

**15-DAY EXPRESS TERMS  
FOR  
PROPOSED BUILDING STANDARDS  
OF THE  
OFFICE OF THE STATE FIRE MARSHAL  
  
REGARDING PROPOSED CHANGES TO  
2016 CALIFORNIA RESIDENTIAL CODE  
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2.5**

**Legend for Express Terms:**

1. **Existing California amendment:** California 45-Day language will appear in underlined and ~~strikeout~~.
2. **Amended, or repealed language:** Amended or repealed 15-Day language will appear in *italics and double underline* and ~~double strikeout~~.
3. **Rationale:** The justification for the change is shown after each section or series of related changes.
4. **Notation:** Authority and reference citations are provided at the end of each chapter.

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**CHAPTER 44  
REFERENCED STANDARDS**

**NFPA**

13— <del>1313</del> <u>16</u>	Installation of Sprinkler Systems
13D— <del>1313</del> <u>16</u>	Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes
13R— <del>1313</del> <u>16</u>	Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height
72— <del>1313</del> <u>16</u>	National Fire and Signaling <del>and Signaling</del> Alarm Code
13— <del>1313</del> <u>16</u>	Installation of Sprinkler Systems <i>as amended</i> * . . . . . 708.2, 903.3.1.1, 903.3.2, 903.3.5.1.1, 903.3.5.2, 904.11, 905.3.4, 907.6.3, 1613.6.3, 1616.9.5, 1616.10.17

*\*NFPA 13, Amended Sections as follows:*

~~Revise Section 8.15.5.6.17 as follows:~~ Add new Sections 8.15.5.6.1 as follows:

~~8.15.5.7, 8.15.5.6.1~~ 8.15.5.6.1 The sprinkler required at the top and bottom of the elevator hoistway by 8.15.5.6 shall not be required where permitted by Chapter 30 of the California Building Code.

*Revise Section 8.15.7.2\* as follows:*

8.15.7.2\* Sprinklers shall be permitted to be omitted where the exterior canopies, roofs, porte-cocheres, balconies, decks, or similar projections are constructed with materials that are noncombustible, limited-combustible, or fire retardant treated wood as defined in NFPA 703, *Standard for Fire Retardant-Treated Wood and Fire-Retardant Coatings for Building Materials*.

*Revise Section 8.15.7.3*

8.15.7.3 Sprinklers shall be permitted to be omitted from below the canopies, roofs, balconies, decks, or similar projections are combustible construction, provided the exposed finish material on the roof, or canopy is noncombustible, limited-combustible, or fire retardant treated wood as defined in NFPA 703, *Standard for Fire Retardant-Treated Wood and Fire-Retardant Coatings for Building Materials*, and the roofs, or canopies contains only sprinklered concealed spaces or any of the following unsprinklered combustible concealed spaces:

- (1) Combustible concealed spaces filled entirely with noncombustible insulation
- (2) Light or ordinary hazard occupancies where noncombustible or limited-combustible ceilings are directly attached to the bottom of solid wood joists so as to create enclosed joist spaces 160 ft<sup>3</sup> (4.5 m<sup>3</sup>) or less in volume, including space below insulation that is laid directly on top or within the ceiling joists in an otherwise sprinklered attic [See ~~11.2.3.1.4(9)(d)~~ 11.2.3.1.5.2(9)].
- (3) Concealed spaces over isolated small roofs, or canopies not exceeding 55 ft<sup>2</sup> (5.1

~~Add new Sections 8.16.1.7, 8.16.1.7.1, 8.16.1.7.1.1, 8.16.1.7.1.2, 8.16.1.7.1.2, 8.16.1.7.1.3, 8.16.1.7.2, 8.16.1.6, 8.16.1.6.1, 8.16.1.6.1.1, 8.16.1.6.1.2, 8.16.1.6.1.3, 8.16.1.6.2~~ as follows:

~~8.16.1.7~~ 8.16.1.6 **Sectional Valves.**

~~8.16.1.7.1~~ 8.16.1.6.1 Private fire service main systems shall have sectional control valves at appropriate points in order to permit sectionalizing the system in the event of a break or for the making of repairs or extensions.

~~8.16.1.7.1.1~~ 8.16.1.6.1.1 Sectional control valves are not required when the fire service main system serves less than six fire appurtenances.

