45-DAY EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
OFFICE OF THE STATE FIRE MARSHAL

REGARDING PROPOSED CHANGES TO
2016 CALIFORNIA BUILDING CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2

LEGEND FOR EXPRESS TERMS

1. Existing California amendments or code language being modified are in italics when they appear in the model code text: All such language appears in *italics*, modified language is underlined.
2. New California amendments: All such language appears *underlined and in italics*.
3. Repealed text: All such language appears in ~~strikeout~~.

INITIAL EXPRESS TERMS

The Office of the State Fire Marshal (SFM) proposes to adopt the 2015 edition of the International Building Code (IBC) into the 2016 edition of the California Building Code (CBC). SFM further proposes to:

- Repeal the adoption by reference of the 2012 International Building Code and incorporate and adopt by reference in its place the 2015 International Building Code for application and effectiveness in the 2016 California Building Code.
- Repeal certain amendments to the 2012 International Building Code and/or California Building Standards not addressed by the model code that are no longer necessary.
- Adopt new building standards or necessary amendments to the 2015 International Building Code that address inadequacies of the 2015 International Building Code as they pertain to California laws.
- Bring forward previously existing California building standards or amendments, which represent no change in their effect from the 2013 California Building Code.
- Codify non-substantive editorial and formatting amendments from the format based upon the 2012 International Building Code to the format of the 2015 International Building Code.

NOTE OF EXPLANATION:

For the **2015 Triennial Code Adoption Cycle**, the Express Terms are displayed as follows:

****PART 1**** Includes the California Amendments SFM proposes to bring forward from the 2013 California Building Code **with changes** as shown, and also identifies the model code standards from the 2015 International Building Code SFM proposes for adoption into the 2016 California Building Code.

****PART 2**** Displays the standards SFM proposes to bring forward from the 2010 California Building Code **without change**, except for nonsubstantive editorial corrections, for adoption into the 2013 California Building Code; the text is provided for context and the convenience of the code user.

SUMMARY OF REGULATORY ACTION

SFM PROPOSES TO:

PART 1

1. Bring forward existing California Amendments from the 2013 California Building Code for adoption into the 2016 California Building Code **with amendment**.

2. Adopt standards from the 2015 International Building Code into the 2016 California Building Code **without amendment**.

3. Adopt standards from the 2015 International Building Code into the 2016 California Building Code **with amendment**.

4. Repeal 2013 California Amendments, which are **not** brought forward into the 2016 California Building Code.

PART 2

1. Bring forward existing California Amendments from the 2013 California Building Code for adoption into the 2016 California Building Code **without amendment**, except for editorial corrections.

PART 1

[1. The SFM is proposing to maintain the adoption of those existing California provisions contained Sections 1.1 Through 1.1.12 and Sections 1.11 through 1.11.10 with modification.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 1

SCOPE AND ADMINISTRATION

DIVISION I
CALIFORNIA ADMINISTRATION

SECTION 1.1
GENERAL

1.1.1 Title. *These regulations shall be known as the California Building Code, may be cited as such and will be referred to herein as "this code." The California Building Code is Part 2 of ~~twelve~~thirteen parts of the official compilation and publication of the adoption, amendment, and repeal of building regulations to the California Code of Regulations, Title 24, also referred to as the California Building Standards Code. This part incorporates by adoption the ~~2012~~2015 International Building Code of the International Code Council with necessary California amendments.*

1.1.3.2 State-Regulated Buildings, Structures, and Applications. *The model code, state amendments to the model code, and/or state amendments where there are no relevant model code provisions~~,~~ shall apply to the following buildings, structures, and applications regulated by state agencies as specified in Section~~s~~ 1.2 through 1.14, except where modified by local ordinance pursuant to Section 1.1.8. When adopted by a state agency, the provisions of this code shall be enforced by the appropriate enforcing agency, but only to the extent of authority granted to such agency by the state legislature.*

Note: *See Preface to distinguish the model code provisions from the California provisions.*

1. State-owned buildings, including buildings constructed by the Trustees of the California State University, and to the extent permitted by California laws, buildings designed and constructed by the Regents of the University of California, and regulated by the Building Standards Commission. See Section 1.2 for additional scope provisions.
2. Local detention facilities regulated by the Board of State and Community Corrections ~~Corrections Standards Authority~~. See Section 1.3 for additional scope provisions.
3. Barbering, cosmetology or electrolysis establishments, acupuncture offices, pharmacies, veterinary facilities, and structural pest control locations regulated by the Department of Consumer Affairs. See Section 1.4 for additional scope provisions.
4. ~~Energy efficiency standards regulated by the~~ Section 1.5 reserved for the California Energy Commission. ~~See Section 1.5 for additional scope provisions.~~
5. Dairies and places of meat inspection regulated by the Department of Food and Agriculture. See Section 1.6 for additional scope provisions.
6. Organized camps, laboratory animal quarters, public swimming pools, radiation protection, commissaries serving mobile food preparation vehicles and wild animal quarantine facilities regulated by the Department of Public Health. See Section 1.7 for additional scope provisions.
7. Hotels, motels, lodging houses, ~~apartment houses~~ apartments, dwellings, dormitories, condominiums, shelters for homeless persons, congregate residences, employee housing, factory-built housing and other types of dwellings

containing sleeping accommodations with or without common toilets or cooking facilities. See Section 1.8.2.1.1 for additional scope provisions.
8. Accommodations for persons with disabilities in buildings containing newly constructed covered multifamily dwellings, new common use spaces serving existing covered multifamily dwellings, additions to existing buildings where the addition alone meets the definition of "COVERED MULTIFAMILY DWELLINGS," and new common-use ~~spaces~~ areas serving new covered multifamily dwellings which are regulated by the Department of Housing and Community Development. See Section 1.8.2.1.2 for additional scope provisions.
9. Permanent buildings and permanent accessory buildings or structures constructed within mobilehome parks and special occupancy parks regulated by the Department of Housing and Community Development. See Section 1.8.2.1.3 for additional scope provisions.
10. Reserved for the Division of the State Architect – Access Compliance.
11. Public elementary and secondary schools, community college buildings and state-owned or state leased essential service buildings regulated by the Division of the State Architect. See Section 1.9.2 for additional scope provisions.
12. Reserved for the State Historical Building Safety Board with the Division of the State Architect. See Section 1.9.2 for additional scope provisions.
13. General acute care hospitals, acute psychiatric hospitals, skilled nursing and/or intermediate care facilities, clinics licensed by the Department of Public Health and correctional treatment centers regulated by the Office of Statewide Health Planning and Development. See Section 1.10 for additional scope provisions.
14. Applications regulated by the Office of State Fire Marshal include but are not limited to the following in accordance with Section 1.11:

14.1. Buildings or structures used or intended for use as an:

1. Asylum, jail.
2. Mental hospital, hospital, home for the elderly, children's nursery, children's home or institution, school or any similar occupancy of any capacity.
3. Theater, dancehall, skating rink, auditorium, assembly hall, meeting hall, nightclub, fair building or similar place of assemblage where 50 or more persons may gather together in a building, room or structure for the purpose of amusement, entertainment, instruction, deliberation, worship, drinking or dining, awaiting transportation, or education.
4. Small family day care homes, large family day-care homes, residential facilities and residential facilities for the elderly, residential care facilities.
5. State institutions or other state-owned or state-occupied buildings.
6. High rise structures.
7. Motion picture production studios.
8. Organized camps.
9. Residential structures.

14.2. Tents, awnings or other fabric enclosures used in connection with any occupancy.
14.3. Fire alarm devices, equipment and systems in connection with any occupancy.
14.4. Hazardous materials, flammable and combustible liquids.
14.5. Public school automatic fire detection, alarm and sprinkler systems.
14.6. Wildland-urban interface fire areas.

15. Public libraries constructed and renovated using funds from the California Library Construction and Renovation Bond Act of 1988 and regulated by the State Librarian. See Section 1.12 for additional scope provisions.
16. Section 1.13 reserved for ~~Graywater systems regulated by~~ the Department of Water Resources. ~~See Section 1.13 for additional scope provisions.~~
17. For applications listed in Section 1.9.1 regulated by the Division of the State Architect – Access Compliance, outdoor environments and uses shall be classified according to accessibility uses described in Chapter 11A, 11B and 11C.
18. Marine Oil Terminals regulated by the California State Lands Commission. See Section 1.14 for additional scope provisions.

1.1.7.3 Conflicts. *When the requirements of this code conflict with the requirements of any other part of the California Building Standards Code, Title 24, the most restrictive requirements shall prevail.*

Exception: *Detached one-and two-family dwellings, efficiency dwelling units, lodging houses, live/work units, townhouses not more than three stories above grade plane with a separate means of egress, and their accessory structures, shall not be required to comply with the California Residential Code if constructed in accordance with the California Building Code.*

1.1.8.1 Findings and filings.

1. The city, county, or city and county shall make express findings for each amendment, addition, or deletion based upon climatic, topographical, or geological conditions.

Exception: *Hazardous building ordinances and programs mitigating unreinforced masonry buildings.*

2. The city, county, or city and county shall file the amendments, additions, or deletions expressly marked and identified as to the applicable findings. Cities, counties, cities and counties, and fire departments shall file the amendments, additions, or deletions, and the findings with the California Building Standards Commission at 2525 Natomas Park Drive, Suite 130, Sacramento, CA 95833.
3. Findings prepared by fire protection districts shall be ratified by the local city, county, or city and county and filed with the California Department of Housing and Community Development, Division of Codes and Standards, P.O. Box 1407, Sacramento, CA 95812-1407 or ~~1800 3rd Street, Room 260, Sacramento, CA 95811~~ 2020 West El Camino Avenue, Suite 250, Sacramento, CA 95833-1829.

1.1.8.2 Locally adopted energy standards – California Energy Code, Part 6

In addition to the provisions of Section 1.1.8.1 of this Part, the provisions of this section apply to cities, counties, and city and county amending adopted energy standards affecting buildings and structures subject to the California Energy Code, Part 6.

Applicable provisions of Public Resources Code Section 25402.1 and applicable provisions of Chapter 10 of the California Administrative Code, Part 1 apply to local amendment of energy standards adopted by the California Energy Commission.

1.1.10 Availability of codes. *At least one complete copy each of Titles 8, 19, 20, 24, and 25 with all revisions shall be maintained in the office of the building official responsible for the administration and enforcement of this code. Each state department concerned and each city, county, or city and county shall have an up-to-date copy of the code available for public inspection, See Health and Safety Code Sections 18942(~~d~~ e)(1) and (2).*

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

[2. The SFM proposes to only adopt Sections 105.2.1 – 105.2.2, 105.3 – 105.3.1, 105.4, 105.6 – 105.7, 106.1, 106.2 – 106.3, 107.1 – 107.3, 107.4, 107.5, 108.1 – 108.4, 110.1 – 110.3, 110.3.4 – 110.3.6, 110.3.8 – 110.3.10, 110.4 – 110.6, 111.1, 111.2, 111.3 – 111.4, 112, 114.1 – 114.2, 115 and 116 contained in Chapter 1.]

(IBC Chapter 1 Administrative provisions - Sections 101 through 114 relocated to Division II of Chapter 1.)
See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

DIVISION II
SCOPE AND ADMINISTRATION

Notation

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2

[3. The SFM proposes to adopt Chapter 2 with the following amendments and California regulations.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 2
DEFINITIONS

~~***CONGREGATE LIVING HEALTH FACILITY (CLHF).*** *As termed, is a residential home with a capacity of no more than six beds, which provides inpatient care, including the following basic services: medical supervision, 24-hour skilled nursing and supportive care, pharmacy, dietary, social recreational, and at least provides services for persons who are diagnosed with a terminal illness or who are catastrophically and severely disabled.*~~

Congregate living health facility (CLHF). *means a residential home with a capacity, except as provided in paragraph (3), of no more than 12 beds, that provides inpatient care, including the following basic services: medical supervision, 24-hour skilled nursing and supportive care, pharmacy, dietary, social, recreational, and at least one type of service specified in paragraph (1). The primary need of congregate living health facility residents shall be for availability of skilled nursing care on a recurring, intermittent, extended, or continuous basis. This care is generally less intense than that provided in general acute care hospitals but more intense than that provided in skilled nursing facilities.*

(1) Congregate living health facilities shall provide one of the following services:
(A) Services for persons who are mentally alert, persons with physical disabilities, who may be ventilator dependent.
(B) Services for persons who have a diagnosis of terminal illness, a diagnosis of a life-threatening illness, or both. Terminal illness means the individual has a life expectancy of six months or less as stated in writing by his or her attending physician and surgeon. A "life-threatening illness" means the individual has an illness that can lead to a possibility of a termination of life within five years or less as stated in writing by his or her attending physician and surgeon.
(C) Services for persons who are catastrophically and severely disabled. A person who is catastrophically and severely disabled means a person whose origin of disability was acquired through trauma or nondegenerative neurologic illness, for whom it has been determined that active rehabilitation would be beneficial and to whom these services are being provided. Services offered by a congregate living health facility to a person who is catastrophically disabled shall include, but not be limited to, speech, physical, and occupational therapy.

(2) A congregate living health facility license shall specify which of the types of persons described in paragraph (1) to whom a facility is licensed to provide services.

(3)(A) A facility operated by a city and county for the purposes of delivering services under this section may have a capacity of 59 beds.
(B) A congregate living health facility not operated by a city and county servicing persons who are terminally ill, persons who have been diagnosed with a life-threatening illness, or both, that is located in a county with a population of 500,000 or more persons, or located in a county of the 16th class pursuant to Section 28020 of the Government Code, may have not more than 25 beds for the purpose of serving persons who are terminally ill.
(C) A congregate living health facility not operated by a city and county serving persons who are catastrophically and severely disabled, as defined in subparagraph (C) of paragraph (1) that is located in a county of 500,000 or more persons may have not more than 12 beds for the purpose of serving persons who are catastrophically and severely disabled.

(5) A congregate living health facility shall have a noninstitutional, homelike environment.

DIRECT ACCESS. A path of travel from a space to an immediately adjacent space through an opening in the common wall between the two spaces.
~~***DIRECT ACCESS.*** *A path of travel from a space to an immediately adjacent space through an opening in the common wall between the two spaces.*~~

FIREWORKS. Any composition or device for the purpose of producing a visible or an audible effect for entertainment purposes by combustion, deflagration or detonation that meets the definition of 1.4G fireworks or 1.3G fireworks. Fireworks, 1.4G. Small fireworks devices containing restricted amounts of pyrotechnic composition designed primarily to produce visible or audible effects by combustion. Such 1.4G fireworks which comply with the construction, chemical composition and labeling regulations of the DOTn for Fireworks, UN 0336, and the U.S. Consumer Product Safety Commission as set forth in CPSC 16 CFR Parts 1500 and 1507, are not explosive materials for the purpose of this code.

Fireworks, 1.3G. Large fireworks devices, which are explosive materials, intended for use in fireworks displays and designed to produce audible or visible effects by combustion, deflagration or detonation. Such 1.3G fireworks include, but are not limited to, firecrackers containing more than 130 milligrams (2 grains) of explosive composition, aerial shells containing more than 40 grams of pyrotechnic composition and other display pieces which exceed the limits for classification as 1.4G fireworks. Such 1.3G fireworks are also described as Fireworks, UN 0335 by the DOTn.

Note: *Fireworks shall have the same meaning as defined in Health and Safety Code Section 12511 which has been reprinted as follows:*

12511. "Fireworks" means any device containing chemical elements and chemical compounds capable of burning independently of the oxygen of the atmosphere and producing audible, visual, mechanical, or thermal effects which are useful as pyrotechnic devices or for entertainment.
The term "fireworks" includes, but is not limited to, devices designated by the manufacturer as fireworks, torpedoes, skyrockets, roman candles, rockets, Daygo bombs, sparklers, party poppers, paper caps, chasers, fountains, smoke sparks, aerial bombs, and fireworks kits.

12512. "Fireworks kit" means any assembly of materials or explosive substances, which is designed and intended by the seller to be assembled by the person receiving such material or explosive substance and when so assembled would come within the definition of fireworks in Section 12511.

HYDROGEN FUEL GAS ROOM. A room or space that is intended exclusively to house a gaseous hydrogen system.
~~**HYDROGEN *FUEL GAS* ROOM.** A room or space that is intended exclusively to house a gaseous hydrogen system.~~

~~***MENTALLY RETARDED PERSONS, PROFOUNDLY OR SEVERELY.*** *Shall mean any retarded person who is unable to evacuate a building unassisted during emergency conditions.*~~

~~***Note:*** *The determination as to such incapacity shall be made by the Director of the State Department of Public Health or his or her designated representative pursuant to Health and Safety Code Section 13131.3.*~~

PERSONS WITH INTELLECTUAL DISABILITIES, PROFOUNDLY OR SEVERELY. *Shall mean any persons with intellectual disabilities who is unable to evacuate a building unassisted during emergency conditions.*

Note: *The determination as to such incapacity shall be made by the Director of the State Department of Public Health or his or her designated representative pursuant to Health and Safety Code Section 13131.3.*

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2

[4. The SFM proposes to adopt Chapter 3 with the following amendments and California regulations.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 3
USE AND OCCUPANCY CLASSIFICATIONS

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 *serving five or fewer patients (see Section ~~308.3.2~~308.4.2 for facilities serving more than five patients)*
Animal hospitals, kennels and pounds
Banks
Barber and beauty shops
Car wash
Civic administration
Clinic—outpatient *[SFM] (not classified as Group I-2.1)*
Dry cleaning and laundries: pick-up and delivery stations and self-service
Educational occupancies for students above the 12th grade
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 m2) in area.
Laboratories: testing, ~~and~~ research *and [SFM] instruction*
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).
~~*Training and skill development not within 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)*~~

305.2.1 Within places of religious worship. Rooms and spaces within places of religious worship providing such day care during religious functions shall be classified as part of the primary occupancy *where not licensed for day care purposes by the Department of Social Services*.

TABLE 307.1(1)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD[a, m, n, p]

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE[b]			USE-CLOSED SYSTEMS[b]			USE-OPEN SYSTEMS[b]	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)
Combustible dust	NA	H-2	See Note q	NA	NA	See Note q	NA	NA	See Note q	NA
Combustible fiber[q]	Loose Baled[o]	H-3	(100) (1,000)	NA	NA	(100) (1,000)	NA	NA	(20) (200)	NA
Combustible liquid[c, i]	II IIIA IIIB	H-2 or H-3 H-2 or H-3 NA	NA	120[d, e] 330[d, e] 13,200[e, f]	NA	NA	120[d] 330[d] 13,200[f]	NA	NA	30[d] 80[d] 3,300[f]
Consumer fireworks	1.4G	H-3	125[e, l]	NA	NA	NA	NA	NA	NA	NA
Cryogenic flammable	NA	H-2	NA	45[d]	NA	NA	45[d]	NA	NA	10[d]
Cryogenic inert	NA	NA	NA	NA	NL	NA	NA	NL	NA	NA

Cryogenic oxidizing	NA	H-3	NA	45[d]	NA	NA	45[d]	NA	NA	10[d]
Explosives	Division 1.1 Division 1.2 Division 1.3 Division 1.4 Division 1.4G Division 1.5 Division 1.6	H-1 H-1 H-1 or H-2 H-3 H-3 H-1 H-1	1[e, g] 1[e, g] ~~5~~*10*[e, g] 50[e, g] 125[d, e, l] 1[e, g] 1[e, g]	(1)[e, g] (1)[e, g] (~~5~~*10*)[e, g] (50)[e, g] NA (1)[e, g] NA	NA	0.25[g] 0.25[g] 1[g] 50[g] NA 0.25[g] NA	(0.25)[g] (0.25)[g] (1)[g] (50)[g] NA (0.25)[g] NA	NA	0.25[g] 0.25[g] 1[g] NA NA 0.25[g] NA	(0.25)[g] (0.25)[g] (1)[g] NA NA (0.25)[g] NA
Flammable gas	Gaseous Liquefied	H-2	NA	NA (150)[d, e]	1,000[d,e] NA	NA	NA (150)[d, e]	1,000[d,e] NA	NA	NA
Flammable liquid[c]	IA IB and IC	H-2 or H-3	NA	30[d,e] 120[d,e]	NA	NA	30[d] 120[d]	NA	NA	10[d] 30[d]
Flammable liquid, combination (IA, IB, IC)	NA	H-2 or H-3	NA	120[d, e, h]	NA	NA	120[d, h]	NA	NA	30[d, h]
Flammable solid	NA	H-3	125[d, e]	NA	NA	125[d]	NA	NA	25[d]	NA
Inert gas	Gaseous Liquefied	NA NA	NA NA	NA NA	NL NL	NA NA	NA NA	NL NL	NA NA	NA NA
Organic peroxide	UD I II III IV V	H-1 H-2 H-3 H-3 NA NA	1[e, g] 5[d, e] 50[d, e] 125[d, e] NL NL	(1)[e, g] (5)[d, e] (50)[d, e] (125)[d, e] NL NL	NA	0.25[g] 1[d] 50[d] 125[d] NL NL 0.25[g]	(0.25)[g] (1)[d] (50)[d] NL NL (0.25)[g]	NA NA	0.25[g] 1[d] 10[d] 25[d] NL NL 0.25[g]	(0.25)[g] (1)[d] (10)[d] NL NL (0.25)[g]
Oxidizer	4 3[k] 2 1	H-1 H-2 or H-3 H-3 NA	1[g] 10[d, e] 250[d, e] 4,000[e, f]	(1)[e, g] (10)[d, e] (250)[d, e] (4,000)[e, f]	NA	0.25[g] 2[d] 250[d] 4,000[f]	(0.25)[g] (2)[d] (250)[d] (4,000)[f]	NA	0.25[g] 2[d] 50[d] 1,000[f]	(0.25)[g] (2)[d] (50)[d] (1,000)[f]
Oxidizing gas	Gaseous Liquefied	H-3	NA	NA (150)[d, e]	1,500[d, e] NA	NA	NA (150)[d, e]	1,500[d, e] NA	NA	NA
Pyrophoric	NA	H-2	4[e, g]	(4)[e, g]	50[e, g]	1[g]	(1)[g]	10[e, g]	0	0
Unstable (reactive)	4 3 2 1	H-1 H-1 or H-2 H-3 NA	1[e, g] 5[d, e] 50[d, e] NL	(1)[e, g] (5)[d, e] (50)[d, e] NL	10[e, g] 50[d, e] 750[d, e] NL	0.25[g] 1[d] 50[d] NL	(0.25)[g] (1)[d] (50)[d] NL	2[e, g] 10[d, e] 750[d, e] NL	0.25[g] 1[d] 10[d] NL	(0.25)[g] (1)[d] (10)[d] NL
Water reactive	3 2 1	H-2 H-3 NA	5[d, e] 50[d, e] NL	(5)[d,e] (50)[d, e] NL	NA	5[d] 50[d] NL	(5)[d] (50)[d] NL	NA	1[d] 10[d] NL	(1)[d] (10)[d] NL

For SI: 1 cubic foot = 0.028 m3, 1 pound = 0.454 kg, 1 gallon = 3.785 L.
NL = Not Limited; NA = Not Applicable; UD = Unclassified Detonable.
a. For use of control areas, see Section 414.2.
b. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.
c. The quantities of alcoholic beverages in retail and wholesale sales occupancies shall not be limited provided the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids 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.
d. *[SFM] In other than Group L occupancies,* ~~M~~*m*aximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.

e. *~~[SFM] In other than Group L occupancies,~~* Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, day boxes, gas cabinets, gas rooms or exhausted enclosures or in listed safety cans in accordance with Section 5003.9.10 of the ~~International~~*California Fire Code*. Where Note d also applies, the increase for both notes shall be applied accumulatively.
f. Quantities shall not be limited in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
g. Allowed only in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
h. Containing not more than the maximum allowable quantity per control area of Class IA, IB or IC flammable liquids.
i. The maximum allowable quantity shall not apply to fuel oil storage complying with Section 603.3.2 of the ~~International~~*California Fire Code*.
j. Quantities in parenthesis indicate quantity units in parenthesis at the head of each column.
k. A maximum quantity of 200 pounds of solid or 20 gallons of liquid Class 3 oxidizers is allowed when such materials are necessary for maintenance purposes, operation or sanitation of equipment when the storage containers and the manner of storage are approved.
l. Net weight of the pyrotechnic composition of the fireworks. Where the net weight of the pyrotechnic composition of the fireworks is not known, 25 percent of the gross weight of the fireworks, including packaging, shall be used.
m. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2 of the ~~International~~*California Fire Code*.
n. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).
o. Densely packed baled cotton that complies with the packing requirements of ISO 8115 shall not be included in this material class.
p. The following shall not be included in determining the maximum allowable quantities:
1. Liquid or gaseous fuel in fuel tanks on vehicles.
2. Liquid or gaseous fuel in fuel tanks on motorized equipment operated in accordance with the ~~International~~*California Fire Code*.
3. Gaseous fuels in piping systems and fixed appliances regulated by the ~~International Fuel Gas Code~~ *California Mechanical Code*.
4. Liquid fuels in piping systems and fixed appliances regulated by the ~~International~~*California Mechanical Code*.
5. Alcohol-based hand rubs classified as Class I or II liquids in dispensers that are installed in accordance with Sections 5705.5 and 5705.5.1 of the ~~International~~*California Fire Code*. The location of the alcohol-based hand rub (ABHR) dispensers shall be provided in the construction documents.
q. Where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3.

~~**308.4.1 Occupancy conditions**. Buildings of Group I-2 shall be classified as one of the occupancy conditions specified in Section 308.4.1.1 or 308.4.1.2.~~

~~**308.4.1.1 Condition 1.** This occupancy condition shall include facilities that provide nursing and medical care but do not provide emergency care, surgery, obstetrics or in-patient stabilization units for psychiatric or detoxification, including but not limited to nursing homes and foster care facilities.~~

~~**308.4.1.2 Condition 2**. This occupancy condition shall include facilities that provide nursing and medical care and could provide emergency care, surgery, obstetrics\ or in-patient stabilization units for psychiatric or detoxification, including but not limited to hospitals.~~

310.2 Definitions. The following terms are defined in Chapter 2:

~~***MENTALLY RETARDED PERSONS, PROFOUNDLY OR SEVERELY.***~~
~~**PERSONAL CARE SERVICE.**~~
PERSONS WITH INTELLECTUAL DISABILITIES, PROFOUNDLY OR SEVERELY

~~**310.6.1 Condition 1.** This occupancy Condition shall include buildings in which all persons receiving custodial care, without any assistance, are capable of responding to an emergency situation to complete building evacuation.~~

~~**310.6.2 Condition 2**. This occupancy Condition shall include buildings in which there are any persons receiving custodial care who require limited verbal or physical assistance while responding to an emergency situation to complete building evacuation.~~

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 12081, 12552, 12553, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
References: Health and Safety Code Sections 12000 through 12401 and 12500 through 12725, 13108, 13143, 13211, 18949.2

[5. The SFM proposes to adopt Chapter 4 with the following amendments and California regulations.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

403.4.8.1 Equipment room. If the standby or emergency power system includes a generator set inside a building, the system shall be located in a separate room enclosed with 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both. System supervision with manual start and transfer features shall be provided at the fire command center.

Exception: In Group I-2~~, Condition 2,~~ manual start and transfer features for the critical branch of the emergency power are not required to be provided at the fire command center.

404.5 Smoke control. A smoke control system shall be installed in accordance with Section 909.

Exception: In other than Group I-2, and ~~Group I-1, Condition 2~~*R-2.1* smoke control is not required for atriums that connect only two stories.

406.3.1 Classification. Private garages and carports shall be classified as Group U occupancies. Each private garage shall be not greater than 1,000 square feet (93 m2) in area. Multiple private garages are permitted in a building where each private garage is separated from the other private garages by 1-hour fire barriers in accordance with Section 707, or 1-hour horizontal assemblies in accordance with Section 711, or both.

Exception: *The area of a private garage accessory to Group R-3 one- or two-family dwellings shall not be greater than 3,000 square feet in area.*

406.6.2 Ventilation. A mechanical ventilation system shall be provided in accordance with the ~~*International*~~*California Mechanical Code*.

Exception: *Mechanical ventilation shall not be required for enclosed parking garages that serve Group R-3 one- or two-family dwellings.*

407.3.1.1 Swing of corridor doors. *Corridor doors, other than those equipped with self-closing or automatic-closing devices shall not swing into the required width of corridors.*

Exception: In detention and/or secure mental health facilities, ~~D~~doors may swing into required width of corridors ~~in I-3 facilities~~ as long as 44" clear is maintained with any one door open 90 degrees and clear corridor widths required in Chapter 12 can be maintained with doors open 180 degrees.

407.4.1 Direct access to a corridor. Habitable rooms in Group I-2 *and I-2.1* occupancies shall have an exit access door leading directly to a corridor.

