 8-9	~~7-5~~ 8-0	~~6-11~~ 7-5	~~6-5~~ 6-11	~~5-10~~ 6-5
	3-2x12	~~12-0~~ 13-2	~~10-8~~ 11-5	~~9-6~~ 10-2	~~8-8~~ 9-4	~~8-0~~ 8-7	~~7-6~~ 8-1	~~7-1~~ 7-7
Redwood [h], Western Cedars [h], Ponderosa Pine [h], Red Pine [h]	1-2x6	~~3-6~~ 3-9	~~2-10~~ 3-2	~~2-8~~ 2-9	~~1-10~~ 2-5	~~1-7~~ 2-2	~~1-4~~ 2-0	~~1-2~~ 1-11
	1-2x8	~~4-6~~ 4-10	~~3-9~~ 4-2	~~2-11~~ 3-7	~~2-5~~ 3-2	~~2-0~~ 2-11	~~1-9~~ 2-8	~~1-7~~ 2-6
	1-2x10	~~5-6~~ 5-10	~~4-9~~ 5-1	~~3-9~~ 4-6	~~3-1~~ 4-1	~~2-7~~ 3-8	~~2-3~~ 3-5	~~2-0~~ 3-3
	1-2x12	~~6-4~~ 6-10	~~5-6~~ 5-11	~~4-7~~ 5-3	~~3-9~~ 4-10	~~3-2~~ 4-5	~~2-9~~ 4-2	~~2-5~~ 3-11
	2-2x6	~~5-3~~ 5-7	~~4-6~~ 4-10	~~4-1~~ 4-4	~~3-8~~ 3-11	~~3-1~~ 3-6	~~2-8~~ 3-2	~~2-4~~ 2-11
	2-2x8	~~6-8~~ 7-1	~~5-9~~ 6-2	~~5-2~~ 5-6	~~4-8~~ 5-0	~~4-1~~ 4-7	~~3-8~~ 4-2	~~3-1~~ 3-10
	2-2x10	~~8-1~~ 8-8	~~7-0~~ 7-6	~~6-6~~ 6-9	~~5-9~~ 6-2	~~5-2~~ 5-8	~~4-8~~ 5-4	~~4-9~~ 4-11
	2-2x12	~~9-5~~ 10-1	~~8-2~~ 8-9	~~7-0~~ 7-10	~~6-6~~ 7-2	~~6-2~~ 6-7	~~5-6~~ 6-2	~~4-10~~ 5-10
	3-2x6	~~6-7~~ 6-8	~~5-8~~ 6-1	~~5-1~~ 5-5	~~4-8~~ 5-0	~~4-4~~ 4-7	~~4-0~~ 4-3	~~3-7~~ 3-11
	3-2x8	~~8-4~~ 8-9	~~7-2~~ 7-9	~~6-5~~ 6-11	~~5-11~~ 6-4	~~5-5~~ 5-10	~~5-1~~ 5-5	~~4-8~~ 5-2
	3-2x10	~~10-2~~ 10-11	~~8-10~~ 9-5	~~7-10~~ 8-5	~~7-2~~ 7-8	~~6-8~~ 7-2	~~6-3~~ 6-8	~~5-10~~ 6-3
	3-2x12	~~11-9~~ 12-8	~~10-2~~ 10-11	~~9-1~~ 9-9	~~8-4~~ 8-11	~~7-8~~ 8-3	~~7-3~~ 7-9	~~6-10~~ 7-3

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						

= 0.0479 kPa, 1 pound = 0.454 kg.

a. Interpolation allowed. Extrapolation is not allowed.

b. Beams supporting a single span of joists with or without cantilever.

c. Dead load = 10 psf, L/Δ = 360 at main span, L/Δ = 180 at cantilever. Snow load not assumed to be concurrent with live load.

d. No. 2 grade, wet service factor included.

e. Beam depth shall be equal to or greater than the depth of intersecting joist for a flush beam connection.

f. Beam cantilevers are limited to the adjacent beam's span divided by 4.

g. Includes incising factor

h. Incising factor not included.

i. Deck joist span as shown in Figure R507.5

TABLE R507.5(4)
MAXIMUM DECK BEAM SPAN - 70 PSF GROUND SNOW LOAD [c]

BEAM SPECIES [d]	BEAM SIZE [e]	DECK JOIST SPAN (feet) [e,i] MAXIMUM BEAM SPAN a,b,f (feet-inches) Deck Joist Span [g,i] (feet)						
		6	8	10	12	14	16	18
Southern Pine	1-2x6	3 0 3-11	3 0 3-4	2 10 3-0	2 1 2-9	1 10 2-6	1 4 2-4	1 7 2-3
	1-2x8	4 7 4-11	4 0 4-3	3 7 3-10	3 0 3-6	2 9 3-3	2 5 3-0	2 2 2-10
	1-2x10	5 6 5-10	4 9 5-1	4 3 4-6	3 10 4-2	3 7 3-10	3 4 3-7	3 1 3-4
	1-2x12	6 5 6-11	5 7 6-0	5 0 5-4	4 7 4-11	4 3 4-6	3 9 4-3	3 6 4-0
	2-2x6	5 5 5-9	4 8 5-0	4 2 4-6	3 10 4-1	3 6 3-9	3 3 3-6	3 1 3-4
	2-2x8	6 10 7-4	5 11 6-4	5 4 5-8	4 10 5-2	4 6 4-10	4 2 4-6	3 11 4-3
	2-2x10	8 2 8-9	7 1 7-7	6 4 6-9	5 9 6-2	5 4 5-8	5 0 5-4	4 8 5-0
	2-2x12	9 7 10-3	8 4 8-11	7 5 8-0	6 9 7-3	6 3 6-9	5 10 6-3	5 6 5-11
	3-2x6	6 9 7-0	5 10 6-3	5 3 5-7	4 9 5-1	4 5 4-9	4 2 4-5	3 11 4-2
	3-2x8	8 7 9-3	7 5 8-0	6 8 7-2	6 1 6-6	5 7 6-0	5 3 5-8	4 11 5-4
	3-2x10	10 2 10-11	8 10 9-6	7 11 8-6	7 2 7-9	6 8 7-2	6 3 6-8	5 10 6-4
	3-2x12	12 0 12-11	10 5 11-2	9 4 10-0	8 6 9-1	7 10 8-5	7 4 7-11	6 11 7-5
Douglas fir-larch [g], Hem-fir [g], Spruce-pine-fir [g]	1-2x6	3 3 3-5	2 5 2-10	1 10 2-5	1 6 2-2	1 3 2-0	1 1 1-10	1 0 1-9
	1-2x8	4 4 4-7	3 3 3-8	2 6 3-2	2 0 2-10	1 8 2-7	1 6 2-5	1 4 2-4
	1-2x10	5 4 5-8	4 1 4-9	3 2 4-1	2 7 3-8	2 2 3-4	1 11 3-1	1 8 2-11
	1-2x12	6 2 6-7	5 0 5-8	3 10 5-0	3 2 4-6	2 8 4-1	2 4 3-10	2 0 3-7
	2-2x6	4 10 5-2	4 2 4-6	3 9 4-0	3 1 3-5	2 7 3-1	2 3 2-10	2 0 2-7
	2-2x8	6 5 6-11	5 7 6-0	5 0 5-3	4 1 4-7	3 5 4-1	3 0 3-8	2 8 3-5
	2-2x10	7 10 8-5	6 10 7-4	6 1 6-6	5 3 5-10	4 5 5-2	3 10 4-9	3 5 4-5
	2-2x12	9 2 9-10	7 11 8-6	7 1 7-7	6 4 6-11	5 5 6-4	4 8 5-9	4 1 5-4
	3-2x6	6 0 6-6	5 3 5-7	4 8 5-0	4 3 4-7	3 11 4-2	3 5 3-9	3 3 3-5
	3-2x8	8 1 8-8	7 0 7-6	6 3 6-8	5 8 6-1	5 2 5-6	4 6 5-0	4 3 4-7
	3-2x10	9 10 10-7	8 6 9-2	7 6 8-2	7 0 7-6	6 5 6-11	5 9 6-4	5 4 5-10
	3-2x12	11 6 12-4	9 11 10-8	8 11 9-7	8 1 8-9	7 6 8-1	7 0 7-7	6 8 7-1
Redwood [h], Western Cedars [h], Ponderosa Pine [h], Red Pine [h]	1-2x6	3 4 3-6	2 6 2-11	1 11 2-6	1 7 2-3	1 4 2-0	1 2 1-11	1 0 1-9
	1-2x8	4 2 4-6	3 3 3-10	2 7 3-3	2 1 2-11	1 9 2-8	1 7 2-6	1 4 2-4
	1-2x10	5 1 5-6	4 2 4-9	3 3 4-2	2 8 3-9	2 3 3-5	2 0 3-2	1 9 3-0
	1-2x12	5 11 6-4	5 1 5-6	4 0 4-11	3 3 4-6	2 9 4-2	2 5 3-11	2 1 3-8
	2-2x6	4 11 5-3	4 0 4-7	3 10 4-1	3 2 3-6	2 8 3-2	2 4 2-11	2 1 2-8
	2-2x8	6 3 6-8	5 5 5-9	4 10 5-2	4 2 4-8	3 7 4-2	3 1 3-10	2 9 3-6
	2-2x10	7 7 8-2	6 7 7-1	5 10 6-4	5 4 5-9	4 7 5-4	3 11 4-10	3 6 4-6
	2-2x12	8 10 9-5	7 7 8-2	6 10 7-4	6 3 6-8	5 6 6-2	4 10 5-9	4 3 5-5
	3-2x6	6 2 6-4	5 4 5-8	4 9 5-1	4 4 4-8	4 0 4-3	3 8 3-10	3 4 3-6
	3-2x8	7 9 8-4	6 9 7-3	6 0 6-5	5 6 5-11	5 1 5-5	4 8 5-1	4 4 4-8
	3-2x10	9 6 10-2	8 3 8-10	7 4 7-11	6 9 7-2	6 3 6-8	5 10 6-3	5 5 5-11
	3-2x12	11 0 11-10	9 6 10-3	8 6 9-2	7 9 8-4	7 3 7-9	6 9 7-3	6 4 6-10

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						

a. Interpolation allowed. Extrapolation is not allowed.
b. Beams supporting a single span of joists with or without cantilever.
c. Dead load = 10 psf, L/Δ = 360 at main span, L/Δ = 180 at cantilever. Snow load not assumed to be concurrent with live load.
d. No. 2 grade, wet service factor included.
e. Beam depth shall be equal to or greater than the depth of intersecting joist for a flush beam connection.
f. Beam cantilevers are limited to the adjacent beam's span divided by 4.
g. Includes incising factor
h. Incising factor not included.
i. Deck joist span as shown in Figure R507.5