~~8.16.1.7.1.2~~ 8.16.1.6.1.2 Sectional control valves shall be indicating valves in accordance with Section ~~6.7.1.3~~ 6.1.3.

~~8.16.1.7.1.3~~ 8.16.1.6.1.3 Sectional control valves shall be located so that no more than five fire appurtenances are affected by shut-down of any single portion of the fire service main. Each fire hydrant, fire sprinkler system riser, and standpipe riser shall be considered a separate fire appurtenance. In-rack sprinkler systems shall not be considered as a separate appurtenance.

~~8.16.1.7.1.4~~ 8.16.1.6.1.4 The number of fire appurtenances between sectional control valves is allowed to be modified by the authority having jurisdiction.

~~8.16.1.7.2~~ 8.16.1.6.2 A valve shall be provided on each bank where a main crosses a body of water or outside the building foundation(s) where the main or section of main runs under a building.

Revise Section 9.3.5.11.4 as follows:

9.3.5.11.4 Where threaded pipe is used for sway bracing, it shall have a wall thickness of not less than Schedule 40.

Replace Section ~~9.3.5.12.4~~ 9.3.5.12.5 as follows:

9.3.5.12.5 Lag screws or power-driven fasteners shall not be used to attach braces to the building structure.

~~Add language to the beginning of~~ Replace Section 9.3.5.12.6 as follows:

~~9.3.5.12.6~~ 9.3.5.12.6 Fastening methods other than those identified in ~~9.3.5.9~~ 9.3.5.12 shall not apply to other fastening methods, which shall be acceptable for use if certified by a registered professional engineer to support the loads determined in accordance with the criteria in 9.3.5.6. Calculations shall be submitted to the authority having jurisdiction.

Revise Section ~~9.3.5.12.7.2~~ 9.3.5.12.8.4 as follows:

~~9.3.5.12.7.2~~ 9.3.5.12.8.4 Concrete anchors other than those shown in ~~Figure 9.3.5.12.1~~ Table 9.3.5.12.2(a) through Table 9.3.5.12.2(f) and identified in 9.3.5.11.11 shall be acceptable for use where designed in accordance with the requirements of the building code and certified by a registered professional engineer.

Revise Section ~~10.6.4~~ 10.4.3.1.1 as follows:

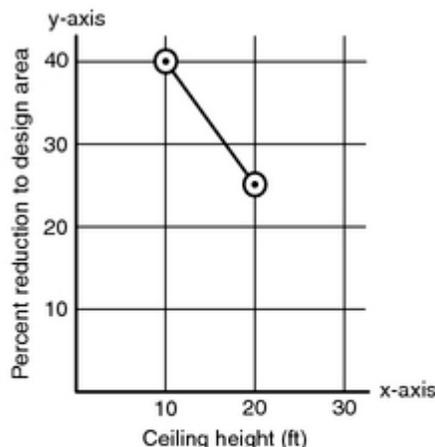
~~10.6.4~~ 10.4.3.1.1 Pipe joints shall not be located under foundation footings. The pipe under the building or building foundation shall not contain mechanical joints.

Exceptions:

1. Where allowed in accordance with ~~10.6.210.4.3.2~~
2. Alternate designs may be utilized where designed by a registered professional engineer and approved by the enforcing agency.

Revise Section ~~11.2.3.1.4(4)~~11.2.3.1.5.2(9) as follows:

~~11.2.3.1.4(4)~~11.2.3.1.5.2(9) Exterior columns under 10 ft<sup>2</sup> (0.93m<sup>2</sup>) in total area, formed by studs or wood joist, with no sources of ignition within the column, supporting exterior canopies that are fully protected with a sprinkler system.



Note:  $y = \frac{-3x}{2} + 55$

For ceiling height  $\geq 10$  ft and  $\leq 20$  ft,  $y = \frac{-3x}{2} + 55$

For ceiling height  $< 10$  ft,  $y = 40$

For ceiling height  $> 20$ ,  $y = 0$

For SI units, 1 ft = 0.31 m.

