

# “Highlighted Changes” 2017 California Codes



Presented by  
Stuart Tom, P.E., CBO  
April 28, 2016



# Introduction

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- ❑ Changes to Model Codes and California Statutory requirements occur on a regular basis.
- ❑ Changes to Model Codes through the ICC, IAPMO, and NFPA processes establish the foundation for the rules that govern how buildings & structures shall be constructed, used, occupied, and maintained.
- ❑ State amendments to the Model Codes, result in the formulation of the California Building Standards Code (Title-24, C.C.R.)
- ❑ Each code development cycle results in numerous changes which may have varying effects on the way we do our jobs.

# Introduction

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- Every triennial California Code Cycle is typically preceded by one or more comprehensive classes addressing “Significant Changes”.
  - Often presented by CALBO, ICC Chapters, and various city/county jurisdictions.
  - Cover a broad range of topics, including code changes which may not have an impact on your jurisdiction.
  - Typically presented starting in November.
  - Require attendance at a full- or half-day seminar, thereby taking staff away from their primary plan check or inspection duties.

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  - Typically presented starting in November.
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- *... so is there a quicker way to focus on the upcoming code changes that are most likely to affect you ??*

# Top 30 Significant Changes That are Likely to Affect You

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- The following changes to either the Model Codes or the CA Codes were selected because they are likely to affect most designers, builders, and code officials in California.
- After publication, further exploration of the 2016 California Codes is encouraged to identify other changes that may also affect specific projects.
- Several comprehensive “*Significant Changes*” resources have been developed by noted experts, and will be available for those who will need a broader exposure to the changes we can expect in the 2016 California Codes.

2016 EDITION

*SIGNIFICANT CHANGES TO THE*  
**CALIFORNIA  
BUILDING CODE**



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FIRE CODE**



KEVIN REINERTSON  
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KEVIN H. SCOTT





# Definitions

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- New definition of “Platform” in Chapter 2. [202]
  - Clear distinction that does not require compliance with other features associated with a stage.
  - **Platform.** *A raised area within a building used for worship, the presentation of music, plays or other entertainment; the head table for special guests; the raised area for lecturers and speakers; boxing and wrestling rings; theater-in-the-round stages; and similar purposes wherein, other than horizontal sliding curtains, there are no overhead hanging curtains, drops, scenery or stage effects other than lighting and sound. A temporary platform is one installed for not more than 30 days.*

# Commercial Kitchen Classification

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- New classification for food processing establishments and commercial kitchens that are not associated with a restaurant. [304.1, 306.2]
  - If less than 2,500 sqft, they may be classified as a Group B occupancy.
  - If larger than 2,500 sqft, they shall be classified as a Group F-1 occupancy.
  - Regardless of size, commercial kitchens that are associated with restaurants are classified as Group A-2 occupancies.

# Accessory Storage Spaces

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- Significant change affecting “accessory storage spaces”. [311.1.1]
  - In addition to the previous aggregate limitation of 10% of the floor area, individual storage spaces are now limited to a maximum of 100 sqft if they are to be considered “accessory” to a main use.
  - If an individual storage space is larger than 100 sqft, it shall be classified as a Group S occupancy.

# Egress Through an Atrium

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- Egress through an atrium is now limited slightly on upper floors (ie, above the level of exit discharge).  
[404.9]
  - On levels other than the level of exit discharge, the maximum exit access travel distance is limited to 200-feet, regardless of whether the building is fully sprinklered.
  - On the level of exit discharge, exit access travel distance extensions are still allowed for fully sprinklered buildings, and may be extended to 250-feet, 300-feet or 400-feet depending on the occupancy classification pursuant to Table 1017.2.