TABLE R507.6
MAXIMUM DECK JOIST SPANS

TABLE R507.6
MAXIMUM DECK JOIST SPANS

LOAD [a] (psf)	JOIST SPECIES [b]	JOIST SIZE	ALLOWABLE JOIST SPAN [b,c] (feet-inches) Joist Spacing (inches)			MAXIMUM CANTILEVER [f,g] (feet-inches) ~~Adjacent~~ Joist Back Span [g] (feet)							
			12	16	24	4	6	8	10	12	14	16	18
40 Live Load	Southern Pine	2x6	9-11	9-0	7-7	1-0	1-6	1-5	NP	NP	NP	NP	NP
		2x8	13-1	11-10	9-8	1-0	1-6	2-0	2-6	2-3	NP	NP	NP
		2x10	16-2	14-0	11-5	1-0	1-6	2-0	2-6	3-0	3-4	3-4	NP
		2x12	18-0	16-6	13-6	1-0	1-6	2-0	2-6	3-0	3-6	4-0	4-1
	Douglas fir-larch [e], Hem-fir [e], Spruce-pine-fir [e]	2x6	9-6	8-4	6-10	1-0	1-6	1-4	NP	NP	NP	NP	NP
		2x8	12-6	11-1	9-1	1-0	1-6	2-0	2-3	2-0	NP	NP	NP
		2x10	15-8	13-7	11-1	1-0	1-6	2-0	2-6	3-0	3-3	NP	NP
		2x12	18-0	15-9	12-10	1-0	1-6	2-0	2-6	3-0	3-6	3-11	3-11
	Redwood f, Western Cedars [f], Ponderosa Pine [f], Red Pine [f]	2x6	8-10	8-0	6-10	1-0	1-4	1-1	NP	NP	NP	NP	NP
		2x8	11-8	10-7	8-8	1-0	1-6	2-0	1-11	NP	NP	NP	NP
		2x10	14-11	13-0	10-7	1-0	1-6	2-0	2-6	3-0	2-9	NP	NP
		2x12	17-5	15-1	12-4	1-0	1-6	2-0	2-6	3-0	3-6	3-8	NP
50 Ground Snow Load	Southern Pine	2x6	9-2	8-4	7-4	1-0	1-6	1-5	NP	NP	NP	NP	NP
		2x8	12-1	11-0	~~9-7~~ 9-5	1-0	1-6	2-0	2-5	2-3	NP	NP	NP
		2x10	15-5	~~14-1~~ 13-9	~~12-9~~ 11-3	1-0	1-6	2-0	2-6	3-0	3-1	NP	NP
		2x12	18-0	~~17-1~~ 16-2	~~14-6~~ 13-2	1-0	1-6	2-0	2-6	3-0	3-6	3-10	3-10
	Douglas fir-larch [e], Hem-fir [e], Spruce-pine-fir [e]	2x6	8-10	8-0	~~7-0~~ 6-8	1-0	1-6	1-4	NP	NP	NP	NP	NP
		2x8	11-7	10-7	~~9-9~~ 8-11	1-0	1-6	2-0	2-3	NP	NP	NP	NP
		2x10	14-10	~~13-6~~ 13-3	~~11-9~~ 10-10	1-0	1-6	2-0	2-6	3-0	3-0	NP	NP
		2x12	~~18-9~~ 17-9	~~16-5~~ 15-5	13-9 12-7	1-0	1-6	2-0	2-6	3-0	3-6	3-8	NP
	Redwood f, Western Cedars [f], Ponderosa Pine [f], Red Pine [f]	2x6	8-3	7-6	~~6-9~~ 6-6	1-0	1-4	1-1	NP	NP	NP	NP	NP
		2x8	10-10	9-10	~~8-7~~ 8-6	1-0	1-6	2-0	1-11	NP	NP	NP	NP
		2x10	13-10	12-7	~~11-9~~ 10-5	1-0	1-6	2-0	2-6	2-9	NP	NP	NP
		2x12	16-10	~~15-9~~ 14-9	~~13-2~~ 12-1	1-0	1-6	2-0	2-6	3-0	3-5	3-5	NP
60 Ground Snow Load	Southern Pine	2x6	8-8	7-10	6-10	1-0	1-6	1-5	NP	NP	NP	NP	NP
		2x8	11-5	10-4	~~9-4~~ 8-9	1-0	1-6	2-0	2-4	NP	NP	NP	NP
		2x10	14-7	~~13-3~~ 12-9	~~11-7~~ 10-5	1-0	1-6	2-0	2-6	2-11	2-11	NP	NP
		2x12	~~17-8~~ 17-3	~~16-1~~ 15-0	~~14-0~~ 12-3	1-0	1-6	2-0	2-6	3-0	3-6	3-7	NP
	Douglas fir-larch [e], Hem-fir [e], Spruce-pine-fir [e]	2x6	8-4	7-6	~~6-7~~ 6-2	1-0	1-6	1-4	NP	NP	NP	NP	NP
		2x8	10-11	9-11	~~8-8~~ 8-3	1-0	1-6	2-0	2-2	NP	NP	NP	NP
		2x10	13-11	~~12-8~~ 12-4	~~11-1~~ 10-0	1-0	1-6	2-0	2-6	2-10	NP	NP	NP
		2x12	~~17-0~~ 16-6	~~15-5~~ 14-3	~~13-6~~ 11-8	1-0	1-6	2-0	2-6	3-0	3-5	3-5	NP
	Redwood f, Western Cedars [f], Ponderosa Pine [f], Red Pine [f]	2x6	7-9	7-0	6-2	1-0	1-4	NP	NP	NP	NP	NP	NP
		2x8	10-2	9-3	~~8-1~~ 7-11	1-0	1-6	2-0	1-11	NP	NP	NP	NP
		2x10	13-0	~~11-10~~ 11-9	~~10-1~~ 9-7	1-0	1-6	2-0	2-6	2-7	NP	NP	NP

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						

	Red Pine [f]	2x12	~~15-10~~ 15-9	~~14-4~~ 13-8	~~12-7~~ 11-2	1-0	1-6	2-0	2-6	3-0	3-2	NP	NP
70 Ground Snow Load	Southern Pine	2x6	8-3	7-6	~~8-6~~ 6-5	1-0	1-6	1-5	NP	NP	NP	NP	NP
		2x8	10-10	9-10	~~8-7~~ 8-2	1-0	1-6	2-0	2-2	NP	NP	NP	NP
		2x10	~~13-10~~ 13-9	~~12-7~~ 11-11	~~11-8~~ 9-9	1-0	1-6	2-0	2-6	2-9	NP	NP	NP
		2x12	~~16-10~~ 16-2	~~15-3~~ 14-0	~~13-4~~ 11-5	1-0	1-6	2-0	2-6	3-0	3-5	3-5	NP
	Douglas fir-larch [e]	2x6	7-11	~~7-2~~ 7-1	~~6-3~~ 5-9	1-0	1-6	NP	NP	NP	NP	NP	NP
	Hem-fir [e]	2x8	10-5	9-5	~~8-3~~ 7-8	1-0	1-6	2-0	2-1	NP	NP	NP	NP
	Spruce-pine-fir [e]	2x10	13-3	~~12-0~~ 11-6	~~10-6~~ 9-5	1-0	1-6	2-0	2-6	2-8	NP	NP	NP
	Redwood [f], Western Cedars [f]	2012	~~16-1~~ 15-5	~~14-5~~ 13-4	~~12-10~~ 10-11	1-0	1-6	2-0	2-6	3-0	3-3	~~3-3~~ NP	NP
		2x6	7-4	6-8	5-10	1-0	1-4	NP	NP	NP	NP	NP	NP
		2x8	9-8	8-10	~~7-8~~ 7-4	1-0	1-6	1-11	NP	NP	NP	NP	NP
		2x10	12-4	~~11-3~~ 11-0	~~9-10~~ 9-0	1-0	1-6	2-0	2-6	2-6	NP	NP	NP
	Ponderosa Pine [f], Red Pine [f]	2x12	~~15-0~~ 14-9	~~13-8~~ 12-9	~~11-11~~ 10-5	1-0	1-6	2-0	2-6	~~2-9~~ 3-0	3-0	NP	NP

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg. NP = Not Permitted

a. Dead load = 10 psf. Snow load not assumed to be concurrent with live load.

b. No. 2 grade, wet service factor included.

c. L/Δ = 360 at main span.

d. L/Δ = 180 at cantilever with 220-pound point load applied to end.

e. Includes incising factor.

f. Incising factor not included.

g. Interpolation permitted. Extrapolation is not permitted.

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	TABLE R507.9.1.3(1) **DECK LEDGER CONNECTION TO BAND JOIST**					

LOAD [c] (psf)	JOIST SPAN [a] (feet)	On-CENTER SPACING OF FASTENERS [b] (inches)		
		1/2-inch diameter lag screw with 1/2-inch maximum sheathing [d,e]	1/2-inch diameter bolt with 1/2-inch maximum sheathing [e]	1/2-inch diameter bolt with 1-inch maximum sheathing [f]
40 Live Load	6	30	36	36
	8	23	36	36
	10	18	34	29
	12	15	29	24
	14	13	24	21
	16	11	21	18
	18	10	19	16
50 Ground Snow Load	6	29	36	36
	8	22	36	35
	10	17	33	28
	12	14	27	23
	14	12	23	20
	16	11	20	17
	18	9	18	15
60 Ground Snow Load	6	25	36	36
	8	18	35	30
	10	~~17~~ 15	~~33~~ 28	~~28~~ 24
	12	~~14~~ 12	~~27~~ 23	~~23~~ 20
	14	~~12~~ 10	~~23~~ 20	~~20~~ 17
	16	~~11~~ 9	~~20~~ 17	~~17~~ 15
	18	~~9~~ 8	~~18~~ 15	~~15~~ 13
70 Ground Snow Load	6	22	36	35
	8	16	31	26
	10	13	25	21
	12	11	20	17
	14	9	17	15
	16	8	15	13
	18	7	13	11

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	a. Interpolation permitted. Extrapolation is not permitted. b. Ledgers shall be flashed in accordance with Section R703.4 to prevent water from contacting the house band joist. c. Dead Load = 10 psf. Snow load shall not be assumed to act concurrently with live load. d. The tip of the lag screw shall fully extend beyond the inside face of the band joist. e. Sheathing shall be wood structural panel or solid sawn lumber. f. Sheathing shall be permitted to be wood structural panel, gypsum board, fiberboard, lumber or foam sheathing. Up to $^1/_2$-inch thickness of stacked washers shall be permitted to substitute for up to $^1/_2$ inch of allowable sheathing thickness where combined with wood structural panel or lumber sheathing.					
RB185-19	**R312.1.4 Exterior Plastic Composite guards.** Plastic composite exterior ~~Exterior~~ *guards* shall comply with the requirements of Section ~~R507.10~~ R317.4.			X		Clarification
RB186-19	**TABLE R507.2.3** **FASTENER AND CONNECTOR SPECIFICATIONS FOR DECKS[a, b]** The modification restores rivets and puts in the term 'glulam' to be consistent with the term used in ASTM F1667. Adding the Class D is appropriate for this product. (Vote: 11-0)		X			Restores rivets and puts in the term 'glulam' for consistency with the term used in ASTM F1667.
RB187-19	**R507.3 Footings.** Decks shall be supported on concrete footings or other approved structural systems designed to accommodate all loads in accordance with Section R301. Deck footings shall be sized to carry the imposed loads from the deck structure to the ground as shown in Figure R507.3. ~~The footing depth shall be in accordance with Section R403.1.4.~~ **Exceptions:** 1. Footings shall not be required for free ~~Free-~~decks consisting of joists directly supported on grade over their entire length. 2. Footings shall not be required for freestanding decks that meet all of the following criteria: 2.1. The joists bear directly on precast concrete pier blocks at grade without support by beams or posts, 2.2. The area of the deck does not exceed 200 square feet, 2.3. The walking surface is not more than 20 inches above grade at any point within 36 inches measured horizontally from the edge.		X			Reorganization to add clarity to the code requirements

	R507.3.2 Minimum depth. ~~Deck footings shall extend below the frost line specified in Table R301.2(1) in accordance with Section R403.1.4.1.~~ Deck footings shall be placed not less than 12 inches below the undisturbed ground surface. **~~Exceptions:~~** 1. ~~Free-standing decks that meet all of the following criteria:~~ 1.1. ~~The joists bear directly on precast concrete pier blocks at grade without support by beams or posts.~~ 1.2. ~~The area of the deck does not exceed 200 square feet (18.9 m^2).~~ 1.3. ~~The walking surface is not more than 20 inches (616 mm) above grade at any point within 36 inches (914 mm) measured horizontally from the edge.~~ 2. ~~Free-standing decks need not be provided with footings that extend below the frost line.~~ **R507.3.3 Frost protection.** Where decks are attached to a frost protected structure, deck footings shall be protected from frost by one or more of the following methods: 1. By extending below the frost line specified in Table R301.2(1). 2. By erecting on solid rock. 3. Other approved methods of frost protection. **R403.1.4 Minimum depth.** Exterior footings shall be placed not less than 12 inches (305 mm) below the undisturbed ground surface. Where applicable, the depth of footings shall also conform to Sections R403.1.4.1 through R403.1.4.2. Deck footings shall be in accordance with Section R507.3. **R403.1.4.1 Frost protection.** Except where otherwise protected from frost, foundation walls, piers and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods: 1. Extended below the frost line specified in Table R301.2.(1). 2. Constructed in accordance with Section R403.3. 3. Constructed in accordance with ASCE 32. 4. Erected on solid rock. Footings shall not bear on frozen soil unless the frozen condition is permanent. **Exceptions:** 1. Protection of free-standing *accessory structures* with an area of 600 square feet (56 m^2) or less, of light-frame construction, with an eave height of 10 feet (3048 mm) or less shall not be required. 2. Protection of free-standing *accessory structures* with an area of 400 square feet (37 m^2) or less, of other than light-frame construction, with an eave height of 10 feet (3048 mm) or less shall not be required. 3. ~~Decks not supported by a dwelling need not be provided with footings that extend below the frost line.~~					
RB188-19	**R507.5 Deck Beams.** Maximum allowable spans for wood deck beams, as shown in Figure R507.5, shall be in accordance with Table R507.5. Beam plies shall be fastened together with two rows of 10d (3-inch ×		X			Clarification