~~FIGURE 11.2.3.2.3.1 Design Area Reduction for Quick-Response Sprinklers~~

~~Add Section 25.1(5)~~ Revise Section 25.1 as follows:

- 25.1 Approval of Sprinkler Systems and Private Fire Service Mains. The installing contractor shall do the following:
- (1) Notify the authority having jurisdiction and the property owner or property owner's authorized representative of the time and date testing will be performed.
  - (2) Perform all required testing (see Section 24-225.2)
  - (3) Complete and sign the appropriate contractor's material and test certificate(s) (see Figure 24-125.1)
  - (4) Remove all caps and straps prior to placing the sprinkler system in service
  - (5) Upon system acceptance by the authority having jurisdiction a label prescribed by Title 19 California Code of Regulations, Chapter 5 shall be affixed to each system riser.

Revise Section 25.4(2) and Add Section 24.5(3) as follows:

25.4 Instructions. The installing contractor shall provide the property owner or the property owner's authorized representative with the following:

- (1) All literature and instructions provided by the manufacturer describing proper operation and maintenance of any equipment and devices installed
- (2) NFPA 25, *Standard for the Inspection, testing, and maintenance of Water-Based Fire Protection Systems, 2013 California Edition*
- (3) Title 19, *California Code of Regulations, Chapter 5, "Fire Extinguishing Systems"*.

~~Add sentence at the end of~~ Revise Section 25.5.1 as follows:

25.5.1 The installing contractor shall identify a hydraulically designed sprinkler system with a permanently marked weatherproof metal or rigid plastic sign secured with corrosion resistant wire, chain, or other approved means. Such

signs shall be placed at the alarm valve, dry pipe valve, preaction valve, or deluge valve supplying the corresponding hydraulically designed area. Pipe schedule systems shall be provided with a sign indicating that the system was designed and installed as a pipe schedule system and the hazard classification(s) included in the design."

**Revise Section 25.5.2(2) and Add Sections 25.5.2(7) to (14) as follows:**

25.5.2 The sign shall include the following information:

- (1) Location of the design area or areas
- (2) Discharge densities over the design area or areas
- (3) *Required flow and pressure of the system at the base of the riser*
- (4) Occupancy classification or commodity classification and maximum permitted storage height and configuration
- (5) Hose stream allowance included in addition to the sprinkler demand
- (6) The name of the installing contractor
- (7) *Required flow and pressure of the system at the water supply source.*
- (8) *Required flow and pressure of the system at the discharge side of the fire pump where a fire pump is installed.*
- (9) *Type or types and number of sprinklers or nozzles installed including the orifice size, temperature rating, orientation, K-Factor, sprinkler identification number (SIN) for sprinkler heads when applicable, and response type.*
- (10) *The minimum discharge flow rate and pressure required from the hydraulically most demanding sprinkler.*
- (11) *The required pressure settings for pressure reducing valves.*
- (12) *For deluge sprinkler systems, the required flow and pressure at the hydraulically most demanding sprinkler or nozzle.*
- (13) *The protection area per sprinkler based on the hydraulic calculations*
- (14) *The edition of NFPA 13 to which the system was designed and installed.*

**Revise Section 25.6.1 as follows:**

25.6.1 The installing contractor shall provide a general information sign used to determine system design basis and information relevant to the inspection, testing, and maintenance requirements required by ~~California Edition~~ NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, 2013 California Edition*.

13D—~~1313~~ 16

Standard for the Installation of Sprinkler Systems in One-and Two-Family Dwellings and Manufactured Homes as amended\*.....R313.1.1, R313.2.1, R313.3.1, R313.3.2,

R313.3.2.3.1, R313.3.2.4.2, R313.3.6

**\*NFPA 13D, Amended Sections as follows:**

**Revise Section 6.2.2, ~~6.2.2.1, 6.2.4~~ to read as follows:**

6.2.2 Where a well, pump, tank or combination thereof is the source of supply for a fire sprinkler system, the water supply shall serve both domestic and fire sprinkler systems, and the following shall be met:

- (1) A test connection shall be provided downstream of the pump that creates a flow of water equal to the smallest sprinkler on the system. The connection shall return water to the tank.
- (2) Any disconnecting means for the pump shall be approved.
- (3) A method for refilling the tank shall be piped to the tank.
- (4) A method of seeing the water level in the tank shall be provided without having to open the tank.
- (5) The pump shall not be permitted to sit directly on the floor.