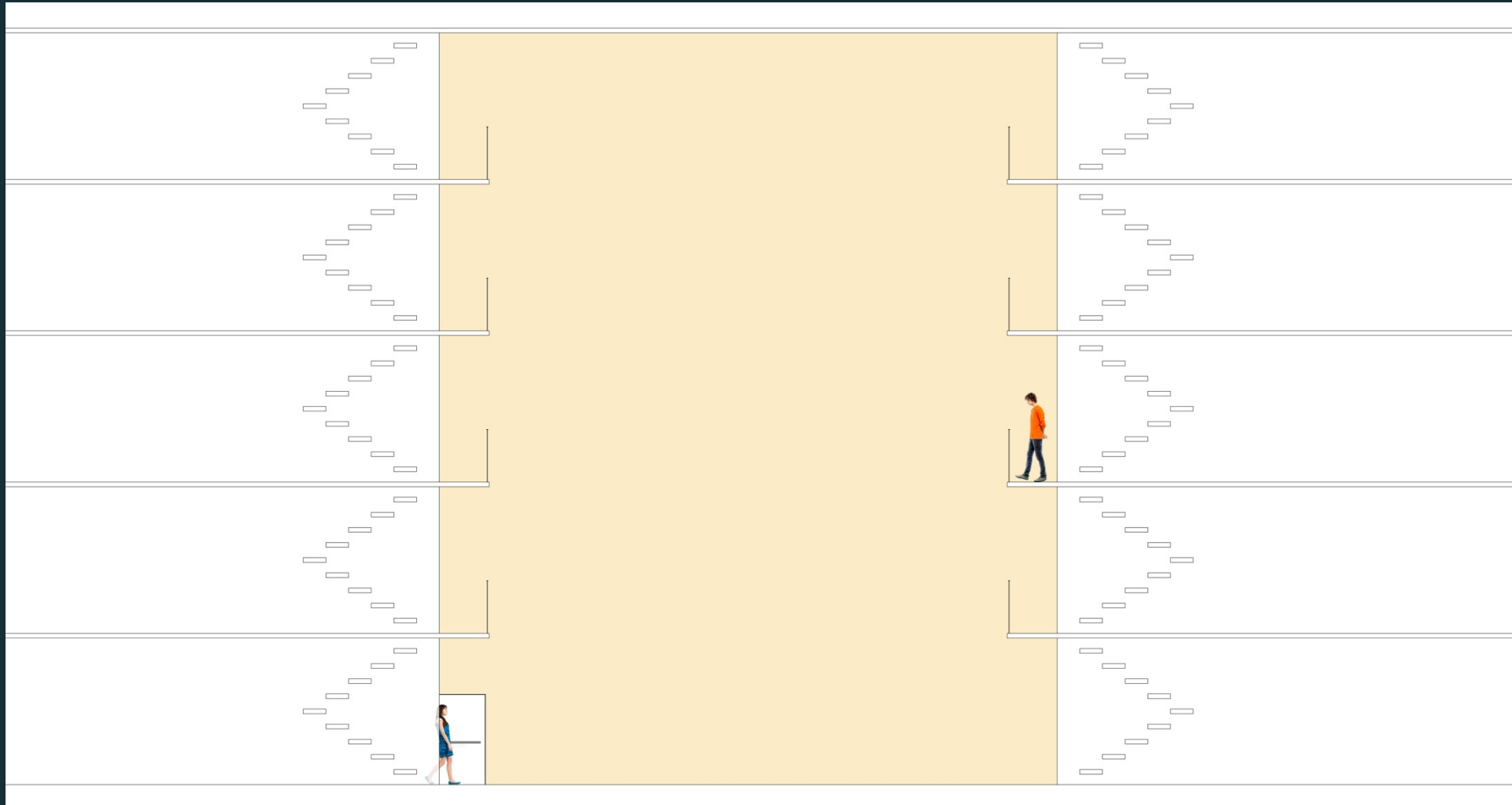


# Egress Through an Atrium

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- Termination of interior exit stairways has been clarified to prevent merging of separate stairs into a common atrium space. [404.10]
  - No more than 50% of interior exit stairs may terminate into an atrium at the level of exit discharge.
  - Remainder of interior exit stairs must maintain separation from the atrium environment.

# Egress Through an Atrium



# Explosives (and Fireworks)

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- CBC Section 434 pertaining to explosives has been repealed and has been replaced by a reference to CFC Chapter 56.
  - Jurisdictional awareness of sporting goods and other Group M occupancy retail facilities is important when sales of ammunition and supplies associated with reloading are stored and sold.
  - Group M occupancies are not normally regulated by local fire authorities, so familiarity with CFC Chapter 56 is important to local building departments.

# CFC Chapter 56

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**5601.1 Scope.** The provisions of this chapter shall govern the possession, manufacture, storage, handling, sale and use of explosives, explosive materials, fireworks, *rockets*, *emergency signaling devices* and small arms ammunition.

**Exceptions:** 1. The Armed Forces of the United States, Coast Guard or National Guard.

2. Explosives in forms prescribed by the official United States Pharmacopoeia.

3. The possession, storage and use of small arms ammunition where packaged in accordance with DOTn packaging requirements.

4. The possession, storage and use of not more than 1 pound (0.454 kg) of commercially manufactured sporting black powder, 20 pounds (9 kg) of smokeless powder and 10,000 small arms primers for hand loading of small arms ammunition for personal consumption.

5. The use of explosive materials by federal, state and local regulatory, law enforcement and fire agencies acting in their official capacities.

6. Special industrial explosive devices that in the aggregate contain less than 50 pounds (23 kg) of explosive materials.

7. The possession, storage and use of blank industrial- power load cartridges where packaged in accordance with DOTn packaging regulations.

8. Transportation in accordance with DOTn 49 CFR Parts 100–185.

9. Items preempted by federal regulations.

10. *Items preempted by state law and/or regulations. For additional provisions regarding the possession, manufacture, storage, handling, sale and use of explosives, see California Code of Regulations, Title 19, Division 1, Chapter 10.*



# Height & Area

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- Allowable height & area provisions have been reformatted in Tables 504.3 (Height); 504.4 (Stories); and 506.2 (Area), which includes benefits for automatic fire sprinklers.
- CBC has further modified the tables by adding rows to distinguish whether the automatic sprinklers are being utilized to derive an “area increase” or a “height increase”, thereby maintaining California’s higher level of protection often referred to as “double-dip” protection.