Exceptions~~:~~
~~1.~~ Rooms with exit doors opening directly to the outside at ground level.
~~2. Rooms arranged as care suites complying with Section 407.4.3~~

407.4.3 ~~Projections in nursing home corridors~~*Reserved*. ~~In Group I-2, Condition 1, occupancies, where the corridor width is a minimum of 96 inches (2440 mm), projections shall be permitted for furniture where all of the following criteria are met:~~
~~1. The furniture is attached to the floor or to the wall.~~
~~2. The furniture does not reduce the clear width of the corridor to less than 72 inches (1830 mm) except where other encroachments are permitted in accordance with Section 1005.7.~~
~~3. The furniture is positioned on only one side of the corridor.~~
~~4. Each arrangement of furniture is 50 square feet (4.6 m2) maximum in area.~~
~~5. Furniture arrangements are separated by 10 feet (3048 mm) minimum.~~
~~6. Placement of furniture is considered as part of the fire and safety plans in accordance with Section 1001.4.~~

407.10 Electrical systems. In Group I-2 *or I-2.1* occupancies, the essential electrical system for electrical components, equipment and systems shall be designed and constructed in accordance with the provisions of Chapter 27 and NFPA 99.

410.3.6 Scenery. Combustible materials used in sets and scenery ~~shall meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701~~ *shall be flame resistant in accordance with the provisions set forth in CCR, Title 19, Division 1, Chapter 8*, in accordance with Section 806 and the ~~*International*~~*California* Fire Code. Foam plastics and materials containing foam plastics shall comply with Section 2603 and the ~~*International*~~*California* Fire Code.

SECTION 421
~~HYDROGEN *FUEL GAS* ROOMS~~ HYDROGEN FUEL GAS ROOMS

[Editorial Note: Remove existing amendments to Section 421.1 through 421.7. Model code now matches old CA amendments.]
421.1 General. When required by the ~~*International*~~*California* Fire Code, hydrogen fuel gas rooms shall be designed and constructed in accordance with Sections 421.1 through ~~421.7~~ 421.8.
~~**421.1 General.** When required by the *International California Fire Code*, hydrogen *fuel gas* rooms shall be designed and constructed in accordance with Sections 421.1 through 421.8.~~

421.2 Definitions. The following terms are defined in Chapter 2:
GASEOUS HYDROGEN SYSTEM
~~***HYDROGEN FUEL GAS ROOM.***~~
HYDROGEN FUEL GAS ROOM.

421.3 Location. Hydrogen fuel gas rooms shall not be located below grade.
~~**421.3 Location.** Hydrogen *fuel gas* rooms shall not be located below grade.~~

421.4 Design and construction. Hydrogen fuel gas rooms not classified as Group H shall be separated from other areas of the building in accordance with Section 509.1.
~~**421.4 Design and construction.** Hydrogen *fuel gas* rooms *not classified as Group H* shall be separated from other areas of the building *in accordance with Section 509.1*.~~

421.4.1 Pressure control. Hydrogen fuel gas rooms shall be provided with a ventilation system designed to maintain the room at a negative pressure in relation to surrounding rooms and spaces.
~~**421.4.1 *Pressure control*.** *Hydrogen gas rooms shall be provided with a ventilation system designed to maintain the room at a negative pressure in relation to surrounding rooms and spaces.*~~

421.5 Exhaust ventilation. Hydrogen fuel gas rooms shall be provided with mechanical exhaust ventilation in accordance with the applicable provisions of Section 502.16.1 of the ~~*International*~~*California* Mechanical Code.
~~**421.5 *Exhaust* Ventilation.** *Gas* rooms shall be provided with mechanical *exhaust* ventilation in accordance with the applicable provisions *of Section 502.16.1* of the *California Mechanical Code*.~~

421.6 Gas detection system. Hydrogen fuel gas rooms shall be provided with an approved flammable gas detection system in accordance with Sections 421.6.1 through 421.6.4.
~~**421.6 Gas detection system.** Hydrogen fuel *gas* rooms shall be provided with an approved flammable gas detection system in accordance with Sections 421.6.1 through *421.6.4*.~~

421.6.2 Gas detection system components. Gas detection system control units shall be listed and labeled in accordance with UL 864 or UL 2017. Gas detectors shall be listed and labeled in accordance with UL 2075 for use with the gases and vapors being detected.
~~***421.6.2 Gas detection system components.*** *Gas detection system control units shall be listed and labeled in accordance with UL 864 or UL 2017. Gas detectors shall be listed and labeled in accordance with UL 2075 for use with the gases and vapors being detected.*~~

421.6.3 Operation. Activation of the gas detection system shall result in all of the following:
1. Initiation of distinct audible and visual alarm signals both inside and outside of the hydrogen fuel gas room.
2. Activation of the mechanical exhaust ventilation system.
~~***421.6.3* Operation.** Activation of the gas detection system shall result in all of the following:~~
~~1. Initiation of distinct audible and visual alarm signals both inside and outside of the cutoff *fuel gas* room.~~
~~2. Activation of the mechanical *exhaust* ventilation system.~~

421.6.4 Failure of the gas detection system. Failure of the gas detection system shall result in activation of the mechanical exhaust ventilation system, cessation of hydrogen generation and the sounding of a trouble signal in an approved location.
~~***421.6.4* Failure of the gas detection system.** Failure of the gas detection system shall result in activation of the mechanical *exhaust* ventilation system, cessation of hydrogen generation and the sounding of a trouble signal in an approved location.~~

421.7 Explosion control. Explosion control shall be provided where required by Section 414.5.1.
~~**421.7 Explosion control.** Explosion control shall be provided *where required by Section 414.5.1.*~~

~~***425.8.4.2***~~***<u>435.8.4.2</u>*** *The minimum clear width of a corridor shall be as follows:*
1. Group R-2.1 occupancies shall have 60 inches (1524 mm) on floors housing nonambulatory clients and 44 inches (1118 mm) on floors housing only ambulatory clients.
2. Group R-4 occupancies shall have 44 inches (1118 mm) on floors housing clients.

Exceptions:
1. Corridors serving an occupant load of 10 or less shall not be less than 36 inches (914 mm) in width.
2. Corridors serving ambulatory persons only and having an occupant load of 49 or less shall not be less than 36 inches (914 mm) in width.
~~*3. Group R-4 occupancies shall have thirty-six inches (914 mm) on floors housing 10 or less clients.*~~

~~***425.8.7***~~***<u>435.8.7</u>* Floor separation.** *Group R-3.1 occupancies <u>with non-ambulatory clients housed above the first floor</u> shall be provided with a non-fire resistance constructed floor separation at stairs which will prevent smoke migration between floors. Such floor separation shall have equivalent construction of 0.5 inch (12.7 mm) gypsum wallboard on one side of wall framing.*

Exceptions:
1. Occupancies with at least one exterior exit from floors occupied by clients.
2. Occupancies provided with automatic fire sprinkler systems complying with Chapter 9.

SECTION 4~~34~~<u>44</u>
EXPLOSIVES [SFM]

<u>[Section 444 have been repealed and replaced by the adoption of California Fire Code Chapter 56.]</u>

~~***434.1 General construction requirements.*** *Magazines shall be constructed in conformity with the provisions of these regulations, or may be of substantially equivalent construction satisfactory to the enforcing agency having jurisdiction. Reasonable allowances shall be made for storage facilities in existence prior to the adoption of these regulations. No allowance, however, shall be made for storage facilities which constitute a distinct hazard to life and property.*~~

~~***434.2 Ventilation and weather resistance.*** *Magazines for the storage of explosives shall be sufficiently ventilated and weather resistant and when used for the storage of Class A explosives (other than black powder, blasting agents,*~~

~~*blasting caps and electric blasting caps), they shall also be of bullet- resistant construction unless deemed exempt by the enforcing agency having jurisdiction.*~~

~~***Note:*** *The recommendation for ventilation as contained in Pamphlet No. 1, Institute of Makers of Explosives, 1965 edition, is evidence of good practice.*~~

~~***434.3 Construction for separation between primers and flammable liquids.*** *Primers shall be separated from flammable liquids by a one-hour fire-resistive occupancy separation.*~~

~~***Exception:*** *A separation need not be provided for small arms ammunition primers when such primers are located a distance of not less than 25 feet (7620 mm) from flammable liquids.*~~

~~***434.4 Construction of Type I Magazine.*** *Type I magazines shall be of bullet-resistant construction. Plans shall be submitted to the enforcing agency having jurisdiction for approval prior to construction.*~~

~~***434.4.1 General.*** *Use of the following materials and methods of construction shall be evidence of compliance with this requirement:*~~

~~*1. Masonry units not less than 8 inches (203 mm) in thickness with all hollow spaces filled with weak cement, well-tamped sand, or equivalent material; or*~~
~~*2. Reinforced concrete not less than 6 inches (152 mm) in thickness; or*~~
~~*3. Steel walls of minimum No. 14 manufacturers. Standard gage (0.0747 inch) (1.9 mm) to No. 6 manufacturers. Standard gage (0.1943 inch) (4.9 mm) may be used, provided there are two layers spaced at least 6 inches (152 mm) apart with all hollow spaces filled with weak cement, well-tamped sand or equivalent material; or*~~
~~*4. One layer of No. 6 manufacturer's standard gage (0.1943 inch) (4.9 mm) or heavier; steel lined on the interior with a minimum of 4 inches (102 mm) of wood; or*~~
~~*5. Two layers of No. 6 manufacturer's standard gage (0.1943 inch) (4.9 mm) or heavier steel spaced a minimum 1/2 inch (12.7 mm) apart and lined on the interior with a minimum of 2 inches (51 mm) of wood; or*~~
~~*6. Two layers of wood, at least 2 inches (51 mm) nominal thickness each, spaced a minimum 4 inches (102 mm) apart with the hollow space filled with weak cement, well-tamped sand or equivalent material.*~~
~~*7. Wood used shall conform to the following:*~~
~~*Wood shall be of tongue-and-grooved lumber or plywood. Wood shall be covered, on the exterior side, with metal to provide protection against flying embers and sparks.*~~

~~***434.4.2 Doors.*** *Doors shall be of bullet-resistant construction. Each door is to be equipped with:*~~

~~*1. Two mortise locks;*~~
~~*2. Two padlocks fastened in separate hasps and staples;*~~
~~*3. A combination of a mortise lock and a padlock;*~~
~~***4****. A mortise lock that requires two keys to open; and*~~
~~*5. A three-point lock.*~~

~~*Padlocks must have at least five tumblers and a case-hardened shackle of at least 3/8-inch (9.5 mm) diameter. Padlocks must be protected with not less than 1/4-inch (6.4 mm) steel hoods constructed so as to prevent sawing or lever action on the locks, hasps and staples. These requirements do not apply to magazine doors that are adequately secured on the inside by means of a bolt, lock or bar that cannot be actuated from the outside.*~~

~~***434.4.3 Floors.*** *Floors of magazines shall be securely fastened in place and shall be capable of withstanding the loads imposed.*~~

~~***434.4.4 Roofs.*** *Roofs shall be securely fastened in place and they shall be bullet resistant, if required by the fire chief having jurisdiction.*~~

~~***434.4.5 Ventilation openings.*** *Ventilation openings shall be screened to prevent the entrance of sparks and they shall be protected in a manner that will maintain the bullet resistance of the magazine.*~~

~~***434.4.6 Interiors.*** *Magazine interiors shall be of a smooth finish without cracks or crevices with all nails, screws, bolts and nuts countersunk. Exposed metal capable of emitting sparks shall be covered so as not to come in contact with packages of explosives.*~~

~~***434.4.7 Location.*** *No Type I magazine, or portion thereof, shall be located under a high-voltage power line (750 volts or more). For the purposes of this section, "under" shall include an open space of not less than the height of the power line from the ground at right angles to the walls of the magazine.*~~

~~***434.5 Buildings used for mixing of blasting agents.*** *Buildings used for the mixing of blasting agents shall conform to the requirements of Sections 434.5 and 434.6, unless otherwise specifically approved by the enforcing agency having jurisdiction.*~~

~~***434.5.1 Construction.*** *Buildings shall be of all noncombustible construction or of sheet metal on wood studs.*~~

~~***434.5.2 Separation.*** *The layout of the mixing building shall be such so as to provide physical separation between the finished product storage and the mixing and packaging operations.*~~

~~***434.5.3 Storage areas.*** *Floors in storage areas and in the processing plant shall be of concrete or other noncombustible material. Isolated fuel storage shall be provided to avoid contact between molten ammonium nitrate and fuel in case of fire.*~~

~~***434.5.4 Ventilation.*** *The building shall be well ventilated in accordance with Section 434.2.*~~

~~***434.5.5 Heat.*** *Heat, if used, shall be provided exclusively from a unit outside of the building.*~~

~~***434.5.6 Venting.*** *Explosion venting shall be provided when required by the enforcing agency having jurisdiction.*~~

~~***434.6 Building construction storage.*** *Blasting agents may be stored in the manner set forth in Title 19, California Code of Regulations, Subchapter 10, Article 3, or in one-story warehouses (without basements), which shall be:*~~

~~*1. Of noncombustible or one-hour fire-resistive construction;*~~
~~*2. Constructed so as to eliminate floor drains and piping into which molten materials could flow and be confined in case of fire;*~~
~~*3. Weather resistant;*~~
~~***4.*** *Well ventilated in accordance with Section ; 434.2 and*~~
~~*5. Equipped with a substantially constructed and lockable door which shall be kept securely locked, except when the facility is open for business.*~~

~~***434.7 Electrical requirements for Type I magazines.*** *Magazines shall not be provided with either heat or light, except upon the approval of the enforcing agency having jurisdiction. Electrical installation, when permitted, shall be in accordance with the California Electrical Code for Type II, Division I locations.*~~

~~***434.8 Mixing room blasting agents.*** *All electrical switches, controls, motors and lights, if located in the mixing room, shall be installed in accordance with the California Electrical Code for Type II, Division I locations.*~~

~~***434.9 Storage of special effects materials.*** *The storage of not more than 750 pounds (340 kg) of special effects materials shall be in a building or a room conforming to the requirements of Group H, Division I Occupancies as defined in this part. In addition, the following shall apply to every special effects materials storage building or room:*~~

~~*1. The building shall be sprinklered as required in Chapter 9.*~~

~~*2. It shall be deemed that the storage of special effects materials creates an atmosphere of flammable dust.*~~
~~*3. Two or more permanent openings having an area of not less than 100 square inches (64 500 mm2) shall be located in the exterior wall to provide natural ventilation. These openings shall be protected by screens or louvers covered with 1/4-inch (6.4 mm) wire mesh screen.*~~
~~*4. Walls, floor ceiling, shelves and benches shall have a smooth nonmetallic surface which can be easily cleaned with a minimum of brushing or scrubbing.*~~
~~*5. Each entrance door shall be posted on the outside with signs stating, "Authorized Personnel Only" and "No Smoking."*~~
~~*6. Assembling and manufacturing are prohibited in special effects storage rooms or buildings.*~~
~~*7. The room shall be located above grade in a one-story building or on the top floor of a multistory building or may be a separate building.*~~

8. The room or building shall have a minimum floor area of 80 square feet (7.4 m2) with no dimension less than 8 feet (2438 mm). 9. Electric wiring, lighting and heating shall be of a type approved for use in hazardous locations.

434.10 Mixing room or building. *Buildings or rooms in which more than 50 pounds (22.7 kg) of special effects materials are present at any time shall be constructed with at least one wall of explosion-relief type. The relief wall should be placed so as to be of least hazard to persons in adjacent buildings.*

434.10.1 Explosive venting. *When explosive venting is required, the venting area will be calculated on 1 square foot (0.0929 m2) for each 35 cubic feet (0.99 m3) of building or roof area.*

434.10.2 Egress. *All rooms or buildings shall have adequate aisle space and at least two exits separated by a distance equal to at least one-fifth the perimeter of the room. Openings in fire walls shall be equipped with approved, self-closing fire doors. All exit doors shall open outward and be equipped with approved panic hardware.*

Exception: *Cubicles 100 square feet (9.3 m2) or less and occupied by not more than two persons working within 12 feet (3658 mm) of an unobstructed passageway may have one exit.*

434.10.3 Room finishes. *Floors, walls, interior surfaces and equipment shall be of a finish and color that will indicate the presence of dust and spilled material. They shall be smooth finished for easy cleaning.*

434.10.4 HVAC. *Heating and cooling shall be by the indirect method using water, steam, electric heaters or other indirect methods.* ***Note:*** *Floor registers shall not be permitted.*

434.10.5 Electrical. *All electrical wiring and equipment shall be acceptable for the hazard involved and installed in accordance with Hazardous Locations, California Electrical Code.*

434.10.6 Grounding. *Effective bonding and grounding means shall be provided to prevent accumulation of static charges where static charges are a hazard, as set forth in the California Electrical Code.*

434.10.7 Pressure relief valves. *Hydraulic or air presses and hand jacks shall be provided with pressure-relief valves so arranged and set that the material being processed will not be subjected to pressure likely to cause it to explode. Dies and plugged press equipment shall not be cleared by striking blows that may detonate or start the material burning.*

434.10.8 Dust control. *Dust from special effects materials shall not be exhausted to the atmosphere. Where vacuum dust collections systems are used, they shall comply with the following requirements:*

1. Adequate filters must be installed between the source vacuum and the point of pickup to prevent explosive special effects materials from entering the vacuum pump or exhauster.
2. The dust-collection system shall be designed to prevent pinch points threaded fittings exposed to the hazardous dust and sharp turns, dead-ends, pockets, etc., in which special effects materials may lodge and accumulate outside the collecting chamber.
3. The entire vacuum collection system shall be made electrically continuous and be grounded to a maximum resistance of 5 ohms.
4. Chambers in which the dusts are collected shall not be located in the operating area unless adequate shields for the maximum quantity of material in the collector are furnished for personnel protection.
5. No more than two rooms may be serviced by a common connection to a vacuum collection chamber. Where interconnections are used, means should be employed to prevent propagation of an incident via the collection piping.
6. When collecting the more sensitive special effects materials, such as black powder, lead azide, etc., a "wet" collector which moistens the dust close to the point of intake and maintains the dust wet until removed for disposal shall be used. Wetting agents shall be compatible with the explosives.
7. Dusts shall be removed from the collection chamber as often as necessary to prevent overloading. The entire system shall be cleaned at a frequency that will eliminate hazardous concentrations of dusts in pipes, tubing and/or ducts.

434.10.9 Fans. *Squirrel-cage blowers should not be used for exhausting hazardous fumes, vapors or gases. Only nonferrous fan blades are permitted for fans located within the ductwork and through which hazardous materials are exhausted. Motors shall be located outside the duct.*

434.10.10 Work stations. *Work stations for small amounts of special effects materials [less than 1 pound (0.454 kg)] shall be separated by distance, barrier or other means, so fire in one station will not ignite material in the next work*

~~*station. When necessary, each operator shall be protected by a personnel shield located between the operator and the material being processed. This shield and its support shall be a test design to withstand a blast from the maximum amount of special effects materials allowed behind it.*~~

~~***434.10.11 Shielding.*** *When shields or structures are needed to protect personnel, the following requirement shall be followed when specific weights of special effects materials in the amount of 1 pound (0.454 kg) or more are involved:*~~

~~***Weight of Explosive***~~	~~***Structure of Shield Wall***~~
~~*1-15 pounds (0.454-6.8 kg)*~~	~~*Shield wall constructed of concrete not less than 12 inches (305 mm) thick which is reinforced near both sides by rods not less than 1/2 inch (12.7 mm) in diameter located on maximum centers of 12 inches (305 mm) both horizontally and vertically. The rods must be staggered on opposite faces.*~~
~~*More than 15 pounds (6.8 kg)*~~	~~*The shield wall for the protection of workers must be designed in such a manner to protect against the efforts of not less than 25 percent overload above the expected maximum charge to be processed.*~~

~~***Notes:***~~
~~*1. One inch (25 mm) of mild steel is equivalent to 1 foot (305 mm) of reinforced concrete.*~~
~~*2. Explosives shall be located not less than 36 inches (914 mm) from the wall and 24 inches (610 mm) above the floor.*~~

~~*If this personnel protection wall for the required operation involving large quantities of special effects materials becomes so large that it is impractical, the operator must perform the operations by remote control or be protected by a suitably constructed shelter designed with a safety factor of not less than*~~

~~*4 to withstand the overpressure from the maximum amount of explosives in process.*~~

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 12081, 12552, 12553, 13108, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
References: Health and Safety Code Sections 12000 through 12401 and 12500 through 12725, 13108, 13143, 13211, 18949.2

[6. The SFM proposes to adopt Chapter 5 without modification.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[7. The SFM proposes to adopt Chapter 6 without modification.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 6
TYPES OF CONSTRUCTION

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2

References: Health and Safety Code Sections 13143, 13211, 18949.2

[8. The SFM proposes to adopt Chapter 7 with the following amendments and California regulations.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 7
FIRE-RESISTANCE-RATED CONSTRUCTION

708.1 General. The following wall assemblies shall comply with this section.

1. Separation walls as required by Section 420.2 for Groups ~~I-1,~~ R-1, R-2*, R-2.1,* and R-3.
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. Elevator lobby separation as required by Section 3006.2.
5. Egress balconies as required by Section 1019.2
6. Walls separating enclosed tenant spaces in high-rise buildings and in buildings of Types I, IIA, IIIA, IV or VA construction of Group A, E, H, I, L and R-2.1 occupancies and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal.

717.5.5 Smoke barriers. A listed smoke damper designed to resist the passage of smoke shall be provided at each point a duct or air transfer opening penetrates a smoke barrier. Smoke dampers and smoke damper actuation methods shall comply with Section 717.3.3.2.

Exceptions:
1. Smoke dampers are not required where the openings in ducts are limited to a single smoke compartment and the ducts are constructed of steel.
~~2. Smoke dampers are not required in smoke barriers required by Section 407.5 for Group I-2, Condition 2—where the HVAC system is fully ducted in accordance with Section 603 of the *InternationalCalifornia Mechanical Code* and where buildings are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and equipped with quick-response sprinklers in accordance with Section 903.3.2.~~

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[9. The SFM proposes to maintain the adoption of SFM Chapter 7A the following amendments and California regulations.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 7A
MATERIALS AND CONSTRUCTION METHODS FOR EXTERIOR WILDFIRE EXPOSURE [SFM]

706A.2 Requirements. *Ventilation openings for enclosed attics, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, and underfloor ventilation openings shall be fully covered with metal wire mesh, vents, other materials, or other devices that meet one of the following requirements:*

1. Listed vents complying with ASTM E2886.
1.1 The Ember Intrusion Test shall have no flaming ignition of the cotton material.
1.2 There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test. The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).

2. Vents complying with all of the following:
2.1. The dimensions of the openings therein shall be a minimum of 1/16th inch (1.6 mm) and shall not exceed 1/8th inch (3.2 mm).
2.2. The materials used shall be noncombustible.

Exception: *Vents located under the roof covering, along the ridge of roofs, with the exposed surface of the vent covered by noncombustible wire mesh, may be of combustible materials.*

2.3. The materials used shall be corrosion resistant.

706A.3 Ventilation openings on the underside of eaves and cornices: *Vents shall not be installed on the underside of eaves and cornices.*

Exceptions*:*
1. Listed vents complying with ASTM E2886
1.1 The Ember Intrusion Test shall have no flaming ignition of the cotton material.
1.2 There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test. The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).

~~1.~~2. The enforcing agency may accept or approve special eave and cornice vents that resist the intrusion of flame and burning embers.
~~2.~~3. Vents complying with the requirements of Section 706A.2 may be installed on the underside of eaves and cornices in accordance with either one of the following conditions:
~~2.1.~~3.1 The attic space being ventilated is fully protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 of the California Building Code or,
~~2.2.~~3.2 The exterior wall covering and exposed underside of the eave are of noncombustible material, or ignition-resistant-materials as determined in accordance with SFM Standard 12-7A-5 Ignition-Resistant Material and the vent is located more than 12 feet from the ground or walking surface of a deck, porch, patio, or similar surface.

707A.5 Enclosed roof eaves and roof eave soffits. *The exposed underside of enclosed roof eaves having either a boxed-in roof eave soffit with a horizontal underside, or sloping rafter tails with an exterior covering applied to the underside of the rafter tails, shall be protected by one of the following:*

1. Noncombustible material
2. Ignition-resistant material
3. One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the rafter tails or soffit
4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the rafter tails or soffit including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual
5. Boxed-in roof eave soffit assemblies with a horizontal underside that meet the performance criteria in accordance with the test procedures set forth in either of the following:
5.1 SFM Standard 12-7A-3; or
5.2 ASTM E2957

Exceptions: *The following materials do not require protection:*

1. Gable end overhangs and roof assembly projections beyond an exterior wall other than at the lower end of the rafter tails
2. Fascia and other architectural trim boards

707A.6 Exterior porch ceilings. *The exposed underside of exterior porch ceilings shall be protected by one of the following:*

1. Noncombustible material
2. Ignition-resistant material
3. One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering on the underside of the ceiling

4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the ceiling assembly including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual
5. Porch ceiling assemblies with a horizontal underside that meet the performance criteria in accordance with the test procedures set forth in either of the following:
5.1 SFM Standard 12-7A-3; or
5.2 ASTM E2957

Exception: *Architectural trim boards.*

707A.7 Floor projections. *The exposed underside of a cantilevered floor projection where a floor assembly extends over an exterior wall shall be protected by one of the following:*

1. Noncombustible material
2. Ignition-resistant material
3. One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection
4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the floor projection including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual
5. The underside of a floor projection assembly that meet the performance criteria in accordance with the test procedures set forth in either of the following:
5.1 SFM Standard 12-7A-3; or
5.2 ASTM E2957

Exception: *Architectural trim boards.*

707A.8 Underfloor protection. *The underfloor area of elevated or overhanging buildings shall be enclosed to grade in accordance with the requirements of this chapter or the underside of the exposed underfloor shall consist of one of the following:*

1. Noncombustible material
2. Ignition-resistant material
3. One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection
4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the floor including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual
5. The underside of a floor assembly that meets the performance criteria in accordance with the test procedures set forth in either of the following:
5.1 SFM Standard 12-7A-3; or
5.2 ASTM E2957

Exception: *Heavy timber structural columns and beams do not require protection.*

707A.9 Underside of appendages. *When required by the enforcing agency the underside of overhanging appendages shall be enclosed to grade in accordance with the requirements of this chapter or the underside of the exposed underfloor shall consist of one of the following:*

1. Noncombustible material
2. Ignition-resistant material
3. One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection
4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the floor including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual
5. The underside of a floor assembly that meets the performance criteria in accordance with the test procedures set forth in either of the following:

5.1 SFM Standard 12-7A-3; or
5.2 ASTM E2957

Exception: *Heavy timber structural columns and beams do not require protection.*

Notation:
Authority: Health and Safety Code Sections 13108, 13108.5, 13143, 13143.2, 13143.6, 13146, 17921, 18949.2, Government Code Section 51189
References: Health and Safety Code Sections 13143, 18949.2, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204

[10. The SFM proposes to adopt Chapter 8 without modification.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 8
INTERIOR FINISHES

806.4 Acceptance criteria and reports. Where required to exhibit improved fire performance, curtains, draperies, fabric hangings and similar combustible decorative materials suspended from walls or ceilings shall be tested by an approved agency and ~~meet the flame propagation performance criteria of Test 1 or 2, as appropriate, of NFPA 701, or exhibit a maximum heat release rate of 100 kW when tested in accordance with NFPA 289, using the 20 kW ignition source~~ *shall be flame resistant in accordance with the provisions set forth in CCR, Title 19, Division 1, Chapter 8*. Reports of test results shall be prepared in accordance with the test method used and furnished to the building official upon request.

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[11. The SFM proposes to adopt Chapter 9 with the following amendments and California regulations.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 9
FIRE PROTECTION SYSTEMS

903.2.8 Group R. An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R fire area.

Exceptions:
1. Existing Group R-3 occupancies converted to Group R-3.1 occupancies not housing bedridden clients, not housing nonambulatory clients above the first floor and not housing clients above the second floor.
2. Existing Group R-3 occupancies converted to Group R-3.1 occupancies housing only one bedridden client and complying with Section ~~425.8.3.3~~435.8.3.3.
3. Pursuant to Health and Safety Code Section 13113 occupancies housing ambulatory children only, none of whom are mentally ill ~~or mentally retarded~~ children or children with intellectual disabilities, and the buildings or portions thereof in which such children are housed are not more than two stories in height, and buildings or portions thereof housing such children have an automatic fire alarm system activated by approved smoke detectors.
4. Pursuant to Health and Safety Code Section 13143.6 occupancies licensed for protective social care which house ambulatory clients only, none of whom is a child (under the age of 18 years), or who is elderly (65 years of age or over).