<table>
<tr><th colspan="7">Table 13. 2021 IRC STRUCTURAL Changes Cost Impact</th></tr>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IRC STRUCTURAL CHANGES SUMMARY</th><th colspan="3">IRC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>0.128-inch) nails minimum at 16 inches (406 mm) on center along each edge. Beams shall be permitted to cantilever at each end up to one-fourth of the allowable beam span. Deck beams of other materials shall be permitted where designed in accordance with accepted engineering practices.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>RB189-19</td><td>R507.5 Deck Beams. Maximum allowable spans for wood deck beams, as shown in Figure R507.5, shall be in accordance with Table R507.5. Beam plies shall be fastened with two rows of 10d (3-inch × 0.128-inch) nails minimum at 16 inches (406 mm) on center along each edge. Beams shall be permitted to cantilever at each end up to one-fourth of the ~~allowable~~ actual beam span. Deck beams of other materials shall be permitted where designed in accordance with accepted engineering practices.</td><td></td><td></td><td>X</td><td></td><td>Clarification</td></tr>
<tr><td>RB190-19</td><td>TABLE R507.5
DECK BEAM SPAN LENGTHS[a, b, g] ~~(feet - inches)~~
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.
a. Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360 at main span, L/Δ = 180 at cantilever with a 220-pound point load applied at the end.
b. Beams supporting deck joists from one side only.
c. No. 2 grade, wet service factor.
d. Beam depth shall be greater than or equal to depth of joists with a flush beam condition.
e. Includes incising factor.
f. Northern species. Incising factor not included.
g. Beam cantilevers are limited to the adjacent beam's span/4.
h. For calculation of effective deck joist span, the actual joist span length shall be multiplied by the joist span factor from the following table.
<table>
<tr><th>C/J</th><th>Joist span factor</th></tr>
<tr><td>0 (no cantilever)</td><td>0.66</td></tr>
<tr><td>1/12 (0.87)</td><td>0.72</td></tr>
<tr><td>1/10 (0.10)</td><td>0.80</td></tr>
<tr><td>1/8 (0.125)</td><td>0.84</td></tr>
<tr><td>1/6 (0.167)</td><td>0.90</td></tr>
<tr><td>1/4 (0.250)</td><td>1.00</td></tr>
</table>
J = actual joist span length (feet)
C= actual joist cantilever length (feet)</td><td>X</td><td></td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
RB191-19	**R507.7 Decking.** Maximum allowable spacing for joists supporting wood decking, excluding stairways, shall be in accordance with Table R507.7. Wood decking shall be attached to each supporting member with not less than two 8d threaded nails or two No. 8 wood screws. Maximum allowable spacing for joists supporting plastic composite decking shall be in accordance with Section R507.2. Other approved decking or fastener systems shall be installed in accordance with the manufacturer's installation requirements. **TABLE R507.7** **MAXIMUM JOIST SPACING FOR WOOD DECKING** For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.01745 rad. a. Maximum angle of 45 degrees from perpendicular for wood deck boards. b. Or other maximum span provided by an accredited lumber grading or inspection agency. c. Individual wood deck boards supported by two joists shall be considered *single span* and three or more joists shall be considered *multi-span*.	X				Clarification
RB192-19	**R507.9.1.2 Band joist details.** Band joists supporting a ledger shall be a minimum 2-inch-nominal (51 mm), solid-sawn, spruce-pine-fir or better lumber or ~~a~~ minimum 1-inch ~~by 9$^{1}/_{2}$-inch~~ (25 ~~mm × 241 mm) dimensional, Douglas fir or better, laminated veneer lumber.~~ mm) nominal engineered wood rim boards in accordance with Section R502.1.7. Band joists shall bear fully on the primary structure capable of supporting all required loads.		X			Clarification
RB193-19	**TABLE R602.3(1)** **FASTENING SCHEDULE** Adds language to footnote a in order to clarify that the table pertains to carbon steel fasteners and connections and clarifies that the code change, as approved by the CAH, deletes stainless steel nails and staples from the table. The added language is proposed because if is feared that users of the code will easily miss this change, and not necessarily understand that stainless steel (or other materials) may not perform the same as carbon steel. These other materials may require differences in deign to achieve equivalent performance.		X			Adds language to footnote in order to clarify that the table pertains to carbon steel fasteners and connections and clarify that the code change deletes stainless steel nails and staples from the table.
RB194-19	**TABLE R602.3(1)** **FASTENING SCHEDULE**		X			Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	<table><tr><th>ITEM</th><th>DESCRIPTION OF BUILDING LEMENTS</th><th>NUMBER AND TYPE OF FASTENER[a, b, c]</th><th>SPACING AND LOCATION</th></tr><tr><td colspan="4">Wall</td></tr><tr><td>12</td><td>Adjacent full-height stud to end of header</td><td>4-16d box (3 1/2' x 0.135"; or 3-16d common (3 1/2" x 0.162"); or 4-10d box (3" x 0.128"); or 4 - 3" x 0.131" nails</td><td>End nail</td></tr></table> **R602.7.5 Supports for headers.** Headers shall be supported on each end with one or more jack studs or with approved framing anchors in accordance with Table R602.7(1) or R602.7(2). The full-height stud adjacent to each end of the header shall be end nailed to each end of the header ~~with four-16d nails (3.5 inches × 0.135 inches).~~ in accordance with Table R602.3(1). The minimum number of full-height studs at each end of a header shall be in accordance with Table R602.7.5.					
RB195-19	**TABLE R602.3(1)** **FASTENING SCHEDULE** For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1 ksi = 6.895 MPa. g. Gypsum sheathing shall conform to ASTM C1396 and shall be installed in accordance with GA 253 or ASTM C1280. Fiberboard sheathing shall conform to ASTM C208. **ASTM** C1280-18: Standard Specification for Application of Exterior Gypsum Panel Products for Use as Sheathing		X			ASTM C1280 provided additional construction options.
RB196-19	**TABLE R602.3(1)** **FASTENING SCHEDULE** For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1 ksi = 6.895 MPa. f. For wood structural panel roof sheathing attached to gable end roof framing and to intermediate supports within 48 inches of roof edges and ridges, nails shall be spaced at 4 inches on center where the ultimate design wind speed is greater than 130 mph in Exposure B or greater than 110 mph in Exposure C.			X		Clarification
RB197-19	**TABLE R602.3(2)** **ALTERNATE ATTACHMENTS TO TABLE R602.3(1)** For SI: 1 inch = 25.4 mm. a. Nail is a general description and shall be permitted to be T-head, modified round head or round head. b. Staples shall have a minimum crown width of 7/16-inch ~~on diameter~~ except as noted. c. Nails or staples shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater. Nails		X			Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IRC STRUCTURAL CHANGES SUMMARY**	**IRC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	or staples shall be spaced at not more than 12 inches on center at intermediate supports for floors. d. Fasteners shall be placed in a grid pattern throughout the body of the panel. e. For 5-ply panels, intermediate nails shall be spaced not more than 12 inches on center each way. f. Hardboard underlayment shall conform to CPA/ANSI A135.4 g. Specified alternate attachments for roof sheathing shall be permitted where the ultimate design wind speed is less than 130 mph. Fasteners attaching wood structural panel roof sheathing to gable end wall framing shall be installed using the spacing listed for panel edges. h. Fiber-cement underlayment shall conform to ASTM C1288 or ISO 8336, Category C.					
RB198-19	**TABLE R602.3(2)** **ALTERNATE ATTACHMENTS TO TABLE R602.3(1)** *(Portions of table and footnotes not shown remain unchanged)* g. Alternate fastening is only permitted for roof sheathing where ~~Where~~ the ultimate design wind speed is less than or equal to 110 mph, and ~~roof sheathing attachment using the specified alternate fasteners shall be permitted~~ where fasteners are installed 3 inches on center at all supports.			X		Clarification
RB199-19	**R602.10.1.2 Location of braced wall lines and permitted offsets.** Each braced wall line shall be located such that no more than two-thirds of the required braced wall panel length is located to one side of the braced wall line. Braced wall panels shall be permitted to be offset up to four feet from the designated braced wall line. ~~Where braced wall panels along a braced wall line fall in a single line, the braced wall line shall be located at those braced wall panels. Where braced wall panels are offset out of plane, the braced wall line shall be located at or between the braced wall panels, and the braced wall line shall not be located outboard or inboard of all the braced wall panels in that braced wall line. Where 2/3 or more of the length of braced wall panels in a braced wall line fall in a single line, the braced wall line shall be located at those braced wall panels; or the braced wall line shall be located at the centroid of the braced wall panels, as seen in Figure R602.10.1.1.Exterior braced wall panels parallel to a *braced wall line* shall be offset not more than 4 feet (1219 mm) from the designated *braced wall line* location as shown in Figure R602.10.1.1.~~ Exterior walls parallel to a *braced wall line* shall be offset not more than 4 feet (1219 mm) from the designated *braced wall line* location as shown in Figure R602.10.1.1.		X			Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IRC STRUCTURAL CHANGES SUMMARY**	**IRC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
	Interior walls used as bracing shall be offset not more than 4 feet (1219 mm) from a *braced wall line* through the interior of the building as shown in Figure R602.10.1.1.					
RB200-19	**R602.10.2.2 Locations of braced wall panels.** A *braced wall panel* shall begin within 10 feet (3810 mm) from each end of a *braced wall line* as determined in Section R602.10.1.1. The distance between adjacent edges of *braced wall panel*s along a *braced wall line* shall be not greater than 20 feet (6096 mm) as shown in Figure R602.10.2.2. **Exceptions:** 1. Braced wall panels in Seismic Design Categories D0, D_1, and D_2shall comply with Section R602.10.2.2.1. 2. Braced wall panels with continuous sheathing in Seismic Design Categories A, B, or C shall comply with Section R602.10.7. **R602.10.2.2.1 Location of braced wall panels in Seismic Design Categories ~~D~~D0, D_1 and D_2.** Braced wall panels shall be located at each end of a braced wall line. **~~Exception~~ Exceptions:** 1. Braced wall panels constructed of Method WSP or BV-WSP and continuous sheathing methods as specified in Section R602.10.4 shall be permitted to begin not more than 10 feet (3048 mm) from each end of a braced wall line provided that each end complies with one of the following: ~~1.~~ 1.1. A minimum 24-inch-wide (610 mm) panel for Methods WSP, CS-WSP, CS-G and CS-PF is applied to each side of the building corner as shown in End Condition 4 of Figure R602.10.7. ~~2.~~ 1.2. The end of each braced wall panel closest to the end of the braced wall line shall have an 1,800 lb (8 kN) hold-down device fastened to the stud at the edge of the braced wall panel closest to the corner and to the foundation or framing below as shown in End Condition 5 of Figure R602.10.7. 2. Braced wall panels constructed of Method PFH or ABW, or of Method BV-WSP where a hold-down is provided in accordance with Table R602.10.6.5, shall be permitted to begin not more than 10 feet from each end of a braced wall line.		X			Clarification
RB201-19	**TABLE R602.10.3(2)** **WIND ADJUSTMENT FACTORS TO THE REQUIRED LENGTH OF WALL BRACING** **TABLE R602.10.3(4)** **SEISMIC ADJUSTMENT FACTORS TO THE REQUIRED LENGTH OF WALL BRACING**			X		Modifications removed the proposed options for SFB and HPS products because the

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	Committee Reason: The modifications removed the proposed options for SFB and HPS products because the products are too soft for bracing without uniform nailing and blocking. The proposal appropriately adds for PBS as an additional design option.					products are too soft for bracing without uniform nailing and blocking
RB202-19	**TABLE R602.10.3(3)** **BRACING REQUIREMENTS BASED ON SEISMIC DESIGN CATEGORY** For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa. NP = Not Permitted. a. Linear interpolation shall be permitted. b. ~~Wall bracing lengths are based on a soil site class "D."~~ Interpolation of bracing length between the S_{ds} values associated with the seismic design categories shall be permitted when a site-specific S_{ds} value is determined in accordance with Section 1613.2 of the International Building Code. c. Where the braced wall line length is greater than 50 feet, braced wall lines shall be permitted to be divided into shorter segments having lengths of 50 feet or less, and the amount of bracing within each segment shall be in accordance with this table. d. Method LIB shall have gypsum board fastened to not less than one side with nails or screws in accordance with Table R602.3(1) for exterior sheathing or Table R702.3.5 for interior gypsum board. Spacing of fasteners at panel edges shall not exceed 8 inches. e. Methods PFG and CS-SFB do not apply in Seismic Design Categories D_0, D_1 and D_2. f. Where more than one bracing method is used, mixing methods shall be in accordance with Section R602.10.4.1.		X			Clarification
RB203-19	**TABLE R602.10.3(3)** **BRACING REQUIREMENTS BASED ON SEISMIC DESIGN CATEGORY** For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa. NP = Not Permitted. a. Linear interpolation shall be permitted. b. Wall bracing lengths are based on a soil site class "D." Interpolation of bracing length between the Sds values associated with the seismic design categories shall be permitted when a site-specific Sds value is determined in accordance with Section 1613.2 of the International Building Code. c. Where the braced wall line length is greater than 50 feet, braced wall lines shall be permitted to be divided into shorter segments		X			Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact

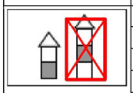
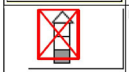
<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IRC STRUCTURAL CHANGES SUMMARY</th><th colspan="3">IRC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="7">Sub Code:</td></tr>
<tr><td></td><td>having lengths of 50 feet or less, and the amount of bracing within each segment shall be in accordance with this table.
d. Method LIB shall have gypsum board fastened to not less than one side with nails or screws in accordance with Table R602.3(1) for exterior sheathing or Table R702.3.5 for interior gypsum board. Spacing of fasteners at panel edges shall not exceed 8 inches.
e. Methods PFG and CS-SFB do not apply in Seismic Design Categories D0, D1 and D2.
f. Methods PFH, PFG and ABW are only permitted on a single story or a first of two stories.
~~f.~~g. Where more than one bracing method is used, mixing methods shall be in accordance with Section R602.10.4.1.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>RB204-19</td><td>
TABLE R602.10.3(3)
BRACING REQUIREMENTS BASED ON SEISMIC DESIGN CATEGORY
<table>
<tr><th colspan="3">SOIL CLASS D[b] WALL HEIGHT = 10 FEET 10 PSF FLOOR DEAD LOAD 15 PSF ROOF/CEILING DEAD LOAD BRACED WALL LINE SPACING 25 FEET</th><th colspan="5">MINIMUM TOTAL LENGTH (FEET) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINE[a, f]</th></tr>
<tr><th>Seismic Design Category</th><th>Story Location</th><th>Braced Wall Line Length(feet)[c]</th><th>Method LIB[d]</th><th>Method GB</th><th>Methods DWB, SFB, PBS,PCP, HPS,CS-SFB[e]</th><th>Method WSP</th><th>Methods CS-WSP,CS-G, CS-PF</th></tr>
<tr><td rowspan="25">D2 g</td><td rowspan="5">  </td><td>10</td><td>NP</td><td>4.0</td><td>4.0</td><td>2.5</td><td>2.1</td></tr>
<tr><td>20</td><td>NP</td><td>8.0</td><td>8.0</td><td>5.0</td><td>4.3</td></tr>
<tr><td>30</td><td>NP</td><td>12.0</td><td>12.0</td><td>7.5</td><td>6.4</td></tr>
<tr><td>40</td><td>NP</td><td>16.0</td><td>16.0</td><td>10.0</td><td>8.5</td></tr>
<tr><td>50</td><td>NP</td><td>20.0</td><td>20.0</td><td>12.5</td><td>10.6</td></tr>
<tr><td rowspan="5">  </td><td>10</td><td>NP</td><td>7.5</td><td>7.5</td><td>5.5</td><td>4.7</td></tr>
<tr><td>20</td><td>NP</td><td>15.0</td><td>15.0</td><td>11.0</td><td>9.4</td></tr>
<tr><td>30</td><td>NP</td><td>22.5</td><td>22.5</td><td>16.5</td><td>14.0</td></tr>
<tr><td>40</td><td>NP</td><td>30.0</td><td>30.0</td><td>22.0</td><td>18.7</td></tr>
<tr><td>50</td><td>NP</td><td>37.5</td><td>37.5</td><td>27.5</td><td>23.4</td></tr>
<tr><td rowspan="5"> 
Three-story dwelling</td><td>10</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td></tr>
<tr><td>20</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td></tr>
<tr><td>30</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td></tr>
<tr><td>40</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td></tr>
<tr><td>50</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td></tr>
<tr><td rowspan="5">Cripple wall below one- or two-story dwelling</td><td>10</td><td>NP</td><td>NP</td><td>NP</td><td>7.5</td><td>6.4</td></tr>
<tr><td>20</td><td>NP</td><td>NP</td><td>NP</td><td>15.0</td><td>12.8</td></tr>
<tr><td>30</td><td>NP</td><td>NP</td><td>NP</td><td>22.5</td><td>19.1</td></tr>
<tr><td>40</td><td>NP</td><td>NP</td><td>NP</td><td>30.0</td><td>25.5</td></tr>
<tr><td>50</td><td>NP</td><td>NP</td><td>NP</td><td>37.5</td><td>31.9</td></tr>
</table>
g. One- and two-family dwellings in Seismic Design Category D2 exceeding two stories shall be designed in accordance with accepted engineering practice.