**TABLE 504.3<sup>a,i</sup>**  
**ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION									
	SEE FOOTNOTES	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A, B, E, F, S, U	NS <sup>b</sup>	UL	160	65	55	65	55	65	50	40
	S	UL	180	85	75	85	75	85	70	60
<u>A, E</u>	<u>NS<sup>b</sup></u>	<u>UL</u>	<u>160</u>	<u>65</u>	<u>55</u>	<u>65</u>	<u>55</u>	<u>65</u>	<u>50</u>	<u>40</u>
	<u>S (without area increase)</u>	<u>UL</u>	<u>180</u>	<u>85</u>	<u>75</u>	<u>85</u>	<u>75</u>	<u>85</u>	<u>70</u>	<u>60</u>
	<u>S (with area increase)</u>	<u>UL</u>	<u>160</u>	<u>65</u>	<u>55</u>	<u>65</u>	<u>55</u>	<u>65</u>	<u>50</u>	<u>40</u>
H-1, H-2, H-3, H-5, <u>L</u>	NS <sup>c,d</sup>	UL	160	65	55	65	55	65	50	40
	S									
H-4	NS <sup>c,d</sup>	UL	160	65	55	65	55	65	50	40
	<u>S (without area increase)</u>	UL	180	85	75	85	75	85	70	60
	<u>S (with area increase)</u>	<u>UL</u>	<u>160</u>	<u>65</u>	<u>55</u>	<u>65</u>	<u>55</u>	<u>65</u>	<u>50</u>	<u>40</u>
I-1 Condition 1, I-3	NS <sup>d,e</sup>	UL	160	<del>65</del> <u>NP</u>	<del>55</del> <u>NP</u>	<del>65</del> <u>NP</u>	<del>55</del> <u>NP</u>	<del>65</del> <u>NP</u>	<del>50</del> <u>NP</u>	<del>40</del> <u>NP</u>
	<u>S (without area increase)</u>	UL	180	<del>85</del> <u>NP</u>	<del>75</del> <u>NP</u>	<del>85</del> <u>NP</u>	<del>75</del> <u>NP</u>	<del>85</del> <u>NP</u>	<del>70</del> <u>NP</u>	<del>60</del> <u>NP</u>
	<u>S (with area increase)</u>	<u>UL</u>	<u>160</u>	<u>NP</u>	<u>NP</u>	<u>NP</u>	<u>NP</u>	<u>NP</u>	<u>NP</u>	<u>NP</u>
I-1 Condition 2, I-2, <u>I-2.1</u>	NS <sup>d,f,e</sup>	UL	160	65	55	65	55	65	50	40
	<u>S (without area increase)</u>	UL	180	85						
	<u>S (with area increase)</u>	<u>UL</u>	<u>160</u>	<u>65</u>						
I-4	NS <sup>d,g</sup>	UL	160	65	55	65	55	65	50	40
	<u>S (without area increase)</u>	UL	180	85	75	85	75	85	70	60
	<u>S (with area increase)</u>	<u>UL</u>	<u>160</u>	<u>65</u>	<u>55</u>	<u>65</u>	<u>55</u>	<u>65</u>	<u>50</u>	<u>40</u>
<u>R-1<sup>h</sup></u>	NS <sup>d,h</sup>	UL	160	65	55	65	55	65	50	40
	S13R	60	60	60	<del>60</del> <u>55</u>	60	<del>60</del> <u>55</u>	60	<del>60</del> <u>50</u>	<del>60</del> <u>40</u>
	<u>S (without area increase)</u>	UL	180	85	75	85	75	85	70	60

**TABLE 504.4<sup>a, b, n</sup>**  
**ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	2	1
	<i>S (without area increase)</i>	UL	6	4	3	4	3	4	3	2
	<i>S (with area increase)</i>	<u>UL</u>	<u>5</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>1</u>
A-2	NS	UL	11	3	2	3	2	3	2	1
	<i>S (without area increase)</i>	UL	12	4	3	4	3	4	3	2
	<i>S (with area increase)</i>	<u>UL</u>	<u>11</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>1</u>
A-3	NS	UL	11	3	2	3	2	3	2	1
	<i>S (without area increase)</i>	UL	12	4	3	4	3	4	3	2
	<i>S (with area increase)</i>	<u>UL</u>	<u>11</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>1</u>
A-4	NS	UL	11	3	2	3	2	3	2	1
	<i>S (without area increase)</i>	UL	4	3	4	3	4	3	3	2
	<i>S (with area increase)</i>	<u>UL</u>	<u>11</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>1</u>
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	3	2
	S	UL	12	6	4	6	4	6	4	3
E	NS	UL	5	3	2	3	2	3	1	1
	<i>S (without area increase)</i>	UL	6	4	3	4	3	4	2	2
	<i>S (with area increase)</i>	<u>UL</u>	<u>5</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>1</u>
F-1	NS	UL	11	4	2	3	2	4	2	1
	S	UL	12	5	3	4	3	5	3	2
F-2	NS	UL	11	5	3	4	3	5	3	2



**TABLE 506.2<sup>a, b, i</sup>**  
**ALLOWABLE AREA FACTOR (At = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET**

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION									
	SEE FOOTNOTES	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	60,000	46,000	22,000
	<i>SM (without height increase)</i>	UL	UL	46,500	25,500	42,000	25,500	45,000	34,500	16,500
	<i>SM (with height increase)</i>	<u>UL</u>	<u>UL</u>	<u>15,500</u>	<u>8,500</u>	<u>14,000</u>	<u>8,500</u>	<u>15,000</u>	<u>11,500</u>	<u>5,500</u>
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	<i>SM (without height increase)</i>	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
	<i>SM (with height increase)</i>	<u>UL</u>	<u>UL</u>	<u>15,500</u>	<u>9,500</u>	<u>14,000</u>	<u>9,500</u>	<u>15,000</u>	<u>11,500</u>	<u>6,000</u>
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	<i>SM (without height increase)</i>	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
	<i>SM (with height increase)</i>	<u>UL</u>	<u>UL</u>	<u>15,500</u>	<u>9,500</u>	<u>14,000</u>	<u>9,500</u>	<u>15,000</u>	<u>11,500</u>	<u>6,000</u>
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	<i>SM (without height increase)</i>	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
	<i>SM (with height increase)</i>	<u>UL</u>	<u>UL</u>	<u>15,500</u>	<u>9,500</u>	<u>14,000</u>	<u>9,500</u>	<u>15,000</u>	<u>11,500</u>	<u>6,000</u>
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1									
	SM									
B	NS	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	108,000	54,000	27,000
	NS	UL	UL	26,500	14,500	23,500	14,500	25,500	18,500	9,500



# Allowable Area [506]

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- Single-occupancy, 1-story buildings [506.2.1]

$$A_a = A_t + (NS \times I_f)$$

- Single-occupancy, multi-story [506.2.3]

$$A_a = A_t + (NS \times I_f) \times S_a$$

- $S_a$  = Actual number of stories up to 3-stories, except for A, E, H, I, L, R and high-rise buildings, which are limited to 2-stories maximum.