When not used ~~in accordance with Section 504.2 or 506.3~~ for height increases or for area increases, an automatic sprinkler system installed in accordance with Section 903.3.1.2 shall be allowed in Group R-2.1 occupancies.

An automatic sprinkler system designed in accordance with Section 903.3.1.3 shall not be utilized in Group R-2.1 or R-4 occupancies.

903.2.8.2 ~~**Group R-4 Condition 1**~~***Reserved***~~**.** An automatic sprinkler system installed in accordance with Section 903.3.1.3 shall be permitted in Group R-4 Condition 1 occupancies.~~

903.2.8.3 Group R-4 ~~**Condition 2**~~**.** An automatic sprinkler system installed in accordance with Section 903.3.1.2 shall be permitted in Group R-4 ~~Condition 2~~ occupancies. Attics shall be protected in accordance with Section 903.2.8.3.1 or 903.2.8.3.2.

903.3.1.3 NFPA 13D sprinkler systems. Automatic sprinkler systems installed in one- and two-family dwellings, Group R-3, ~~Group R-4 Condition 1~~ and townhouses shall be permitted to be installed throughout in accordance with NFPA 13D *as amended in Chapter 35*.

904.11.3 Testing and maintenance. Automatic water mist systems shall be tested and maintained in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5 and* the ~~*International*~~*California* Fire Code.

904.13 ~~**Domestic cooking systems in Group I-2 Condition 1**~~***Reserved***~~**.** In Group I-2 Condition 1, occupancies where cooking facilities are installed in accordance with Section 407.2.6 of this code, the domestic cooking hood provided over the cooktop or range shall be equipped with an automatic fire-extinguishing system of a type recognized for protection of domestic cooking equipment. Preengineered automatic extinguishing systems shall be tested in accordance with UL 300A and listed and labeled for the intended application. The system shall be installed in accordance with this code, its listing and the manufacturer's instructions.~~

904.13.2 ~~**Portable fire extinguishers for domestic cooking equipment in Group I-2 Condition 1**~~***Reserved***. ~~A portable fire extinguisher complying with Section 906 shall be installed within a 30-foot (9144 mm) distance of travel from domestic cooking appliances.~~

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.*

907.2.11.3 Installation near cooking appliances. ~~Smoke alarms shall not be installed in the following locations unless this would prevent placement of a smoke alarm in a location required by Section 907.2.11.1 or 907.2.11.2:~~
~~1. Ionization smoke alarms shall not be installed less than 20 feet (6096 mm) horizontally from a permanently installed cooking appliance.~~
~~2. Ionization smoke alarms with an alarm-silencing switch shall not be installed less than 10 feet (3048 mm) horizontally from a permanently installed cooking appliance.~~
~~3. Photoelectric smoke alarms shall not be installed less than 6 feet (1829 mm) horizontally from a permanently installed cooking appliance.~~ *See Section 907.2.11.8.*

907.2.11.4 Installation near bathrooms. ~~Smoke alarms shall be installed not less than 3 feet (914 mm) horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by Section 907.2.11.1 or 907.2.11.2.~~ *See Section 907.2.11.8.*

907.4.2.2 Height. The height of the manual fire alarm boxes shall be not less than 42 inches (1067 mm) and a not more than 48 inches (1372 mm) measured vertically, from the floor level to the *highest point of the* activating handle or lever of the box. *Manual fire alarm boxes shall also comply with Section 11B-309.4.*

Exception: [DSA-AC] *In existing buildings there is no requirement to retroactively relocate existing manual fire alarm boxes to a minimum of 42 inches (1219 mm) and a maximum of 48 inches (1372 mm) from the floor level to the activating handle or lever of the box.*

907.5.2.1 Audible alarms. Audible alarm notification appliances shall be provided and emit a distinctive sound that is not to be used for any purpose other than that of a fire alarm. *In Group I-2 occupancies, audible appliances located in patient areas shall be only chimes or similar sounding appliances for alerting staff. See Section ~~907.6.5~~907.6.6.*

Exceptions:
1. Audible alarm notification appliances are not required in ~~critical care~~ *patient* areas of Group I-2 ~~Condition 2~~ occupancies that are in compliance with Section 907.2.6, Exception 2.
2. A visible alarm notification appliance installed in a nurses' control station or other continuously attended staff location in a Group I-2 ~~Condition 2~~ suite shall be an acceptable alternative to the installation of audible alarm notification appliances throughout the suite in Group I-2 ~~Condition 2~~ occupancies that are in compliance with Section 907.2.6, Exception 2.
3. Where provided, audible notification appliances located in each occupant evacuation elevator lobby in accordance with Section 3008.9.1 shall be connected to a separate notification zone for manual paging only.

907.5.2.2.4 Emergency voice/alarm communication captions. Where stadiums, arenas and grandstands ~~are required to caption audible public announcements in accordance with Section 1108.2.7.3~~ *have 15,000 fixed seats or more and provide audible public announcements with prerecorded or real-time captions*, the emergency/voice alarm communication system shall be captioned. Prerecorded or live emergency captions shall be from an approved location constantly attended by personnel trained to respond to an emergency.

909.20.4.2 Relief vent. *A relief vent capable of discharging a minimum of 2,500 cubic feet per minute (1180 L/s) of air at the design pressure difference shall be located in the upper portion of such pressurized exit stairway or ramp enclosures.*

Exception: *When approved by the enforcing agency, other engineered design methods capable of discharging a minimum of 2,500 cubic feet per minute (1180 L/s) of air at the design pressure difference shall be permitted.*

[Editorial Note: Remove existing amendments to Section 910.1 through 910.4.7. Model code now matches old CA amendments.]
910.1 General. Where required by this code, smoke and heat vents or mechanical smoke removal ~~*removal*~~ systems shall conform to the requirements of this section.

910.2 Where required. Smoke and heat vents or a mechanical smoke removal system ~~*or mechanical smoke removal system*~~ shall be installed as required by Sections 910.2.1 and 910.2.2. *In occupied portions of a building where the upper surface of the story is not a roof assembly, a mechanical smoke removal system in accordance with Section 910.4 shall be installed*

Exceptions:
1. Frozen food warehouses used solely for storage of Class I and II commodities where protected by an approved automatic sprinkler system.
2. Smoke and heat removal shall not be required in areas of buildings equipped with early suppression fast-response (ESFR) sprinklers.
~~*1. Frozen food warehouses used solely for storage of Class I and II commodities where protected by an approved automatic sprinkler system.*~~
~~*2. Where areas of buildings are equipped with early suppression fast-response (ESFR) sprinklers, smoke and heat removal shall not be required within these areas.*~~
3. Smoke and heat removal shall not be required in areas of buildings equipped with control mode special application sprinklers with a response time index of 50 (m · s)1/2 or less that are listed to control a fire in stored commodities with 12 or fewer sprinklers.

910.2.1 Group F-1 or S-1. Smoke and heat vents installed in accordance with Section 910.3 or a mechanical smoke removal system installed in accordance with Section 910.4 shall be installed in ~~*Smoke and heat vents installed in accordance with Section 910.3 or a mechanical smoke removal system installed in accordance with Section 910.4 shall be installed in*~~ buildings and portions thereof used as a Group F-1 or S-1 occupancy having more than 50,000 square feet (4645 m2) of undivided area. In occupied portions of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 where the upper surface of the story is not a roof assembly, a mechanical smoke removal system in accordance with Section 910.4 shall be installed.

Exception: *Group F-1 aircraft manufacturing buildings and* Group S-1 aircraft repair hangars.

910.2.2 High-piled combustible storage. Smoke and heat removal required by Table 3206.2 of the International Fire Code for buildings and portions thereof containing high-piled combustible storage shall be installed in accordance with Section 910.3 in unsprinklered buildings. In buildings and portions thereof containing high-piled combustible storage equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, a smoke and heat removal system shall be installed in accordance with Section 910.3 or 910.4. ~~*Smoke and heat removal required by Table 3206.2 of the California Fire Code, for* buildings and portions thereof containing high-piled combustible storage *shall be installed in accordance with Section 910.3 in unsprinklered buildings. In buildings and portions thereof containing high-piled combustible storage equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 a smoke and heat removal system shall be installed in accordance with Section 910.3 or 910.4.*~~ In occupied portions of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, where the upper surface of the story is not a roof assembly, a mechanical smoke removal system in accordance with Section 910.4 shall be installed.

910.3 Smoke and heat vents. The design and installation of smoke and heat vents shall be in accordance with Sections 910.3.1 through 910.3.3.
~~**910.3** ***Smoke and heat vents***. The design and installation of smoke and heat vents shall be in *accordance with* Sections 910.3.1 through *910.3.3.*~~

910.3.1 Listing and labeling ~~***Listing and labeling***~~**.** Smoke and heat vents shall be listed and labeled to indicate compliance with UL 793, ~~or~~ FM 4430 ~~*FM 4430*~~*, or ICC ES AC 331*~~*, or UL 793*~~.

910.3.2 Smoke and heat vent ~~***Smoke and heat vent***~~ **locations.** Smoke and heat vents shall be located 20 feet (6096 mm) or more from adjacent lot lines and fire walls and 10 feet (3048 mm) or more from fire barriers. Vents shall be uniformly located within the roof in the areas of the building where the vents are required to be installed by Section 910.2 with consideration given to roof pitch, sprinkler location and structural members.

910.3.3 Smoke and heat vents area. The required aggregate area of smoke and heat vents shall be calculated as follows:

For buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1:
$A_{VR} = V/9000$ **(Equation 9-4)**
where:
A_{VR} = The required aggregate vent area (ft^2)
V = Volume (ft^3) of the area that requires smoke removal
For unsprinklered buildings:
$A_{VR} = A_{FA}/50$ **(Equation 9-5)**
where:
A_{VR} = The required aggregate vent area (ft^2)
A_{FA} = The area of the floor of the area that requires smoke removal.

~~***910.3.3 Smoke and heat vents area.*** *The required aggregate area of smoke and heat vents shall be calculated as follows:*~~

~~*For buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1:*~~
~~$A_{VR} = V/9000$ ***(Equation 9-4)***~~
~~*Where:*~~
~~A_{VR} *= the required aggregate vent area (ft^2)*~~
~~*V = volume (ft^3) of the area that requires smoke removal*~~
~~*For unsprinklered buildings:*~~
~~$A_{VR} = A_{FA}/50$ ***(Equation 9-5)***~~
~~*Where:*~~
~~A_{VR} *= the required aggregate vent area (ft^2)*~~
~~A_{FA} *= the area of the floor of the area that requires smoke removal.*~~

910.4 Mechanical smoke removal systems ~~***removal systems***~~**.** Mechanical smoke removal systems shall designed and installed in accordance with Sections 910.4.1 through 910.4.7. ~~Engineered mechanical smoke *removal systems* shall *designed and installed in accordance with Sections 910.4.1 through 910.4.7*~~

910.4.1 Automatic sprinklers required. The building shall be equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.
~~***910.4.1 Automatic sprinklers required.*** *The building shall be equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.*~~

910.4.2 Exhaust fan construction. Exhaust fans that are part of a mechanical smoke removal system shall be rated for operation at 221°F (105°C). Exhaust fan motors shall be located outside of the exhaust fan air stream.
~~***910.4.2 Exhaust fan construction.*** *Exhaust fans that are part of a mechanical smoke removal system shall be rated for operation at 105 deg. C. Exhaust fan motors shall be located outside of the exhaust fan air stream.*~~

910.4.3 System design criteria. The mechanical smoke removal system shall be sized to exhaust the building at a minimum rate of two air changes per hour based upon the volume of the building or portion thereof without contents. The capacity of each exhaust fan shall not exceed 30,000 cubic feet per minute (14.2 m3/sec).
~~***910.4.3 System design criteria.*** *The mechanical smoke removal system shall be sized to exhaust the building at a minimum rate of two air changes per hour based upon the volume of the building or portion thereof without contents. The capacity of each exhaust fan shall not exceed 30,000 cubic feet per minute.*~~

910.4.3.1 Makeup air. Makeup air openings shall be provided within 6 feet (1829 mm) of the floor level. Operation of makeup air openings shall be manual or automatic. The minimum gross area of makeup air inlets shall be 8 square feet per 1,000 cubic feet per minute (0.74 m2 per 0.4719 m3/s) of smoke exhaust.
~~***910.4.3.1 Make-up air.*** *Make-up air openings shall be provided within six feet (add metric) of the floor level. Operation of makeup air openings shall be manual or automatic. The minimum gross area of make-up air inlets shall be 8 ft^2 per 1000 cfm of smoke exhaust.*~~

910.4.4 Activation. The mechanical smoke removal system shall be activated by manual controls only.
~~***910.4.4 Activation.*** *The mechanical smoke removal system shall be activated by manual controls only.*~~

910.4.5 Manual control location. Manual controls shall be located so as to be accessible to the fire service from an exterior door of the building and protected against interior fire exposure 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.
~~***910.4.5 Manual control location.*** *Manual controls shall be located so as to be accessible to the fire service from an exterior door of the building and be protected against interior fire exposure by not less than 1-hour fire barriers constructed in accordance with Section 707 of the California Building Code or horizontal assemblies constructed in accordance with Section 712 of the California Building Code, or both.*~~

910.4.6 Control wiring. Wiring for operation and control of mechanical smoke removal systems shall be connected ahead of the main disconnect in accordance with Section 701.12E of *the* ~~NFPA 70~~ *California Electric Code* and be protected against interior fire exposure to temperatures in excess of 1,000°F (538°C) for a period of not less than 15 minutes.
~~***910.4.6 Control wiring.*** *Wiring for operation and control of mechanical smoke removal systems shall be connected ahead of the main disconnect in accordance with Section 701.12E of NFPA 70 and be protected against interior fire exposure to temperatures in excess of 1,000°F (538°C) for a period of not less than 15 minutes.*~~

910.4.7 Controls. Where building air-handling and mechanical smoke removal systems are combined or where independent building air-handling systems are provided, fans shall automatically shut down in accordance with the ~~International~~*California* Mechanical Code. The manual controls provided for the smoke removal system shall have the capability to override the automatic shutdown of fans that are part of the smoke removal system.
~~***910.4.7 Controls***. *Where building air-handling and mechanical smoke removal systems are combined or where independent building air-handling systems are provided, fans shall automatically shut down in accordance with the International Mechanical Code. The manual controls provided for the smoke removal system shall have the capability to override the automatic shutdown of fans that are part of the smoke removal system.*~~

SECTION 915
CARBON MONOXIDE DETECTION

915.1 General. Carbon monoxide detection shall be installed in new buildings in accordance with Sections 915.1.1 through ~~915.6~~*915.7*. Carbon monoxide detection shall be installed in existing buildings in accordance with ~~Chapter 11 of the International Fire Code~~ *this section*.

Pursuant to Health and Safety Code Section 17926, carbon monoxide detection shall be installed in all existing Group R buildings as required in this section.

915.1.1 Where required. Carbon monoxide detection shall be provided in Group ~~I-1,~~ I-2, I-4 and R occupancies and in classrooms in Group E occupancies in the locations specified in Section 915.2 where any of the conditions in Sections 915.1.2 through 915.1.6 exist.

915.2 Locations. Where required by Section 915.1.1, carbon monoxide detection shall be installed *in accordance with the manufacturer's published instructions* in the locations specified in Sections 915.2.1 through 915.2.3.

915.2.1 Dwelling units. Carbon monoxide detection shall be installed in dwelling units *in the following locations:*
1. ~~outside~~ Outside of each separate sleeping area in the immediate vicinity of the bedrooms.
2. On every occupiable level of a dwelling unit, including basements.
3. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, carbon monoxide detection shall be installed within the bedroom.

915.4 Carbon monoxide alarms. Carbon monoxide alarms shall comply with Sections 915.4.1 through 915.4.~~3~~*4*.

915.4.1 Power source. Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than that required for overcurrent protection.

Exceptions:
1. Where installed in buildings without commercial power, battery-powered carbon monoxide alarms shall be an acceptable alternative.
2. Carbon monoxide alarms in Group R occupancies shall be permitted to receive their primary power from other power sources recognized for use by NFPA 720.
3. Carbon monoxide alarms in Group R occupancies shall be permitted to be battery-powered or plug-in with a battery backup in existing buildings built prior to January 1, 2011, under any of the following conditions:
3.1. No construction is taking place.
3.2. Repairs or alterations do not result in the removal of interior wall and ceiling finishes exposing the structure in areas/spaces where carbon monoxide alarms are required.
3.3. Repairs or alterations are limited to the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.
3.4. Work is limited to the installation, alteration or repair of plumbing, mechanical or electrical systems, which do not result in the removal of interior wall or ceiling finishes exposing the structure in areas/spaces where carbon monoxide alarms are required.

915.4.2 Listings. Carbon monoxide alarms shall be listed in accordance with UL 2034.

No person shall install, market, distribute, offer for sale, or sell any carbon monoxide device in the State of California unless the device and instructions have been approved and listed by the Office of the State Fire Marshal.

915.4.3 Combination alarms. Combination carbon monoxide/smoke alarms shall be an acceptable alternative to carbon monoxide alarms. Combination carbon monoxide/smoke alarms shall be listed in accordance with UL 2034 and UL 217.

Combination carbon monoxide/smoke alarms shall comply with Section 915, and all requirements for listing and approval by the Office of the State Fire Marshal for smoke alarms.

915.4.4 Interconnection*. Where more than one carbon monoxide alarm is required to be installed within a dwelling unit or within a sleeping unit in Group R occupancies, the alarms shall be interconnected in a manner that activation of one alarm shall activate all of the alarms in the individual unit.*

***Exception**: Interconnection is not required in existing buildings, built prior to January 1, 2011, under any of the following conditions:*
1. Physical interconnection is not required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.
2. No construction is taking place.
3. Repairs or alterations do not result in the removal of interior wall and ceiling finishes exposing the structure in areas/spaces where carbon monoxide alarms are required.
4. Repairs or alterations are limited to the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.
5. Work is limited to the installation, alteration or repair of plumbing, mechanical, or electrical systems, which do not result in the removal of interior wall or ceiling finishes exposing the structure in areas/spaces where carbon monoxide alarms are required.

915.5.2 Locations. Carbon monoxide detectors shall be installed in the locations specified in Section 915.2 *or NFPA 720*. ~~These locations supersede the locations specified in NFPA 720.~~

915.5.3 Combination detectors. Combination carbon monoxide/smoke detectors installed in carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide detectors, provided they are listed in accordance with UL 2075 and UL 268.

Combination carbon monoxide/smoke detectors shall comply with all requirements for listing and approval by the Office of the State Fire Marshal for smoke alarms.

915.6 Maintenance. Carbon monoxide alarms and carbon monoxide detection systems shall be maintained in accordance with ~~the International Fire Code~~ *NFPA 720*. *Carbon monoxide alarms and carbon monoxide detectors that become inoperable or begin producing end-of-life signals shall be replaced.*

***915.7 Visible alarms.** In buildings containing covered multifamily dwellings as defined in Chapter 2, all required carbon monoxide alarms shall be equipped with the capability to support visible alarm notification in accordance with NFPA 720.*

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2, Public Education Code 17074.50
References: Health and Safety Code Sections 13143, 13211, 18949.2

[12. The SFM proposes to adopt Chapter 10 with the following amendments and California regulations.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 10
MEANS OF EGRESS

1004.3 Posting of occupant load. Every room or space ~~that is an assembly occupancy~~*which is used for assembly, classroom, dining, drinking, or similar purposes having an occupant load of 50 or more* shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway from the room or space. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or the owner's authorized agent.

1005.3.1 Stairways. The capacity, in inches, of means of egress stairways shall be calculated by multiplying the occupant load served by such stairways by a means of egress capacity factor of 0.3 inch (7.6 mm) per occupant. Where stairways serve more than one story, only the occupant load of each story considered individually shall be used in calculating the required capacity of the stairways serving that story.

Exceptions:
1. For other than Group H and I-2 occupancies, the capacity, in inches, of means of egress stairways shall be calculated by multiplying the occupant load served by such stairways by a means of egress capacity factor of 0.2 inch (5.1 mm) per

occupant in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.
2. Facilities with smoke-protected assembly seating shall be permitted to use the capacity factors in Table 1029.6.2 indicated for stepped aisles for exit access or exit stairways where the entire path for means of egress from the seating to the exit discharge is provided with a smoke control system complying with Section 909.
3. Facilities with outdoor smoke-protected assembly seating shall be permitted to the capacity factors in Section 1029.6.3 indicated for stepped aisles for exit access or exit stairways where the entire path for means of egress from the seating to the exit discharge is open to the outdoors.
~~2.~~4.For Group H-1, H-2, H-3 and H-4 occupancies the total width of means of egress in inches (mm) shall not be less than the total occupant load served by the means of egress multiplied by 0.7 inches (7.62 mm) per occupant.
~~3.~~5. For rooms or spaces used for assembly purposes without smoke protection see~~Means of egress complying with~~ Section ~~1028~~1029.

1006.3.2 Single exits. A single exit or access to a single exit shall be permitted from any story or occupied roof where one of the following conditions exists:
1. The occupant load, number of dwelling units and exit access travel distance do not exceed the values in Table 1006.3.2(1) or 1006.3.2(2).
2. Rooms, areas and spaces*, at the level of exit discharge,* complying with Section 1006.2.1 with exits that discharge directly to the exterior ~~at the level of exit discharge~~, are permitted to have one exit or access to a single exit.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one exit or access to a single exit.
4. Group R-3 and R-4 occupancies shall be permitted to have one exit or access to a single exit.
5. Individual single-story or multistory dwelling units shall be permitted to have a single exit or access to a single exit from the dwelling unit provided that both of the following criteria are met:

5.1. The dwelling unit complies with Section 1006.2.1 as a space with one means of egress.
5.2. Either the exit from the dwelling unit discharges directly to the exterior at the level of exit discharge, or the exit access outside the dwelling unit's entrance door provides access to not less than two approved independent exits.

1006.3.2.1 Mixed occupancies. Where one exit, or exit access stairway or ramp providing access to exits at other stories, is permitted to serve individual stories, mixed occupancies shall be permitted to be served by single exits provided each individual occupancy complies with the applicable requirements of Table 1006.3.2(1) or Table 1006.3.2(2) for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1. In each story of a mixed occupancy building, the maximum number of occupants served by a single exit shall be such that the sum of the ratios of the calculated number of occupants of the space divided by the allowable number of occupants indicated in Table 1006.3.2(2) ~~*indicated in Table 1021.2(2)*~~ for each occupancy does not exceed one. Where dwelling units are located on a story with other occupancies, the actual number of dwelling units divided by four plus the ratio from the other occupancy does not exceed one. ~~*Where dwelling units are located on a story with other occupancies, the actual number of dwelling units divided by 4 plus the ratio from the other occupancy does not exceed one.*~~

1010.1.9.7 Delayed egress. Delayed egress locking systems shall be permitted to be installed on doors serving any occupancy except Group A, E ~~and~~ H*, and L.*

Exception: *Group A occupancy courtrooms are permitted to utilize delayed egress locks.*

~~in b~~*B*uildings ~~that are~~ *with delayed egress locks shall be* equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 ~~or~~ *and* an approved automatic smoke ~~or heat~~ detection system installed in accordance with Section 907. The *delayed egress* locking system shall be installed and operated in accordance with all of the following: ~~*Delayed egress devices shall conform to 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 *electrical* power ~~controlling the lock or lock mechanism~~, allowing immediate free egress~~.~~*, to ~~an~~any one of the following*:
2.1 The egress-control device itself.
2.2 The smoke detection system.
2.3 Means of egress illumination as required by Section ~~1006~~1008

3. The delayed egress locking system shall have the capability of being deactivated at the fire command center and~~—*a switch located in an approved location*~~ 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. *The time delay established for each egress-control device shall not be field adjustable. For applications listed in Section 1.9.1 regulated by the Division of the State Architect- Access Compliance, see Chapter 11B*

Exception: ~~Where approved~~ *In facilities housing Alzheimer's or dementia clients*, 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.

Exception: In 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 the combined delay does not exceed 30 seconds.

~~5. A sign shall be provided on the door located above and within 12 inches (305 mm) of the release device reading: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECOMDS. *"*KEEP PUSHING. THIS DOOR WILL OPEN IN 15 [30] SECONDS. ALARM WILL SOUND*" Sign lettering shall be at least 1inch (25 mm) in height and shall have a stroke of not less than 1/8 inch (3.2 mm).*~~
~~*5.1. A tactile sign shall also be provided in Braille and raised characters, which complies with Chapter 11B*.~~

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 ~~*"*KEEP PUSHING. THIS DOOR WILL OPEN IN 15 [30] SECONDS. ALARM WILL SOUND*".*~~
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.~~ *Sign lettering shall be at least 1inch (25 mm) in height and shall have a stroke of not less than 1/8 inch (3.2 mm).*

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.

6.4. A tactile sign shall also be provided in Braille and raised characters, which complies with Chapter 11B

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.
~~*7*~~*9. Actuation of the panic bar or other door-latching hardware shall activate an audible signal at the door.*
~~*8*~~*10. The unlatching shall not require more than one operation.*
~~*9*~~*11. Regardless of the means of deactivation, relocking of the egress-control device shall be by manual means only at the door.*

1010.1.9.8 Sensor release of electrically locked egress doors. The electric locks on sensor released doors located in a means of egress in buildings with an occupancy in Group A, B, ~~E, I-1,~~ I-2, I-4, M, R-1, ~~or~~ R-2, *or R-2.1* ~~*and entrance doors to tenant spaces in occupancies in Groups A, B, I-2, M, R-1 and R-2,*~~ and entrance doors to tenant spaces in occupancies in Group A, B, ~~E, I-1,~~ I-2, I-4, M, R-1, ~~or~~ R-2, *or R-2.1* are permitted 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. The doors shall be arranged to unlock by a signal from or loss of power to the sensor.
2. Loss of power to the lock or locking system shall automatically unlock the doors.
3. 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 shall result in direct interruption of power to the lock—independent of other electronics— and the doors shall remain unlocked for not less than 30 seconds.

4. Activation of the building fire alarm system, where provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.
5. Activation of the building automatic sprinkler system or fire detection system, where provided, shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.
6. The door locking system units shall be listed in accordance with UL 294.

1011.15 Ships ladders. Ships ladders are permitted to be used in *lifeguard towers not open to the public and* 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 m2) 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).

1013.6.3 Power source. Exit signs shall be illuminated at all times. To ensure continued illumination for a duration of not less than 90 minutes in case of primary power loss, the sign illumination means shall be connected to an emergency power system provided from storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Chapter 27.

Exceptions:
1. Approved exit sign illumination means that provide continuous illumination independent of external power sources for a duration of not less than 90 minutes, in case of primary power loss, are not required to be connected to an emergency electrical system.
2. Group I-2 ~~Condition 2~~ exit sign illumination shall not be provided by unit equipment battery only.

1026.4.2 Number of exits. The refuge area into which a horizontal exit leads shall be provided with exits adequate to meet the occupant requirements of this chapter, but not including the added occupant load imposed by persons entering the refuge area through horizontal exits from other areas. *In other than I-3 Occupancies,* ~~N~~*n*ot less than one refuge area exit shall lead directly to the exterior or to an interior exit stairway or ramp.

Exception: The adjoining compartment shall not be required to have a stairway or door leading directly outside, provided the refuge area into which a horizontal exit leads has stairways or doors leading directly outside and are so arranged that egress shall not require the occupants to return through the compartment from which egress originates.

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[13. The SFM proposes to not adopt Chapters 11.]

(Note: This chapter will not be printed in the California Building Code.)

~~**CHAPTER 11**~~
~~**ACCESSIBILITY**~~

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

[14. The SFM proposes to not adopt Chapter 11A.]

CHAPTER 11A
HOUSING ACCESSIBILITY

Notation:

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

[15. The SFM proposes to not adopt Chapter 11B.]

CHAPTER 11B
ACCESSIBILITY TO PUBLIC BUILDINGS, PUBLIC ACCOMMODATIONS, COMMERCIAL BUILDINGS AND PUBLICLY FUNDED HOUSING

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

[16. The SFM proposes to only adopt Sections 1203.5, 1206, 1208 and 1209 of Chapter 12 with the following amendments and California regulations.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 12
INTERIOR ENVIRONMENT

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

[17. The SFM proposes to not adopt Chapter 13.]