TABLE R602.10.3(4)
SEISMIC ADJUSTMENT FACTORS TO THE REQUIRED LENGTH OF WALL BRACING
For SI: 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.
a. Linear interpolation shall be permitted.
b. The total length of bracing required for a given wall line is the product of all applicable adjustment factors.
c. The length-to-width ratio for the floor/roof diaphragm shall not exceed 3:1.
</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact

CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
	Sub Code:					
	d. Applies to stone or masonry veneer exceeding the first story height. e. The adjustment factor for stone or masonry veneer shall be applied to all exterior braced wall lines and all braced wall lines on the interior of the building, backing or perpendicular to and laterally supporting veneered walls. f. See Section R602.10.6.5 for requirements where stone or masonry veneer does not exceed the first-story height. g. <u>One- and two-family dwellings in Seismic Design Category D_2 exceeding two stories shall be designed in accordance with accepted engineering practice.</u>					
RB205-19	**TABLE R602.10.4** **BRACING METHODS** **Reason:** ASTM F1667-18 requires that when gage is used as a diameter for nails, a decimal equivalent must also be shown. This requirement was put in place because of the multiple and conflicting wire gage tables that are used in the manufacturing of nails.		X			Clarification

TABLE R602.10.6.5
METHOD BV-WSP WALL BRACING REQUIREMENTS

SEISMIC DESIGNCATEGORY	STORY	BRACED WALL LINE LENGTH (FEET)					SINGLE-STORYHOLD-DOWNFORCE(pounds)[a,b]	CUMULATIVE HOLD-DOWNFORCE (pounds)[b,c]
		10	20	30	40	50		
		Minimum Total Length (feet) of Braced Wall Panels Required Along each Braced Wall Line						
D_2[a]		5.5	11.0	16.5	22.0	27.5	2300	
		5.5	11.0	16.5	22.0	27.5	3900	6200
	 Three-story dwelling	NP	NP	NP	NP	NP	NA	NA

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.479 kPa, 1 pound-force = 4.448 N.
NP = Not Permitted.
NA = Not Applicable.

a. One- and two-family dwellings in Seismic Design Category D_2 exceeding two stories shall be designed in accordance with accepted engineering practice.
~~a~~ b. Hold-down force is minimum allowable stress design load for connector providing uplift tie from wall framing at end of braced wall panel at the noted story to wall framing at end of braced wall panel at the story below, or to foundation or foundation wall. Use single-story hold-down force where edges of braced wall panels do not align; a continuous load path to the foundation shall be maintained.
~~b~~ c. Where hold-down connectors from stories above align with stories below, use cumulative hold-down force to size middle- and bottom-story hold-down connectors.

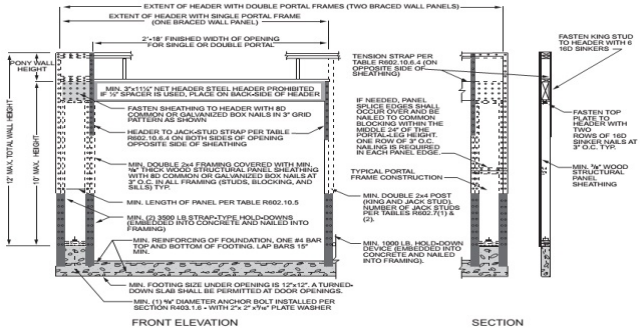
Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IRC STRUCTURAL CHANGES SUMMARY**	**IRC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
RB206-19	**R602.10.6.2 Method PFH: Portal frame with hold-downs.** Method PFH *braced wall panel*s shall be constructed in accordance with Figure R602.10.6.2.  For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm. **FIGURE R602.10.6.2** **METHOD PFH—PORTAL FRAME WITH HOLD-DOWNS**		X			Clarification
RB207-19	**R602.10.6.4 Method CS-PF: Continuously sheathed portal frame.** Continuously sheathed portal frame *braced wall panel*s shall be constructed in accordance with Figure R602.10.6.4 and Table R602.10.6.4. ~~The number of continuously sheathed portal frame panels in a single *braced wall line* shall not exceed four.~~ **R602.12.6.2 Method CS-PF.** Braced wall panels constructed as Method CS-PF in accordance with Section R602.10.6.4 shall be permitted where all framed portions of all exterior walls are sheathed with wood structural panels. Each CS-PF panel shall equal 0.75 bracing units. ~~Not more than four CS-PF panels shall be permitted on all segments of walls parallel to each side of the circumscribed rectangle.~~ Segments of wall that include a Method CS-PF panel shall meet the requirements of Section R602.10.4.2.		X			Clarification
RB208-19	**R602.10.6.5 Wall bracing for dwellings with stone and masonry veneer in Seismic Design Categories D_0, D_1 and D_2.** Townhouses in Seismic Design Categories D_0, $D_1$and $D_2$with stone or masonry veneer exceeding the first-story height shall be designed in accordance with accepted engineering practice. One- and two-family dwellings in Seismic Design Category D_2exceeding two stories and having stone or masonry veneer shall be designed in accordance with accepted engineering practice. Where stone and masonry veneer are installed in accordance with Section R703.8, wall bracing on exterior *braced wall lines* and *braced wall lines* on the interior of the building, backing or perpendicular to and laterally supporting veneered walls shall comply with this section. Where dwellings in Seismic Design Categories D_0, D_1 and D_2 have stone or masonry veneer installed in accordance with Section		X			Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	R703.8, and the veneer does not exceed the first-story height, wall bracing shall be in accordance with Section R602.10.3. Where detached one- or two-family dwellings in Seismic Design Categories D_0, D_1 and D_2 have stone or masonry veneer installed in accordance with Section R703.8, and the veneer exceeds the first-*story height*, wall bracing at exterior *braced wall lines* and *braced wall lines* on the interior of the building shall be constructed using Method BV-WSP in accordance with this section and Figure R602.10.6.5. Cripple walls shall not be permitted, and required interior *braced wall lines* shall be supported on continuous foundations. Where detached one- or two-family *dwellings* in Seismic Design Categories D_0, D_1 and D_2 have exterior veneer installed in accordance with Section R703.8 and are braced in accordance with Method WSP or CS-WSP, veneer shall be permitted in the second story in accordance with Item 1 or 2, provided that the *dwelling* does not extend more than two stories above grade plane, the veneer does not exceed 5 inches (127 mm) in thickness, the height of veneer on gable-end walls does not extend more than 8 feet (2438 mm) above the bearing wall top plate elevation, and the total length of *braced wall panel* specified by Table R602.10.3(3) is multiplied by 1.2 for each first- and second-story *braced wall line.* 1. The total area of the veneer on the second-story exterior walls shall be permitted to extend up to 25 percent of the occupied second floor area. 2. The veneer on the second-story exterior walls shall be permitted to cover one side of the *dwelling*, including walls on bay windows and similar appurtenances within the one dwelling side. ~~Townhouses in Seismic Design Categories D_0, D_1 and D_2 with stone or masonry veneer exceeding the first-story height shall be designed in accordance with accepted engineering practice.~~					
RB209-19	**Committee Modification:** **R602.10.6.5.1 Veneer on First Story Only.** Where dwellings in Seismic Design Categories D0, D_1 and D_2 have stone or masonry veneer installed in accordance with Section R703.8, and the veneer does not exceed the first-story height, wall bracing shall be in accordance with Section R602.10, exclusive of ~~this section~~ Section R602.10.6.5.		X			Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IRC STRUCTURAL CHANGES SUMMARY**	**IRC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
		Decrease	**None**	**Increase**		
Sub Code:						
RB210-19	**TABLE R602.10.6.5** **METHOD BV-WSP WALL BRACING REQUIREMENTS[c]** For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.479 kPa, 1 pound-force = 4.448 N. NP = Not Permitted. NA = Not Applicable. a. Hold-down force is minimum allowable stress design load for connector providing uplift tie from wall framing at end of braced wall panel at the noted story to wall framing at end of braced wall panel at the story below, or to foundation or foundation wall. Use single-story hold-down force where edges of braced wall panels do not align; a continuous load path to the foundation shall be maintained. b. Where hold-down connectors from stories above align with stories below, use cumulative hold-down force to size middle- and bottom-story hold-down connectors. c. Interpolation between braced wall lengths is permitted.		X			Clarification
RB211-19	**R602.10.10.1 Cripple wall bracing for Seismic Design Categories D_0 and D_1 and townhouses in Seismic Design Category C.** In addition to the requirements in Section R602.10.10, cripple wall bracing shall be limited to methods WSP and CS-WSP, and the distance between adjacent edges of *braced wall panel*s for cripple walls along a *braced wall line* shall be 14 feet (4267 mm) maximum. Where *braced wall lines* at interior walls are not supported on a continuous foundation below, the adjacent parallel cripple walls, where provided, shall be braced with Method WSP or Method CS-WSP in accordance with Section R602.10.4. The length of bracing required in accordance with Table R602.10.3(3) for the cripple walls shall be multiplied by 1.5. Where the cripple walls do not have sufficient length to provide the required bracing, the spacing of panel edge fasteners shall be reduced to 4 inches (102 mm) on center and the required bracing length adjusted by 0.7. If the required length can still not be provided, the cripple wall shall be designed in accordance with accepted engineering practice.			X		Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
RB213-19	**R608.1 General.** Exterior concrete walls shall be designed and constructed in accordance with the provisions of this section or in accordance with the provisions of PCA 100, ACI 318,or ACI 332. Where PCA 100, ACI 318, ACI 332 or the provisions of this section are used to design concrete walls, project drawings, typical details and specifications are not required to bear the seal of the architect or engineer responsible for design, unless otherwise required by the state law of the jurisdiction having authority. **R608.5.1 Concrete and materials for concrete.** Materials used in concrete, and the concrete itself, shall conform to requirements of this section, PCA 100, ~~or~~ ACI 318, or ACI 332.	X				Clarification
RB214-19	**R609.1 General.** This section prescribes performance and construction requirements for exterior windows and doors installed in walls. Windows and doors shall be installed ~~anchored~~ in accordance with the fenestration manufacturer's written installation instructions. ~~Section R609.7.~~ Window and door openings shall be flashed in accordance with Section R703.4. Written ~~Installation~~ installation instructions shall be provided by the fenestration manufacturer for each window or door.	X				Clarification
RB215-19	**R609.4 Garage doors.** Garage doors shall be tested in accordance with either ASTM E330 or ANSI/DASMA 108, and shall meet the ~~acceptance~~ pass/fail criteria of ANSI/DASMA 108. **R609.4.1 Garage door labeling.** Garage doors shall ~~have~~ be labeled with a permanent label provided by the garage door manufacturer. The label shall identify ~~identifying~~ the garage door manufacturer, the garage door model/series number, the positive and negative design wind pressure rating, the installation instruction drawing reference number, and the applicable test standard.			X		Clarification
RB216-19	**TABLE R702.3.5** **MINIMUM THICKNESS AND APPLICATION OF GYPSUM BOARD AND GYPSUM PANEL PRODUCTS** *(portions of the table and footnotes not shown remain unchanged)* c. Where cold-formed steel framing is used with a clinching design to receive nails by two edges of metal, the nails shall be not less than $^5/_8$ inch longer than the gypsum board or gypsum panel product thickness and shall have ringed shanks. Where the cold-formed steel framing has a nailing groove formed to receive the nails, the nails shall have barbed shanks or be ~~5d, 13$^1/_2$ gage,~~ 0.086 inch diameter $1^5/_8$ inches long, $^{15}/_{64}$-inch head for $^1/_2$-inch gypsum board or gypsum panel product; and ~~6d, 13 gage,~~ 0.099 inch diameter $1^7/_8$ inches long, $^{15}/_{64}$-inch head for $^5/_8$-inch gypsum board or gypsum panel product.		X			Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact

<table>
<tr><th rowspan="2">CODE CHANGE #</th><th rowspan="2">2021 IRC STRUCTURAL CHANGES SUMMARY</th><th colspan="3">IRC COST IMPACT</th><th rowspan="2">ESTIMATED AMOUNT*</th><th rowspan="2">BENEFIT OF CHANGE</th></tr>
<tr><th>Decrease</th><th>None</th><th>Increase</th></tr>
<tr><td colspan="8">Sub Code:</td></tr>
<tr><td>RB223-19</td><td>
R702.7 Vapor retarders. Vapor retarder materials shall be classified in accordance with Table R702.7(1). A vapor retarder shall be provided on the interior side of frame walls of the class indicated in Table R702.7(2), including compliance with Table R702.7(3) or Table R702.7(4) where applicable. An approved design using accepted engineering practice for hygrothermal analysis shall be permitted as an alternative. The climate zone shall be determined in accordance with Section N1101.7 (R301.1).
Exceptions:
1. Basement walls.
2. Below-grade portion of any wall.
3. Construction where accumulation, condensation, or freezing of moisture will not damage the materials.
4. A vapor retarder shall not be required in Climate Zones 1, 2, and 3.
R702.7(2)
VAPOR RETARDER OPTIONS
<table>
<tr><td rowspan="2">CLIMATE ZONE</td><td colspan="3">VAPOR RETARDER CLASS</td></tr>
<tr><td>CLASS I[a]</td><td>CLASS II[a]</td><td>CLASS III</td></tr>
<tr><td>1,2</td><td>Not Permitted</td><td>Not Permitted</td><td>Permitted</td></tr>
<tr><td>3, 4 (except Marine 4)</td><td>Not Permitted</td><td>Permitted[c]</td><td>Permitted</td></tr>
<tr><td>~~4 (except Marine 4)~~</td><td>~~Not Permitted~~</td><td>~~Permitted[c]~~</td><td rowspan="2">See Table R702.7(3)</td></tr>
<tr><td>Marine 4, 5, 6, 7, 8</td><td>Permitted [b]</td><td>Permitted[c]</td></tr>
</table>
(No further changes to the footnotes)

TABLE R702.7(3)
CLASS III VAPOR RETARDERS
(No further changes to the table or portion of the footnotes not shown)
<table>
<tr><th>CLIMATEZONE</th><th>CLASS III VAPOR RETARDERS PERMITTED FOR:[a, b]</th></tr>
<tr><td rowspan="5">Marine 4</td><td>Vented cladding over wood structural panels.</td></tr>
<tr><td>Vented cladding over fiberboard.</td></tr>
<tr><td>Vented cladding over gypsum.</td></tr>
<tr><td>Continuous insulation with R-value ≥ 2.5 over 2 × 4 wall.</td></tr>
<tr><td>Continuous insulation with R-value ≥ 3.75 over 2 × 6 wall.</td></tr>
</table>
</td><td></td><td>X</td><td></td><td></td><td>Clarification</td></tr>
</table>

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	a. Vented cladding shall include vinyl, polypropylene, or horizontal aluminum siding, or brick veneer with a clear airspace as specified in Table R703.8.4(1), ~~and~~ or other approved vented claddings.					
RB230-19	**R702.7.3 Minimum clear airspaces and vented openings for vented cladding.** For the purposes of this section, vented cladding shall include the following minimum clear airspaces. Other openings with the equivalent vent area shall be permitted. 1. Vinyl polypropylene or horizontal aluminum siding applied over a weather-resistive barrier as specified in Table R703.3(1). 2. Brick veneer, *anchored stone or masonry veneer* with a clear airspace as specified in Table R703.8.4(1). 3. Other approved vented claddings. ~~**R703.2 Water-resistive barrier.** One layer of No. 15 asphalt felt, free from holes and breaks, complying with ASTM D226 for Type 1 felt or other approved water-resistive barrier shall be applied over studs or sheathing of all exterior walls. No.15 asphalt felt shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm). Where joints occur, felt shall be lapped not less than 6 inches (152 mm). Other *approved* materials shall be installed in accordance with the *water-resistive barrier* manufacturer's installation instructions. The No. 15 asphalt felt or other approved *water-resistive barrier* material shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in Section R703.1.~~ **R703.2 Water-resistive barrier.** One layer of No. 15 asphalt felt, free from holes and breaks, complying with ASTM D226 for Type 1 felt or other approved Not fewer than one layer of water-resistive barrier shall be applied over studs or sheathing of all exterior walls. No.15 asphalt felt shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm). Where joints		X			Clarification
RB232-19	occur, felt shall be lapped not less than 6 inches (152 mm). Other *approved* materials shall be installed in accordance with the *water-resistive barrier* manufacturer's installation instructions. The No. 15 asphalt felt or other approved *water-resistive barrier* material shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in Section R703.1.with flashing as indicated in Section R703.4, in such a manner as to provide a continuous *water-resistive barrier* behind the *exterior wall* veneer. Water-resistive barrier materials shall comply with one of the following: 1. No. 15 felt complying with ASTM D226, Type 1 2. ASTM E2556, Type 1 or 2		X			Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
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	3. ASTM E331 in accordance with Section R703.1.1, or 4. Other approved materials in accordance with the manufacturer's installation instructions. **ASTM** E2556/E2556M-10: Standard Specification for Vapor Permeable Flexible Sheet Water-resistive Barriers Intended for Mechanical Attachment					
RB233-19	**R703.2 Water-resistive barrier.** Not fewer than one layer of water-resistive barrier shall be applied over studs or sheathing of all exterior walls with flashing as described in Section R703.4, in such a manner as to provide a continuous *water-resistive barrier* behind the *exterior wall* veneer. The *water-resistive barrier* material shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in Section R703.1. Water-resistive barrier materials shall comply with one of the following: 1. No. 15 felt complying with ASTM D226, Type 1 2. ASTM E2556, Type I or II 3. ASTM E331 in accordance with Section R703.1.1 4. Other approved materials installed in accordance with the manufacturer's installation instructions. ~~5.~~ No.15 asphalt felt and water-resistive barriers complying with ASTM E2556 shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm), and where joints occur, shall be lapped not less than 6 inches (152 mm).		X			Clarification
RB234-19	**R704.2 Soffit installation where the design wind pressure is 30 psf or less.** Where the design wind pressure is 30 psf or less, soffit installation shall comply with Section R704.2.1, Section R704.2.2, Section R704.2.3, or Section R704.2.4. Soffit materials not addressed in Sections R704.2.1 through R704.2.4 shall be in accordance with the manufacturer's installation instructions. **R704.2.1 Vinyl soffit panels.** Vinyl soffit panels shall be installed using fasteners specified by the manufacturer and shall be fastened at both ends to a supporting component such as a nailing strip, fascia or subfascia component in accordance with Figure R704.2.1. Where the unsupported span of soffit panels is greater than 16 inches, intermediate nailing strips shall be provided in accordance with Figure R704.2.~~1~~2. Vinyl soffit panels shall be installed in accordance with the manufacturer's installation instructions. Fascia covers shall be installed in accordance with the manufacturer's installation instructions. **Delete Proposed Figure R704.2.1 and Replace with the two following figures, R704.2.1 and R704.2.2:**		X			Clarification

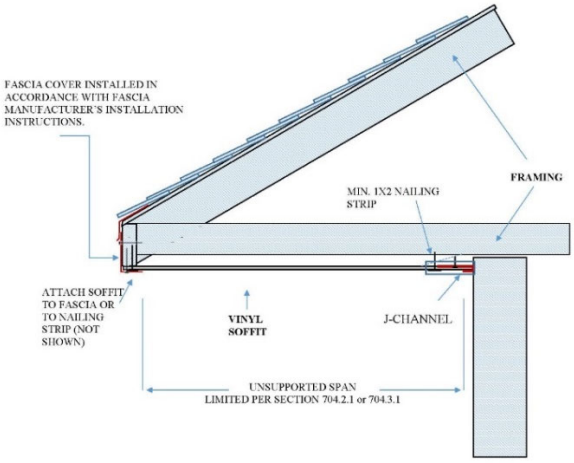
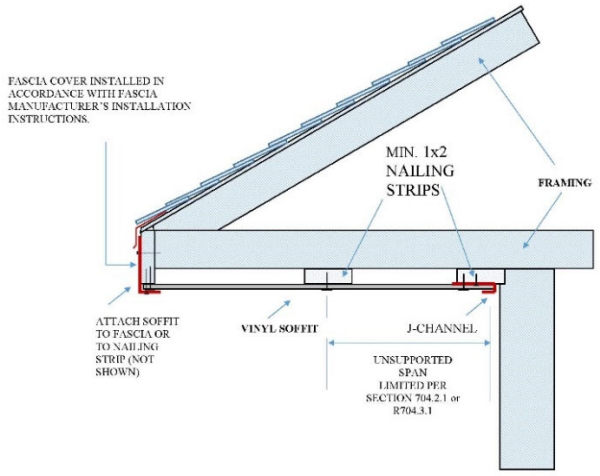
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	 **FIGURE R704.2.1** **TYPICAL SINGLE SPAN VINYL SOFFIT PANEL SUPPORT**  **FIGURE R704.2.2** **TYPICAL DOUBLE SPAN VINYL SOFFIT PANEL SUPPORT** **R704.3 Soffit installation where the design wind pressure exceeds 30 psf.** Where the design wind pressure is greater than 30 psf, soffit installation shall comply with Section R704.3.1, Section R704.3.2, Section R704.3.3, or Section R704.3.4. Soffit materials not addressed in Sections R704.3.1 through R704.3.4 shall be in accordance with the manufacturer's installation instructions. **R704.3.1 Vinyl soffit panels.** Vinyl soffit panels and their attachments shall be capable of resisting wind loads specified in Table R301.2(2) for walls using an effective wind area of 10 square feet and adjusted for height and exposure in accordance with Table R301.2(3). Vinyl soffit					

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	panels shall be installed using fasteners specified by the manufacturer and shall be fastened at both ends to a supporting component such as a nailing strip, fascia or subfascia component in accordance with Figure R704.2.1. Where the unsupported span of soffit panels is greater than 12 inches, intermediate nailing strips shall be provided in accordance with Figure R704.2.~~1~~2. Vinyl soffit panels shall be installed in accordance with the manufacturer's installation instructions. Fascia covers shall be installed in accordance with the manufacturer's installation instructions.					
RB235-19	**R703.3.1.1 Wood structural panel soffit.** The minimum nominal thickness for wood structural panel soffits shall be $^{3}/_{8}$ inch (9.5 mm) and shall be fastened to framing or nailing strips with 2-inch by 0.099-inch (51 mm × 2.5 mm) nails. Fasteners shall be ~~in~~ spaced not ~~less~~ greater than 6 inches (152 mm) on center at panel edges and 12 inches (305 mm) on center at intermediate supports.			X		Clarification
RB237-19	**R703.4 Flashing.** Approved corrosion-resistant flashing shall be applied shingle-fashion in a manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. Self-adhered membranes used as flashing shall comply with AAMA 711. Fluid-applied membranes used as flashing in exterior walls shall comply with AAMA 714. The flashing shall extend to the surface of the exterior wall finish. Approved corrosion-resistant flashings shall be installed at the following locations: 1. Exterior window and door openings. Flashing at exterior window and door openings shall be installed in accordance with R703.4.1. ~~extend to the surface of the exterior wall finish or to the water-resistive barrier complying with Section 703.2 for subsequent drainage. Mechanically attached flexible flashings shall comply with AAMA 712. Flashing at exterior window and door openings shall be installed in accordance with one or more of the following:~~ 1.1. ~~The fenestration manufacturer's installation and flashing instructions, or for applications not addressed in the fenestration manufacturer's instructions, in accordance with the flashing manufacturer's instructions. Where flashing instructions or details are not provided, pan flashing shall be installed at the sill of exterior window and door openings. Pan flashing shall be sealed or sloped in such a manner as to direct water to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage. Openings using pan flashing shall incorporate flashing or protection at the head and sides.~~ 1.2. ~~In accordance with the flashing design or method of a registered design professional.~~ 1.3. ~~In accordance with other approved methods.~~		X			Provides clarification of flashing requirements

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	2. At the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting lips on both sides under stucco copings. 3. Under and at the ends of masonry, wood or metal copings and sills. 4. Continuously above all projecting wood trim. 5. Where exterior porches, decks or stairs attach to a wall or floor assembly of wood-frame construction. 6. At wall and roof intersections. 7. At built-in gutters. **R703.4.1 Flashing installation at exterior window and door openings.** Flashing at exterior window and door openings shall extend to the surface of the exterior wall finish or to the water-resistive barrier complying with Section 703.2 for subsequent drainage. Mechanically attached flexible flashings shall comply with AAMA 712. Flashing at exterior window and door openings shall be installed in accordance with one or more of the following: 1. The fenestration manufacturer's installation and flashing instructions, or for applications not addressed in the fenestration manufacturer's instructions, in accordance with the flashing manufacturer's instructions. Where flashing instructions or details are not provided, pan flashing shall be installed at the sill of exterior window and door openings. Pan flashing shall be sealed or sloped in such a manner as to direct water to the surface of the exterior wall finish or to the water resistive barrier for subsequent drainage. Openings using pan flashing shall incorporate flashing or protection at the head and sides. 2. In accordance with the flashing design or method of a registered design professional. 3. In accordance with other approved methods.					
RB238-19	**R703.4 Flashing.** Approved corrosion-resistant flashing shall be applied shingle-fashion in a manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. Self-adhered membranes used as flashing shall comply with AAMA 711. Fluid-applied membranes used as flashing in exterior walls shall comply with AAMA 714. The flashing shall extend to the surface of the exterior wall finish. Approved corrosion-resistant flashings shall be installed at the following locations: 1. Exterior window and door openings. Flashing at exterior window and door openings shall extend to the surface of the exterior wall finish or to the water-resistive barrier complying with Section 703.2 for subsequent drainage. ~~An insulation stop~~ Air sealing shall be installed around all window and door		X			Clarification