# Separation of Incidental Uses

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- Fire-resistance rated separation between main & incidental uses has been reformatted slightly in Table 509.
  - Most changes affect only Group I-2 and I-2.1 occupancies.
  - Separation of incidental uses in other than non-ambulatory care facilities serving more than 5 persons/patients is essentially the same as in the 2013 CBC.

**TABLE 509  
INCIDENTAL USES**

<b>ROOM OR AREA</b>	<b>SEPARATION AND/OR PROTECTION</b>
Furnace room where any piece of equipment is over 400,000 Btu per hour input	1 hour or provide automatic sprinkler system <sup>a</sup>
Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower	1 hour or provide automatic sprinkler system <sup>a</sup>
Refrigerant machinery rooms	1 hour or provide automatic sprinkler system <sup>a</sup>
Hydrogen fuel gas rooms, not classified as Group H	1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies.
Incinerator rooms	2 hours and automatic sprinkler system
Paint shops, not classified as Group H, located in occupancies other than Group F	2 hours; or 1 hour and provide automatic fire-extinguishing system
In Group E occupancies, laboratories and vocational shops not classified as Group H	1 hour or provide automatic sprinkler system
In Group I-2 and I-2.1 occupancies, laboratories not classified as Group H	1 hour and provide automatic sprinkler system <sup>a</sup>
<i>[SFM] Rooms or areas with special hazards such as laboratories, vocational shops and other such areas not classified as Group H, located in Group E occupancies where hazardous materials in quantities not exceeding the maximum allowable quantity are used or stored.</i>	1 hour
In ambulatory care facilities, laboratories not classified as Group H	1 hour and provide automatic sprinkler system
Laundry rooms over 100 square feet	1 hour or provide automatic sprinkler system <sup>a</sup>
In Group I-2, laundry rooms over 100 square feet	1 hour
Group I-3 cells and Group I-2 and I-2.1 patient rooms equipped with padded surfaces	1 hour
In Group I-2, physical plant maintenance shops	1 hour
In ambulatory care facilities or Group I-2 and I-2.1 occupancies, waste and linen collection rooms with containers that have an aggregate volume of 10 cubic feet or greater	1 hour <sup>a</sup>
In other than ambulatory care facilities and Group I-2 and I-2.1 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 a liquid electrolyte capacity of more than 50 gallons for flooded lead-acid, nickel cadmium or VRLA, or more than 1,000 pounds for lithium-ion and lithium metal polymer used for facility standby power, emergency power or uninterruptable power supplies	1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies. <sup>a</sup>

For SI: 1 square foot = 0.0929 m<sup>2</sup>, 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

a. *[SFM] Fire barrier protection and automatic sprinkler protection required throughout the fire area in I-2 and I-2.1 occupancies as indicated.*

# “Podium” Construction

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- Significant revision to podium construction utilizing a 3-hour horizontal assembly. [510.2]
  - Multiple stories are now allowed below the 3-hour horizontal assembly.
  - Any occupancy other than Group H is allowed in the Type-I portion of the building located below the 3-hour horizontal assembly.





Single-story limitation for Type-I portion of building located below the 3-hour fire-resistance rated separation has been eliminated.

Story-height of portion of building located above the 3-hour fire-resistance rated separation is counted from the top of podium.

The absolute height of the building is still measured from grade plane.





# Fire Sprinkler Substitution

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- Elimination of automatic fire sprinkler substitution for 1-hour construction. [Table 601 eliminated footnote d]

# Type IV

## Wood Member Size Equivalencies

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- ❑ Table 602.4 has been expanded to include dimensional equivalencies for structural composite lumber (SCL).
- ❑ Cross-Laminated Timber (CLT) is now expressly allowed for Type IV construction and shall utilize actual dimensions.
- ❑ Solid-sawn lumber and glued-laminated lumber dimensions remain unchanged from 2013 CBC.

# Table 602.4

**TABLE 602.4  
WOOD MEMBER SIZE EQUIVALENCIES**

MINIMUM NOMINAL SOLID SAWN SIZE		MINIMUM GLUED-LAMINATED NET SIZE		MINIMUM STRUCTURAL COMPOSITE LUMBER NET SIZE	
Width, inch	Depth, inch	Width, inch	Depth, inch	Width, inch	Depth, inch
8	8	6 <sup>3</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>4</sub>	7	7 <sup>1</sup> / <sub>2</sub>
6	10	5	10 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>2</sub>
6	8	5	8 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>2</sub>
6	6	5	6	5 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>2</sub>
4	6	3	6 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>

For SI: 1 inch = 25.4 mm.

# Projections

- Projections from exterior walls of buildings are required to observe a greater FSD when exterior walls are located more than 3-feet from a property line. [Table 705.2]

**TABLE 705.2  
MINIMUM DISTANCE OF PROJECTION**

FIRE SEPARATION DISTANCE (FSD)	MINIMUM DISTANCE FROM LINE USED TO DETERMINE FSD
0 feet to less than 2 feet	Projections not permitted
2 feet to less than 5 feet	24 inches
5 feet or greater	40 inches