CHAPTER 13
ENERGY EFFICIENCY

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

[18. The SFM proposes to only adopt Sections 1401, 1402, 1403.4, 1403.5, 1404, 1405, 1406, 1407 and 1408 of Chapter 14 without amendment.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 14
EXTERIOR WALLS

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

[19. The SFM proposes to only adopt Sections 1501, 1502, 1505, 1506, 1507, 1509 and 1511 of Chapter 15.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 15
ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

[Editorial Note: 2013 CBC amendments for Section 1505.8 is being repealed. 1505.8 shall remain in CBC with model code language.]
1505.8 ~~***Building integrated*** **photovoltaic systems.** Rooftop installed *building integrated* photovoltaic systems that *serve as* the roof covering shall be *listed and* labeled *for* fire classification in accordance with Section 1505.1.~~

[Editorial Note: 2013 CBC amendments for Section 1505.9 is being repealed. 1505.9 shall remain in CBC with model code language.]
~~***1505.9*** ***Photovoltaic panels and modules.*** *Effective January 1, 2015, Rooftop mounted photovoltaic systems shall be tested, listed and identified with a fire classification in accordance with UL 1703. The fire classification shall comply with Table 1505.1 based on the type of construction of the building.*~~

[Editorial Note: 2013 CBC amendments for Section 1510.7.2 is being repealed. 1510.7.2 shall remain in CBC with model code language.]
~~**1510.7.2** **Fire classification.** Rooftop mounted photovoltaic systems shall have the fire classification as the roof assembly required by Section 1505.*9*.~~

[Editorial Note: 2013 CBC amendments for Section 1512.1.1 is being deleted as section has been removed.]
~~**1511.1.1** **Structural fire resistance.** The structural frame and roof construction supporting the load imposed upon the roof by the photovoltaic panels/modules shall comply with the requirements of Table 601 *and Section 602.1*.~~

Notation:
Authority: Health and Safety Code Sections 1250, 1502, 1568.02, 1569.72, 1569.78, 11159.2, 13108, 13131.5, 13133, 13143, 13108.5(a), 13210, 13211, 18949.2, Government Code Section 51189.
References: Health and Safety Code Sections 13143, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204.

[20. The SFM proposes to not adopt Chapters 16]

CHAPTER 16
STRUCTURAL DESIGN

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

[21. The SFM proposes to not adopt Chapters 17.]

CHAPTER 17
STRUCTURAL TESTS AND SPECIAL INSPECTIONS

Notation:
Authority: Health and Safety Code Sections 1250, 1502, 1568.02, 1569.72, 1569.78, 11159.2, 13108, 13131.5, 13133, 13143, 13108.5(a), 13210, 13211, 18949.2, Government Code Section 51189.

References: Health and Safety Code Sections 13143, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204.

[22. The SFM proposes to not adopt Chapters 18 through 20.]

CHAPTER 18
SOILS AND FOUNDATIONS

CHAPTER 19
CONCRETE

CHAPTER 20
ALUMINUM

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

[23. The SFM proposes to only adopt Section 2113.9.2 of Chapter 21 without modification.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 21
MASONRY

Notation:
Authority: Health and Safety Code Sections 13108, 13108.5, 13132.7, 13143, 13143.2, 13143.6, 13146, 17921, 18949.2, Government Code Section 51189
References: Health and Safety Code Sections 13143, 18949.2, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204

[24. The SFM proposes to only adopt Section 2113A.9.2 of Chapter 21A without modification.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 21*A*
MASONRY

Notation:
Authority: Health and Safety Code Sections 13108, 13108.5, 13132.7, 13143, 13143.2, 13143.6, 13146, 17921, 18949.2, Government Code Section 51189
References: Health and Safety Code Sections 13143, 18949.2, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204

[25. The SFM proposes to not adopt Chapter 22.]

CHAPTER 22
STEEL

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

[26. The SFM proposes to only adopt Sections 2303.2 – 2303.2.9 of Chapter 23 without amendment.]

CHAPTER 23
WOOD

Notation:
Authority: Health and Safety Code Sections 13108, 13108.5, 13132.7, 13143, 13143.2, 13143.6, 13146, 17921, 18949.2, Government Code Section 51189
References: Health and Safety Code Sections 13143, 18949.2, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204

[27. The SFM proposes to adopt Chapter 24 without amendment.]

CHAPTER 24
GLASS AND GLAZING

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

[28. The SFM proposes to not adopt Chapter 25.]

CHAPTER 25
GYPSUM BOARD AND PLASTER

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

[29. The SFM proposes to adopt Chapter 26 without modifications.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 26
PLASTIC

Notation:

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

[30. The SFM proposes to adopt Chapter 27 without modifications.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 27
ELECTRICAL

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[31. The SFM proposes to adopt Chapter 28 without modifications.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 28
MECHANICAL SYSTEMS

Notation:
Authority: Health and Safety Code Sections 13108, 13108.5, 13132.7, 13143, 13143.2, 13143.6, 13146, 17921, 18949.2, Government Code Section 51189
References: Health and Safety Code Sections 13143, 18949.2, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204

[32 The SFM proposes to not adopt Chapter 29.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 29
PLUMBING SYSTEMS

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

[33. The SFM proposes to adopt Chapter 30 without modifications.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 30
ELEVATORS AND CONVEYING SYSTEMS

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

[34. The SFM proposes to only adopt Sections 3101, 3102, 3103, 3104, 3105, 3105.4, 3106, 3110 and 3111 of Chapter 31 without modifications.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 31
SPECIAL CONSTRUCTION

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 flame resistant in accordance with the provisions set forth in CCR, Title 19, Division 1, Chapter 8. Tops and sidewalls shall be made either from fabric which has been flame resistant treated with an approved exterior chemical process by an approved application concern, or from inherently flame resistant fabric approved and listed by the State Fire Marshal (see CCR, Title 19, Division 1, Chapter 8).The membrane* shall be permitted to be used as the roof or as a skylight on buildings of Type IIB, III, IV and V construction, provided the membrane is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

3111.2.2.6 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.*

3111.2.3.4 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.*

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

[35. The SFM proposes to adopt Chapter 32 without amendment.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 32
ENCROACHMENT INTO PUBLIC RIGHT-OF-WAY

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

[36. The SFM proposes to adopt Chapter 33 without modifications.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 33

SAFEGUARDS DURING CONSTRUCTION

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

CHAPTER 34
RESERVED

[37. The SFM proposes to adopt Chapter 35 with the following amendments and California regulations.]

See Item 46 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 35
REFERENCED STANDARDS

ASTM ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Standard reference number	Title	Referenced in code section number
E2886–14	*Standard Test Method for Evaluating the Ability of Exterior Vents to Resist the Entry of Embers and Direct Flame Impingent*	*706A.2, 706A.3*

**ASTM E2886, Amended Sections as follows:*

Revise Sections 10.1.8.3. 10.1.8.4, and 10.1.8.5 as follows:

10.1.8.3 ~~When requested, r~~*R*eport the temperatures of the unexposed temperatures on the unexposed side of the vent during the entire optional Insulation Test of the Flame Intrusion.

10.1.8.4 ~~When requested, t~~*T*he maximum temperature reached during the test by any one of the unexposed surface thermocouples during the entire optional Insulation Test of the Flame Intrusion Test.

10.1.8.5 ~~When requested, t~~*T*he maximum average temperature reached during the test by all of the unexposed surface thermocouples during the entire optional Insulation Test pf the Flame Intrusion Test.

E2957–15	*Standard Test Method for Flammability and Resistance to Wildfire Penetrations of Eaves, Soffits and Other Projections*	*707A.5, 707A.6, 70A.7, 707A.8, 707A.9*

**ASTM E2957, Amended Sections as follows:*

Add new Section 12.5 as follows:

12.5 Conditions of Acceptance: Should one of the three replicates fail to meet the Conditions of Acceptance, three additional tests may be run. All of the additional tests must meet the Conditions of Acceptance.
1. Absence of flame penetration of the eaves or horizontal projection assembly at any time.
2. Absence of structural failure of the eaves or horizontal projection subassembly at any time.

3. Absence of sustained combustion of any kind at the conclusion of the 40-minute test.

25—13 CA *California NFPA 25 Edition (Based on the 2011 Edition)*
Inspection, Testing and Maintenance of Water-based Fire Protection Systems . . . . . .Chapter 31F

NFPA

13—13 ~~*13*~~	Installation of Sprinkler Systems
13D—13 ~~*13*~~	Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes
13R—13 ~~*13*~~	Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height
14—13 ~~*13*~~	Installation of Standpipes and Hose Systems
20—13 ~~*13*~~	Installation of Stationary Pumps for Fire Protection
22—13 ~~*13*~~	Water Tanks for Private Fire Protection
24—13 ~~*13*~~	Installation of Private Fire Service Mains and Their Appurtenances
31—11 ~~*11*~~	Installation of Oil-burning Equipment
~~*37—10*~~ *15*	*Installation and Use of Stationary Combustion Engines and Gas Turbines*
52—13 ~~*13*~~	Vehicular Gaseous ~~*Gaseous*~~ Fuel System Code
~~*54—12*~~ *15*	*National Fuel Gas Code*
61—13 ~~*13*~~	Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities
72—13 ~~*13*~~	National Fire and Signaling ~~*and Signaling*~~ Alarm Code
80—13 ~~*13*~~	Fire Doors and Other Opening Protectives

[Editor's Note: Keep model code NFPA 92, repeal CA amendment for NFPA 92.]
92—12 Standard for Smoke Control Systems
~~*92—12 Standard for Smoke Control Systems*~~

99—15 ~~*12*~~	Health Care Facilities *Code*
101- 15 ~~*12*~~	Life Safety Code
105—13 ~~*13*~~	Installation of Smoke Door Assemblies and Other Opening Protectives
110—13 ~~*13*~~	Emergency and Standby Power Systems
111—13 ~~*13*~~	Stored Electrical Energy Emergency and Standby Power Systems
120—15	Fire Prevention and Control in Coal Mines ~~*Fire Prevention and Control in Coal Mines*~~
211—13 ~~*13*~~	Chimneys, Fireplaces, Vents and Solid Fuel-burning Appliances
259—13 ~~*13*~~	Test Method for Potential Heat of Building Materials
275—13 ~~*13*~~	Standard Method of Fire Tests for the Evaluation of Thermal Barriers Used Over Foam Plastic Insulation
285—12 ~~*12*~~	Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Nonload-Bearing Wall Assemblies Containing Combustible Components
289—13 ~~*13*~~	Standard Method of Fire Test for Individual Fuel Packages
409—11 ~~*11*~~	Aircraft Hangars
654—13 ~~*13*~~	Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids
720—15 ~~*12*~~	Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment
2001—15 ~~*12*~~	Clean Agent Fire Extinguishing Systems

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

[38. The SFM proposes to not adopt Appendix A and B.]

APPENDIX A
EMPLOYEE QUALIFICATIONS

APPENDIX B

BOARD OF APPEALS

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

[39. The SFM proposes to adopt Appendix C without amendment.]

APPENDIX C
GROUP U – AGRICULTURAL BUILDINGS

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

[40. The SFM proposes to not adopt Appendices D through H.]

APPENDIX D
FIRE DISTRICTS

APPENDIX E
SUPPLEMENTARY ACCESSIBILITY REQUIREMENTS

APPENDIX F
RODENT PROOFING

APPENDIX G
FLOOD RESISTANT CONSTRUCTION

APPENDIX H
SIGNS

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

[41. The SFM proposes to only adopt Sections I101, I102 and I103 of Appendix I without amendment.]

APPENDIX I
PATIO COVERS

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

[42. The SFM proposes to not adopt Appendix J through M.]

APPENDIX J
EXCAVATION AND GRADING

APPENDIX K
GROUP R-3 AND GROUP R-3.1 OCCUPANCIES PROTECTED BY THE FACILITIES OF THE CENTRAL VALLEY FLOOD PROTECTION PLAN

APPENDIX L
EARTHQUAKE RECORDING INSTRUMENTATION

APPENDIX M
TSUNAMI-GENERATED FLOOD HAZARD

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

[43. Incorporation and correlation of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems into the California Codes]

SECTION ~~433~~443
FIXED GUIDEWAY TRANSIT AND PASSENGER RAIL SYSTEMS [SFM]

~~433.1~~443.1 General.

~~433.1.1~~443.1.1 Scope. *The provisions of this section and NFPA 130 shall apply to buildings or structures defined as stations for fixed guideway transit and passenger rail systems and shall supersede other similar requirements in other sections of this code.*

Note: *See Chapter 35 for California Amendments to NFPA 130.*

~~***433.1.2 Definitions.*** *For the purpose of this section, certain terms are defined as follows:*~~

~~***AT-GRADE STATION.*** *Any at-grade or unroofed station other than an elevated or underground station.*~~

~~***ELEVATED STATION.*** *A station greater than one story not otherwise defined as an at-grade or underground station.*~~

~~***EMERGENCY MANAGEMENT PANEL (EMP).*** *The location where all necessary on-site control and communication facilities are consolidated for effective response to emergency situations.*~~

~~***ENCLOSED STATION.*** *A station or portion thereof that does not meet the definition of an open station.*~~

~~***ENGINEERING ANALYSIS (FIRE HAZARD/FIRE RISK ASSESSMENT).*** *An analysis that evaluates all various factors that affect the fire safety of the system or component. A written report of the analysis shall indicate the fire protection method(s) recommended that demonstrates a level of fire safety commensurate with this standard.*~~

~~***FIXED GUIDEWAY TRANSIT SYSTEM(the system).*** *An automated driverless or manually controlled electrified transportation system, utilizing a fixed guideway, operating on right-of-way for the mass movement of passengers and consisting of its fixed guideways, transit vehicles and other rolling stock; power system; buildings; maintenance facilities; stations; transit vehicle yard; and other stationary and movable apparatus, equipment, appurtenances and structures.*~~

GUIDEWAY. *That portion of the system on which the transit vehicles operate.*

OPEN STATION. *A station that is constructed in such a manner that it is open to the atmosphere, and smoke and heat are allowed to disperse directly into the atmosphere. The following enclosed areas in open stations are permitted but limited to:*

1. Ticket/pass booths not exceeding 150 square feet (13.9 m2) in area.
2. Mechanical and electrical spaces typically not used for human occupancy and necessary for the operation of a fixed guideway transit system. Such spaces shall be limited to two per level.
3. Restrooms not exceeding 150 square feet (13.9 m2) in area. A maximum of four restrooms are permitted per level.

OPERATIONS CONTROL CENTER (OCC) (CENTRAL CONTROL). *The operation center where the authority controls and coordinates the system-wide movement of passengers and trains from which communication is maintained with supervisory and operating personnel of the authority, and with participating agencies when required.*

POINT OF SAFETY. *An enclosed fire exit that leads to a public way or safe location outside the structure, or an at-grade point beyond any enclosing structure, or other area that affords adequate protection for passengers.*

POWER SUBSTATION. *The location of electric equipment that does not generate electricity but receives and converts or transforms generated energy to usable electric energy.*

STATION. *A place designated for the purpose of loading and unloading passengers, including patron service areas and ancillary spaces associated with the same structure.*

STATION PLATFORM. *The area of a station used primarily for loading and unloading transit vehicle passengers.*

UNDERGROUND STATION. *A station or that part of a station located beneath the surface of the earth or of the water.*

433.2Types of Construction.

433.2.1*Unless otherwise specified in this section, buildings or portions of buildings classed as stations of fixed guideway transit systems shall be minimum Type IA, Type IB or Type IIA construction and shall not exceed in area or height the limits specified in Table 503.*
Underground stations shall be a minimum Type IA or Type IB constructions.
Open stations may be of Type IIB construction and shall not exceed in area or height as required by Table 503 for Type IIA.

Exception: *At-grade structures of open stations with an occupancy load not exceeding 300 persons may be of any construction type permitted by this code.*

433.2.2 Mixed occupancies.

433.2.2.1*Stations of fixed guideway transit systems shall be separated from other occupancies in accordance with Table 508.4 for Group A Occupancies.*

433.2.2.2*The following areas shall be separated from public areas by a two-hour fire barrier:*

1. Electrical control rooms, auxiliary electrical rooms and associated battery rooms
2. Trash rooms
3. Train control rooms and associated battery rooms
4. Fan rooms 5. Emergency generator rooms

433.2.2.3 *Within station structures, all power substations shall be separated from all other areas by a three-hour fire barrier with no openings to public areas.*

433.3Access and exit facilities.

433.3.1Occupant load. *The occupant load for a transit station shall be based on the emergency condition requiring evacuation of that station to a point of safety. The station occupant load shall be the sum of the number of persons in the calculated train load of trains entering a station plus the entraining load of persons awaiting train(s), during a specified time period. Notwithstanding, the minimum occupant load shall not be less than the maximum capacity load of a train which would occupy the entire length of the station platform on a single track. Exiting shall be provided for occupant loads recalculated upon increase in service and/ or every five years.*

433.3.1.1Calculated train load. *The calculated train load is the number of passengers on trains simultaneously entering the station on all tracks in normal traffic direction during the peak 15-minute period. The following limitations to the calculated train load shall be applied: 1. No more than one train will unload at any one track to a platform during an emergency. 2. The load on any single train is limited to the maximum train capacity.*

433.3.1.2Entraining load (on platform awaiting train). *The entraining load is equal to the number of passengers that would accumulate on the platform in the time period equivalent to two headways or 12 minutes during the peak 15-minute period, whichever time period is greater. This entraining load is constrained as stated as follows:*

1. Special consideration shall be given to stations servicing areas where events occur that establish occupant loads not included in normal passenger loads. These would include such areas as civic centers, sports complexes and convention centers.
2. At multiplatform stations, each platform shall be considered separately. Arrival of trains from all normal traffic directions, plus their entraining loads, shall be considered.
3. At concourses, mezzanines or multilevel stations, simultaneous platform loads shall be considered for all exit lanes passing through that area.

433.3.2 Exits required.

433.3.2.1Number of exits. *Stations shall have at least two exits placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the station. Enclosed station platforms shall have a minimum of one exit within 20 feet (6096 mm) from each end. Underground station platforms shall have a minimum of one enclosed exit within 20 feet (6096 mm) from each end. Routes from platform ends into the underground guideway shall not be considered as exits for calculating exiting requirements.*

433.3.2.2Capacity of exits and station evacuation time.

433.3.2.2.1*Exit capacities shall be calculated on the basis of 22-inch-wide (559 mm) exit lanes at the clear and narrowest point except that individual handrails may project into the required width as permitted by Chapter 10. Fractional lanes shall not be counted in measuring exit capacities except that 12 inches (305 mm) added to one or more lanes shall be counted as one-half a lane. Escalators 32 inches (813 mm) in width may be considered as 11/2 lanes.*

433.3.2.2.2*There shall be sufficient means of exit to evacuate the station occupant load from the station platforms in four minutes or less.*

433.3.2.2.3 *The station shall also be designed to permit evacuation from the most remote point on the platform to a point of safety in six minutes or less.*

433.3.2.2.4*In at-grade or elevated structures so designed that the station platform is open to the elements and, when the concourse is below or protected from the platform by distance or materials as determined by an appropriate engineering analysis, that concourse may be defined as a point of safety, with Fire Code Official concurrence.*

433.3.2.2.5*To calculate evacuation time, the walking travel time should be tabulated using the longest exit route and travel speeds. To this time should be added the following factors:*

1. The waiting time at the vertical elements at platform level minus the longest walking travel time at platform level.
2. The waiting time at the fare collection barriers minus the waiting time at the platform vertical circulation elements.
3. The waiting time at the vertical or horizontal circulation elements from mezzanine to grade minus the waiting time at the platform vertical circulation elements or fare collection barrier, whichever is greater.
4. The waiting time, if any, at any additional constriction minus the greatest previous waiting time. (Repeat for all additional constrictions.)

Note: *The total of any of the factors in Items 1 through* ***4*** *above cannot be less than zero.*

433.3.3Exit width and exit lanes.

433.3.3.1*The capacity in persons per minute (ppm), patron travel speeds in feet per minute (fpm) and requirements for exit lanes shall be as follows:*

1. Platforms, corridors and ramps of 1 foot vertical for 20 feet horizontal (5 percent slope) or less:
Exit corridors, platforms and ramps shall be a minimum clear width of 5 feet (1524 mm). In computing the number of exit lanes available, 1 foot 6 inches (457 mm) shall be deducted at each platform edge and 1 foot (305 mm) at each side wall.

Per exit lane:
Capacity – 50 ppm
Travel speed – 200 fpm

2. Stairs, stopped escalators and ramps of over 1 foot vertical for 20 feet horizontal (5 percent slope): Exit ramps shall be a minimum clear width of 6 feet (1829 mm). Stopped escalators may be considered as a means of egress, provided they are of nominal 2 feet 8 inches (813 mm) width.

Per exit lane "up" direction:
Capacity – 35 ppm
*Travel speed – 50 fpm**
Per exit lane "down" direction:
Capacity – 40 ppm
*Travel speed – 60 fpm**

3. Doors and gates: Gates fitted with approved panic hardware and opening in the direction of exit travel, with minimum nominal width of 3 feet (914 mm) shall be permitted in exit calculation.

Per doors and gate:
Capacity – 50 ppm per exit lane

4*. Fare collection gates: Fare collection gates, when deactivated, shall provide a minimum 20 inches (508 mm) clear unobstructed aisle. Console shall not exceed* ***4****0 inches (1016 mm) in height.*

Per gate:
Capacity – 50 ppm

Note: *Examples of exiting analysis may be found in Appendix C of NFPA 130, 1995 edition, Standard for Fixed Guideway Transit Systems.*

**Indicates vertical component of travel speed.*

433.3.4Arrangement of exits.

433.3.4.1Vertical circulation elements shall be comprised of stairs or stair/escalator combinations. *Escalators shall not account for more than half of the units of exit at any one level in the public area. Escalators must be paired in combination with stairs to be included in exiting capacity calculations.*

433.3.4.2 *Because of the possibility of maintenance or malfunction, one escalator at each station shall be considered as being out of service in calculating egress requirements. The escalator chosen shall be that one having the most adverse effect on exiting capacities.*

433.3.5Distance to exits. *No point of the station platform(s) or mezzanine(s) shall be more than 300 feet (91*

4*40 mm) from a point of safety.*

433.3.6Other exits required/guideway access.

~~***433.3.6.1*** *Access/egress between guideway and platforms shall be provided as follows: 1. Stairs or ramps, 2 feet 10 inches (864 mm) in width minimum, or other arrangement having equivalent capacity, shall be provided at each end of the platform, arranged to provide access/egress to guideway level. 2. Except in underground stations, the access points between the guideway and the platform, and the exit from the platform may be integrated.*~~

~~***433.3.6.2*** *In enclosed stations, escalator and stairway enclosures are not required in the public areas of multilevel transit stations among platform, mezzanine and concourse when the station is provided with an emergency ventilation system.*~~

~~***433.3.7 Emergency lighting and exit signs.***~~

~~***433.3.7.1*** *Emergency lighting and exit signs shall be provided in accordance with Chapter 10.* ***Exception:*** *Open stations at grade need not provide emergency lighting or exit signs.*~~

~~433.4~~443.2 Special provisions.

~~433.4.1~~443.2.1 Automatic sprinkler system. *See Section 903.2.17.1.*

~~433.4.2~~443.2.2 Station guideway deluge system. *See Section 903.2.17.2.*

~~433.4.3~~443.2.3 Standpipe systems. *See Section 905.3.11.*

~~***433.4.4 Emergency management panel (EMP).*** *An EMP shall be required for enclosed and underground stations. Location of the EMP shall be determined by the Fire Code Official. The EMP shall include but not be limited to the following:*~~

~~*1. Indication of manual pull boxes and automatic smoke detectors*~~
~~*2. Indication of alarm signals from all suppression systems*~~
~~*3. Capabilities for using station paging system*~~
~~***4.*** *Emergency telephone*~~
~~*5. Escalator controls 6. Emergency ventilation controls 7. Station schematics*~~

~~***433.4.5 Emergency ventilation systems.***~~

~~***433.4.5.1 General.*** *Emergency ventilation shall be provided for enclosed and underground stations for the protection of passengers, employees and emergency personnel.*~~

~~***433.4.5.2*** *These systems shall be designed as follows:*~~
~~*1. A stream of noncontaminated air is provided to passengers in a path(s) of egress away from a train fire; and*~~
~~*2. Airflow rates produced toward a train fire in a path of egress are sufficient to prevent back layering of smoke; and*~~
~~*3. The temperature in a path of egress away from a train fire is limited to 140°F (60°C), or less; and*~~
~~*4. The design heat release rate produced by a train fire shall be used to design the emergency ventilation system.*~~

~~***433.4.5.3*** *Ventilation shaft terminals at-grade shall be located to prevent recirculation as follows:*~~

~~*1. Openings for blast relief shafts, and under platform and smoke exhaust shafts at-grade shall be separated by a minimum horizontal distance of 40 feet (12 192 mm) from any station entrance, elevator hoistway enclosure, surface emergency stair doorway, unprotected outside air intake or other opening, or from each other. Exhaust outlets that are not used for intakes may be adjacent to each other.*~~
~~*2. Where this distance is not practical, the horizontal distance may be reduced to 15 feet (4572 mm) if the closest blast relief or under platform and smoke exhaust shaft terminal is raised a minimum of 10 feet (3048 mm) above the station entrance, emergency stair doorway and unprotected outside air intake or other opening, or the underplatform and smoke exhaust shaft terminal is raised a minimum of 10 feet (3048 mm) above the blast relief shaft terminal.*~~
~~*3. Ventilation of stations shall not terminate at grade on any vehicle roadway.*~~

~~***433.4.5.4 Emergency ventilation fans.***~~

~~***433.4.5.4.1*** *Ventilation fans used for emergency service, their motors, dampers and all related components exposed to the ventilation airflow shall be designed to operate in an ambient atmosphere of 482°F (250°C) for a period of at least*~~

~~*one hour. Ventilation fans and related components shall be capable of withstanding the maximum anticipated plus/minus pressure transients induced by train operations.*~~

~~***433.4.5.4.2*** *Local fan motor starters and related operating control devices for emergency ventilation equipment shall be isolated from the ventilation airflow by a separation having a fire-resistance rating of at least one hour.*~~

~~***433.4.5.4.3*** *Thermal overload protective devices shall not be provided on motor controls of fans used for emergency ventilation.*~~

~~***433.4.5.4.4*** *The power supply for fans essential for emergency ventilation service shall consist of two separate electrical feeders. Each feeder shall originate from a different source (substation) and shall be separated physically to the extent possible. Automatic transfer shall be provided in the event the normal supply source fails.*~~

~~***433.4.5.4.5*** *Operation and fail-safe verification for proper operation of emergency fans shall be affected from the operation control center with indication provided for all modes of operation for each fan.*~~

~~***433.4.5.5***~~***443.2.5*** **Emergency ventilation control.** *Emergency ventilation systems shall comply with this section and NFPA 130.*

~~***433.4.5.5.1*** **Local controls shall override remote control.** *Local control shall be capable of operating the fans in all modes in the event the remote controls become inoperative.*~~

~~***433.4.5.5.2***~~***443.2.5.1*** *Emergency ventilation systems shall be supervised and/or controlled in all operating modes locally (motor control center and/or fan unit) and remotely at both the* ~~*OCC*~~*Operations Control Center and the station* ~~*EMP*~~*Fire Command Center.*

~~***433.4.5.5.3***~~***443.2.5.2*** *Fan running shall be provided by sensing devices for each fan for operation in both the supply and exhaust directions.*

~~***433.4.5.5.4***~~***443.2.5.3*** Trouble status signals shall be annunciated in the local control room. A summarized trouble signal shall be annunciated at ~~*OCC*~~*Operations Control Center* and ~~*EMP*~~*Fire Command Center*.

~~***433.4.5.6*** **Ventilation systems and ancillary areas.** *Ancillary area ventilation systems shall be arranged so that air is not exhausted into station public occupancy areas.*~~

~~***433.5***~~***443.2.4*** **Fire Alarm and Communication Systems.** *See Section 907.2.26.*

SECTION 903
AUTOMATIC SPRINKLER SYSTEMS

903.2.17 Fixed guideway and passenger rail transit systems.

SECTION 905
STANDPIPE SYSTEMS

905.3.11 Fixed guideway and passenger rail transit systems*. Fixed-guideway and passenger rail transit systems shall be provided with a Class 1 standpipe system in accordance with this section.*

~~***905.3.11***~~***905.3.11.1*** ~~***Fixed guideway transit systems***~~***Underground Stations****. Underground stations shall be provided with an automatic* ~~*class III*~~*Class I-standpipe system.* ~~*designed to comply with the following:*~~
~~*1. Automatically supply 65 pounds per square inch*~~
~~*(psi) for each outlet.*~~
~~*2. Supply a 250 gpm (946 L/m) flow to each of the two most remote 21/2 inch (64 mm) outlets when pressurized through the fire department connection(s).*~~

~~***905.3.11.1***~~***905.3.11.2 All other Stations.*** *All other stations shall be provided with a* ~~*class*~~ *Class I* ~~*manual wet*~~ *standpipe system*~~*; a manual dry class I standpipe system may be allowed in areas subject to freezing*~~*.*

***Exception**: Open at-grade stations with unrestricted fire department access need not be provided with a standpipe system.*

SECTION 907
FIRE ALARM AND DETECTION SYSTEMS

907.2.26 Fixed guideway and passenger rail transits systems fire alarm and communication systems.

CHAPTER 35
REFERENCED STANDARDS

130-14 *Standard for Fixed Guideway Transit and Passenger Rail Systems……443*
**NFPA 130, Amended Sections as follows:*

Amend Section 2.2 and amend publications to read as follows:
2.2 NFPA Publications.
NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, ~~2014~~*2013 California edition.*

Amend Section 3.3.44.2 and amend publications to read as follows:
3.3.44.2* Open Station. A station that is constructed such that it is directly open to the atmosphere and smoke and heat are allowed to disperse directly into the atmosphere. *The following enclosed areas in open stations are permitted:*

1. Ticket/pass booths not exceeding 150 square feet (13.9 m2) in area.
2. Mechanical and electrical spaces typically not used for human occupancy and necessary for the operation of a fixed guideway transit system. Such spaces shall be limited to two per level.
3. Restrooms not exceeding 150 square feet (13.9 m2) in area. A maximum of four restrooms are permitted per level.