**Add new Section 6.2.2.1 as follows:**

6.2.2.1 Where a fire sprinkler system is supplied by a stored water source with an automatically operated means of pressurizing the system other than an electric pump, the water supply may serve the sprinkler system only.

**Add new Section 6.2.4 as follows:**

6.2.4 Where a water supply serves both domestic and fire sprinkler systems, 5 gpm (19 L/min) shall be added to the sprinkler system demand at the point where the systems are connected, to determine the size of common piping and the size of the total water supply requirements where no provision is made to prevent flow into the domestic water system upon operation of a sprinkler.

**Revise Section 8.3.4 to read as follows:**

8.3.4\* Sprinklers shall not be required in detached garages, open attached porches, carports with no habitable space

above, and similar structures.

Add new Section ~~8.4.4.18.3.10~~ and 8.3.10.1 as follows:

8.3.10 Solar photovoltaic panel structures

~~8.4.18.3.10.1~~ Sprinklers shall be permitted to be omitted ~~for~~ from the following structures:

(1) Solar photovoltaic panel structures with no use underneath. Signs may be provided, as determined by the enforcing agency prohibiting any use underneath including storage.

(2) Solar photovoltaic (PV) panels supported by framing that have sufficient uniformly distributed and unobstructed openings throughout the top of the array (horizontal plane) to allow heat and gases to escape, as determined by the enforcing agency.

13R—~~1313~~ 16

Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height as amended . . . . . 903.3.1.2, 903.3.5.1.1, 903.3.5.1.2, 903.4

\*NFPA 13R, Amended Sections as follows:

Add new Sections ~~6.6.96.6.10~~ and 6.10.1 as follows:

6.6.10 Solar photovoltaic panel structures

~~6.6.96.6.10.1~~ Sprinklers shall be permitted to be omitted ~~for~~ from the following structures:

(1) Solar photovoltaic panel structures with no use underneath. Signs may be provided, as determined by the enforcing agency prohibiting any use underneath including storage.

(2) Solar photovoltaic (PV) panels supported by framing that have sufficient uniformly distributed and unobstructed openings throughout the top of the array (horizontal plane) to allow heat and gases to escape, as determined by the enforcing agency.

72—~~1313~~ 16

National Fire Alarm and Signaling Code, as amended\* . . . . . 901.6, 903.4.1, 904.3.5, 907.2, 907.2.5, 907.2.11, 907.2.13.2, 907.3, 907.3.3, 907.3.4, 907.5.2.1.2, 907.5.2.2, 907.6, 907.6.1, 907.6.5, 907.7, 907.7.1, 907.7.2, 911.1.5, 3006.5, 3007.6

\*NFPA 72, Amended Sections as follows:

Revise Section 10.3.1 as follows:

10.3.1 Equipment constructed and installed in conformity with this Code shall be listed for the purpose for which it is used. Fire alarm Systems and components shall be California State Fire Marshal approved and listed in accordance with California Code of Regulations, Title 19, Division 1.

Revise Section 10.3.3 as follows:

10.3.3 All devices and appliances that receive their power from the initiating device circuit or signaling line circuit of a control unit shall be California State Fire Marshal listed for use with the control unit.

Revise Section 10.7.1 as follows:

10.7.1 Where approved by the authority having jurisdiction, ECS priority signals when evaluated by stakeholders through risk analysis in accordance with 24.3.11 shall be permitted to take precedence over all other signals.

Revise Section 12.3.8.1 as follows:

12.3.8.1 The outgoing and return (redundant) circuit conductors shall be permitted in the same cable assembly (i.e., multiconductor cable), enclosure, or raceway only under the following conditions:

(1) For a distance not to exceed 10 ft (3.0 m) where the outgoing and return conductors enter or exit the initiating

device, notification appliance, or control unit enclosures

(2) Single drops installed in the raceway to individual devices or appliances

(3)\*In a single room not exceeding 1000 ft<sup>2</sup> (93 m<sup>2</sup>) in area, a drop installed in the raceway to multiple devices or appliances that does not include any emergency control function devices

~~12.3.7~~ (4) Where the vertically run conductors are contained in a 2-hour rated cable assembly, or enclosed (installed) in a 2-hour rated enclosure or a listed circuit integrity (C.I.) cable, which meets or exceeds a 2-hour fire resistive rating.