For SI: 1 foot = 304.8 mm; 1 inch = 25.4 mm

2013 CBC

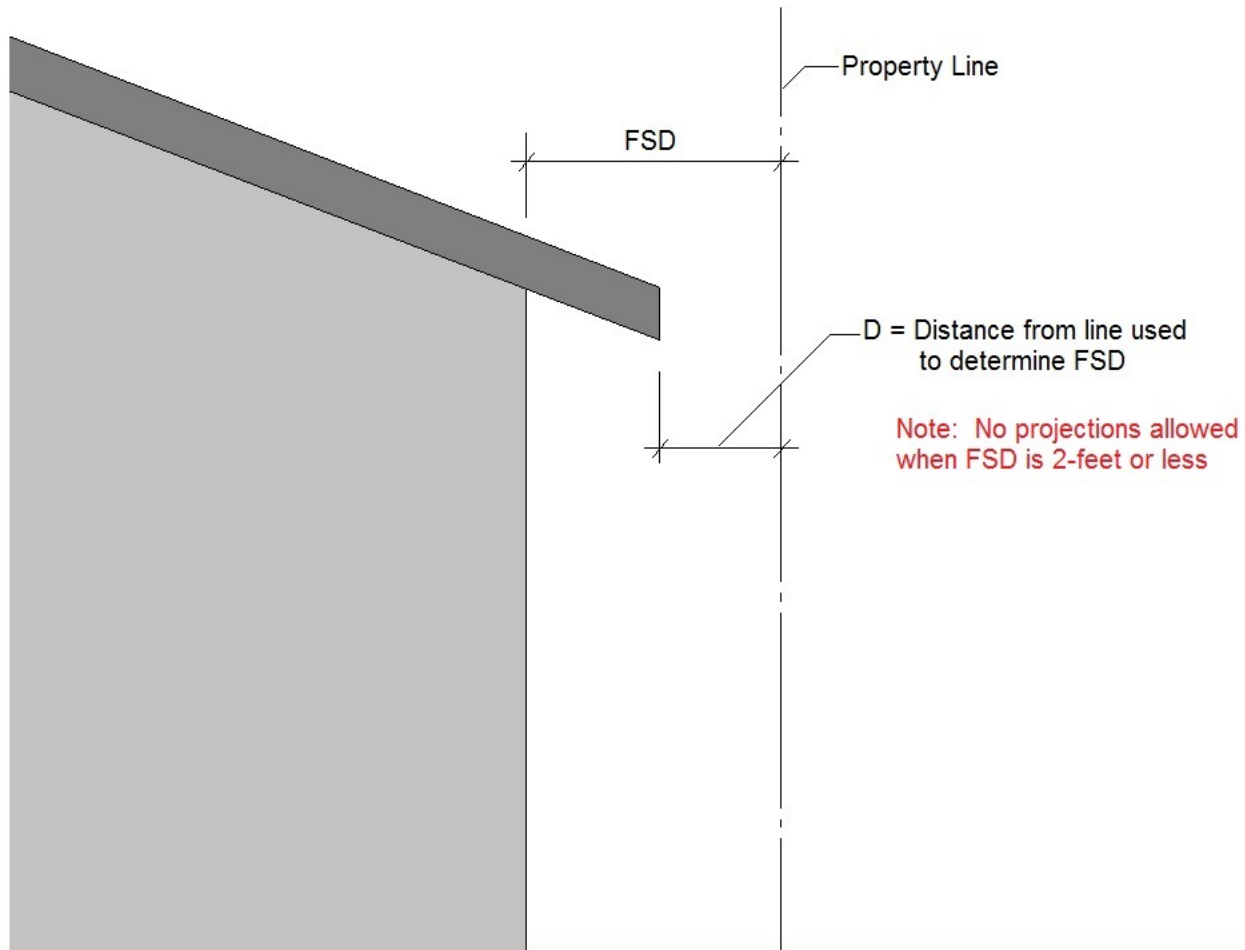
**TABLE 705.2  
MINIMUM DISTANCE OF PROJECTION**

FIRE SEPARATION DISTANCE (FSD)	MINIMUM DISTANCE FROM LINE USED TO DETERMINE FSD
0 feet to 2 feet	Projections not permitted
Greater than 2 feet to 3 feet	24 inches
Greater than 3 feet to less than 30 feet	24 inches plus 8 inches for every foot of FSD beyond 3 feet or fraction thereof
30 feet or greater	20 feet

For SI: 1 foot = 304.8 mm; 1 inch = 25.4 mm.