Add a new definition as 3.3.44.3 to read as follows:
3.3.44.1.1 Underground Station. A station or portion thereof that is located beneath the surface of the earth or of the water.

Amend Section 5.2.2.1 to read as follows:
5.2.2.1 Building construction for all new enclosed stations shall be not less than ~~Type I or Type II or combinations of Type I and Type II noncombustible construction as defined in NFPA 220, in accordance with the requirements of NFPA 101, Chapter 12~~ *Type IA, Type IB or Type IIA construction and shall not exceed in area or height the limits specified in the California Building Code Table 503*, for the station configuration or as determined by fire hazard analysis of potential fire exposure hazards to the structure.

Add Section 5.2.2.1.1 –5.2.2.1.3 to read as follows:

5.2.2.1.1 Underground stations shall be a minimum Type IA or Type IB constructions.

5.2.2.1.2 Open stations may be of Type IIB construction and shall not exceed in area or height as required by Table 503 for Type IIA.

5.2.2.1.3 Open at grade stations may be of any construction type allowed by the California Building Code.

Delete Section 5.2.2.2.
~~*5.2.2.2 Other types of construction as defined in NFPA 220 shall be permitted for open stations in accordance with the provisions of NFPA101, Chapter 12, for corresponding station configurations.*~~

Amend Section 5.2.4.3 to read as follows:
5.2.4.3 Ancillary Spaces. Fire resistance ratings of separations between ancillary occupancies shall be established as required by *the California Building Code* ~~NFPA 101 and in accordance with ASTM E 119 and ANSI/UL 263~~.

Amend Section 5.2.4.3.1 to read as follows:
5.2.4.3.1 The following areas shall be separated by a two-hour fire barrier:
1. Electrical control rooms, auxiliary electrical rooms and associated battery rooms
2. Trash rooms
3. Train control rooms and associated battery rooms
4. Fan rooms
5. Emergency generator rooms

Amend Section 5.2.4.5 to read as follows:
5.2.4.5* Separation Between System and Nonsystem Occupancies. All station public areas shall be ~~fire~~ separated from adjacent non-system occupancies.*by a one hour fire barrier, unless otherwise required by other provisions of the California Building Code.*

Amend Section 5.3.1.1 to read as follows:
5.3.1.1 The provisions for means of egress for a station shall comply with Chapter~~s 7 and 12 of NFPA 101~~*10 of the California Building Code*, except as herein modified.

Amend Section 5.3.2.1 to read as follows:
5.3.2.1* The occupant load for a station shall be based on the train load of trains simultaneously entering the station on all tracks in normal traffic direction plus the simultaneous entraining load awaiting trains.
(1) The train load shall consider only one train at any one track.
(2) The basis for calculating train and entraining loads shall be the peak period ridership figures as projected for design of a new system or as updated for an operating system.
(3) Exiting shall be provided for occupant loads recalculated upon increase in service and/ or every five years.

Amend Section 5.3.3.5 to read as follows:
5.3.3.5 Travel Distance. The maximum travel distance on the platform to a point at which a means of egress route leaves the platform shall not exceed ~~100 m (325 ft)~~ *91 440 mm (300 feet)*.

Amend Section 5.3.3.7 to read as follows:
5.3.3.7 Alternate Egress. At least two means of egress remote from each other shall be provided from each station platform as follows:
(1)*A means of egress used as a public circulation route shall be permitted to provide more than 50 percent of the required egress capacity from a station platform or other location.
(2) Means of egress from separate platforms shall be permitted to converge.
(3) Where means of egress routes from separate platforms converge, the subsequent capacity of the egress route shall be sufficient to maintain the required evacuation time from the incident platform.
(4) Enclosed station platforms shall have a minimum of one exit within 2.5 times the least width of the enclosed station platform up to a maximum of 50 feet (insert mm) from each end.
(5) Routes from platform ends into the underground guideway shall not be considered as exits for calculating exiting requirements.

Amend Section 5.3.11.1 to read as follows:
5.3.11.1 Illumination of the means of egress in stations, including escalators that are considered a means of egress, shall be in accordance with ~~Section 7.8 of NFPA 101~~ *Chapter 10* of the California Building Code.

Amend Section 5.3.11.2 to read as follows:
5.3.11.2 Means of egress, including escalators considered as means of egress, shall be provided with a system of emergency lighting in accordance with ~~Section 7.9 of NFPA 101~~ *Chapter 10* of the California Building Code.

Amend Section 5.4.1.1 to read as follows:
5.4.1.1 Enclosed stations shall be provided with a fire command center in accordance with ~~NFPA 72~~*Section 911.1.1 through 911.5 of the California Building Code*.

Amend Section 5.4.4.1 to read as follows:
5.4.4.1* An automatic sprinkler protection system shall be provided ~~in areas of stations used for concessions, in storage~~

~~areas, in trash rooms, and other similar areas with combustible loadings, except trainways~~*where required by Section 903 of the California Building Code*.

Delete Section 5.4.4.2.
~~5.4.4.2 Sprinkler protection shall be permitted to be omitted in areas of open stations remotely located from public spaces.~~

Amend Section 5.4.5.1 to read as follows:
5.4.5.1* Class I standpipes shall be installed ~~in enclosed stations~~ *where required by Chapter 9 of the California Building Code* in accordance with NFPA 14 except as modified herein.

Amend Section 7.3.2.1 to read as follows:
7.3.2.1 The fan inlet airflow hot temperature shall be determined by an engineering analysis, however, this temperature shall not be less than ~~150~~*482*°C (~~302~~*250*°F). *Ventilation fans and related components shall be capable of withstanding the maximum anticipated plus/minus pressure transients induced by train operations.*

Add Section 7.6.1.1 to read as follows:
7.6.1.1 Ventilation of stations shall not terminate at grade on any vehicle roadway.

Amend Section 7.7.1 to read as follows:
7.7.1 Operation of the emergency ventilation system components shall be *capable of automatic and manual initiation* ~~initiated from the operations control center~~ *in accordance with 909.12.3 of the California Building Code*.

Amend Section 7.8.1 to read as follows:
7.8.1 The design of the power for the emergency ventilation system shall comply with the requirements of Article 700 of ~~NFPA 70~~*the California Electrical Code and Section 909 of the California Building Code*.

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

[44. Group I-3 Separation]

SECTION 508
MIXED USE AND OCCUPANCY

508.2.4 Separation of occupancies. No separation is required between accessory occupancies and the main occupancy.

Exceptions:
1.Group H-2, H-3, H-4, ~~and~~ H-5*,* ~~*I-2, I-2.1, I-3*~~ *and L* occupancies shall be separated from all other occupancies in accordance with Section 508.4.
2.Group I-1, R-1, R-2, *R-2.1* and R-3 dwelling units and sleeping units shall be separated from other dwelling or sleeping units and from accessory occupancies contiguous to them in accordance with the requirements of Section 420.
3. No separation is required between Group B, E, R-2 sleeping units and S-2 occupancies accessory to Group I-2, I-2.1 and I-3 of Type I Construction.

508.3.3 Separation. No separation is required between nonseparated occupancies.

Exceptions:
1. Group H-2, H-3, H-4, ~~and~~ H-5, ~~*I-2, I-2.1, I-3*~~ *and L* occupancies shall be separated from all other occupancies in accordance with Section 508.4.
2. Group R-1, R-2, *R-2.1* and R-3 dwelling units and sleeping units shall be separated from other dwelling or sleeping units and from other occupancies contiguous to them in accordance with the requirements of Section 420.

3. No separation is required between Group B, E, R-2 sleeping units and S-2 occupancies accessory to Group I-2, I-2.1 and I-3 of Type I Construction.

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

[45. OSHPD/SFM I-2 Updates]

407.2.1 Waiting and similar areas. Waiting areas and similar spaces constructed as required for corridors shall be permitted to be open to a corridor, only where all of the following criteria are met:

1. The spaces are not occupied as care recipient's sleeping rooms, treatment rooms, incidental uses ~~in accordance with Section 509~~*listed in Table 509*, or hazardous uses.
2. The open space is protected by an automatic ~~fire~~*smoke* detection system installed in accordance with Section 907.
3. The *corridors* onto which the spaces open, in the same *smoke compartment*, are protected by an automatic ~~fire~~*smoke* detection system installed in accordance with Section 907, ~~or~~*and* the *smoke compartment* in which the spaces are located is equipped throughout with quick-response sprinklers in accordance with Section 903.3.2.
4. The space is arranged so as not to obstruct access to the required exits.
5. Each space is located to permit direct visual supervision by the facility staff.

407.2.3 Psychiatric treatment areas. Areas wherein psychiatric care recipients who are not capable of self-preservation are housed, or group meeting or multipurpose therapeutic spaces other than incidental uses in accordance with Section 509, under continuous supervision by facility staff, shall be permitted to be open to the corridor, where the following criteria are met:

1. Each area does not exceed 1,500 square feet (140 m2).
2. The area is located to permit supervision by the facility staff.
3. The area is arranged so as not to obstruct any access to the required exits.
4. The area is equipped with an automatic ~~fire~~*smoke* detection system installed in accordance with Section 907.2.
5. Not more than one such space is permitted in any one smoke compartment.
6. The walls and ceilings of the space are constructed as required for corridors.

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~~*smoke* 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~~*smoke* detection system installed in accordance with Section 907, ~~or~~*and* 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.
6. Each space is located to permit direct visual supervision by the facility staff.

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~~ *in fully sprinklered buildings* where all of the following criteria are met:
1. The number of care recipients housed in the smoke compartment is not greater than 30.
2. The number of care recipients served by the cooking facility is not greater than 30.
3. Only one cooking facility area is permitted in a smoke compartment.
4. The types of domestic cooking appliances permitted are limited to ovens, cooktops, ranges, warmers and microwaves.
~~5. The corridor is 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.~~*5.* A domestic cooking *range* hood installed and constructed in accordance with ~~Section 505 of~~ the ~~International~~*California* Mechanical Code is provided over the cooktop or range.
~~8. The domestic cooking hood provided over the cooktop or range shall be equipped with an automatic fire-extinguishing system of a type recognized for protection of domestic cooking equipment. Preengineered automatic extinguishing systems shall be tested in accordance with UL 300A and listed and labeled for the intended application. The system shall be installed in accordance with this code, its listing and the manufacturer's instructions.~~
~~9. A manual actuation device for the hood suppression system shall be installed in accordance with Sections 904.12.1 and 904.12.2.~~
~~10. An interlock device shall be provided such that upon activation of the hood suppression system, the power or fuel supply to the cooktop or range will be turned off.~~
~~11. 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.~~
~~12. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes.~~
~~13.~~*6.* A portable fire extinguisher shall be installed in accordance with Section 906 of the ~~International~~*California* Fire Code.

407.3.1 Corridor doors. *In fully sprinklered buildings,* ~~C~~*c*orridor 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. *In Group I-2 Occupancies, self-closing or automatic-closing devices are not required on corridor doors to patient sleeping rooms and treatment rooms, ~~and offices~~ located in areas specified in Sections 1224 and 1225~~, excluding offices specified in Sections 1224.21 and 1225.8~~.* Roller latches are not permitted. Other doors shall conform to Section 716.5.

407.3.2 Glazing. *In fully sprinklered buildings, fixed fully tempered or laminated glass in wood or metal frames may be used in corridor walls, provided the glazed area does not exceed 25 percent of the areas of the corridor wall of the room. The total area of glass in corridor walls is not limited when the glazing is fixed ~~1/4-inch-thick (6.4 mm) wired glass~~ 1/3-hour fire-protection-rated glazing in ~~steel~~approved frames and the size of individual glazed panel does not exceed 1,296 square inches (0.836 m2).*

407.4.1.1 Locking devices. Locking devices that restrict access to a care recipient's room from the corridor and that are operable only by staff from the corridor side shall not restrict the means of egress from the care recipient's room.

Exceptions:
~~1.~~ This section shall not apply to rooms in psychiatric treatment and similar care areas.
~~2. Locking arrangements in accordance with Section 1010.1.9.6.~~

407.4.4.3 Access to corridor. *Movement from habitable rooms shall be in accordance with Sections 407.4.4.3.1, 407.4.4.3.2 and 407.4.4.5.3.*

407.4.4.3.1 One intervening room. Movement from habitable rooms shall not require passage through more than ~~three doors~~*one intervening room* and 100 feet (30 480 mm) distance of travel within the *care* 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.~~

407.4.4.3.2 Two intervening rooms*. Movement from habitable rooms other than sleeping rooms located within a care suite, shall not require passage through more than two intervening rooms and 50 (15 240 mm) feet distance of exit access travel within the care suite.*

Exception: *The distance of travel shall be permitted to be increased to 100 feet (38 100 mm) where an automatic fire sprinkler system is provided throughout the Group I-2 fire area and an automatic smoke detection system is provided throughout the care suite and installed in accordance with NFPA 72.*

407.4.4.5 Care suites containing sleeping room areas. Sleeping rooms shall be permitted to be grouped into care suites where ~~one of~~ the following criteria is met:

1. The care suite is not used as an exit access for more than eight care recipient beds.
2. The arrangement of the care suite allows for direct and constant visual supervision into the sleeping rooms by care providers.
~~3. An automatic smoke detection system is provided in the sleeping rooms and installed in accordance with NFPA 72.~~

407.4.4.5.1 Area. Care suites containing sleeping rooms shall be not greater than ~~7,500~~*5,000* square feet (~~696~~*465* m2) in area.

Exceptions:
1. Care suites containing sleeping rooms shall be permitted to be not greater than 7,500 square feet (696 m2) in area where an automatic fire sprinkler system is provided throughout the Group I-2 fire area.
2. Care suites containing sleeping rooms shall be permitted to be not greater than 10,000 square feet (929 m2) in area *an automatic fire sprinkler system is provided throughout the Group I-2 fire area and* where an automatic smoke detection system is provided throughout the care suite and installed in accordance with ~~NFPA 72~~*Section 907*.

407.4.4.5.3 Travel distance. The travel distance between any point in a care suite containing sleeping rooms and an exit access door from that care suite shall be not greater than 100 feet (30 480 mm).

407.4.4.6.1 Area. Care suites of rooms, other than sleeping rooms, shall have an area not greater than ~~12,500~~*10,000* square feet (~~1161~~*929* m2).

~~**Exception**: Care suites not containing sleeping rooms shall be permitted to be not greater than 15,000 square feet (1394 m2) in area where an automatic smoke detection system is provided throughout the care suite in accordance with Section 907.~~

407.4.4.6.2 Exit access. *Any room or care suite*~~Care suites~~, other than sleeping rooms, with an area of more than 2,500 square feet (232 m2) shall have no fewer than two exit access doors from the *room or* care suite located in accordance with Section 1007.1.

407.5 Smoke barriers. Smoke barriers shall be provided to subdivide every story used by persons receiving care, treatment or sleeping and to divide other stories with an occupant load of 50 or more persons, *regardless of occupancy or use*, into no fewer than two smoke compartments. Such stories shall be divided into smoke compartments with an area of not more than 22,500 square feet (2092 m2~~) in Group I-2, Condition 1, and not more than 40,000 square feet (3716 m2) in Group I-2, Condition 2,~~ and the distance of travel from any point in a smoke compartment to a smoke barrier door shall be not greater than 200 feet (60 960 mm). The smoke barrier shall be in accordance with Sections 709 *and 909.5*.

Exceptions:
1. This requirement shall not apply to Group I-2.1 less than 10,000 ft2 (929 m2).
2. An area in an adjoining occupancy shall be permitted to serve as a smoke compartment for a Group I-2.1 facility if the following criteria are met:
2.1. The separating wall and both compartments meet the requirements of 407.5.
2.2. The Group I-2.1 is less than 22,500 ft2 (2100 m2).
2.3. Access from the Group I-2.1 to the other occupancy is unrestricted.
3. This requirement shall not apply to the following:
3.1. Any story, not containing a Group I-2 or I-2.1 occupancy, that is located above a story containing a Group I-2 or I-2.1 occupancy.

3.2. Areas that do not contain a Group I-2 or I-2.1 occupancy, where such areas are separated from the Group I-2 or I-2.1 occupancy by a horizontal exit in accordance with Section 1025.2.

3.3. Any story, not containing a Group I-2 or I-2.1 occupancy, that is located more than one story below a story containing a Group I-2 or I-2.1 occupancy.

3.4. Any story housing only mechanical equipment where such story is located below a story containing a Group I-2 or I-2.1 occupancy and is separated from the story above by a horizontal assembly having not less than a 2 hour fire resistance-rating.

TABLE 508.4
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

OCCUPANCY	**A, E**		**I-4, *R-2.1***		**I-2, *I-2.1***		***I-3***		**R-*1, R-2, R-3, R-3.1, R-4***		**F-2, S-2[b], U**		**B[f], F-1[e,f], ~~M[e]~~ M, S-1**		***L***		**H-1**		**H-2**		**H-3, H-4,**		**H-5**	
	S	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**	***S***	***NS***	**S**	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**
A, E	N	N	*2*	2	2	NP	*2*	*NP*	1	2	N	1	1	2	*2*	*NP*	NP	NP	3	4	2	3[a]	2	NP
I-4, *R-2.1*	—	—	*1[e]*	*NP*	2	NP	*2*	*NP*	1	NP	~~2~~1	2	~~2~~1	2	*2*	*NP*	NP	NP	*4*	NP	*4*	NP	*4*	NP
I-2, *I-2.1*	—	—	—	—	N	*NP*	*2*	*NP*	2	NP	2	NP	2	NP	*2*	*NP*	NP	NP	*4*	NP	*4*	NP	*4*	NP
I-3	—	—	—	—	—	—	*N*	*NP*	*2*	*NP*	*2*	*2*	*2*	*2*	*2*	*NP*	*NP*	*NP*	*4*	*NP*	*4*	*NP*	*4*	NP
R-*1, R-2, R-3, R-3.1, R-4*	—	—	—	—	—	—	—	—	N	N	1[c]	2[c]	1	2	*4*	*NP*	NP	NP	3	NP	2	NP	2	NP
F-2, S-2[b], U	—	—	—	—	—	—	—	—	—	—	N	N	1	2	*1*	*NP*	NP	NP	3	4	2	3[a]	2	NP
B, F-1, M, S-1	—	—	—	—	—	—	—	—	—	—	—	—	N	N	*1*	*NP*	NP	NP	2	3	1	2[a]	1	NP
L	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1*	*NP*	*NP*	*NP*	*2*	*NP*	*1*	*NP*	*1*	*NP*
H-1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	NP	NP	NP	NP	NP	NP
H-2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	1	NP	1	NP
H-3, H-4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1[d]	NP	1	NP
H-5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP

S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
N = No separation requirement.
NP = Not permitted.
a See Section 420.
b. The required separation from areas used only for private or pleasure vehicles shall be reduced by 1 hour but to not less than 1 hour.
c. See Section 406.3.4.
d. Separation is not required between occupancies of the same classification.
~~g~~e. [SFM] Group I and F1 occupancies and Group R-2.1 and F-1 occupancies shall have a 3 hour separation.
f. [SFM] Commercial kitchens not associated with cafeterias and similar dining facilities in Group I-2, and Group R-2.1 shall have a 2-hour separation and shall be protected by an automatic sprinkler system.

509.3 Area limitations. *The aggregate floor area of* ~~I~~*i*ncidental uses shall not occupy more than 10 percent of the building area of the story in which they are located.

905.7.2 Locking cabinet doors. Cabinets shall be unlocked.

Exceptions:
1. Visual identification panels of glass or other approved transparent frangible material that is easily broken and allows access.
2. Approved locking arrangements.
3. Group I-3 *and in mental health areas of Group I-2 occupancies*.

906.1 Where required. Portable fire extinguishers shall be installed in all of the following locations:

1. In Group A, B, E, F, H, I, *L,* M, R-1, R-2, *R-2.1, R-3.1,* R-4 and S occupancies.

Exception: In Group R-2 occupancies, portable fire extinguishers shall be required only in locations specified in Items 2 through 6 where each dwelling unit is provided with a portable fire extinguisher having a minimum rating of 1-A:10-B:C.

2. Within 30 feet (9144 mm) of commercial cooking equipment.
3. In areas where flammable or combustible liquids are stored, used or dispensed.
4. On each floor of structures under construction, except Group R-3 occupancies, in accordance with Section 3315.1 of the ~~*International*~~*California Fire Code*.
5. Where required by the ~~*International*~~*California Fire Code* sections indicated in Table 906.1.
6. Special-hazard areas, including but not limited to laboratories, computer rooms and generator rooms, where required by the fire code official.
7. Large and small family day-care homes shall be equipped with a portable fire extinguisher having a minimum 2A10BC rating.
8. Where required by California Code of Regulations, Title 19, Division 1.
9. Within 30 feet (9144 mm) of domestic cooking equipment located in a Group I-2.

906.2 General requirements. Portable fire extinguishers shall be selected and installed in accordance with this section and ~~NFPA 10~~ *California Code of Regulations, Title 19, Division 1, Chapter 3*.

Exceptions:
1. The distance of travel to reach an extinguisher shall not apply to the spectator seating portions of Group A-5 occupancies.
2. In Group I-3 *and in mental health areas of Group I-2*, portable fire extinguishers shall be permitted to be located at staff locations.

907.5.2.3 Visible alarms. Visible alarm notification appliances shall be provided in accordance with Sections 907.5.2.3.1 through ~~907.5.2.3.3~~*907.5.2.3.4*.

Exceptions:
1. *In other than Group I-2 and I-2.1,* visible alarm notification appliances are not required in *alterations*, except where an existing fire alarm system is upgraded or replaced, or a new fire alarm system is installed.
2. Visible alarm notification appliances shall not be required in ~~exits as defined in Chapter 2~~*enclosed exit stairways, enclosed exit ramps, exterior exit stairs and exterior exit ramps.*
3. Visible alarm notification appliances shall not be required in elevator cars.
~~4. Visual alarm notification appliances are not required in critical care areas of Group I-2 Condition 2 occupancies that are in compliance with Section 907.2.6, Exception 2.~~

909.5.3 Opening protection. Openings in smoke barriers shall be protected by *self-closing devices or* automatic- closing devices actuated by the required controls for the mechanical smoke control system. Door openings shall be protected by fire door assemblies complying with Section 716.5.3.

Exceptions:

1. Passive smoke control systems with automatic- closing devices actuated by spot-type smoke detectors *listed* for releasing service installed in accordance with Section 907.3. *When used in a Group I-2 or a I-2.1, such detectors shall activate the fire alarm system and shall close all the smoke barrier doors within the effected zone.*
2. Fixed openings between smoke zones that are protected utilizing the airflow method *in other than Group I-2 or I-2.1.*
3. In ~~Group I-1 Condition 2,~~ Group I-2*, I-2.1, R-2.1* and ambulatory care facilities, where a pair of opposite swinging doors are installed across a corridor in accordance with Section 909.5.3.1**,** the doors shall not be required to be protected in accordance with Section 716. The doors shall be closefitting within operational tolerances and shall not have a center mullion or undercuts in excess of ¾ inch (19.1 mm), louvers or grilles. The doors shall have head and jamb stops and astragals or rabbets at meeting edges~~ and, where permitted by the door manufacturer's listing, positive-latching devices are not required~~. *Positive-latching devices are required. Doors installed across corridors shall comply with Section 1010.1.1.*
4. In Group I-2*, I-2.1,* and ambulatory care facilities, where such doors are special-purpose horizontal sliding, accordion or folding door assemblies installed in accordance with Section 1010.1.4.3 and are automatic closing by smoke detection in accordance with Section 716.5.9.3. *The doors shall be close fitting within operational tolerances, and shall not have undercuts in excess of ¾-inch (19.1 mm), louvers or grilles. Where permitted by the manufacturer's listing, positive-latching devices are not required. Doors installed across corridors shall comply with Section 1010.1.1.*
5. Group I-3.
6. Openings between smoke zones with clear ceiling heights of 14 feet (4267 mm) or greater and bank-down capacity of greater than 20 minutes as determined by the design fire size.
7. In Group I-2 or I-2.1., smoke damper activation may be accomplished by a fire alarm control unit provided that an open area smoke detection system is provided within all areas served by an HVAC system.

909.5.3.1 ~~Group I-1 Condition 2;~~ Group I-2*, I-2.1, R-2.1,* and ambulatory care facilities. In ~~Group I-1 Condition 2,~~ Group I-2*, I-2.1, R-2.1,* and ambulatory care facilities, where doors are installed across a corridor, the doors shall be automatic-closing by smoke detection in accordance with Section 716.5.9.3 ~~and shall have a vision panel with fire protection-rated glazing materials in fire protection- rated frames, the area of which shall not exceed that tested~~. *Vision panels consisting of fire-rated glazing in approved frames shall be provided in each cross-corridor swinging door and at each cross-corridor horizontal-sliding door in a smoke barrier.*

1003.3.1 Headroom. Protruding objects are permitted to extend below the minimum ceiling height required by Section 1003.2 provided a minimum headroom of 80 inches (2032 mm) shall be provided for any walking surface, including walks, corridors, aisles and passageways. *In other than Group I-2 and Group I-2.1 occupancies,* ~~Not more than~~ 50 percent of the ceiling area of a means of egress shall be *permitted to be* reduced in height by protruding objects.

Exception: Door closers and stops shall not reduce headroom to less than 78 inches (1981 mm).

A barrier shall be provided where the vertical clearance is less than 80 inches (2032 mm) high. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the floor.

~~1008.1.1~~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 width of 32 inches (813 mm). Clear openings 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 width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a clear opening width of 32 inches (813 mm). The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. Means of egress doors in a Group I-2 *or I-2.1* occupancy used for the movement of beds *and ~~litter~~stretcher patients* shall provide a clear width not less than ~~41.5~~ *44 inches* (~~1054~~1118 mm). The height of door openings shall be not less than 80 inches (2032 mm).

Exceptions:
1. The minimum and maximum width shall not apply to door openings that are not part of the required means of egress in Group R-2 and R-3 occupancies.
2. Door openings to resident sleeping units in Group I-3 occupancies shall have a clear width of not less than 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 width.
4. Width of door leafs in revolving doors that comply with Section 1010.1.4.1 shall not be limited.
5. Door openings within a dwelling unit or sleeping unit shall be not less than 78 inches (1981 mm) in height.
6. Exterior door openings in dwelling units and sleeping units, other than the required exit door, shall be not less than 76 inches (1930 mm) in height.

7. In other than Group R-1 occupancies, the minimum widths shall not apply to interior egress doors within a dwelling unit or sleeping unit that is not required to be an Accessible unit, Type A unit or Type B unit .
8. Door openings required to be accessible within Type B units shall have a minimum clear width of 31.75 inches (806 mm).
9. Doors to walk-in freezers and coolers less than 1,000 square feet (93 m2) in area shall have a maximum width of 60 inches (1524 mm).
10. In Group R-1 dwelling units or sleeping units not required to be Accessible units, the minimum width shall not apply to doors for showers or saunas.

[Editorial Note: Relocate existing amendments from Section 1010.1.2 to 1010.1.2.1 due to section split.]
1010.1.2 Door swing. Egress doors shall be of the pivoted or side-hinged swinging type.

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.
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.
10. In I-2 and I-2.1 occupancies, exit doors serving an occupant load of ~~10~~50 or more, ~~may~~ shall not be of the pivoted or balanced type.