**Revise Section 14.4.6.1 as follows:**

14.4.6.1 Testing. Household fire alarm systems shall be tested *in accordance with the manufacturer's published instructions* according to the methods of Table 14.4.3.2.

**Revise Section 17.15 as follows:**

17.15 Fire Extinguisher Electronic Monitoring Device. A fire extinguisher electronic monitoring device shall indicate those conditions for a specific fire extinguisher required by *California Code of Regulations, Title 19, Division 1, Chapter 1, Section 574.2 (c) and California Fire Code to a fire alarm control unit.*

**Revise Section 21.3.6 as follows:**

21.3.6 Smoke detectors shall not be installed in unsprinklered elevator hoistways unless they are installed to activate the elevator hoistway smoke relief equipment *or where required by Chapter 30 of the California Building Code.*

**Revise Section 23.8.5.1.2 as follows:**

23.8.5.1.2 - Where connected to a supervising station, fire alarm systems employing automatic fire detectors or waterflow detection devices shall include a manual fire alarm box to initiate a signal to the supervising station.

**Exception:** Fire alarm systems dedicated to elevator recall control, supervisory service *and fire sprinkler monitoring as permitted in section 21.3 of NFPA 72.*

**Revise Section 23.8.5.4.1 as follows:**

23.8.5.4.1 Systems equipped with alarm verification features shall be permitted under the following conditions:

(1) The alarm verification feature is not initially enabled unless conditions or occupant activities that are expected to cause nuisance alarms are anticipated in the area that is protected by the smoke detectors. Enabling of the alarm verification feature shall be protected by password or limited access.

(2) A smoke detector that is continuously subjected to a smoke concentration above alarm threshold does not delay the system functions of Sections 10.7 through 10.16, 23.8.1.1, or 21.2.1 by more than .30 seconds.

(3) Actuation of an alarm-initiating device other than a smoke detector causes the system functions of sections 10.7 through 10.16, 23.8.1.1, or 21.2.1 without additional delay.

(4) The current status of the alarm verification feature is shown on the record of completion [see Figure 7.8.2(a), item 4.3].

(5) *Operation of a patient room smoke detector in I-2 and R-2.1 Occupancies shall not include an alarm verification feature.*

**Revise Section 29.3.1 as follows:**

29.3.1 All devices, combinations of devices, and equipment to be installed in conformity with this chapter shall be approved *and listed by the California State Fire Marshal* the for the purposes for which they are intended.

**Revise Section 29.5.2.1.1 as follows:**

29.5.2.1.1\* Smoke and Heat Alarms. Unless exempted by applicable laws, codes, or standards, smoke or heat alarms used to provide a fire-warning function, and when two or more alarms are installed within a dwelling unit, suite of rooms, or similar area, shall be arranged so that the operation of any smoke or heat alarm causes all alarms within these locations to sound.

**Note:** Exception to 29.5.2.1.1 not adopted by the SFM

**Add Section 29.7.2.1 as follows:**

29.7.2.1 *The alarm verification feature shall not be used for household fire warning equipment.*

**Add Section 29.7.6.7.1 as follows:**

29.7.6.7.1 *The alarm verification feature shall not be used for household fire warning equipment.*

Revise Section 23.8.5.4 as follows:

**29.8.3.4 Specific Location Requirements.** The installation of smoke alarms and smoke detectors shall comply with the following requirements:

- (1) Smoke alarms and smoke detectors shall not be located where ambient conditions, including humidity and temperature, are outside the limits specified by the manufacturer's published instructions.
- (2) Smoke alarms and smoke detectors shall not be located within unfinished attics or garages or in other spaces where temperatures can fall below 40°F (4°C) or exceed 100°F (38°C).
- (3)\*Where the mounting surface could become considerably warmer or cooler than the room, such as a poorly insulated ceiling below an unfinished attic or an exterior wall, smoke alarms and smoke detectors shall be mounted on an inside wall.
- (4) *Smoke alarms or smoke detectors shall be installed a minimum of 20 feet horizontal distance from a permanently installed cooking appliance.*

*Exceptions: Ionization smoke alarms with an alarm silencing switch or photoelectric smoke alarms shall be permitted to be installed 10 feet (3 m) or greater from a permanently installed cooking appliance.*