2016 CBC

# Projections





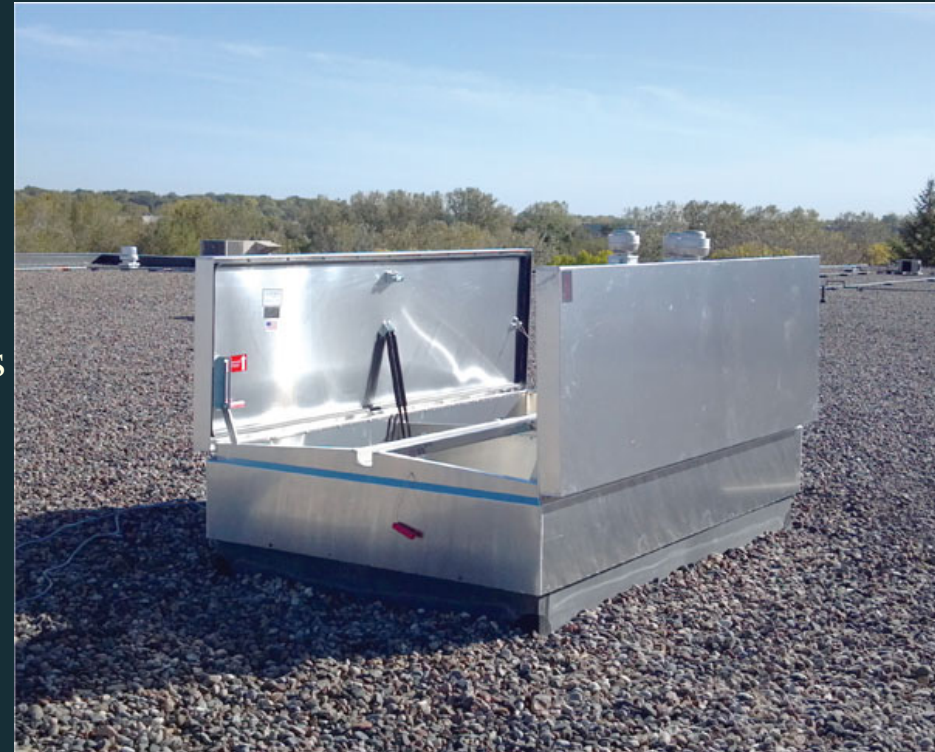
# Smoke and Heat Vents

## Mechanical Smoke Removal

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- Model code language in IBC Sections 910.1 through 910.4.7 now matches CBC language, thereby eliminating the need for California amendments related to smoke & heat vents and mechanical smoke removal systems.
  - IBC has “caught-up” with CBC.
  - Group F and Group S occupancies are most affected.

910.2.1 Group F-1 or S-1 occupancy having more than 50,000 sqft. If the upper surface of the story is not a roof assembly, a smoke removal system shall be installed.



- Min. 20'-0" from property lines or Fire Walls
- Min. 10'-0" from Fire Barriers
- Uniformly located throughout space
- Aggregate vent area =  $V/9000$  with AFS
- Aggregate vent area =  $\text{Floor Area}/50$  no AFS

# Large Family Day Care Homes

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- The requirement for a “*manual device*” that shall “*actuate a fire alarm signal, which shall be audible throughout the facility*” was deemed to be too vague and confusing, and has been rewritten. [2013 CBC]
- **907.2.6.4. Large family day-care.** Every large family day-care home shall be provided with at least one manual fire alarm box at a location approved by the authority having jurisdiction. Such device shall actuate a fire alarm signal, which shall be audible throughout the facility at a minimum level of 15 db above ambient noise level. These devices need not be interconnected to any other fire alarm device, have a control panel or be electrically supervised or provided with emergency power. Such device or devices shall be attached to the structure and must be a device that is listed and approved by the Office of the State Fire Marshal. [2016 CBC]

# Carbon Monoxide

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- Section 915 has been added to the IBC, which establishes extensive requirements for CO detection.
  - Section 420.6 of the CBC has been eliminated.
  - Residential CO detection provisions included in section 915.
    - In buildings containing covered multifamily dwellings as defined in Chapter 2, all required CO alarms shall be equipped with the capability to support visible alarm notification. [915.7]
  - New provisions for CO detection for Group E and Group I occupancies added. [915.1.1]
    - For Group E classrooms with occupant load > 30, carbon monoxide signals shall be automatically transmitted to an on-site location that is staffed by school personnel. [915.2.3]

# Location of Smoke Alarms

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- Smoke alarm location standards of NFPA 72 related to the proximity to fixed cooking appliances and bathtubs/showers has been added to IBC Section 907.2.11.3.
  - Ionization – at least 20 feet horizontally from permanently installed cooking appliances.
  - Ionization with silencing switch – at least 10 feet horizontally from permanently installed cooking appliances.
  - Photoelectric – at least 6 feet horizontally from permanently installed cooking appliances.
  - All types – at least 3 feet horizontally from door or opening of a bathroom that contains a bathtub or shower.
- Previously, excerpts from NFPA 72 were reprinted in the CBC for reference.