~~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. *For Group L occupancies, see Section 443.6.2.*~~

~~*In a Group I-2 occupancy, all required exterior egress doors shall open in the direction of egress regardless of the occupant load served.*~~

~~1008.1.10~~1010.1.10 **Panic and fire exit hardware.** Doors serving a Group H occupancy and doors serving rooms or spaces with an occupant load of 50 or more in a Group A ~~or E~~ occupancy, *assembly area not classified as an assembly occupancy, E, I-2 or I-2.1 occupancies* shall not be provided with a latch or lock other than panic hardware or fire exit hardware. *For Group L occupancies see Section ~~443.6.3~~53.6.3.*

Exceptions:
1. A main exit of a Group A occupancy shall be permitted to be locking in accordance with Section 1010.1.9.3, Item 2.
2. Doors serving a Group A or E occupancy shall be permitted to be electromagnetically locked in accordance with Section 1010.1.9.9.

Electrical rooms with equipment rated ~~1,200~~800 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.

~~1009.4~~1011.2 Width and capacity. The required capacity of stairways shall be determined as specified in Section 1005.1, but the minimum width shall be not less than 44 inches (1118 mm). See Section 1009.3 for accessible means of egress stairways.

Exceptions:
1. Stairways serving an occupant load of less than 50 shall have a width of not less than 36 inches (914 mm).
2. Spiral stairways as provided for in Section 1011.10.
3. Where an incline platform lift or stairway chairlift is installed on stairways serving occupancies in Group R-3, or within dwelling units in occupancies in Group R-2, a clear passage width not less than 20 inches (508 mm) shall be provided. Where the seat and platform can be folded when not in use, the distance shall be measured from the folded position.

Means of egress stairs in a Group I-2 or I-2.1 occupancy used for the movement of beds and ~~litter~~stretcher patients shall provide a clear width not less than 44 inches (1118 mm).

~~1014.2~~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 *in other than a Group I-2 and I-2.1*. Access to 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.
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.

~~5.~~6. Exits shall not pass through any room subject to locking except in Group I-3 occupancies classified as detention facilities.

~~1018.1~~1020.1 Construction. Corridors shall be fire-resistance rated in accordance with Table 1020.1. The corridor walls required to be fire-resistance rated shall comply with Section 708 for fire partitions.

Exceptions:
1. A fire-resistance rating is not required for corridors in an occupancy in Group E where each room that is used for instruction has not less than one door opening directly to the exterior and rooms for assembly purposes have not less than one-half of the required means of egress doors opening directly to the exterior. Exterior doors specified in this exception are required to be at ground level.
2. A fire-resistance rating is not required for corridors contained within a dwelling unit or sleeping unit in an occupancy in Group~~s I-1 and~~ R.
3. A fire-resistance rating is not required for corridors in open parking garages.
4. A fire-resistance rating is not required for corridors in an occupancy in Group B that is a space requiring only a single means of egress complying with Section 1006.2.
5. Corridors adjacent to the exterior walls of buildings shall be permitted to have unprotected openings on unrated exterior walls where unrated walls are permitted by Table 602 and unprotected openings are permitted by Table 705.8.
6. A fire-resistance rating is not required for corridors within suites in a Group I-2 or I-2.1 ~~occupancy provided with an automatic sprinkler system throughout and~~ constructed in accordance with Section ~~407.4.3.5~~407.4.4.5 or ~~407.4.3.6~~407.4.4.6.

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

PART 2

[46. The SFM proposes to bring forward previously existing California building standards or amendments, which represent no change in their effect from the 2013 California Building Code and is displayed for context and for the convenience of code users. Furthermore, the SFM proposes to codify non-substantive editorial and formatting amendments from the format based upon the 2012 International Building Code to the format of the 2015 International Building Code.]

CHAPTER 1

SCOPE AND ADMINISTRATION

DIVISION I
CALIFORNIA ADMINISTRATION

SECTION 1.1
GENERAL

1.1.2 Purpose. *The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation, and energy conservation; safety to life and property from fire and other hazards attributed to the built environment; and to provide safety to fire fighters and emergency responders during emergency operations.*

1.1.3 Scope. *The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout the State of California.*

1.1.3.1 Nonstate-regulated buildings, structures, and applications. *Except as modified by local ordinance pursuant to Section 1.1.8, the following standards in the California Code of Regulations, Title 24, Parts 2, 2.5, 3, 4, 5, 6, 9, 10 and 11 shall apply to all occupancies and applications not regulated by a state agency.*

1.1.4 Appendices. *Provisions contained in the appendices of this code shall not apply unless specifically adopted by a state agency or adopted by a local enforcing agency in compliance with Health and Safety Code Section 18901 et. seq. for Building Standards Law, Health and Safety Code Section 17950 for State Housing Law and Health and Safety Code Section 13869.7 for Fire Protection Districts. See Section 1.1.8 of this code.*

1.1.5 Referenced codes. *The codes, standards and publications adopted and set forth in this code, including other codes, standards and publications referred to therein are, by title and date of publication, hereby adopted as standard reference documents of this code. When this code does not specifically cover any subject related to building design and construction, recognized architectural or engineering practices shall be employed. The National Fire Codes, standards, and the Fire Protection Handbook of the National Fire Protection Association are permitted to be used as authoritative guides in determining recognized fire prevention engineering practices.*

1.1.6 Nonbuilding standards, orders and regulations. *Requirements contained in the Uniform Mechanical Code or in any other referenced standard, code or document, which are not building standards as defined in Health and Safety Code Section 18909, shall not be construed as part of the provisions of this code. For nonbuilding standards, orders, and regulations, see other titles of the California Code of Regulations.*

1.1.7 Order of precedence and use.

1.1.7.1 Differences. *In the event of any differences between these building standards and the standard reference documents, the text of these building standards shall govern.*

1.1.7.2 Specific provisions. *Where a specific provision varies from a general provision, the specific provision shall apply.*

1.1.8 City, County, or City and County amendments, additions or deletions. *The provisions of this code do not limit the authority of city, county, or city and county governments to establish more restrictive and reasonably necessary differences to the provisions contained in this code pursuant to complying with Section 1.1.8.1. The effective date of amendments, additions, or deletions to this code by a city, county, or city and county filed pursuant to Section 1.1.8.1 shall be the date filed. However, in no case shall the amendments, additions, or deletions to this code be effective any sooner than the effective date of this code.*

Local modifications shall comply with Health and Safety Code Section 18941.5 for Building Standards Law, Health and Safety Code Section 17958 for State Housing Law or Health and Safety Code Section 13869.7 for Fire Protection Districts.

1.1.9 Effective date of this code. *Only those standards approved by the California Building Standards Commission that are effective at the time an application for building permit is submitted shall apply to the plans and specifications for, and to the construction performed under, that permit. For the effective dates of the provisions contained in this code, see the History Note page of this code.*

1.1.11 Format. *This part fundamentally adopts the International Building Code by reference on a chapter-by-chapter basis. When a specific chapter of the International Building Code is not printed in the code and is marked "Reserved" such chapter of the International Building Code is not adopted as a portion of this code. When a specific chapter of the International Building Code is marked "Not adopted by the State of California" but appears in the code, it may be available for adoption by local ordinance.*

Note: *Matrix Adoption Tables at the front of each chapter may aid the code user in determining which chapter or sections within a chapter are applicable to buildings under the authority of a specific state agency, but they are not to be considered regulatory.*

1.1.12 Validity. *If any chapter, section, subsection, sentence, clause, or phrase of this code is for any reason held to be unconstitutional, contrary to statute, exceeding the authority of the state as stipulated by statutes or otherwise inoperative, such decision shall not affect the validity of the remaining portion of this code.*

SECTION 1.11
OFFICE OF THE STATE FIRE MARSHAL

1.11.1 SFM—Office of the State Fire Marshal. *Specific scope of application of the agency responsible for enforcement, the enforcement agency and the specific authority to adopt and enforce such provisions of this code, unless otherwise stated.*

Application:
Institutional, educational or any similar occupancy. Any building or structure used or intended for use as an asylum, jail, mental hospital, hospital, sanitarium, home for the aged, children's nursery, children's home, school or any similar occupancy of any capacity.

Authority cited*—Health and Safety Code Section 13143.*
Reference*—Health and Safety Code Section 13143.*

Assembly or similar place of assemblage. *Any theater, dancehall, skating rink, auditorium, assembly hall, meeting hall, nightclub, fair building or similar place of assemblage where 50 or more persons may gather together in a building, room or structure for the purpose of amusement, entertainment, instruction, deliberation, worship, drinking or dining, awaiting transportation, or education.*

Authority cited*—Health and Safety Code Section 13143.*
Reference*—Health and Safety Code Section 13143.*

Small family day-care homes.

Authority cited*—Health and Safety Code Sections 1597.45, 1597.54, 13143 and 17921.*
Reference*—Health and Safety Code Section 13143.*

Large family day-care homes.

Authority cited*—Health and Safety Code Sections 1597.46, 1597.54 and 17921.*
Reference*—Health and Safety Code Section 13143.*

Residential facilities and residential facilities for the elderly.

Authority cited*—Health and Safety Code Section 13133.*
Reference*—Health and Safety Code Section 13143.*

Any state institution or other state-owned or state-occupied building.

Authority cited*—Health and Safety Code Section 13108.*
Reference*—Health and Safety Code Section 13143.*

High-rise structures.

Authority cited*—Health and Safety Code Section 13211.*
Reference*—Health and Safety Code Section 13143.*

Motion picture production studios.

Authority cited*—Health and Safety Code Section 13143.1.*
Reference*—Health and Safety Code Section 13143.*

Organized camps.

Authority cited*—Health and Safety Code Section 18897.3.*
Reference*—Health and Safety Code Section 13143.*

Residential. *All hotels, motels, lodging houses, apartment houses and dwellings, including congregate residences and buildings and structures accessory thereto. Multiple-story structures existing on January 1, 1975, let for human habitation, including and limited to, hotels, motels and apartment houses, less than 75 feet (22 860 mm) above the lowest floor level having building access, wherein rooms used for sleeping are let above the ground floor.*

Authority cited*—Health and Safety Code Sections 13143.2 and 17921.*
Reference*—Health and Safety Code Section 13143.*

Residential care facilities. *Certified family care homes, out-of-home placement facilities, halfway houses, drug and/or alcohol rehabilitation facilities and any building or structure used or intended for use as a home or institution for the housing of any person of any age when such person is referred to or placed within such home or institution for protective social care and supervision services by any governmental agency.*

Authority cited*—Health and Safety Code Section 13143.6.*
Reference*—Health and Safety Code Section 13143.*

Tents, awnings *or other fabric enclosures used in connection with any occupancy.*

Authority cited*—Health and Safety Code Section 13116.*

***Reference**—Health and Safety Code Section 13143.*

***Fire alarm devices, equipment and systems** in connection with any occupancy.*

***Authority cited**—Health and Safety Code Section 13114.*
***Reference**—Health and Safety Code Section 13143.*

Hazardous materials.

***Authority cited**—Health and Safety Code Section 13143.9.*
***Reference**—Health and Safety Code Section 13143.*

Flammable and combustible liquids.

***Authority cited**—Health and Safety Code Section 13143.6.*
***Reference**—Health and Safety Code Section 13143.*

Public school automatic fire detection, alarm and sprinkler systems.

***Authority cited**—Health and Safety Code Section 13143 and California Education Code Article 7.5, Sections 17074.50, 17074.52 and 17074.54.*
***Reference**—Government Code Section 11152.5, Health and Safety Code Section 13143 and California Education Code Chapter 12.5, Leroy F. Greene School Facilities Act of 1998, Article 1.*

Wildland-Urban interface fire area.

***Authority cited**—Health and Safety Code Sections 13143, 13108.5(a) and 18949.2(b) and (c) and Government Code Section 51189.*
***Reference**—Health and Safety Code Sections 13143, Government Code Sections 51176, 51177, 51178 and 51179 and Public Resources Code Sections 4201 through 4204.*

1.11.2 Duties and powers of the enforcing agency.

1.11.2.1 Enforcement.

***1.11.2.1.1** The responsibility for enforcement of building standards adopted by the State Fire Marshal and published in the California Building Standards Code relating to fire and panic safety and other regulations of the State Fire Marshal shall except as provided in Section 1.11.2.1.2 be as follows:*

1. The city, county, or city and county with jurisdiction in the area affected by the standard or regulation shall delegate the enforcement of the building standards relating to fire and panic safety and other regulations of the State Fire Marshal as they relate to Group R-3 occupancies, as described in Section 1.1.3.1 or CCR, Part 2 California Building Code,, Section 310.1, to either of the following:

1.1. The chief of the fire authority of the city, county or city and county, or an authorized representative.
1.2. The chief building official of the city, county or city and county, or an authorized representative.

2. The chief of any city or county fire department or of any fire protection district, and authorized representatives, shall enforce within the jurisdiction the building standards and other regulations of the State Fire Marshal, except those described in Item 1 or 4.
3. The State Fire Marshal shall have authority to enforce the building standards and other regulations of the State Fire Marshal in areas outside of corporate cities and districts providing fire protection services.
4. The State Fire Marshal shall have authority to enforce the building standards and other regulations of the State Fire Marshal in corporate cities and districts providing fire protection services on request of the chief fire official or the governing body.
5. Any fee charged pursuant to the enforcement authority of this section shall not exceed the estimated reasonable cost of providing the service for which the fee is charged pursuant to Section 66014 of the Government Code.

1.11.2.1.2 *Pursuant to Health and Safety Code Section 13108, and except as otherwise provided in this section, building standards adopted by the State Fire Marshal published in the California Building Standards Code relating to fire and panic safety shall be enforced by the State Fire Marshal in all state-owned buildings, state-occupied buildings and state institutions throughout the state. Upon the written request of the chief fire official of any city, county, or fire protection district, the State Fire Marshal may authorize such chief fire official and his or her authorized representatives, in their geographical area of responsibility, to make fire prevention inspections of state-owned or state-occupied buildings, other than state institutions, for the purpose of enforcing the regulations relating to fire and panic safety adopted by the State Fire Marshal pursuant to this section and building standards relating to fire and panic safety published in the California Building Standards Code. Authorization from the State Fire Marshal shall be limited to those fire departments or fire districts which maintain a fire prevention bureau staffed by paid personnel.*

Pursuant to Health and Safety Code Section 13108, any requirement or order made by any chief fire official who is authorized by the State Fire Marshal to make fire prevention inspections of state-owned or state-occupied buildings, other than state institutions, may be appealed to the State Fire Marshal. The State Fire Marshal shall, upon receiving an appeal and subject to the provisions of Chapter 5 (commencing with Section 18945) of Part 2.5 of Division 13 of the Health and Safety Code, determine if the requirement or order made is reasonably consistent with the fire and panic safety regulations adopted by the State Fire Marshal and building standards relating to fire and panic safety published in the California Building Code.

Any person may request a code interpretation from the State Fire Marshal relative to the intent of any regulation or provision adopted by the State Fire Marshal. When the request relates to a specific project, occupancy or building, the State Fire Marshal shall review the issue with the appropriate local enforcing agency prior to rendering such code interpretation.

1.11.2.1.3 *Pursuant to Health and Safety Code Section 13112, any person who violates any order, rule or regulation of the State Fire Marshal is guilty of a misdemeanor punishable by a fine of not less than $100.00 or more than $500.00, or by imprisonment for not less than six months, or by both. A person is guilty of a separate offense each day during which he or she commits, continues or permits a violation of any provision of, or any order, rule or regulation of, the State Fire Marshal as contained in this code.*

Any inspection authority who, in the exercise of his or her authority as a deputy State Fire Marshal, causes any legal complaints to be filed or any arrest to be made shall notify the State Fire Marshal immediately following such action.

1.11.2.2 Right of entry. *The fire chief of any city, county or fire protection district, or such person's authorized representative, may enter any state institution or any other state-owned or state-occupied building for the purpose of preparing a fire suppression preplanning program or for the purpose of investigating any fire in a state-occupied building.*

The State Fire Marshal, his or her deputies or salaried assistants, the chief of any city or county fire department or fire protection district and his or her authorized representatives may enter any building or premises not used for dwelling purposes at any reasonable hour for the purpose of enforcing this chapter. The owner, lessee, manager or operator of any such building or premises shall permit the State Fire Marshal, his or her deputies or salaried assistants and the chief of any city or county fire department or fire protection district and his or her authorized representatives to enter and inspect them at the time and for the purpose stated in this section.

1.11.2.3 More restrictive fire and panic safety building standards.

1.11.2.3.1 *Any fire protection district organized pursuant to Health and Safety Code Part 2.7 (commencing with Section 13800) of Division 12 may adopt building standards relating to fire and panic safety that are more stringent than those building standards adopted by the State Fire Marshal and contained in the California Building Standards Code. For these purposes, the district board shall be deemed a legislative body and the district shall be deemed a local agency. Any changes or modifications that are more stringent than the requirements published in the California Building Standards Code relating to fire and panic safety shall be subject to Section 1.1.8.1.*

1.11.2.3.2 *Any fire protection district that proposes to adopt an ordinance pursuant to this section shall, not less than 30 days prior to noticing a proposed ordinance for public hearing, provide a copy of that ordinance, together with the adopted findings made pursuant to Section 1.11.2.3.1, to the city, county, or city and county where the ordinance will apply. The city, county, or city and county may provide the district with written comments, which shall become part of the fire protection district's public hearing record.*

1.11.2.3.3 *The fire protection district shall transmit the adopted ordinance to the city, county, or city and county where the ordinance will apply. The legislative body of the city, county, or city and county may ratify, modify or deny an adopted ordinance and transmit its determination to the district within 15 days of the determination. Any modification or denial of an adopted ordinance shall include a written statement describing the reasons for any modifications or denial. No ordinance adopted by the district shall be effective until ratification by the city, county, or city and county where the ordinance will apply. Upon ratification of an adopted ordinance, the city, county, or city and county shall file a copy of the findings of the district, and any findings of the city, county, or city and county, together with the adopted ordinance expressly marked and identified to which each finding refers, in accordance with Section 1.1.8.1:3.*

1.11.2.4 Request for alternate means of protection. *Requests for approval to use an alternative material, assembly or materials, equipment, method of construction, method of installation of equipment or means of protection shall be made in writing to the enforcing agency by the owner or the owner's authorized representative and shall be accompanied by a full statement of the conditions. Sufficient evidence or proof shall be submitted to substantiate any claim that may be made regarding its conformance. The enforcing agency may require tests and the submission of a test report from an approved testing organization as set forth in Title 19, California Code of Regulation, to substantiate the equivalency of the proposed alternative means of protection.*

When a request for alternate means of protection involves hazardous materials, the authority having jurisdiction may consider implementation of the findings and recommendations identified in a Risk Management Plan (RMP) developed in accordance with Title 19, Division 2, Chapter 4.5, Article 3.

Approval of a request for use of an alternative material, assembly of materials, equipment, method of construction, method of installation of equipment or means of protection made pursuant to these provisions shall be limited to the particular case covered by request and shall not be construed as establishing any precedent for any future request.

1.11.2.5 Appeals. *When a request for an alternate means of protection has been denied by the enforcing agency, the applicant may file a written appeal to the State Fire Marshal for consideration of the applicant's proposal. In considering such appeal, the State Fire Marshal may seek the advice of the State Board of Fire Services. The State Fire Marshal shall, after considering all of the facts presented, including any recommendations of the State Board of Fire Services, determine if the proposal is for the purposes intended, at least equivalent to that specified in these regulations in quality, strength, effectiveness, fire resistance, durability and safety, and shall transmit such findings and any recommendations to the applicant and to the enforcing agency.*

1.11.3 Construction documents.

1.11.3.1 Public schools. *Plans and specifications for the construction, alteration or addition to any building owned, leased or rented by any public school district shall be submitted to the Division of the State Architect.*

1.11.3.2 Movable walls and partitions. *Plans or diagrams shall be submitted to the enforcing agency for approval before the installation of, or rearrangement of, any movable wall or partition in any occupancy. Approval shall be granted only if there is no increase in the fire hazard.*

1.11.3.3 New construction high-rise buildings.

1. Complete plans or specifications, or both, shall be prepared covering all work required to comply with new construction high-rise buildings. Such plans and specifications shall be submitted to the enforcing agency having jurisdiction.
2. All plans and specifications shall be prepared under the responsible charge of an architect or a civil or structural engineer authorized by law to develop construction plans and specifications, or by both such architect and engineer. Plans and specifications shall be prepared by an engineer duly qualified in that branch of engineering necessary to perform such services. Administration of the work of construction shall be under the charge of the responsible architect or engineer except that where plans and specifications involve alterations or repairs, such work of construction may be administered by an engineer duly qualified to perform such services and holding a valid certificate under Chapter 7 (commencing with Section 65700) of Division 3 of the Business and Professions Code for performance of services in that branch of engineering in which said plans, specifications and estimates and work of construction are applicable.

This section shall not be construed as preventing the design of fire-extinguishing systems by persons holding a C-16 license issued pursuant to Division 3, Chapter 9, Business and Professions Code. In such instances, however, the responsibility charge of this section shall prevail.

1.11.3.4 Existing high-rise buildings.

1. Complete plans or specifications, or both, shall be prepared covering all work required by ~~Section 3412~~California Fire Code Chapter 11 and California Existing Building Code for existing high-rise buildings. Such plans or specifications shall be submitted to the enforcing agency having jurisdiction.
2. When new construction is required to conform with the provisions of these regulations, complete plans or specifications, or both, shall be prepared in accordance with the provisions of this subsection. As used in this section, "new construction" is not intended to include repairs, replacements or minor alterations which do not disrupt or appreciably add to or affect the structural aspects of the building.

1.11.3.5 Retention of plans. *Refer to Building Standards Law, Health and Safety Code Sections 19850 and 19851 for permanent retention of plans.*

1.11.4 Fees. 1.11.4.1 Other fees. *Pursuant to Health and Safety Code Section 13146.2, a city, county or district which inspects a hotel, motel, lodging house or apartment house may charge and collect a fee for the inspection from the owner of the structure in an amount, as determined by the city, county or district, sufficient to pay its costs of that inspection.*

1.11.4.2 Large family day-care. *Pursuant to Health and Safety Code Section 1597.46, Large Family Day-Care Homes, the local government shall process any required permit as economically as possible, and fees charged for review shall not exceed the costs of the review and permit process.*

1.11.4.3 High-rise. *Pursuant to Health and Safety Code Section 13217, High-rise Structure Inspection: Fees and costs, a local agency which inspects a high-rise structure pursuant to Health and Safety Code Section 13217 may charge and collect a fee for the inspection from the owner of the high-rise structure in an amount, as determined by the local agency, sufficient to pay its costs of that inspection.*

1.11.4.4 Fire clearance preinspection. *Pursuant to Health and Safety Code Section 13235, Fire Clearance Preinspection, fee, upon receipt of a request from a prospective licensee of a community care facility, as defined in Section 1502, of a residential care facility for the elderly, as defined in Section 1569.2, or of a child day-care facility, as defined in Section 1596.750, the local fire enforcing agency, as defined in Section 13244, or State Fire Marshal, whichever has primary jurisdiction, shall conduct a preinspection of the facility prior to the final fire clearance approval. At the time of the preinspection, the primary fire enforcing agency shall price consultation and interpretation of the fire safety regulations and shall notify the prospective licensee of the facility in writing of the specific fire safety regulations which shall be enforced in order to obtain fire clearance approval. A fee equal to, but not exceeding, the actual cost of the preinspection services may be charged for the preinspection of a facility with a capacity to serve 25 or fewer persons. A fee equal to, but not exceeding, the actual cost of the preinspection services may be charged for a preinspection of a facility with a capacity to serve 26 or more persons.*

1.11.4.5 Care facilities. *The primary fire enforcing agency shall complete the final fire clearance inspection for a community care facility, residential care facility for the elderly, or child day-care facility within 30 days of receipt of the request for the final inspection, or as of the date the prospective facility requests the final prelicensure inspection by the State Department of Social Services, whichever is later.*

Pursuant to Health and Safety Code Section 13235, a preinspection fee equal to, but not exceeding, the actual cost of the preinspection services may be charged for a facility with a capacity to serve 25 or less clients. A fee equal to, but not exceeding, the actual cost of the preinspection services may be charged for a preinspection of a facility with a capacity to serve 26 or more clients.

Pursuant to Health and Safety Code Section 13131.5, a reasonable final inspection fee, not to exceed the actual cost of inspection services necessary to complete a final inspection may be charged for occupancies classified as residential care facilities for the elderly (RCFE).

Pursuant to Health and Safety Code Section 1569.84, neither the State Fire Marshal nor any local public entity shall charge any fee for enforcing fire inspection regulations pursuant to state law or regulation or local ordinance, with respect to residential care facilities for the elderly (RCFE) which service six or fewer persons.

1.11.4.6 Requests of the Office of the State Fire Marshal. *Whenever a local authority having jurisdiction requests that the State Fire Marshal perform plan review and/or inspection services related to a building permit, the applicable fees for such shall be payable to the Office of the State Fire Marshal.*

1.11.5 Inspections. *Work performed subject to the provisions of this code shall comply with the inspection requirements of Sections ~~109.1, 109.3, 109.3.4, 109.3.5, 109.3.6, 109.3.8, 109.3.9, 109.3.10 109.5 and 109.6~~ 110.1, 110.3, 110.3.4, 110.3.5, 110.3.6, 110.3.8, 110.3.9, 110.3.10 110.5 and 110.6 as adopted by the Office of the State Fire Marshal.*

1.11.5.1 Existing Group I-1 or R occupancies. *Licensed 24-hour care in a Group I-1 or R occupancy in existence and originally classified under previously adopted state codes shall be reinspected under the appropriate previous code, provided there is no change in the use or character which would place the facility in a different occupancy group.*

1.11.6 Certificate of Occupancy. *A Certificate of Occupancy shall be issued as specified in Section 111.*

Exception: *Group R, Division 3 and Group U occupancies.*

1.11.7 Temporary structures and uses. *See Section ~~107~~108.*

1.11.8 Service utilities. *See Section 112.*

1.11.9 Stop work order. *See Section 115.*

1.11.10 Unsafe buildings, structures and equipment. *See Section 116.*

DIVISION II
SCOPE AND ADMINISTRATION

Note: *Sections adopted or amended by state agencies are specifically indicated by an agency banner or indicated in the Matrix Adoption Table.*

101.2 Scope. The provisions of this code shall apply to the construction, alteration, relocation, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures.

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 the ~~International~~*California* Residential Code.

101.4.1 Gas. The provisions of the ~~International Fuel Gas~~*California Mechanical Code* shall apply to the installation of gas piping from the point of delivery, gas appliances and related accessories as covered in this code. These requirements apply to gas piping systems extending from the point of delivery to the inlet connections of appliances and the installation and operation of residential and commercial gas appliances and related accessories.

101.4.2 Mechanical. The provisions of the ~~International~~*California Mechanical Code* shall apply to the installation, alterations, repairs and replacement of mechanical systems, including equipment, appliances, fixtures, fittings and/or appurtenances, including ventilating, heating, cooling, air-conditioning and refrigeration systems, incinerators and other energy-related systems.

101.4.3 Plumbing. The provisions of the ~~International~~*California Plumbing Code* shall apply to the installation, *alteration*, repair and replacement of plumbing systems, including equipment, appliances, fixtures, fittings and appurtenances, and where connected to a water or sewage system and all aspects of a medical gas system. The provisions of the International Private Sewage Disposal Code shall apply to private sewage disposal systems.

101.4.5 Fire prevention. The provisions of the ~~*International*~~*California Fire Code* shall apply to matters affecting or relating to structures, processes and premises from the hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices; from conditions hazardous to life, property or public welfare in the occupancy of structures or premises; and from the construction, extension, repair, alteration or removal of fire suppression, automatic sprinkler systems and alarm systems or fire hazards in the structure or on the premises from occupancy or operation.

101.4.6 Energy. The provisions of the ~~*International*~~*California Energy* ~~*Conservation*~~ *Code, Title 24, Part 6* shall apply to all matters governing the design and construction of buildings for energy efficiency.

101.4.7 Existing buildings. The provisions of the ~~International~~*California Existing Building Code* shall apply to matters governing the repair, alteration, change of occupancy, addition to and relocation of existing buildings.

102.6 Existing structures. The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as otherwise specifically provided in this code, the ~~International~~*California Existing Building Code*, the International Property Maintenance Code or the ~~International~~*California* Fire Code.

102.6.1 Buildings not previously occupied. A building or portion of a building that has not been previously occupied or used for its intended purpose in accordance with the laws in existence at the time of its completion shall comply with the provisions of the ~~*International*~~*California Building Code* or ~~*International*~~*California Residential Code*, as applicable, for new construction or with any current permit for such occupancy.

102.6.2 Buildings previously occupied. The legal occupancy of any building existing on the date of adoption of this code shall be permitted to continue without change, except as otherwise specifically provided in this code, the ~~*International*~~*California* Fire Code or International Property Maintenance Code, or as is deemed necessary by the building official for the general safety and welfare of the occupants and the public.