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CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	openings <u>on the interior side of the rough opening gap.</u>,~~ 1 to 2 inches inward from the face of the exterior sheathing, to allow for drainage of incidental water at the window or door flashing system.~~ Mechanically attached flexible flashings shall comply with AAMA 712. Flashing at exterior window and door openings shall be installed in accordance with one or more of the following: 1.1. The fenestration manufacturer's installation and flashing instructions, or for applications not addressed in the fenestration manufacturer's instructions, in accordance with the flashing manufacturer's instructions. Where flashing instructions or details are not provided, pan flashing shall be installed at the sill of exterior window and door openings. Pan flashing shall be sealed or sloped in such a manner as to direct water to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage. Openings using pan flashing shall incorporate flashing or protection at the head and sides. 1.2. In accordance with the flashing design or method of a registered design professional. 1.3. In accordance with other approved methods. 2. At the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting lips on both sides under stucco copings. 3. Under and at the ends of masonry, wood or metal copings and sills. 4. Continuously above all projecting wood trim. 5. Where exterior porches, decks or stairs attach to a wall or floor assembly of wood-frame construction. 6. At wall and roof intersections. 7. At built-in gutters.					
RB239-19	**R703.5 Wood, hardboard and wood structural panel siding.** Wood, hardboard, and wood structural panel siding shall be installed in accordance with this section and Table R703.3(1). Hardboard siding shall comply with CPA/ANSI A135.6. ~~Hardboard siding used as architectural trim shall comply with CPA/ANSI A 135.7.~~		X			Clarification
RB240-19	The title of the 2nd column in Tables R703.6.3(1), R703.6.3(2) and R905.7.5(2) was changed as follows: **Nail type, and minimum ~~shank diameter and~~ length <u>and shank diameter</u> (inches)**		X			Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	**2021 IRC STRUCTURAL CHANGES SUMMARY**	**IRC COST IMPACT**			**ESTIMATED AMOUNT***	**BENEFIT OF CHANGE**
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Sub Code:						
RB241-19	**R703.7.1 Lath.** Lath and lath attachments shall be of corrosion-resistant materials in accordance with ASTM C1063. expanded metal, welded wire, or woven wire lath. <u>The lath shall be</u> attached to wood framing members or furring<u>. Where the exterior plaster is serving as wall bracing in accordance with Table R602.10.4, the lath shall be attached directly to framing. The lath shall be</u> attached with $1^1/_2$-inch-long (38 mm), 11-gage nails having a $^7/_{16}$-inch (11.1 mm) head, or $^7/_8$-inch-long (22.2 mm), 16-gage staples, spaced not more than 7 inches (178 mm) on center along framing members or furring and not more than 24 inches on center between framing members or furring , or as otherwise approved. Additional fastening between wood framing members shall not be prohibited. Lath attachments to cold-formed steel framing or to masonry, stone, or concrete substrates shall be in accordance with ASTM C 1063. Where lath is installed directly over foam sheathing, lath connections shall also be in accordance with Sections R703.15, R703.16, or R703.17. Where lath is attached to furring installed over foam sheathing, the furring connections shall be in accordance with Sections R703.15, R703.16, or R703.17. **Exception:** Lath is not required over masonry, cast-in-place concrete, precast concrete or stone substrates prepared in accordance with ASTM C1063.		X			Clarification
RB242-19	**R703.7.3.1 Dry Climates.** In dry (B) climate zones indicated in Figure N1101.7, water-resistive barriers shall comply with one of the following: 1. The *water-resistive barrier* shall be two layers of 10-minute Grade D paper or have a water resistance equal to or greater than two layers of a *water-resistive barrier* complying with ASTM E2556, Type I. The individual layers shall be installed independently such that each layer provides a separate continuous plane. Flashing installed in accordance with Section R703.4 and intended to drain to the water-resistive barrier, shall be directed between the layers. 2. The water-resistive barrier shall be 60-minute Grade D paper or have a water resistance equal to or greater than one layer of a water-resistive barrier complying with ASTM E2556, Type II. The water-resistive barrier shall be separated from the stucco by a layer of foam plastic insulating sheathing or other non-water- absorbing layer<u>, or a designed drainage space</u>. **R703.7.3.2 Moist or marine climates.** In the moist (A) or marine (C) climate zones indicated in Figure N1101.7, water-resistive barriers shall comply with one of the following:			X		Clarification

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	1. In addition to complying with Section R703.7.3.1, a space or drainage material not less than 3/16 inch (5 mm) in depth shall be added to the exterior side of the water-resistive barrier. 2. In addition to complying with Section R703.7.3.1 Item 2, drainage on the exterior side of the water-resistive barrier shall have ~~a space having~~ a drainage efficiency of not less than 90%, as measured in accordance with ASTM E2273 or Annex A2 of ASTM E2925~~, shall be added to the exterior side of the *water-resistive barrier*~~.					
RB247-19	**R703.8.4 Anchorage.** Masonry veneer shall be anchored ~~directly~~ to the supporting wall studs with corrosion-resistant metal ties embedded in mortar or grout and extending into the veneer a minimum of $1^1/_2$ inches (38 mm), with not less than $^5/_8$-inch (15.9 mm) mortar or grout cover to outside face. Masonry veneer shall conform to Table R703.8.4(1). Where the masonry veneer tie attachment is fastened ~~directly~~ to wood structural panel not less than 7/16 performance category through insulating sheathing not greater than 2 inches (51 mm) in thickness, see Table R703.8.4(2). Where Table R703.8.4(2) is used, attachment to the ~~wood~~ studs behind the sheathing is not required.		X			Clarification
RB248-19	**TABLE R703.8.4(1)** **TIE ATTACHMENT AND AIRSPACE REQUIREMENTS** a. All fasteners shall have rust-inhibitive coating suitable for the installation in which they are being used, or be manufactured from material not susceptible to corrosion. b. An airspace that provides drainage shall be permitted to contain mortar from construction. c. In Seismic Design Category D0, D_1 or D_2, the minimum tie fastener shall be an 8d ring-shank nail (2 ½ in. x 0.131 in.) . d. Adjustable tie pintle shall include a minimum of 1 pintle leg of wire size W2.8 (MW18) with a maximum offset of 1-1/4 in. e. Adjustable tie pintle shall include a minimum of 2 pintle legs with a maximum offset of 1-1/4 in. Distance between inside face of brick and end of pintle shall be a maximum of 2 in. f. Adjustable tie backing attachment components shall consist of one of the following: eyes with minimum wire W2.8 (MW18), barrel with minimum 1/4 in. outside dia., or plate with minimum thickness of 0.074 in. and minimum width of 1-1/4 in.		X			Clarification

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RB249-19	**R703.11.2 Installation over foam plastic sheathing.** Where vinyl siding or insulated vinyl siding is installed over foam plastic sheathing, the vinyl siding shall comply with Section R703.11 and shall have a wind load design ~~wind~~ pressure ~~resistance~~ rating in accordance with Table R703.11.2. **Exceptions:** 1. Where the foam plastic sheathing is applied directly over wood structural panels, fiberboard, gypsum sheathing or other *approved* backing capable of independently resisting the design wind pressure, the vinyl siding shall be installed in accordance with Sections R703.3.3 and R703.11.1. 2. Where the vinyl siding manufacturer's product specifications provide an approved wind load design ~~wind~~ pressure rating for installation over foam plastic sheathing, use of this wind load design ~~wind~~ pressure rating shall be permitted and the siding shall be installed in accordance with the *manufacturer's installation instructions*. 3. Where the foam plastic sheathing and its attachment have a design wind pressure resistance complying with Sections R316.8 and R301.2.1, the vinyl siding shall be installed in accordance with Sections R703.3.3 and R703.11.1. **TABLE R703.11.2** **~~ADJUSTED~~ REQUIRED MINIMUM WIND LOAD DESIGN ~~WIND~~ PRESSURE ~~REQUIREMENT~~ RATING FOR VINYL SIDING INSTALLED OVER FOAM PLASTIC SHEATHING ALONE** For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 square foot = 0.0929 m^2, 1 mile per hour = 0.447 m/s, 1 pound per square foot = 0.0479 kPa. a. Linear interpolation is permitted. b. The table values are based on a maximum 30-foot mean roof height, and effective wind area of 10 square feet Wall Zone 5 (corner), and the ASD design component and cladding wind pressure from Table R301.2(2), adjusted for exposure in accordance with Table R301.2(3), multiplied by the following adjustment factors: ~~2.6~~ 1.87 (Case 1) and ~~3.7~~ 2.67 (Case 2) ~~for wind speeds less than 130 mph and 3.7 (Case 2) for wind speeds greater than 130 mph~~. c. Gypsum wallboard, gypsum panel product or equivalent. d. For the indicated wind speed condition~~,~~ and where foam sheathing is the only sheathing on the exterior of a frame walls with vinyl siding~~,~~ ~~is not allowed unless the vinyl siding complies with an adjusted minimum design wind pressure requirement as determined in accordance with Note b and~~ the wall assembly ~~is~~ shall be capable of resisting an impact without puncture at least		X			Clarification

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	equivalent to that of a wood frame wall with minimum $^{7}/_{16}$-inch OSB sheathing as tested in accordance with ASTM E1886. The vinyl siding shall comply with an adjusted design wind pressure requirement in accordance with footnote b, using an adjustment factor of 2.67.					
RB251-19	**TABLE R703.15.1** **CLADDING MINIMUM FASTENING REQUIREMENTS FOR DIRECT ATTACHMENT OVER FOAM PLASTIC SHEATHING TO SUPPORT CLADDING WEIGHT[a]** b. The thickness of wood structural panels complying with the specific gravity requirement of footnote a shall be permitted to be included in satisfying the minimum penetration into framing. For cladding connections to wood structural panels, refer to Table R703.3.3. For brick veneer tie connections to wood structural panels, refer to Table R703.8.4(2).	X				Clarification
RB252-19	**TABLE R703.16.2** **FURRING MINIMUM FASTENING REQUIREMENTS FOR APPLICATION OVER FOAM PLASTIC SHEATHING TO SUPPORT CLADDING WEIGHT[a]** **Committee Reason:** The modification fixes errors in to cells in Table R703.16.2. The committee approved his proposal because the proposal added option by adding a 15psf options for cladding. (Vote: 11-0)	X				Clarification
RB253-19	**TABLE R703.15.2** **FURRING MINIMUM FASTENING REQUIREMENTS FOR APPLICATION OVER FOAM PLASTIC SHEATHING TO SUPPORT CLADDING WEIGHT[a, b]** For SI: 1 inch = 25.4 mm, 1 pound per square foot = 0.0479 kPa, 1 pound per square inch = 6.895 kPa. DR = Design Required. o.c. = On Center. a. Wood framing and furring shall be Spruce-pine-fir or any wood species with a specific gravity of 0.42 or greater in accordance with AWC NDS. b. Nail fasteners shall comply with ASTM F1667, except nail length shall be permitted to exceed ASTM F1667 standard lengths. c. The thickness of wood structural panels complying with the specific gravity requirement of footnote a shall be permitted to be included insatisfying the minimum required penetration into framing. d. Where the required cladding fastener penetration into wood material exceeds $^{3}/_{4}$ inch and is not more than $1^{1}/_{2}$ inches, a minimum 2 wood furring or an approved design shall be used. e. Foam sheathing shall have a minimum compressive strength of 15 psi in accordance with ASTM C578 or ASTM C1289.	X				Clarification

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	f. Furring shall be spaced not more than 24 inches on center, in a vertical or horizontal orientation. In a vertical orientation, furring shall be located over wall studs and attached with the required fastener spacing. In a horizontal orientation, the indicated 8-inch and 12-inch fastener spacing in furring shall be achieved by use of two fasteners into studs at 16 inches and 24 inches on center, respectively.					
RB254-19	**TABLE R703.16.1** **CLADDING MINIMUM FASTENING REQUIREMENTS FOR DIRECT ATTACHMENT OVER FOAM PLASTIC SHEATHING TO SUPPORT CLADDING WEIGHT[a, b]** *(No change to table or footnotes not shown)* b. Where cladding is attached to wood structural panel sheathing only, fastening requirements shall be in accordance with Table R703.3.3. Where brick veneer ties are attached to wood structural panel sheathing only, fastening requirements shall be in accordance with Table R703.8.4(2).	X				Clarification
RB255-19	**R802.1.5 Fire-retardant-treated wood.** Fire-retardant-treated wood (FRTW) is any wood product that, when impregnated with chemicals by a pressure process or other means during manufacture, shall have, when tested in accordance with ASTM E84 or UL 723, a listed flame spread index of 25 or less .In addition, the ASTM E84 or UL 723 test shall be continued for an additional 20-minutes and the flame front shall not progress more than 10.5 feet (3200 mm) beyond the center line of the burners at any time during the ~~extended 30-minute~~ test.		X			Clarification
RB257-19	**R802.1.5.2 Other means during manufacture.** For wood products ~~produced~~ impregnated with chemicals by other means during manufacture, the treatment shall be an integral part of the manufacturing process of the wood product. The treatment shall provide permanent protection to all surfaces of the wood product. The use of paints, coating, stains or other surface treatments is not an approved method of protection as required by this section.		X			Clarification
RB258-19	**R802.1.5.3 Testing.** For ~~wood products produced by other means during manufacture, other than a pressure process, all sides~~ fire retardant treated wood products the front and back faces of the wood product shall be tested in accordance with and produce the results required in Section R802.1.5. ~~Testing of only the front and back faces of wood structural panels shall be permitted.~~ **R802.1.5.3.1 Fire testing of wood structural panels.** Wood structural panels shall be tested with a ripped or cut longitudinal gap of 1/8 inch (3.2 mm).			X		Adds fire safety and requires more testing for wood structural panels
RB260-19	**R802.4.2 Framing details.** Rafters shall be framed opposite from each other to a ridge board, shall not be offset more than $1^1/_2$ inches (38 mm) from each other and shall be connected with a collar tie or ridge		X			Clarification