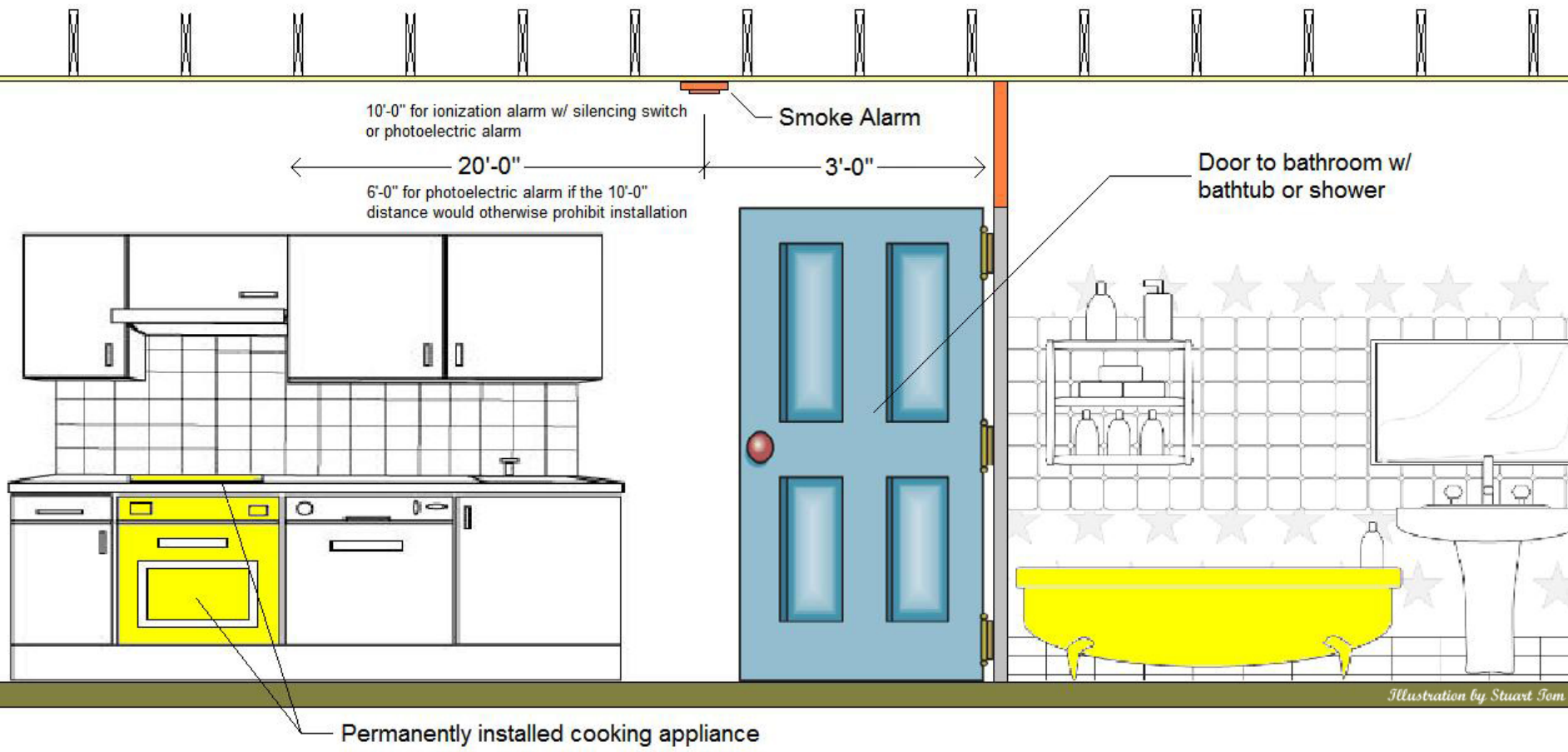


Illustration by Stuart Tom

# Assembly Occupancies on Roof

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- **903.2.1.6 Assembly occupancies on roof.** Where an occupied roof has an assembly occupancy with an occupant load exceeding 100 for Group A-2 and 300 for other Group A occupancies, all floors between the occupied roof and the level of exit discharge shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
  - Exception: Open parking garages of Type I or Type II construction.





# Chapter 10

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- Chapter 10 has been rearranged, and some provisions have been merged together.
- Most egress provisions remain essentially the same. [Chapter 10]
- Important changes affecting:
  - Delayed egress
  - 2-way communication
  - Locks on “main exits”



# Delayed Egress

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- Delayed egress signage requirements have been revised, requiring specific language to advise whether the door must be “pushed” or “pulled” once the latching mechanism releases. [1010.1.9.7]
- Reminder – signage is required in tactile, braille to comply with Chapter 11B.

# Delayed Egress

New signage:

- 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*
- 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*



Current delayed egress signage



# 2-Way Communication

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- New exception expressly eliminates need for 2-way communication at elevator landings which only serve freight/service elevators or private residential elevators. [1009.8]
  - This change to Model Code language in IBC will resolve common errors that have been made by many jurisdictions.

# Locking Hardware

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- Signage for locks on “main” exit revised.  
[1010.1.9]
- Doors shall remain unlocked when the “*space*” is occupied, rather than when the “*building*” is occupied.
  - *THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED*
  - Individual spaces within a building may utilize this provision.

# Signage



*THIS DOOR TO REMAIN UNLOCKED  
WHEN THIS SPACE IS OCCUPIED*

Applies only to the main door or doors of Group A having an occupant load of 300 or less, Group B, F, M and S, and in places of religious worship.

# Egress Through Elevator Lobby

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- Elevator lobbies may be considered as an intervening space or intervening room for egress purposes. [1016.2]
  - Previously, a corridor would be allowed to pass through an elevator lobby only if the building was fully sprinklered and if a secondary means of egress was available without passing through the elevator lobby.
  - **CBC modifies this provision slightly, by not allowing elevator lobbies to be treated as an intervening space or intervening room in Group I-2 and Group I-2.1 occupancies.**



# Group F-1 and S-1 Exit Access Travel Distance

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- Exit access travel distance limit increased to 400-feet for Group F-1 and Group S-1 occupancies. [1017.2.2]
  - CBC already had this provision, and IBC has “caught up” with California.

# Exit Passageway

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- The Fire Barrier separation between an interior exit stair and an exit passageway extension to the exterior of a building is no longer required if there are no other openings into the exit passageway. [1023.3.1]

# Existing Buildings

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- Chapter 34 has been eliminated from the IBC.
- California has adopted portions of the IEBC into Title-24, Part 10. [Title-24, Part 10; IEBC CH4]
  - Specifically, Chapter 4 establishes the “Prescriptive Method” which is similar to previous provisions under Chapter 34.
  - Utilization of the “Area Method” (ie, Level-1; Level-2; Level-3 Alterations) and utilization of the “Performance Compliance Methods” have not been adopted outright in California.

# Wildland Urban Interface (WUI)

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- ❑ Chapter 7A has been updated to recognize ASTM E2886 for attic vent acceptance. The listing of acceptable vents on the OSFM website has been removed. [706A; R337.6]
- ❑ Additionally, ASTM E2957 is recognized for evaluation of the resistance to wildfire penetration of eaves, soffits and other projections, when enclosing (ie, “boxing”) within 1-hr construction is undesirable. [707A; R337.7]

# Solar PV Conduits (CRC)

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- Specific provisions for placement of electrical conduits on roofs with solar photovoltaic systems has been established to require locations closest to a ridge/hip/valley as well as utilizing the shortest conduit runs practicable. [3111.2.2.6, 3111.2.3.4 & R324.7.2.6]

# Accessory Structures (CRC)

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- Structures that are “accessory & incidental” to a dwelling may be considered as accessory structures without the previous 3,000 sqft and 2-story maximum express limitations. [R202]
- Emphasis is placed on the fact that the use of the structure is *accessory to and incidental to that of the dwelling*.