116.5 Restoration. Where the structure or equipment determined to be unsafe by the building official is restored to a safe condition, to the extent that repairs, alterations or additions are made or a change of occupancy occurs during the restoration of the structure, such repairs, alterations, additions and change of occupancy shall comply with the requirements of Section 105.2.2 and the ~~International~~*California Existing Building Code*.

CHAPTER 2
DEFINITIONS

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

201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

For applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies. Webster's Third New International Dictionary of the English Language, Unabridged, shall be considered as providing ordinarily accepted meanings.

AGED HOME OR INSTITUTION. *A facility used for the housing of persons 65 years of age or older in need of care and supervision. (See definition of "care and supervision")*

BEDRIDDEN PERSON. *A person, requiring assistance in turning and repositioning in bed, or being unable to independently transfer to and from bed, except in facilities with appropriate and sufficient care staff, mechanical devices if necessary, and safety precautions as determined in Title 22 regulations, by the Director of Social Services or his or her designated representative. Persons who are unable to independently transfer to and from bed, but who do not need assistance to turn or reposition in bed, shall be considered nonambulatory.*

The Director of Social Services or his or her designated representative shall make the determination of the bedridden status of persons with developmental disabilities, in consultation with the Director of Developmental Services or his or her designated representative.

The Director of Social Services or his or her designated representative shall make the determination of the bedridden status of all other persons with disabilities who are not developmentally disabled.

BUILDING. Any structure used or intended for supporting or sheltering any use or occupancy.

Note: *Building shall have the same meaning as defined in Health and Safety Code Section 17920 and 18908 for the applications specified in Section 1.11.*

CARE AND SUPERVISION. *Any one or more of the following activities provided by a person or facility to meet the needs of the clients:*
Assistance in dressing, grooming, bathing and other personal hygiene.
Assistance with taking medication.
Central storing and/or distribution of medications.
Arrangement of and assistance with medical and dental care.
Maintenance of house rules for the protection of clients.
Supervision of client schedules and activities.
Maintenance and/or supervision of client cash resources or property.
Monitoring food intake or special diets.
Providing basic services required by applicable law and regulation to be provided by the licensee in order to obtain and maintain a community-care facility license.

CATASTROPHICALLY INJURED. *As termed, means a person whose origin of disability was acquired through trauma or nondegenerative neurologic illness, for whom it has been determined by the Department of Health Services Certification and Licensing that active rehabilitation would be beneficial.*

CELL (~~Group I-3 occupancy~~*Detention or correctional facility*) ~~A room within a housing unit in a detention or correctional facility used to confine inmates or prisoners.~~ ***[SFM].*** *A sleeping or housing unit in a detention or correctional facility for the confinement of not more than two inmates or prisoners.*

CELL COMPLEX. *A cluster or group of cells or dormitories in a jail, prison or other detention facility, together with rooms used for accessory purposes, all of which open into the cell complex, and are used for functions such as dining, counseling, exercise, classrooms, sick call, visiting, storage, staff offices, control rooms or similar functions, and interconnecting corridors all within the cell complex.*

CELL TIERS. *Cells, dormitories and accessory spaces. Cell tiers are located one level above the other, and do not exceed two levels per floor. A cell tier shall not be considered a story or mezzanine.*

CENTRAL CONTROL BUILDING. *A secure building within a prison where the fire and life safety systems, communication systems, security systems and exterior lighting systems are monitored and where security operations necessitate the remote locking of required means of egress or at the door with a key to maintain a high security area.*

CHARTER SCHOOL *A Charter School is a public school providing instruction from kindergarten through 12th grade, established pursuant to Education Code, Title 2, Division 4, Part 26.8, section 47600, et seq.*

CHILD CARE CENTER. *Any facility of any capacity other than a large or small family day-care home as defined in these regulations in which less than 24-hour-per-day nonmedical supervision is provided for children in a group setting.*

CHILD OR CHILDREN. *A person or persons under the age of 18 years.*

CHRONICALLY ILL. *See "Terminally ill."*

CLIMATE ZONE. A geographical region that has been assigned climatic criteria as specified in Chapters 3CE and 3RE of the ~~International~~*California Energy* ~~Conservation~~ *Code*.

CLINIC, OUTPATIENT. Buildings or portions thereof used to provide medical care on less than a 24-hour basis to persons who are not *classified as nonambulatory or bedridden or* rendered incapable of self-preservation by the services provided.

COMMUNITY CARE FACILITY. *Community care facility means any facility, place, or building that is maintained and operated to provide nonmedical residential care, day treatment, adult day care, or foster family agency services for children, adults, or children and adults, including, but not limited to, the physically handicapped, mentally impaired, incompetent persons, and abused or neglected children, and includes the following as defined in Health and Safety Code Section 1502:*

1. Residential facility
2. Adult day program
3. Therapeutic day services facility
4. Foster family agency
5. Foster family home
6. Small family home
7. Social rehabilitation facility
8. Community treatment facility
9. Full-service adoption agency
10. Noncustodial adoption agency
11. Transitional shelter care facility
12. Transitional housing placement facility

~~**CONGREGATE LIVING FACILITIES.** A building or part thereof that contains sleeping units where residents share bathroom or kitchen facilities.~~

CONGREGATE RESIDENCE. *Any building or portion thereof that contains facilities for living, sleeping and sanitation, as required by this code, and may include facilities for eating and cooking, for occupancy by other than a family. A congregate residence may be a shelter, convent, monastery, dormitory, fraternity or sorority house, but does not include jails, hospitals, nursing homes, hotels or lodging houses.*

CONTROL AREA. Spaces within a building where quantities of hazardous materials not exceeding the maximum allowable quantities per control area are stored, dispensed, used or handled. See the definition of "Outdoor control area" in the ~~International~~*California Fire Code.*

COURTROOM DOCK. *Courtroom Dock shall mean an area within a courtroom where persons may be restrained and are awaiting court proceedings.*

COURTHOUSE HOLDING FACILITY [SFM]. *Courthouse Holding Facility shall mean a room, cell, cell complex or building for the confinement of persons for the purpose of a court appearance for a period not to exceed 12 hours.*

DAY BOX. A portable magazine designed to hold explosive materials constructed in accordance with the requirements for a Type 3 magazine as defined and classified in Chapter 56 of the ~~International~~*California* Fire Code.

DAY-CARE. *For the purposes of these regulations, means the care of persons during any period of a 24-hour day where permanent sleeping accommodations are not provided.*

Note: *"Daycare" shall not be construed to preclude the use of cots or mats for napping purposes, provided all employees, attendants and staff personnel are awake and on duty in the area where napping occurs.*

DAY-CARE HOME, FAMILY. *A home that regularly provides care, protection and supervision for 14 or fewer children, in the provider's own home, for periods of less than 24 hours per day, while the parents or guardians are away, and is either a large family day-care home or a small family day-care home.*

DAY-CARE HOME, LARGE FAMILY. *A provider's own home which is licensed to provide day care for periods less than 24 hours per day for nine to 14 persons, including children under the age of 10 years who reside at the home.*

DAY-CARE HOME, SMALL FAMILY. *A home which provides family day-care to eight or fewer children, including children under the age of 10 years who reside at the home, in the provider's own home, for periods of less than 24 hours per day. Small family day-care homes are exempted from state fire and life safety regulations other than those state and local standards applicable to Group R-3 occupancies. (See Health and Safety Code, Section 13143 (b).)*

DAY ROOM. *A room which is adjacent to a cell, or cell tier, or dormitory and which is used as a dining, exercise or other activity room for inmates.*

DETENTION ELEVATOR [SFM]. *Detention Elevator shall mean an elevator which moves in-custody individuals within a secure and restrained environment.*

DETENTION TREATMENT ROOM. [SFM]. *Detention Treatment Room shall mean a lockable room or rooms within Group I-3 occupancies used for recreational therapy, group rooms, interdisciplinary treatment team rooms, and interview rooms not classified solely as an Group I-2 occupancy*

DETOXIFICATION FACILITIES. Facilities that provide treatment for substance abuse serving care recipients who are incapable of self-preservation *or classified as non-ambulatory or bedridden* or who are harmful to themselves or others.

DORMITORY. A space in a building where group sleeping accommodations are provided in one room, or in a series of closely associated rooms, for persons not members of the same family group, under joint occupancy and single management, as in college dormitories or fraternity houses.
[SFM] *For Group I-3 occupancies "Dormitory" is an area occupied by no less than three inmates.*

[Editorial Note: Definition relocated from 2013 CBC 406.9.1]
ELECTRIC VEHICLE. ~~*See Section 406.7.*~~ *An automotive-type vehicle for highway use, such as passenger automobiles, buses, trucks, vans and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array or other source of electric current. For the purpose of this chapter, electric motorcycles and similar type vehicles and off-road self-propelled electric vehicles such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats and the like, are not included.*

ENFORCING AGENCY. *Enforcing Agency is the designated department or agency as specified by statute or regulation.*

FIRE APPLIANCE. [SFM] *The apparatus or equipment provided or installed for use in the event of an emergency.*

FIRE-SMOKE BARRIER. [SFM] *A fire-resistance-rated wall assembly of materials designed to restrict the spread of fire in which continuity is maintained in accordance with Section 707 and that is designed and constructed to restrict the movement of smoke in accordance with Section 710.*

FIRE-RETARDANT TREATED WOOD. [SFM] *See Section 2303.2.*

FOSTER CARE FACILITIES. ~~Facilities that provide care to more than five children, 2½ years of age or less.~~ *See Foster family home.*

FOSTER FAMILY HOME. *Foster family home means any residential facility providing 24-hour care for six or fewer foster children that is owned, leased, or rented and is the residence of the foster parent or parents, including their family, in whose care the foster children have been placed. The placement may be by a public or private child placement agency or by a court order, or by voluntary placement by a parent, parents, or guardian. It also means a foster family home described in Section 1505.2.*

FULL-TIME CARE. *Shall mean the establishment and routine care of persons on an hourly, daily, weekly, monthly, yearly or permanent basis, whether for 24-hours per day or less, and where sleeping accommodations are provided.*

GROUP HOME. ~~A facility for social rehabilitation, substance abuse or mental health problems that contains a group housing arrangement that provides custodial care but does not provide acute care.~~ *Group Home means a facility which provides 24-hour care and supervision to children, provides services specified in this chapter to a specific client group, and maintains a structured environment, with such services provided at least in part by staff employed by the licensee. The care and supervision provided by a group home shall be nonmedical except as permitted by Welfare and Institutions Code Section 17736(b). Since small family and foster family homes, by definition, care for six or fewer children only, any facility providing 24-hour care for seven or more children must be licensed as a group home.*

HAZARDOUS MATERIALS. Those chemicals or substances that are physical hazards or health hazards as classified in Section 307 and the ~~International~~*California* Fire Code, whether the materials are in usable or waste condition.

HAZARDOUS SUBSTANCE. [SFM] *Hazardous Substance is a substance which, by reason of being explosive, flammable, toxic, poisonous, corrosive, oxidizing, irritant or otherwise harmful, is likely to cause injury.*

HIGH-RISE BUILDING. ~~A building with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.~~*In other than Group I-2 occupancies "high-rise buildings" as used in this code:*

Existing high-rise structure*. A high-rise structure, the construction of which is commenced or completed prior to July 1, 1974.*

High-rise structure. *Every building of any type of construction or occupancy having floors used for human occupancy located more than 75 feet above the lowest floor level having building access (see Section 403~~.1.2~~), except buildings used as hospitals as defined in Health and Safety Code Section 1250.*

New High-rise Building. *A high-rise structure, the construction of which is commenced on or after July 1, 1974. For the purpose of this section, construction shall be deemed to have commenced when plans and specifications are more than 50 percent complete and have been presented to the local jurisdiction prior to July 1, 1974. Unless all provisions of this section have been met, the construction of such buildings shall commence on or before January 1, 1976.*

New high-rise structure. *A high-rise structure, the construction of which is commenced on or after July 1, 1974.*

HIGH-RISE BUILDING ACCESS. *An exterior door opening conforming to all of the following:*

1. Suitable and available for fire department use.
2. Located not more than 2 feet (610 mm) above the adjacent ground level.
3. Leading to a space, room or area having foot traffic communication capabilities with the remainder of the building.
4. Designed to permit penetration through the use of fire department forcible-entry tools and equipment unless other approved arrangements have been made with the fire authority having jurisdiction.

HOLDING FACILITY. *A detention or correctional facility or area where inmates, staff and public are not housed but are restrained.*

HOSPITALS AND PSYCHIATRIC HOSPITALS. Facilities that provide care or treatment for the medical, psychiatric, obstetrical, or surgical treatment of care recipients who are incapable of self-preservation *or classified as nonambulatory or bedridden*.

HOUSING UNIT. ~~A dormitory or a group of cells with a common dayroom in Group I-3.~~ *An area intended to lodge inmates on a 24-hour basis where accommodations are provided for sleeping.*

INFANT. *For the purpose of these regulations, shall mean any child who because of age only, is unable to walk and requires the aid of another person to evacuate the building. In no case shall the term "infant" mean a child 2 years of age or older.*

LABORATORY. [SFM] *A room, building or area where the use and storage of hazardous materials are utilized for testing, analysis, instruction, research or developmental activities.*

LABORATORY SUITE. [SFM] *A laboratory suite is a space within a building or structure, which may include multiple laboratories, offices, storage, equipment rooms or similar support functions, where the aggregate quantities of hazardous materials stored and used do not exceed the quantities set forth in Table ~~443.7.3.1~~453.7.3.1.*

LIQUID TIGHT FLOOR. [SFM] *A nonpermeable barrier capable of containing hazardous material liquids without degradation.*

LISTED. Equipment, materials, products or services included in a list published by an organization acceptable to the building official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

For applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, "listed" shall also mean equipment or materials accepted by the state fire marshal as conforming to the provisions of the State Fire Marshal's regulations and which are included in a list published by the State Fire Marshal.

LOBBY. [SFM] *An area not defined as a waiting room at the entrance of a building through which persons must pass.*

MOTION PICTURE AND TELEVISION PRODUCTION STUDIO SOUND STAGES, APPROVED PRODUCTION FACILITIES AND PRODUCTION LOCATIONS. *See Chapter 46, California Fire Code.*

NONAMBULATORY PERSONS. *Persons unable to leave a building unassisted under emergency conditions. It includes, but is not limited to, persons who depend on mechanical aids such as crutches, walkers and wheelchairs and any person who is unable to physically and mentally respond to a sensory signal approved by the state fire marshal or an oral instruction relating to fire danger.*

The determination of ambulatory or nonambulatory status of persons with developmental disabilities shall be made by the Director of Social Services or his or her designated representative, in consultation with the director of Developmental Services or his or her designated representative. The determination of ambulatory or nonambulatory status of all other disabled persons placed after January 1, 1984, who are not developmentally disabled shall be made by the Director of Social Services or his or her designated representative.

NONCOMBUSTIBLE. [SFM] *Noncombustible as applied to building construction material means a material which, in the form in which it is used, is either one of the following:*
1. Material of which no part will ignite and burn when subjected to fire. Any material passing ASTM E 136 shall be considered noncombustible.
2. Material having a structural base of noncombustible material as defined in Item 1 above, with a surfacing material not over 1/8 inch (3.2 mm) thick which has a flame-spread index of 50 or less.

"Noncombustible" does not apply to surface finish materials. Material required to be noncombustible for reduced clearances to flues, heating appliances or other sources of high temperature shall refer to material conforming to Item 1. No material shall be classed as noncombustible which is subject to increase in combustibility or flame-spread index, beyond the limits herein established, through the effects of age, moisture or other atmospheric condition.

NURSING HOMES. Facilities that provide care, including both intermediate care facilities and skilled nursing facilities where any of the persons are incapable of self-preservation *or classified as nonambulatory or bedridden*.

ORGANIZED CAMPS. *See Section ~~440~~450.*

PERMANENT PORTABLE BUILDING. [SFM] *A portable building that is used to serve or house students and is certified as a permanent building on a new public school campus by the public school administration shall comply with the requirements of new campus buildings.*

~~**PERSONAL CARE SERVICE.** The care of persons who do not require medical care. Personal care involves responsibility for the safety of the persons while inside the building.~~

PHYSIOLOGICAL WARNING THRESHOLD LEVEL. A concentration of air-borne contaminants, normally expressed in parts per million (ppm) or milligrams per cubic meter (mg/m3), that represents the concentration at which persons can sense the presence of the contaminant due to odor, irritation or other quick-acting physiological response. When used in conjunction with the permissible exposure limit (PEL) the physiological warning threshold levels are those consistent with the classification system used to establish the PEL. See the definition of "Permissible exposure limit (PEL)" in the ~~*International*~~*California Fire Code*.

PROTECTIVE SOCIAL CARE FACILITY. [SFM] *A facility housing persons, who are referred, placed or caused to be placed in the facility, by any governmental agency and for whom the services, or a portion thereof, are paid for by any governmental agency. These occupancies shall include, but are not limited to, those commonly referred to as "assisted living facilities," "social rehabilitation facilities," "certified family care homes," "out-of-home placement facilities," and "halfway houses."*

RELOCATABLE BUILDING (PUBLIC SCHOOL)*, is any building with an integral floor structure which is capable of being readily moved. (See Education Code Section 17350.) Relocatable buildings that are to be placed on substandard foundations not complying with the requirements of Part 2, Title 24, C.C.R., require a statement from the school district stating that the durability requirements for those foundations may be waived and acknowledging the temporary nature of the foundations.*

RESIDENTIAL CARE FACILITY FOR THE CHRONICALLY ILL (RCF/CI)*. As termed, means a housing arrangement with a maximum capacity of 25 residents that provides a range of services to residents who have chronic, life-threatening illnesses.*

RESIDENTIAL CARE FACILITY FOR THE ELDERLY (RCFE). *As defined in Health and Safety Code Section 1569.2, shall mean a facility with a housing arrangement chosen voluntarily by persons 60 years of age or over, or their authorized representative, where varying levels and intensities of care and supervision, protective supervision or personal care are provided, based on their varying needs, as determined in order to be admitted and to remain in the facility. Persons under 60 years of age with compatible needs, as determined by the Department of Social Services in regulations, may be allowed to be admitted or retained in a residential-care facility for the elderly.*

Pursuant to Health and Safety Code Section 13133, regulations of the state fire marshal pertaining to Group R, Division 2 Occupancies classified as residential facilities (RF) and residential- care facilities for the elderly (RCFE) shall apply uniformly throughout the state and no city, county, city and county, including a charter city or charter county, or fire protection district shall adopt or enforce any ordinance or local rule or regulation relating to fire and panic safety which is in consistent with these regulations. A city, county, city and county, including a charter city or charter county may pursuant to Health and Safety Code Section 13143.5, or a fire protection district may pursuant to Health and Safety Code Section 13869.7, adopt standards more stringent than those adopted by the state fire marshal that are reasonably necessary to accommodate local climate, geological, or topographical conditions relating to roof coverings for residential-care facilities for the elderly.

RESIDENTIAL FACILITY (RF). *As defined in Section 1502 of the Health and Safety Code, shall mean any family home, group care facility or similar facility determined by the director of Social Services, for 24-hour nonmedical care of persons in need of personal services, supervision, or assistance essential for sustaining the activities of daily living or for the protection of the individual. Such facilities include small family homes and social rehabilitation facilities.*

Pursuant to Health and Safety Code Section 13133, regulations of the state fire marshal pertaining to Group R Occupancies classified as residential facilities (RF) and residential-care facilities for the elderly (RCFE) shall apply uniformly throughout the state and no city, county, city and county, including a charter city or charter county, or fire protection district shall adopt or enforce any ordinance or local rule or regulation relating to fire and panic safety which is in consistent with these regulations. A city, county, city and county, including a charter city or charter county may pursuant to Health and Safety Code Section 13143.5, or a fire protection district may pursuant to Health and Safety Code Section 13869.7, adopt standards more stringent than those adopted by the state fire marshal that are reasonably necessary to accommodate local climate, geological, or topographical conditions relating to roof coverings for residential-care facilities for the elderly.

RESTRAINT. [SFM] *shall mean the physical retention of a person within a room, cell or cell block, holding cells, temporary holding cell, rooms or area, holding facility, secure interview rooms, courthouse holding facilities, courtroom docks, or similar buildings or portions thereof by any means, or within the exterior walls of a building by means of locked doors inoperable by the person restrained. Restraint shall also mean the physical binding, strapping or similar restriction of any person in a chair, walker, bed or other contrivance for the purpose of deliberately restricting the free movement of ambulatory persons.*

Restraint shall not be construed to include nonambulatory persons nor shall it include the use of bandage material, strip sheeting or other fabrics or materials (soft ties) used to restrain persons in hospital-type beds or wheelchairs to prevent injury, provided an approved method of quick release is maintained.

Facilities employing the use of soft ties, however, shall be classified as a building used to house nonambulatory persons. Restraint shall not be practiced in licensed facilities classified as Group R-2.1, R-3.1 and R-4 occupancies unless constructed as a Group I-3 occupancy. For Group I-3 Occupancies see Section 408.1.1.

SECURE INTERVIEW ROOMS: *A lockable room used to hold and interview detainees for further processing.*

SMALL MANAGEMENT YARD. *An exterior exercise yard within a Group I-3 prison used for inmate exercise for a maximum of 2 hours per day, constructed in accordance with Section 408.1.2.3.*

STATE-OWNED/LEASED BUILDING. [SFM] *State-Owned/Leased Building is a building or portion of a building that is owned, leased or rented by the state. State-leased buildings shall include all required exits to a public way serving such leased area or space. Portions of state- leased buildings that are not leased or rented by the state shall not be included within the scope of this section unless such portions present an exposure hazard to the state-leased area or space.*

TEMPORARY HOLDING CELL, ROOM or AREA. [CSA and SFM] *Temporary Holding cell, room or area shall mean a room for temporary holding of inmates, detainees, or in-custody individuals for less than 24 hours.*

TEMPORARY HOLDING FACILITY [SFM] *A building or portion of a building, operated by law enforcement personnel, with one or more temporary holding cells or rooms.*

TENABLE ENVIRONMENT [SFM] *Tenable environment shall mean an environment in which the products of combustion, toxic gases, smoke and heat are limited or otherwise restricted to maintain the impact on occupants to a level that is not life threatening.*

TERMINALLY ILL. *As termed for an individual, means the individual has a life expectancy of six months or less as stated in writing by his or her attending physician and surgeon.*

WAITING ROOM. [SFM] *Waiting room is a room or area normally provided with seating and used for persons waiting.*

WINERY CAVES. *See Section ~~436~~446.*

CHAPTER 3
USE AND OCCUPANCY CLASSIFICATIONS

302.1 General. Structures or portions of structures shall be classified with respect to occupancy in one or more of the groups listed in this section. A room or space that is intended to be occupied at different times for different purposes shall comply with all of the requirements that are applicable to each of the purposes for which the room or space will be occupied. Structures with multiple occupancies or uses shall comply with Section 508. Where a structure is proposed for a purpose that is not specifically provided for in this code, such structure shall be classified in the group that the occupancy most nearly resembles, according to the fire safety and relative hazard involved.

1. Assembly (see Section 303): Groups A-1, A-2, A-3, A-4 and A-5.
2. Business (see Section 304): Group B.
3. Educational (see Section 305): Group E.
4. Factory and Industrial (see Section 306): Groups F-1 and F-2.
5. High Hazard (see Section 307): Groups H-1, H-2, H-3, H-4 and H-5.
6. Institutional (see Section 308): Groups I-1, I-2, *I-2.1,* I-3 and I-4.
7. Laboratory (see Section 202): Group B, unless classified as Group L (see Section ~~443~~453) or Group H (see Section 307).
8. Mercantile (see Section 309): Group M.
9. [SFM] Organized Camps (see Section ~~440~~450): Group C.
10. [SFM] Research Laboratories (see Section ~~443~~453): Group L.
11. Residential (see Section 310): Groups R-1, R-2, *R-2.1,* R-3, *R-3.1* and R-4.
12. Storage (see Section 311): Groups S-1 and S-2.
13. Utility and Miscellaneous (see Section 312): Group U.

[SFM] Existing buildings housing existing protective social care homes or facilities established prior to 1972 (see ~~Section 3413~~California Fire Code Chapter 11 and California Existing 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 *or motion picture and television production studio sound stages, approved production facilities and production locations. Any building or structure or portion thereof used or intended to be used for the showing of motion pictures when an admission fee is charged and when such building or structure is open to the public and has a capacity of 10 or more persons.*

303.2 Assembly Group A-1. Group A-1 occupancy includes assembly uses, usually with fixed seating, intended for the production and viewing of the performing arts or motion pictures including, but not limited to:

Motion picture and television production studio sound stages, approved production facilities and production locations. (with live audiences).
Motion picture theaters
Symphony and concert halls
Television and radio studios admitting an audience
Theaters

303.7 Fixed guideway transit systems. [SFM] *Fixed guideway transit system buildings shall conform to the requirements of this code for their occupancy classification in addition to the provisions set forth in Section ~~433~~443.*

303.8 Subterranean spaces for winery facilities in natural or manmade caves. [SFM] *For fire and life safety requirements, see Section ~~436~~446.*

305.1 Educational Group E. Educational Group E occupancy includes, among others, the use of a building or structure, or a portion thereof, by ~~six or~~ more *than six* persons at any one time for educational purposes through the 12th grade.

Exception: [SFM] *A residence used as a home school for the children who normally reside at the residence. Such residences shall remain classified as Group R-2, or Group R-3 occupancies.*

305.2 Group E, day care facilities. This group includes buildings and structures or portions thereof occupied by more than ~~five~~ *six* children ~~older than~~ 2~~½~~ years of age *and older* who receive educational, supervision or personal care services for fewer than 24 hours per day.

Exception: [SFM] *A Day-care facility not otherwise classified as an R-3 occupancy, where occupants are not capable of responding to an emergency situation without physical assistance from the staff shall be classified as Group I-4.*

~~**305.2.2 Five or fewer children.** A facility having five or fewer children receiving such day care shall be classified as part of the primary occupancy.~~

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

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 m2) in area.
Furniture
Hemp products
Jute products
Laundries
Leather products
Machinery

Metals
Millwork (sash and door)
[SFM] Motion picture and television production studio Sound Stages, Approved Production Facilities and production locations (without live audiences)
~~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)

[Editorial Note: 2013 CBC Section 307.1 was split into two Sections (307.1 and 307.1.1).]
307.1 High-hazard Group H. High-hazard Group H occupancy includes, among others, the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in control areas complying with Section 414, based on the maximum allowable quantity limits for control areas set forth in Tables 307.1(1) and 307.1(2). Hazardous occupancies are classified in Groups H-1, H-2, H-3, H-4 and H-5 and shall be in accordance with this section, the requirements of Section 415 and the ~~*International*~~*California Fire Code*. Hazardous materials stored, or used on top of roofs or canopies, shall be classified as outdoor storage or use and shall comply with the ~~*International*~~*California Fire Code*.

Table 307.1(2)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIAL POSING A HEALTH HAZARD
[Table not shown for clarity]
For SI: 1 cubic foot = 0.028 m3, 1 pound = 0.454 kg, 1 gallon = 3.785 L.
a. For use of control areas, see Section 414.2.
b. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.
c. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs 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.
d. *[SFM] In other than Group L occupancies,* ~~M~~maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.
e. Maximum allowable quantities shall be increased 100 percent where stored in approved storage cabinets, gas cabinets or exhausted enclosures as specified in the ~~International~~*California Fire Code*. Where Note d also applies, the increase for both notes shall be applied accumulatively.
f. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).
g. Allowed only where stored in approved exhausted gas cabinets or exhausted enclosures as specified in the ~~International~~California *Fire Code*.
h. Quantities in parenthesis indicate quantity units in parenthesis at the head of each column.
i. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2 of the ~~International~~*California Fire Code*.

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*~~*California Fire Code*.
2. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to the ~~*International*~~*California 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 batteries utilized for facility emergency power, uninterruptable power supply or telecommunication facilities, provided that the batteries are provided with safety venting caps and ventilation is provided in accordance with the ~~*International*~~*California Mechanical 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 storage shall be classified as Group S-1, provided that such buildings conform to the requirements of the ~~*International*~~*California 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*~~*California Fire Code*.
~~*14*~~*15. [SFM] Group L occupancies as defined in section* ~~*443.1*~~*453.1*.

~~**307.1.1**~~**307.1.2 Hazardous materials.** Hazardous materials in any quantity shall conform to the requirements of this code, including Section 414, and the ~~*International*~~*California Fire Code*.

308.1 Institutional Group I. Institutional Group I occupancy includes, among others, the use of a building or structure, or a portion thereof, in which care or supervision is provided to persons who are or are not capable of self-preservation without physical assistance or in which persons are detained for penal or correctional purposes or in which the liberty of the occupants is restricted. Institutional occupancies shall be classified as Group I-1, I-2, *I-2.1,* I - 3 or I-4. *Restraint shall not be permitted in any building except in Group I-3 occupancies constructed for such use, see Section 408.1.2.*

Where occupancies house both ambulatory and nonambulatory persons, the more restrictive requirements shall apply.