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	strap in accordance with Section R802.4.6 or directly opposite from each other to a gusset plate in accordance with Table R602.3(1). Rafters shall be nailed to the top wall plates in accordance with Table R602.3(1) unless the roof assembly is required to comply with the uplift requirements of Section R802.11. **R802.4.6 Collar ties.** Where collar ties are used to connect opposing rafters, they shall be located in the upper third of the *attic* space and fastened in accordance with Table R602.3(1). Collar ties shall be not less than 1 inch by 4 inches (25 mm × 102 mm) nominal, spaced not more than 4 feet (1220 mm) on center. Ridge straps shall be permitted to replace collar ties. Ridge straps shall be not less than 1 1/4 inch (32 mm) x 20 gage and ~~shall extend a minimum of 12 inches (305 mm) onto rafters and shall~~ be nailed to the top edge of each rafter with a minimum of three 10d common (3" × 0.148") nails with the closest nail no closer than 2-3/8" from the end of the rafter ~~in accordance with manufacturers installation instructions~~. **R802.3 Ridge.** A ridge board used to connect opposing rafters shall be not less than 1 inch (25 mm) nominal thickness and not less in depth than the cut end of the rafter. Where ceiling joist or rafter ties do not provide continuous ties across the structure as required by Section R802.5.2, the ~~a~~ ridge shall be supported by a wall or ridge beam designed in accordance with accepted engineering practice ~~shall be provided~~ and supported on each end by a wall or column ~~girder~~. **R802.5 Ceiling joists.** Ceiling joists shall be continuous across the structure or securely joined where they meet over interior partitions in accordance with ~~Table R802.5.2~~ Section R802.5.2.1. Ceiling joists shall be fastened to the top plate in accordance with Table R602.3(1). **R802.5.2 Ceiling joist and rafter connections.** Where ceiling joists run parallel to rafters, and they are located ~~they shall be connected to rafters at the top wall plate in accordance with Table R802.5.2. Where ceiling joists are not connected to the rafters at the top wall plate, they shall be installed~~ in the bottom third of the rafter height, they shall be installed in accordance with Figure R802.4.5 and fastened to rafters in accordance with Table R802.5.2. Where the ceiling joists are installed above the bottom third of the rafter height, the ridge shall be designed as a beam in accordance with R802.3. Where ceiling joists do not run parallel to rafters, ~~the ceiling joists shall be connected to top plates in accordance with Table R602.3(1). Each~~ rafters shall be tied across the structure with a rafter tie in accordance with R802.5.2.2, or the ridge shall be designed as a beam in accordance					

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Sub Code:						
RB261-19	with R802.3. ~~or a 2-inch by 4-inch (51 mm × 102 mm) kicker connected to the ceiling diaphragm with nails equivalent in capacity to Table R802.5.2.~~ **R802.5.2.1 Ceiling joists lapped.** Ends of ceiling joists shall be lapped not less than 3 inches (76 mm) or butted over bearing partitions or beams and toenailed to the bearing member. Where ceiling joists are used to provide the continuous tie across the building ~~resistance to rafter thrust~~, lapped joists shall be nailed together in accordance with Table R802.5.2 and butted joists shall be tied together with a connection of equivalent capacity ~~in a manner to resist such thrust~~. Laps in joists ~~Joists~~ that do not ~~resist thrust~~ provide the continuous tie across the building shall be permitted to be nailed in accordance with Table R602.3(1). ~~Wood structural panel roof sheathing, in accordance with Table R503.2.1.1(1), shall not cantilever more than 9 inches (229 mm) beyond the gable endwall unless supported by gable overhang framing.~~ **R802.5.2.2 Rafter ties.** Wood rafter ties shall be not less than 2 inches by 4 inches (51 mm × 102 mm) installed in accordance with Table R802.5.2 at ~~each~~ rafter a maximum of 24" o.c. Other approved rafter tie methods shall be permitted. **R802.5.2.3 Blocking.** Blocking shall be not less than utility grade lumber.		X			Clarification
RB262-19	**TABLE R802.5.2** **RAFTER/CEILING JOIST HEEL JOINT CONNECTIONS [g]** For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa. a. 10d common (3” × 0.148”) nails shall be permitted to be substituted for 16d common (3-1/2”x 0.162”) nails where the required number of nails is taken as 1.2 times the required number of 16d common nails, rounded up to the next full nail. b. Heel joint connections are not required where the ridge is supported by a load-bearing wall, header or ridge beam. c. Where intermediate support of the rafter is provided by vertical struts or purlins to a load-bearing wall, the tabulated heel joint connection requirements shall be permitted to be reduced proportionally to the reduction in span. d. Equivalent nailing patterns are required for ceiling joist to ceiling joist lap splices. e. Applies to roof live load of 20 psf or less. f. Tabulated heel joint connection requirements assume that ceiling joists or rafter ties are located at the bottom of the attic space. Where ceiling joists or rafter ties are located higher in the attic, heel joint connection requirements shall be increased by the following factors:		X			Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
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		Decrease	None	Increase		
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	where: H_C = Height of ceiling joists or rafter ties measured vertically ~~above~~ from the top of the rafter support walls to the bottom of the ceiling joists or rafter ties. H_R = Height of roof ridge measured vertically ~~above~~ from the top of the rafter support walls to the bottom of the roof ridge. Where H_C / H_R exceeds 1/3, connections shall be designed in accordance with accepted engineering practice. g. Tabulated requirements are based on 10 psf roof dead load in combination with the specified roof snow load and roof live load.					
RB263-19	**R802.5.2.1 Ceiling joists lapped.** Ends of ceiling joists shall be lapped not less than 3 inches (76 mm) or butted over bearing partitions or beams and toenailed to the bearing member. Where ceiling joists are used to provide resistance to rafter thrust, lapped joists shall be nailed together in accordance with Table R802.5.2 and butted joists shall be tied together in a manner to resist such thrust. Joists that do not resist thrust shall be permitted to be nailed in accordance with Table R602.3(1). ~~Wood structural panel roof sheathing, in accordance with Table R503.2.1.1(1), shall not cantilever more than 9 inches (229 mm) beyond the gable endwall unless supported by gable overhang framing.~~		X			Clarification
RB264-19	**R802.6 Bearing.** The ends of each rafter or ceiling joist shall have not less than $1^1/_2$ inches (38 mm) of bearing on wood or metal and not less than 3 inches (76 mm) on masonry or concrete. The bearing on masonry or concrete shall be direct, or a sill plate of 2-inch (51 mm) minimum nominal thickness shall be provided under the rafter or ceiling joist. The sill plate shall provide a minimum nominal bearing area of 48 square inches (30 865 mm^2). Where the roof pitch is greater than or equal to 3:12 (25% slope), and ceiling joists or rafter ties are connected to rafters to provide a continuous tension tie in accordance with Section R802.5.2, vertical bearing of the top of the rafter against the ridge board shall satisfy this bearing requirement.		X			Clarification
RB265-19	**R802.11 Roof tie-down.** **R802.11.1 Uplift resistance.** Roof assemblies shall have uplift resistance in accordance with Sections R802.11.1.1 and R802.11.1.2. **Exception:** ~~Where the uplift force does not exceed 200 pounds (90.8 kg), rafters and trusses spaced not more than 24 inches (610 mm) on center~~ Rafters or trusses shall be permitted to be attached to their supporting wall assemblies in accordance with Table R602.3(1) where either of the following occur: 1. Where the uplift force per rafter or truss does not exceed 200 pounds (90.8 kg) as determined by Table R802.11. 2. Where the basic wind speed does not exceed 115 mph, the wind exposure category is B, the roof pitch is 5:12 (42-		X			Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	percent slope) or greater, ~~and~~ the roof span is 32 feet (9754 mm) or less, and rafters and trusses are spaced not more than 24 inches (610 mm) on center ~~shall be permitted to be attached to their supporting wall assemblies in accordance with Table R602.3(1)~~. **R802.11.1.1 Truss uplift resistance.** Trusses shall be attached to supporting wall assemblies by connections capable of resisting uplift forces as specified on the truss design drawings for the ultimate design wind speed as determined by Figure R301.2(5)A and listed in Table R301.2(1) or as shown on the construction documents. Uplift forces shall be permitted to be determined as specified by Table R802.11, if applicable, or as determined by accepted engineering practice. **R802.11.1.2 Rafter uplift resistance.** Individual rafters shall be attached to supporting wall assemblies by connections capable of resisting uplift forces as determined by Table R802.11 or as determined by accepted engineering practice. Connections for beams used in a roof system shall be designed in accordance with accepted engineering practice.					
RB266-19	**TABLE R804.3** **ROOF FRAMING FASTENING SCHEDULE[a, b]** For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 mil = 0.0254 mm. a. Screws are a minimum No. 10 unless noted otherwise. b. Indicated number of screws shall be applied through the flanges of the truss or ceiling joist or through each leg of a 54 mil clip angle. See Section R804.3.8 for additional requirements to resist uplift forces. **TABLE R804.3.2.1(2)** **ULTIMATE DESIGN WIND SPEED TO EQUIVALENT SNOW LOAD CONVERSION** For SI: 1 mile per hour = 0.447 m/s, 1 pound per square foot = 0.0479 kPa. **R804.3.2.1.2 Rake overhangs.** Rake overhangs shall not exceed ~~12 inches (305 mm) measured horizontally.~~ the limitations provided for Option #1 or Option #2 in Figure R804.3.2.1.2. Outlookers at gable endwalls shall be installed in accordance with Figure R804.3.2.1.2. The required strength for uplift connectors required for Option #1 shall be determined in accordance with AISI S230 Table F3-4.			X		Clarification

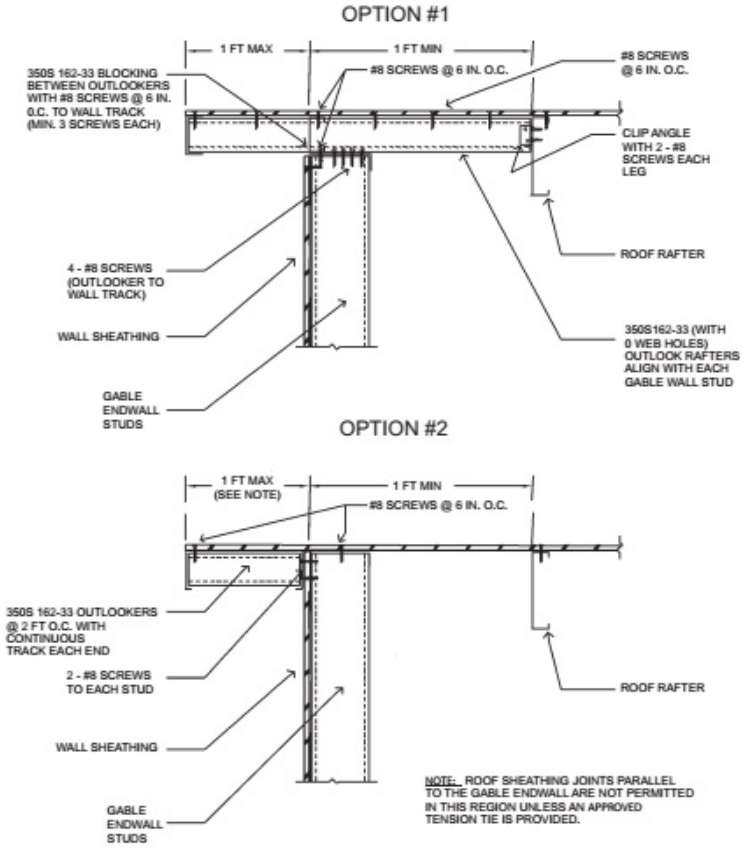
Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	 For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm. **FIGURE R804.3.2.1.2** **GABLE ENDWALL OVERHANG DETAILS** **R804.3.2.5 Roof rafter bottom flange bracing.** The bottom flanges of roof rafters shall be continuously braced, at a maximum spacing ~~of 8~~ of 4 feet (2440 mm) as measured parallel to the roof rafters, with one of the following members: 1. Minimum 33-mil (0.84 mm) C-shaped member. 2. Minimum 33-mil (0.84 mm) track section. 3. Minimum 11/2-inch by 33-mil (38 mm by 0.84 mm) steel strap. The bracing element shall be fastened to the bottom flange of each roof rafter with one No. 8 screw and shall be fastened to blocking with two No. 8 screws. Blocking shall be installed between roof rafters in-line with the continuous bracing at a maximum spacing of 12 feet (3658 mm) measured perpendicular to the roof rafters. The ends of					

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
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		Decrease	**None**	**Increase**		
Sub Code:						
	continuous bracing shall be fastened to blocking or anchored to a stable building component with two No. 8 screws.					
RB267-19	**R805.1 Ceiling installation.** Ceilings shall be installed in accordance with the requirements for interior wall finishes as provided in ~~Section R702.~~Sections R702.1 through R702.6		X			Clarification
RB268-19	**SECTION R806** **ROOF VENTILATION** **R806.1 Ventilation required.** Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilation openings shall have a least dimension of $^1/_{16}$ inch (1.6 mm) minimum and $^1/_4$ inch (6.4 mm) maximum. Ventilation openings having a least dimension larger than $^1/_4$ inch (6.4 mm) shall be provided with corrosion-resistant wire cloth screening, hardware cloth, perforated vinyl or similar material with openings having a least dimension of $^1/_{16}$ inch (1.6 mm) minimum and $^1/_4$ inch (6.4 mm) maximum. Openings in roof framing members shall conform to the requirements of Section R802.7. Required ventilation openings shall open directly to the outside air and shall be protected to prevent the entry of birds, rodents, snakes and other similar creatures. **R806.5 Unvented attic and unvented enclosed rafter assemblies.** Unvented *attics* and unvented enclosed roof framing assemblies created by ceilings that are applied directly to the underside of the roof framing members and structural roof sheathing applied directly to the top of the roof framing members/rafters, shall be permitted where all the following conditions are met: 1. The unvented *attic* space is completely within the *building thermal envelope*. 2. Interior Class I vapor retarders are not 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, a minimum $^1/_4$-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 Item 5.3 and either Item 5.1 or 5.2:	X				Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	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 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*-values in Table R806.5 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*-values in Table R806.5 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. 5.2. In Climate Zones 1, 2 and 3, air-permeable insulation installed in unvented *attics* shall meet the following requirements: 5.2.1. An approved *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 1:600 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.					