*Photoelectric smoke alarms shall be permitted to be installed greater than 6 feet (1.8 m) from a permanently installed cooking appliance where the kitchen or cooking area and adjacent spaces have no clear interior partitions and the 10 ft distances would prohibit the placement of a smoke alarm or smoke detector required by other sections of the code. Smoke alarms listed for use in close proximity to a permanently installed cooking appliance.*

- (5) Effective January 1, 2016, smoke alarms and smoke detectors used in household fire alarm systems installed between 6 ft (1.8 m) and 20 ft (6.1 m) along a horizontal flow path from a stationary or fixed cooking appliance shall be listed for resistance to common nuisance sources from cooking.
- (6)\*Smoke alarms and smoke detectors shall not be installed within a 36 in. (910 mm) horizontal path from a door to a bathroom containing a shower or tub unless listed for installation in close proximity to such locations.
- (7) Smoke alarms and smoke detectors shall not be installed within a 36 in. (910 mm) horizontal path from the supply registers of a forced air heating or cooling system and shall be installed outside of the direct airflow from those registers.
- (8) Smoke alarms and smoke detectors shall not be installed within a 36 in. (910 mm) horizontal path from the tip of the blade of a ceiling-suspended (paddle) fan.
- (9) Where stairs lead to other occupied levels, a smoke alarm or smoke detector shall be located so that smoke rising in the stairway cannot be prevented from reaching the smoke alarm or smoke detector by an intervening door or obstruction.
- (10) For stairways leading up from a basement, smoke alarms or smoke detectors shall be located on the basement ceiling near the entry to the stairs.
- (11) For tray-shaped ceilings (coffered ceilings), smoke alarms and smoke detectors shall be installed on the highest portion of the ceiling or on the sloped portion of the ceiling within 12 in. (300 mm) vertically down from the highest point.
- (12) Smoke alarms and detectors installed in rooms with joists or beams shall comply with the requirements of 17.7.3.2.4 of NFPA 72.
- (13) Heat alarms and detectors installed in rooms with joists or beams shall comply with the requirements of 17.6.3 of NFPA 72.

**Rational for revision:**

The SFM will be adopting the latest editions of the recently released NFPA standards. Health and Safety Code 18916 requires when new model code edition becomes available the California Building Standards Commission and the specified state agencies must review the code to determine if adoption is appropriate. The 2015 and 2016 editions of NFPA have recently been published and are now available. The SFM has reviewed these most current editions of NFPA standards and has determined that the adoption of the new edition is appropriate.

Changes to existing state amendments to NFPA Standards are minor editorial changes. These changes occurred due to a change in model code section numbers, changes in model code text, and deletion of existing state amendments that are no longer needed.

At the time of the Code Advisory Committee (CAC), the 2016 NFPA standards had not been published or approved by the NFPA Standards Council. SFM advised the CAC that it was the SFM's intention to adopt

the latest editions of the NFPA standards, if they were finalized by the Standards Council prior to the conclusion of SFM's 45 day public comment period. The CAC concurred with the SFM's course of action.

Notation

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

Reference(s): Health and Safety Code Sections 13143, 18949.2

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**R324.7.2.6 Locations of DC conductors. Conduit, wiring systems, and raceways for photovoltaic circuits shall be located as close as possible to the ridge or hip or valley and from the hip or valley as directly as possible to an outside wall to reduce trip hazards and maximize ventilation opportunities. Conduit runs between sub arrays and to DC combiner boxes shall be installed in a manner that minimizes the total amount of conduit on the roof by taking the shortest path from the array to the DC combiner box. The DC combiner boxes shall be located such that conduit runs are minimized in the pathways between arrays. DC wiring shall be installed in metallic conduit or raceways when located within enclosed spaces in a building. Conduit shall run along the bottom of load bearing members.**

**Rational for revision:**

The SFM is proposing to bring back this existing state amendment. This amendment was originally brought forward during the 2012 Triennial Code Cycle and was accidentally deleted during the 2013 Intervening Code Adoption Cycle. It was never the SFM's intent to remove the section. The section provides clarifying information on what a clear pathway is. This will ensure that the CBC, CFC an CRC are correlated.

Notation

Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2

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