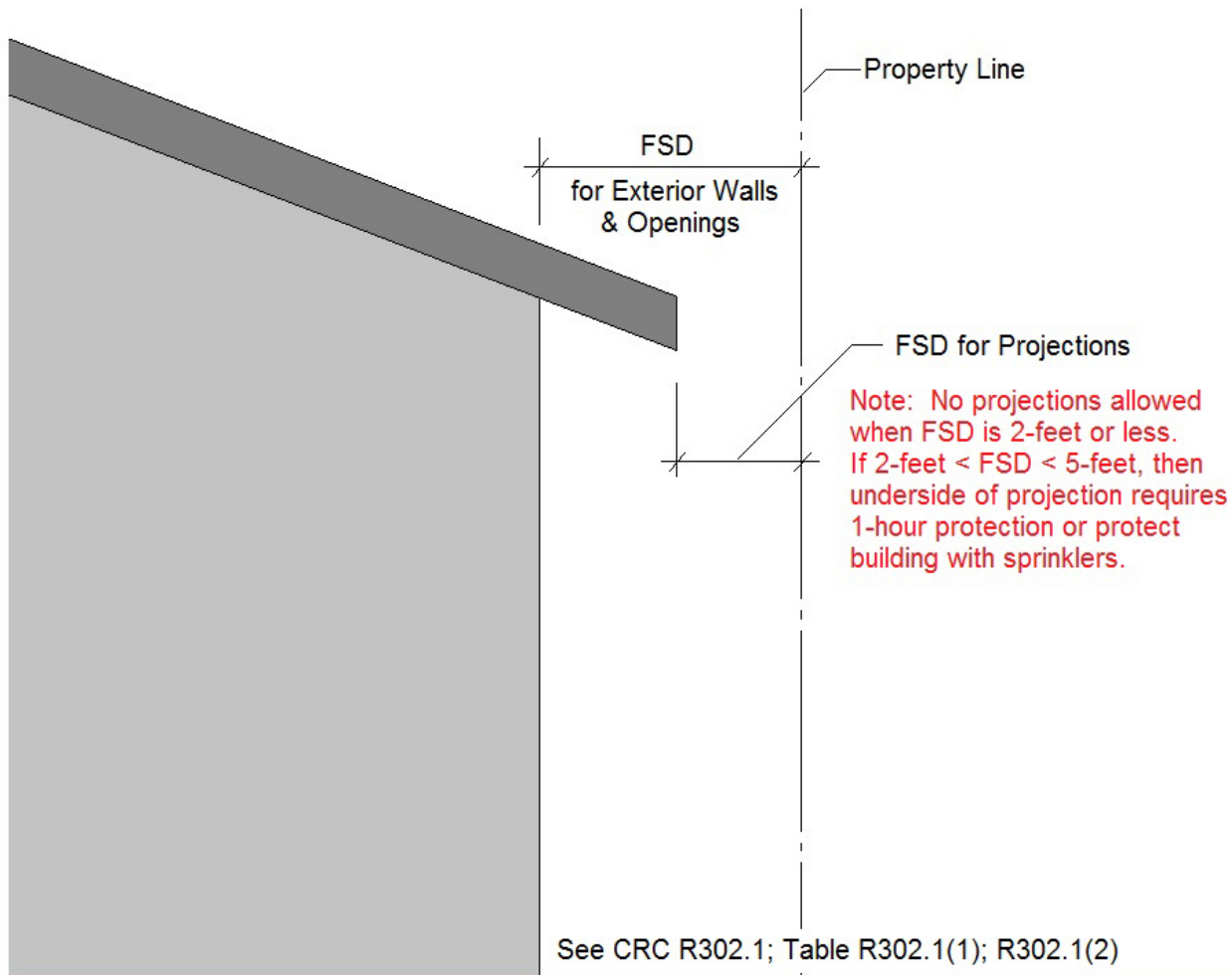


# Projections (CRC)

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- Clarification to projections from exterior walls of dwellings located close to property lines. [R302.1; Tables R302.1 (1); R302.1(2)]
- Exterior wall projections are not allowed from exterior walls with a FSD < 2-feet.
  - This is a significant clarification, because it confirms that eave extensions are not permitted within 2-feet of a property line, regardless of whether the underside is protected with 1-hour construction or if the building is sprinklered.

# Projections (CRC)



# Under-floor Protection (CRC)

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- A new requirement has been added to require either a 1/2" gypsum board or 5/8" structural wood panel finish on the underside of floors when the underside is exposed to an area which could be used for storage or placement of a fuel burning appliance. [R302.13]

# Replacement of Emergency Escape and Rescue Windows [R310.2.5]

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- Minimum opening size and sill height requirements for “existing” emergency escape and rescue opening windows need not comply with R310.1, R310.2.1, and R310.2.2 provided:
  - 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 is 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.
  - The replacement window is not part of a change of occupancy.

# Electric Vehicle Charging [R309.8]

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- **R309.8 Electric vehicle (EV) charging infrastructure.** Newly constructed one- and two-family dwellings and townhouses with attached private garages **shall comply with EV infrastructure requirements** in accordance with the California Green Building Standards Code, Chapter 4, Division 4.1.
  - See CALGreen 4.106.4.2.3 for details regarding 208/240-volt raceway, cabinet, and 40-ampere overcurrent details.

# MWELO

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- CALGreen Chapter 4, Division 4.3
  - Mandatory residential standards related to California Department of Water Resources (DWR) Model Water Efficient Landscape Ordinance (MWELO).
  - Currently in effect (effective date Dec. 1, 2015).
  - Residential developments with an aggregate landscape area  $\geq 500$ sqft
    - Local water efficient landscape ordinance; or
    - MWELO (whichever is more stringent)
  - <http://www.water.ca.gov/wateruseefficiency/landscapeordinance/>





# Thank You !!

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