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		Decrease	**None**	**Increase**		
Sub Code:						
	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 (51 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 3:12 (vertical/horizontal). 5.2.8. Where only air-permeable insulation is used, it shall be installed directly below the structural roof sheathing, on top of the attic floor, or on top of the ceiling. 5.2.9. *Air-impermeable insulation*, ~~if any~~where used in conjunction with air-permeable insulation, shall be directly above or below the structural roof sheathing and is not required to meet the *R*-value in Table 806.5. Where directly below the structural roof sheathing, there shall be no space between the *air-impermeable insulation* and air-permeable insulation. 5.2.10. ~~The~~ Where air-permeable insulation is used and is installed directly below the roof structural sheathing, air shall be supplied at a flow rate greater than or equal to 50 CFM (23.6 L/s) per 1,000 square feet (93 m^2) of ceiling. 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. **Exceptions:** 1. Where both air-impermeable and air-permeable insulation are used, and the R-value in Table 806.5 is met, air supply to the attic is not required. 2. Where only air-permeable insulation is used and is installed on top of the attic floor, or on top of the ceiling, air supply to the attic is not required. 5.3. Where preformed 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.					

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		Decrease	None	Increase		
Sub Code:						
RB271-19	**SECTION R806** **ROOF VENTILATION** **R806.1 Ventilation required.** Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilation openings shall have a least dimension of $^1/_{16}$ inch (1.6 mm) minimum and $^1/_4$ inch (6.4 mm) maximum. Ventilation openings having a least dimension larger than $^1/_4$ inch (6.4 mm) shall be provided with corrosion-resistant wire cloth screening, hardware cloth, perforated vinyl or similar material with openings having a least dimension of $^1/_{16}$ inch (1.6 mm) minimum and $^1/_4$ inch (6.4 mm) maximum. Openings in roof framing members shall conform to the requirements of Section R802.7. Required ventilation openings shall open directly to the outside air and shall be protected to prevent the entry of birds, rodents, snakes and other similar creatures. **R806.5 Unvented attic and unvented enclosed rafter assemblies.** Unvented *attics* and unvented enclosed roof framing assemblies created by ceilings that are applied directly to the underside of the roof framing members and structural roof sheathing applied directly to the top of the roof framing members/rafters, shall be permitted where all the following conditions are met: 1. The unvented *attic* space is completely within the *building thermal envelope*. 2. Interior Class I vapor retarders are not 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, a minimum $^1/_4$-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 Item 5.3 and either Item 5.1 or 5.2: 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 installed directly below the structural sheathing, rigid board or sheet insulation shall be installed directly above the structural	X				Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	roof sheathing in accordance with the *R*-values in Table R806.5 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*-values in Table R806.5 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. 5.2. In Climate Zones 1, 2 and 3, air-permeable insulation installed in unvented *attics* shall meet the following requirements: 5.2.1. An approved *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 1:600 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 (51 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 3:12 (vertical/horizontal).					

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		Decrease	**None**	**Increase**		
Sub Code:						
	5.2.8. Where only air-permeable insulation is used, it shall be installed directly below the structural roof sheathing, on top of the attic floor, or on top of the ceiling. 5.2.9. *Air-impermeable insulation*, ~~if any~~where used in conjunction with air-permeable insulation, shall be directly above or below the structural roof sheathing and is not required to meet the *R*-value in Table 806.5. Where directly below the structural roof sheathing, there shall be no space between the *air-impermeable insulation* and air-permeable insulation. 5.2.10. ~~The~~ Where air-permeable insulation is used and is installed directly below the roof structural sheathing, air shall be supplied at a flow rate greater than or equal to 50 CFM (23.6 L/s) per 1,000 square feet (93 m^2) of ceiling. 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. **Exceptions:** 1. Where both air-impermeable and air-permeable insulation are used, and the R-value in Table 806.5 is met, air supply to the attic is not required. 2. Where only air-permeable insulation is used and is installed on top of the attic floor, or on top of the ceiling, air supply to the attic is not required. 5.3 Where preformed 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.					
RB274-19	**R905.1.1 Underlayment.** *Underlayment* for asphalt shingles, clay and concrete tile, metal roof shingles, mineral-surfaced roll roofing, slate and slate-type shingles, wood shingles, wood shakes, metal roof panels and *photovoltaic shingles* shall conform to the applicable standards listed in this chapter. *Underlayment* materials required to comply with ASTM D226, D1970, D4869 and D6757 shall bear a label indicating compliance to the standard designation and, if applicable, type classification indicated in Table R905.1.1(1). *Underlayment* shall be applied in accordance with Table R905.1.1(2). *Underlayment* shall be attached in accordance with Table R905.1.1(3). **Exceptions:** 1. As an alternative, self-adhering polymer-modified bitumen underlayment bearing a label indicating compliance to ASTM D1970, and installed in accordance with both the underlayment manufacturer's and roof covering manufacturer's instructions for			X		Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	the deck material, roof ventilation configuration and climate exposure for the roof covering to be installed, shall be permitted. 2. As an alternative, a minimum 4-inch-wide (102 mm) strip of self-adhering polymer-modified bitumen membrane bearing a label indicating compliance to complying with ASTM D1970, installed in accordance with the manufacturer's installation instructions for the deck material, shall be applied over all joints in the roof decking. An approved underlayment complying with Table R905.1.1(1) for the applicable roof covering for maximum ultimate design wind speeds, Vult, less than 140 miles per hour shall be applied over the entire roof over the 4-inch-wide (102 mm) membrane strips. Underlayment shall be applied in accordance with Table R905.1.1(2) using the application requirements for areas where wind design is not required in accordance with Figure R301.2(4)B. Underlayment shall be attached in accordance with Table R905.1.1(3). 3. As an alternative, two layers of underlayment complying with ASTM D226 Type II or ASTM D4869 Type III or Type IV shall be permitted to be installed as follows in 3.1–3.4: 3.1. Apply a 19-inch-wide (483 mm) strip of underlayment parallel with the eave. Starting at the eave, apply 36-inch-wide (914 mm) strips of underlayment felt, overlapping successive sheets 19 inches (483 mm). End laps shall be 4 inches (102 mm) and shall be offset by 6 feet (1829 mm). 3.2. The underlayment shall be attached with corrosion-resistant fasteners in a grid pattern of 12 inches (305 mm) between side laps with a 6-inch (152 mm) spacing at side and end laps. 3.3. Underlayment shall be attached using metal or plastic cap nails with a nominal cap diameter of not less than 1 inch (25 mm). Metal caps shall have a thickness of not less than 32-gage sheet metal. Power-driven metal caps shall have a thickness of not less than 0.010 inch (0.25 mm). Minimum thickness of the outside edge of plastic caps shall be 0.035 inch (0.89 mm). 3.4.The cap nail shank shall be not less than 0.083 inch (2.11 mm) for ring shank cap nails and 0.091 inch (2.31 mm) for smooth shank cap nails. Cap nail shank shall have a length sufficient to penetrate through the roof sheathing or not less than 3/4 inch (19 mm) into the roof sheathing.					

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		Decrease	**None**	**Increase**		
Sub Code:						
RB275-**FIRE PROTECTION AND LIFE SAFETY CHANGE** 19	**R905.1.1 Underlayment.** *Underlayment* for asphalt shingles, clay and concrete tile, metal roof shingles, mineral-surfaced roll roofing, slate and slate-type shingles, wood shingles, wood shakes, metal roof panels and *photovoltaic shingles* shall conform to the applicable standards listed in this chapter. *Underlayment* materials required to comply with ASTM D226, D1970, D4869 and D6757 shall bear a label indicating compliance to the standard designation and, if applicable, type classification indicated in Table R905.1.1(1). *Underlayment* shall be applied in accordance with Table R905.1.1(2). *Underlayment* shall be attached in accordance with Table R905.1.1(3). **Exceptions:** 1. As an alternative, self-adhering polymer-modified bitumen *underlayment* complying with ASTM D1970 installed in accordance with both the *underlayment* manufacturer's and roof covering manufacturer's instructions for the deck material, roof ventilation configuration and climate exposure for the roof covering to be installed, shall be permitted. 2. As an alternative, a minimum 4-inch-wide (102 mm) strip of self-adhering polymer-modified bitumen membrane complying with ASTM D1970, installed in accordance with the *manufacturer's installation instructions* for the deck material, shall be applied over all joints in the roof decking. An *approved underlayment* for the applicable roof covering for ~~maximum ultimate design wind speeds, V_{ult}, less than 140 miles per hour~~ areas where wind design is not required in accordance with Figure R301.2(4)B shall be applied over the entire roof over the 4-inch-wide (102 mm) membrane strips. 3. ~~As an alternative, two layers of *underlayment* complying with ASTM D226 Type II or ASTM D4869 Type III or Type IV shall be permitted to be installed as follows in 3.1–3.4:~~ 3.1. ~~Apply a 19-inch-wide (483 mm) strip of *underlayment* parallel with the eave. Starting at the eave, apply 36-inch-wide (914 mm) strips of *underlayment* felt, overlapping successive sheets 19 inches (483 mm). End laps shall be 4 inches (102 mm) and shall be offset by 6 feet (1829 mm).~~ 3.2. ~~The *underlayment* shall be attached with corrosion-resistant fasteners in a grid pattern of 12 inches (305 mm) between side laps with a 6-inch (152 mm) spacing at side and end laps.~~ 3.3. ~~*Underlayment* shall be attached using metal or plastic cap nails with a nominal cap diameter of not less than 1 inch (25 mm). Metal caps shall have a thickness of not less than 32-gage sheet metal. Power-driven metal caps shall have a thickness of not less than 0.010 inch (0.25 mm). Minimum~~			X		Clarification

Table 13. 2021 IRC STRUCTURAL Changes Cost Impact						
CODE CHANGE #	2021 IRC STRUCTURAL CHANGES SUMMARY	IRC COST IMPACT			ESTIMATED AMOUNT*	BENEFIT OF CHANGE
		Decrease	None	Increase		
Sub Code:						
	~~thickness of the outside edge of plastic caps shall be 0.035 inch (0.89 mm).~~ 3.4.~~The cap nail shank shall be not less than 0.083 inch (2.11 mm) for ring shank cap nails and 0.091 inch (2.31 mm) for smooth shank cap nails. Cap nail shank shall have a length sufficient to penetrate through the roof sheathing or not less than $^{3}/_{4}$ inch (19 mm) into the roof sheathing.~~ **TABLE R905.1.1(1)** **UNDERLAYMENT TYPES** **TABLE R905.1.1(2)** **UNDERLAYMENT APPLICATION** **TABLE R905.1.1(3)** **UNDERLAYMENT APPLICATION**					
RB277-19	**R905.3.1 Deck requirements.** Concrete and clay tile shall be installed only over solid ~~structural~~ sheathing ~~boards~~. **Exception:** Spaced lumber sheathing in accordance with Section R803.1 shall be permitted in Seismic Design Categories A, B and C.		X			Clarification
RB278-19	**R905.3.6 Fasteners.** Nails shall be corrosion resistant and not less than 11-gage, [0.120 inch (3 mm)] $^{5}/_{16}$-inch (11 mm) head, and of sufficient length to penetrate the deck not less than $^{3}/_{4}$ inch (19 mm) or through the thickness of the deck, whichever is less. Attaching wire for clay or concrete tile shall not be smaller than 0.083 inch (2 mm). Perimeter fastening areas include three tile courses but not less than 36 inches (914 mm) from either side of hips or ridges and edges of eaves and gable rakes.		X			Clarification
RB279-19	**TABLE R905.4.4.1** **CLASSIFICATION OF STEEP SLOPE METAL ROOF SHINGLES TESTED IN ACCORDANCE WITH ASTM D3161 ~~OR D7158~~** For SI: 1 foot = 304.8 mm; 1 mile per hour = 0.447 m/s. ~~a. The standard calculations contained in ASTM D7158 assume Exposure Category B or C and a building height of 60 feet or less. Additional calculations are required for conditions outside of these assumptions.~~		X			Clarification
RB283-19	**R906.1 General.** ~~The use of~~ Where above-deck thermal insulation is installed, such insulation shall be ~~permitted provided that such insulation is~~ covered with an *approved* roof covering and ~~complies with FM 4450~~ shall comply with NFPA 276 or UL 1256. **NFPA** 276-15: Standard Method of Fire Tests for Determining the Heat Release Rate of Roofing Assemblies with Combustible Above-deck Roofing Components		X			Replaces FM4450 with NFPA 276 for roof insulation