308.3 Institutional Group I-1. *Not used. (See Group R-2.1 Section 310.1)*
~~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 308.3.1 or 308.3.2. This group shall include, but not be limited to, the following:~~
~~Alcohol and drug centers~~
~~Assisted living facilities~~
~~Congregate care facilities~~
~~Group homes~~
~~Halfway houses~~
~~Residential board and care facilities~~
~~Social rehabilitation facilities~~

~~**308.3.1 Condition 1.** This occupancy condition shall include buildings in which all persons receiving custodial care who, without any assistance, are capable of responding to an emergency situation to complete building evacuation.~~

~~**308.3.2 Condition 2.** This occupancy condition shall include buildings in which there are any persons receiving custodial care who require limited verbal or physical assistance while responding to an emergency situation to complete building evacuation.~~

~~**308.3.3 Six to 16 persons receiving custodial care.** A facility housing not fewer than six and not more than 16 persons receiving custodial care shall be classified as Group R-4.~~

~~**308.3.4 Five or fewer persons receiving custodial care.** A facility with five or fewer persons receiving custodial care shall be classified as Group R-3 or shall comply with the *International Residential Code* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or Section P2904 of the *International Residential Code*.~~

308.4 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 *or classified as nonambulatory or bedridden*. This group shall include, but not be limited to, the following:

Foster care facilities
Detoxification facilities
Hospitals
Nursing homes
Psychiatric hospitals

~~**308.4.2 Five or fewer persons receiving medical care.** A facility with five or fewer persons receiving medical care shall be classified as Group R-3 or shall comply with the International Residential Code provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or Section P2904 of the International Residential Code.~~

308.4.2 Institutional Group I-2.1 Ambulatory health care facility. *A healthcare facility that receives persons for outpatient medical care that may render the patient incapable of unassisted self-preservation and where each tenant space accommodates more than five such patients.*

308.5 Institutional Group I-3. Institutional Group I-3 occupancy shall include buildings *or portions of buildings* and structures that are inhabited by *one or* 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 *which includes persons restrained*. This group shall include, but not be limited to, the following:

Correctional Centers
Courthouse Holding Facility
Detention centers
Detention Treatment Room
Jails
Juvenile Halls
Prerelease Centers
Prisons
Reformatories
Secure Interview Rooms
Temporary Holding Facility

Buildings of Group I-3 shall be classified as one of the occupancy conditions specified in Sections 308.5.1 through ~~308.5.5~~ *308.5.8* (see Section 408.1).

308.5.6 Condition 6. *This occupancy condition shall include buildings containing only one temporary holding facility with five or less persons under restraint or security where the building is protected throughout with a monitored automatic sprinkler system installed in accordance with Section 903.3.1.1 and where the temporary holding facility is protected throughout with an automatic fire alarm system with notification appliances. A Condition 6 building shall be ~~is~~ permitted to be classified as a Group B occupancy.*

308.5.7 Condition 7. *This occupancy condition shall include buildings containing only one temporary holding facility with nine or less persons under restraint or security where limited to the first or second story, provided the building complies with Section 408.1.2.6. A Condition 7 building shall be permitted to be classified as a Group B occupancy*.

308.5.8 Condition 8. *This occupancy condition shall include buildings containing not more than four secure interview rooms located within the same fire area where not more than ~~6~~ six occupants under restraint are located in the same fire area. A Condition 8 building shall be ~~is~~ permitted to be classified as a Group B occupancy, provided the requirements in Section 408.1.2.7 are met.*

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

Adult day care
Child day care

308.6.1 Classification as Group E. A child day care facility that provides care for more than ~~five~~*six* but not more than 100 children *under* 2~~½~~ years ~~or less~~ of age, where the rooms in which the children are cared for are located on a level of exit discharge serving such rooms and each of these child care rooms has an exit door directly to the exterior, shall be classified as Group E.

308.6.1.1 Special provisions. *See Section ~~442.1.4~~452.1.4 for daycares located above or below the first story.*

~~**308.6.2 Within a place of religious worship.** Rooms and spaces within places of religious worship providing such care during religious functions shall be classified as part of the primary occupancy.~~

~~**308.6.3 Five or fewer persons receiving care.** A facility having five or fewer persons receiving custodial care shall be classified as part of the primary occupancy.~~

~~**308.6.4 Five or fewer persons receiving care in a dwelling unit.** A facility such as the above within a dwelling unit and having five or fewer persons receiving custodial care shall be classified as a Group R-3 occupancy or shall comply with the International Residential Code.~~

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*~~*California Residential Code.*

310.2 Definitions. The following terms are defined in Chapter 2:

AGED HOME OR INSTITUTION.
BEDRIDDEN PERSON.
BOARDING HOUSE.
CARE AND SUPERVISION.
CATASTROPHICALLY INJURED.
CHILD-CARE CENTER.
CHILD OR CHILDREN.
CHRONICALLY ILL.
~~**CONGREGATE LIVING FACILITIES.**~~
CONGREGATE LIVING HEALTH FACILITY (CLHF).
CONGREGATE RESIDENCE.
DAY CARE.
DAY-CARE HOME, FAMILY.
DAY-CARE HOME, LARGE FAMILY.
DAY-CARE HOME, SMALL FAMILY.
DORMITORY.
FULL-TIME CARE.
GROUP HOME.

GUEST ROOM.
INFANT.
LODGING HOUSE.
~~***MENTALLY RETARDED PERSONS, PROFOUNDLY OR SEVERELY.***~~
NONAMBULATORY PERSONS.
~~**PERSONAL CARE SERVICE.**~~
PERSONS WITH INTELLECTUAL DISABILITIES, PROFOUNDLY OR SEVERELY.
RESIDENTIAL CARE FACILITY FOR THE CHRONICALLY ILL (RCF/CI).
RESIDENTIAL CARE FACILITY FOR THE ELDERLY (RCFE).
RESIDENTIAL FACILITY (RF).
TERMINALLY ILL.
TRANSIENT.

310.3 Residential Group R-1. Residential Group R-1 occupancies containing sleeping units where the occupants are primarily transient in nature, including:

Boarding houses (transient) with more than 10 occupants
~~Congregate living facilities~~ *Congregate residences* (transient) with more than 10 occupants
Hotels (transient)
Motels (transient)

310.4 Residential Group R-2. Residential Group R-2 occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, including:

Apartment houses
Boarding houses (nontransient) with more than 16 occupants
~~Congregate living facilities~~ *Congregate residences* (nontransient) with more than 16 occupants
Convents
Dormitories
Fraternities and sororities
Hotels (nontransient)
Live/work units
Monasteries
Motels (nontransient)
Vacation timeshare properties

310.4.1 Residential Group R-2.1 *Residential Group R-2.1 occupancies~~This occupancy~~ shall include buildings, structures or parts thereof housing clients, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment that provides personal care services.*

This occupancy may contain more than six nonambulatory and/or bedridden clients. (See Section ~~425~~435 Special Provisions for Licensed 24-Hour Care Facilities in a Group R-2.1, R-3.1 or R-4 Occupancy). This group shall include, but not be limited to, the following:

Assisted living facilities such as:
Residential care facilities,
Residential care facilities for the elderly (RCFE~~s~~),
Adult residential facilities,
Congregate living health facilities,
Group homes,
Residential care facilities for the chronically ill,
Congregate living health facilities for the terminally ill.

Social rehabilitation facilities such as:
Halfway houses,
Community correctional centers,
Community correction reentry centers,
Community treatment programs,
Work furlough programs,

Alcoholism or drug abuse recovery or treatment facilities.

[Editorial Note: Order change to CA armaments.]
310.5 Residential Group R-3. Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, *R-2.1, R-3.1,* R-4 or I, including:

Buildings that do not contain more than two dwelling units.
Boarding houses (nontransient) with 16 or fewer occupants
Boarding houses (transient) with 10 or fewer occupants
~~Congregate living facilities~~*Congregate residences* (nontransient) with 16 or fewer occupants.
~~Congregate living facilities~~*Congregate residences* (transient) with 10 or fewer occupants.
Lodging houses with five or fewer guest rooms
~~Care facilities that provide accommodations for five or fewer persons receiving care~~
Adult care facilities that provide accommodations for six or fewer clients of any age for less than 24 hours. Licensing categories that may use this classification include~~, but are not limited to:~~ Adult Day Programs.

Alcoholism or drug abuse recovery homes (ambulatory only)

Child care facilities that provide accommodations for six or fewer clients of any age for less than 24 hours. Licensing categories that may use this classification include, but are not limited to:
Day-Care Center for Mildly Ill Children,
Infant Care Center,
School Age Child Day-Care Center.

Family Day-Care Homes that provide accommodations for 14 or fewer children, in the provider's own home for less than 24-hours.
Foster family homes (ambulatory only)

Adult care and child care facilities that are within a single-family home are permitted to comply with the California Residential Code.

~~**310.5.1 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.~~

310.5.1 Residential Group R-3.1 *This occupancy group may include facilities licensed by a governmental agency for a residentially based 24-hour care facility providing accommodations for six or fewer clients of any age. Clients may be classified as ambulatory, nonambulatory or bedridden. A Group R-3.1 occupancy shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in Section ~~425~~435 Special Provisions For Licensed 24-Hour Care Facilities in a Group R-2.1, R-3.1 or R-4 Occupancy. This group may include:*

Adult residential facilities
Congregate living health facilities
Foster family homes
Group homes
Intermediate care facilities for the developmentally disabled habilitative
Intermediate care facilities for the developmentally disabled nursing
Nurseries for the full-time care of children under the age of six, but not including "infants" as defined in Section 310
Residential care facilities for the elderly
Small family homes and residential care facilities for the chronically ill

Exception: *Group Homes licensed by the Department of Social Services which provide nonmedical board, room and care for six or fewer ambulatory children or children two years of age or younger, and which do not have any nonambulatory clients shall not be subject to regulations found in Section ~~425~~435.*

Pursuant to Health and Safety Code Section 13143 with respect to these exempted facilities, no city, county or public district shall adopt or enforce any requirement for the prevention of fire or for the protection of life and property against fire and panic unless the requirement would be applicable to a structure regardless of the special occupancy. Nothing shall restrict the application of state or local housing standards to such facilities if the standards are applicable to

residential occupancies and are not based on the use of the structure as a facility for ambulatory children. For the purpose of this exception, ambulatory children does not include relatives of the licensee or the licensee's spouse.

310.5.2 Lodging houses. Owner-occupied *lodging houses* with five or fewer *guest rooms* shall be permitted to be constructed in accordance with the ~~International~~*California Residential Code*.

310.6 Residential Group R-4. Residential Group R-4 occupancy shall include buildings, structures or portions thereof for more than ~~five~~*six ambulatory clients*, but not more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised residential environment and receive custodial care. Buildings of Group R-4 shall be classified as one of the occupancy conditions specified in Section 310.6.1 or 310.6.2. The persons receiving care are capable of self-preservation. 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~~

This occupancy classification may include a maximum six nonambulatory or bedridden clients (see Section ~~425~~435 Special Provisions for Licensed 24-Hour Care Facilities in a Group R-2.1, R-3.1 or R-4 Occupancy). Group R-4 occupancies shall include the following:

Assisted living facilities such as:
Residential care facilities,
Residential care facilities for the elderly (RCFE~~s~~),
Adult residential facilities,
Congregate living health facilities,
Group homes.

Social rehabilitation facilities such as:
Halfway houses,
Community correctional centers,
Community correction reentry centers,
Community treatment programs,
Work furlough programs,
Alcoholism or drug abuse recovery or treatment facilities.

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

310.7 Large Family Day-Care Homes. *See Section ~~445~~455.*

SECTION 313
LABORATORIES GROUP L [SFM]

313.1 Laboratories Group L. [SFM] *Group L occupancy includes the use of a building or structure, or a portion thereof, containing one or more laboratory suites as defined in Section ~~443~~453.*

SECTION 314
ORGANIZED CAMPS GROUP C [SFM]

314.1 Organized Camps Group C. [SFM] *An organized camp is a site with programs and facilities established for the primary purpose of providing an outdoor group living experience with social, spiritual, educational or recreational objectives, for five days or more during one or more seasons of the year.*

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

SECTION 403
HIGH-RISE BUILDINGS *AND GROUP I-2 OCCUPANCIES HAVING OCCUPIED FLOORS LOCATED MORE THAN 75 FEET ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS*

403.1 Applicability. *New* ~~H~~high-rise buildings *and new Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access* shall comply with Sections 403.2 through ~~403.6~~ *403.7*.

Exception: The provisions of Sections 403.2 through ~~403.6~~403.7 shall not apply to the following buildings and structures:
1. Airport traffic control towers in accordance with Section 412.3.
2. Open parking garages in accordance with Section 406.3.
3. The portion of a building containing a Group A-5 occupancy in accordance with Section 303.6.
4. Special industrial occupancies in accordance with Section 503.1.1.
~~5. Buildings with:~~
~~5.1. A Group H-1 occupancy;~~
~~5.2. A Group H-2 occupancy in accordance with Section 415.8, 415.9.2, 415.9.3 or 426.1; or,~~
~~5.3. A Group H-3 occupancy in accordance with Section 415.8.~~
5. *Buildings such as power plants, lookout towers, steeples, grain houses and similar structures with noncontinuous human occupancy, when so determined by the enforcing agency.*

For existing high-rise buildings~~, see Section 3414~~ and for existing Group R occupancies, see ~~Section 3413.13~~California Fire Code Chapter 11 and California Existing Building Code.

For the purpose of this section, in determining the level from which the highest occupied floor is to be measured, the enforcing agency should exercise reasonable judgment, including consideration of overall accessibility to the building by fire department personnel and vehicular equipment. When a building is located on sloping terrain and there is building access on more than one level, the enforcing agency may select the level that provides the most logical and adequate fire department access.

403.1.1 Definitions. *The following terms are defined in Chapter 2.*

HIGH-RISE BUILDING.
HIGH-RISE BUILDING ACCESS.
NEW HIGH-RISE BUILDING.

403.2.1 Reduction in fire-resistance rating. The fire-resistance-rating reductions listed in Sections 403.2.1.1 and 403.2.1.2 shall be allowed in buildings that have sprinkler control valves equipped with supervisory initiating devices and water-flow initiating devices for each floor.

Exception: *Buildings, or portions of buildings, classified as a Group H-1, H-2 or H-3 occupancy.*

403.2.1.1 Type of construction. The following reductions in the minimum fire-resistance rating of the building elements in Table 601 shall be permitted as follows:

1. For buildings not greater than 420 feet (128 000 mm) in building height, the fire-resistance rating of the building elements in Type IA construction shall be permitted to be reduced to the minimum fire-resistance ratings for the building elements in Type IB.

Exception: The required fire-resistance rating of ~~columns supporting floors~~ *the Structural Frame* shall not be reduced.

2. In other than Group F-1, M and S-1 occupancies, the fire-resistance rating of the building elements in Type IB construction shall be permitted to be reduced to the fire-resistance ratings in Type IIA.

Exception: *The required fire-resistance rating of the structural frame shall not be permitted to be reduced.*

3. The building height and building area limitations of a building containing building elements with reduced fire-resistance ratings shall be permitted to be the same as the building without such reductions.

403.3 Automatic sprinkler system. Buildings and structures shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and a secondary water supply where required by Section 403.3.3. *A sprinkler water-flow alarm-initiating device and a control valve with a supervisory signal-initiating device shall be provided at the lateral connection to the riser for each floor.*

Exception: An automatic sprinkler system shall not be required in ~~spaces or areas of:~~
~~1.~~ Open parking garages in accordance with Section 406.5.
~~2. Telecommunications equipment buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided that those spaces or areas are equipped throughout with an automatic fire detection system in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour fire barriers constructed in accordance with Section 707 or not less than 2-hour horizontal assemblies constructed in accordance with Section 711, or both.~~

403.3.1 Number of sprinkler *system* risers and system design. Each sprinkler system ~~zone~~ *serving a floor* in buildings that are more than 420 feet (128 000 mm) in building height shall be ~~supplied by no fewer than~~ *connected to a minimum of* two *sprinkler* risers *or combination standpipe system risers located in separate shafts. Each sprinkler system shall be hydraulically designed so that when one connection is shut-down, the other connection shall be capable of supplying the sprinkler system design demand.* ~~Each riser shall supply sprinklers on alternate floors. If more than two risers are provided for a zone, sprinklers on adjacent floors shall not be supplied from the same riser~~.

403.3.2 Water supply to required fire pumps. In buildings *having an occupied floor* that are more than ~~420~~*120* feet (~~128 000 mm~~*36 576 mm*) *above the lowest level of fire department vehicle access* ~~in building height~~, required fire pumps shall be supplied by connections to no 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.

Exceptions*:*
~~*1.*~~ Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.
~~*2: High-rise buildings not having an occupied floor more than 120 feet above the lowest level of fire department vehicle access where a secondary water supply is provided in accordance with Section 903.3.5.2403.3.3.*~~

403.3.2.1 Fire Pumps: *Redundant fire pump systems shall be required for high-rise buildings having an occupied floor more than 200 feet above the lowest level of fire department vehicle access. Each fire pump system shall be capable of automatically supplying the required demand for the automatic sprinkler and standpipe systems.*

403.3.3 Secondary water supply. An automatic secondary on-site water supply having a *usable* capacity *of* not less than the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 ft above the lowest level of fire department vehicle access* assigned to Seismic Design Category C, D, E or F as determined by Section 1613. An additional fire pump shall not be required for the secondary water supply unless needed to provide the minimum design intake pressure at the suction side of the fire pump supplying the automatic sprinkler system. The secondary water supply shall have a *useable capacity of not less than the hydraulically calculated sprinkler demand plus 100 GPM for the inside hose stream, allowance, for a* duration of not less than 30 minutes or as determined by the occupancy hazard classification in accordance with NFPA 13*, whichever is greater. The Class I standpipe system demand shall not be required to be included in the secondary on-site water supply calculations. In no case shall the secondary on-site water supply be less than 15,000 gallons*.

~~403.3.4~~403.3.5 Fire pumps. *See Section 913.6.*

403.4.5 Emergency responder radio coverage. Emergency responder radio coverage shall be provided in accordance with Section 510 of the ~~*International*~~*California Fire Code*.

~~**403.4.7 Smoke removal.** To facilitate smoke removal in post-fire salvage and overhaul operations, buildings and structures shall be equipped with natural or mechanical ventilation for removal of products of combustion in accordance with one of the following:~~

~~1. Easily identifiable, manually operable windows or panels shall be distributed around the perimeter of each floor at not more than 50-foot (15 240 mm) intervals. The area of operable windows or panels shall be not less than 40 square feet (3.7 m2) per 50 linear feet (15 240 mm) of perimeter.~~
~~**Exceptions:**~~
~~1. In Group R-1 occupancies, each sleeping unit or suite having an exterior wall shall be permitted to be provided with 2 square feet (0.19 m2) of venting area in lieu of the area specified in Item 1.~~
~~2. Windows shall be permitted to be fixed provided that glazing can be cleared by fire fighters.~~

~~2. Mechanical air-handling equipment providing one exhaust air change every 15 minutes for the area involved. Return and exhaust air shall be moved directly to the outside without recirculation to other portions of the building.~~
~~3. Any other approved design that will produce equivalent results.~~

403.4.7 Smoke control.

403.4.7.1 Smoke control system. *All portions of high-rise buildings shall be provided with a smoke control system or in accordance with Section 909.*

403.5.3 Stairway door operation. Stairway doors other than the *exit discharge* doors shall be permitted to be locked from the stairway side. Stairway doors that are locked from the stairway side shall be capable of being unlocked simultaneously without unlatching upon a signal from the fire command center. *Upon failure of electrical power to the locking mechanism the door shall unlock.*

403.5.4 Smokeproof enclosures. *Every exit enclosure in high-rise buildings shall comply with Sections 909.20 and* ~~1023.10~~1023.11*.* Every required interior exit stairway *in Group I-2 occupancies* serving floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall be a smokeproof enclosure in accordance with Sections 909.20 and ~~1023.10~~1023.11.

Exception: *In high-rise buildings, exit enclosures serving three or less adjacent floors where one of the adjacent floors is the level of exit discharge.*

403.6 Elevators. Elevator installation and operation in high-rise buildings shall comply with Chapter 30 and Sections 403.6.1 and 403.6.2.

Enclosed elevator lobbies shall be provided in accordance with Section ~~713.14.1~~3006. Exceptions ~~3, 5, 6 and 8~~2, 3, 4, and 5 of 3006.3 shall only be permitted where approved by the Fire Chief in accordance with Section 1.11.2.1.1 or in accordance with Section 1.11.2.1.2 for all state-owned buildings, state-occupied buildings, and state institutions throughout the state.

403.7 Existing high-rise buildings. *For existing high-rise buildings, see ~~Section 3414~~ California Fire Code Chapter 11 and California Existing Building Code.*

404.2 Use. The floor of the atrium shall not be used for other than low fire hazard uses and only approved materials and decorations in accordance with the ~~*International*~~*California Fire Code* shall be used in the atrium space.

Exception: The atrium floor area is permitted to be used for any approved use where the individual space is provided with an automatic sprinkler system in accordance with Section 903.3.1.1.

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. *In other than Group I and R-2.1 occupancies,* ~~A~~a fire barrier is not required between the atrium and the adjoining spaces of any three floors of the atrium provided such spaces are accounted for in the design of the smoke control system.

~~404.10~~404.11 Group I and R-2.1 occupancy means of egress. *Required means of egress from sleeping rooms in Group I and R-2.1 occupancies shall not pass through the atrium.*

406.7 Motor fuel-dispensing facilities. Motor fuel-dispensing facilities shall comply with the ~~International~~*California* Fire Code and Sections 406.7.1 and 406.7.2.

406.8 Repair garages. Repair garages shall be constructed in accordance with the ~~International~~*California* Fire Code and Sections 406.8.1 through 406.8.6. This occupancy shall not include motor fuel-dispensing facilities, as regulated in Section 406.7.

406.8.2 Ventilation. Repair garages shall be mechanically ventilated in accordance with the ~~International~~*California* Mechanical Code. The ventilation system shall be controlled at the entrance to the garage.

406.8.4 Heating equipment. Heating equipment shall be installed in accordance with the ~~International~~*California* Mechanical Code.

406.9 Electric Vehicle. [SFM]

[Editorial Note: Electric Vehicle definition relocated to Chapter 2]
~~***406.9.1 Electric Vehicle.*** *An automotive-type vehicle for highway use, such as passenger automobiles, buses, trucks, vans and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array or other source of electric current. For the purpose of this chapter, electric motorcycles and similar type vehicles and off-road self-propelled electric vehicles such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats and the like, are not included.*~~

~~406.9.2~~406.9.1 Charging. *In any building or interior area used for charging electric vehicles, electrical equipment shall be installed in accordance with the California Electrical Code.*

~~406.9.3~~406.9.2 Ventilation. *Mechanical exhaust ventilation, when required by the California Electrical Code shall be provided at a rate as required by Article 625 or as required by Section 1203 of the California Building Code whichever is greater. The ventilation system shall include both the supply and exhaust equipment and shall be permanently installed and located to intake supply air from the outdoors, and vent the exhaust directly to, the outdoors without conducting the exhaust air through other spaces within the building.*

Exception: *Positive pressure ventilation systems shall only be allowed in buildings or areas that have been designed and approved for that application.*

~~406.9.4~~406.9.3 Electrical Interface. *The electrical supply circuit to electrically powered mechanical ventilation equipment shall be interlocked with the recharging equipment used to supply the vehicle(s) being charged, and shall remain energized during the entire charging cycle. Electric vehicle recharging equipment shall be marked or labeled in accordance with the California Electrical Code.*

Exceptions:
1. Exhaust ventilation shall not be required in areas with an approved engineered ventilation system, which maintains a hydrogen gas concentration at less than 25 percent of the lower flammability limit.
2. Mechanical exhaust ventilation for hydrogen shall not be required where the charging equipment utilized is installed and listed for indoor charging of electric vehicles without ventilation.

407.1 General. Occupancies in Group I-2 *and I-2.1* shall comply with the provisions of Sections 407.1 through 407.10 and other applicable provisions of this code.

407.2 Corridors continuity and separation. Corridors in occupancies in Group I-2 *and I-2.1* shall be continuous to the exits and shall be separated from other areas in accordance with Section 407.3 except spaces conforming to Sections 407.2.1 through 407.2.4.

407.2.2 ~~**Care providers'**~~ ***Nurses' stations.*** Spaces for care providers', supervisory staff, doctors' and nurses' charting, communications and related clerical areas shall be permitted to be open to, *or located within* the corridor *provided the required construction along the perimeter of the corridor is maintained* ~~when such spaces are constructed as required for corridors~~*. Construction of nurses' stations or portions of nurses' stations, within the envelope of the corridor is not required to be fire-resistive rated. Nurses' stations in new and existing facilities see the California Code of Regulations, Title 19, Division 1, Chapter 1, Subchapter 1, Article 3, Section 3.11(d) for storage and equipment requirements.*

In detention or secure mental health facilities, the provisions above applies to enclosed nurses' stations within the corridor.

407.3 Corridor wall construction. Corridor walls shall be constructed as ~~smoke~~*fire* partitions in accordance with Section ~~710~~*708*.

407.4 Means of egress. Group I-2 *and I-2.1* occupancies shall be provided with means of egress complying with Chapter 10 and Sections 407.4.1 through 407.4.4. The fire safety and evacuation plans provided in accordance with Section 1001.4 shall identify the building components necessary to support a defend-in-place emergency response in accordance with Sections 404 and 408 of the ~~International~~*California* Fire Code.

407.4.1.2 Basement exits. *All rooms below grade shall have not less than one exit access that leads directly to an exterior exit door opening directly to an exit discharge at grade plane or the public way.*

407.4.2 Distance of travel. The distance of travel between any point in a Group I-2 *or I-2.1* occupancy sleeping room, not located in a care suite, and an exit access door in that room shall be not greater than 50 feet (15 240 mm).

407.4.4 Group I-2 care suites. Care suites in Group I-2 *or I-2.1* shall comply with Sections 407.4.4.1 through 407.4.4.4 and either Section 407.4.4.5 or 407.4.4.6.

407.4.4.2 Separation. Care suites shall be separated from other portions of the building, including other care suites, by ~~a smoke partition~~*not less than a one-hour fire barrier* complying with Section ~~710~~*707 Each suite of rooms shall be separated from the remainder of the building by not less than a one-hour fire barrier.*

407.5.2 Independent egress. *At least two* means of egress shall be provided from each smoke compartment created by smoke barriers. ~~without having to~~ *Means of egress may pass through adjacent compartments provided it does* not return through the smoke compartment from which *means of egress* originated.

407.6 Automatic sprinkler system. ~~Smoke compartments containing sleeping rooms shall be equipped throughout with an automatic sprinkler system in accordance with Sections 903.3.1.1 and 903.3.2.~~ *Every facility as specified herein wherein more than six clients or patients are housed or cared for on the premises on a 24-hour per-day-basis shall have installed and maintained in an operable condition in every building or portion thereof where clients or patients are housed, an automatic sprinkler system of a type approved by the state fire marshal. The provisions of this subsection shall apply to every person, firm or corporation establishing, maintaining or operating a hospital, children's home, children's nursery or institution, or a home or institution for the care of aged or persons with dementia or other cognitive impairments, or any institution for persons with mental illness or persons with developmental disabilities and any nursing or convalescent home, and to any state-owned or state-occupied building used for any of the types of facilities specified herein.*

Exceptions:
1. This section shall not apply to homes or institutions for the 24-hour-per-day care of ambulatory children if all of the following conditions are satisfied:
1.1. The buildings or portions thereof in which children are housed are not more than two stories in height and are constructed and maintained in accordance with regulations adopted by the state fire marshal.
1.2. The buildings or portions thereof housing more than six such children shall have installed and maintained in an operable condition therein, a fire alarm system of a type approved by the state fire marshal. Such system shall be

activated by detectors responding to invisible particles of combustion other than heat, except that detectors used in closets, usable under-floor areas, storage rooms, bathrooms, attached garages, attics, plenums, laundry rooms and rooms of similar use, may be heat-responsive devices.
1.3. The building or portions thereof do not house persons with mental illness or children with developmental disabilities.

2. This section shall not apply to any one-story building or structure of an institution or home for the care of the aged providing 24-hour-per-day care if such building or structure is used or intended to be used for the housing of no more than six ambulatory aged persons. Such buildings or institutions shall have installed and maintained in an operable condition herein a fire alarm system of a type approved by the state fire marshal. Such system shall be activated by detectors responding to either visible or invisible particles of combustion other than heat, except that detectors used in closets, usable under-floor areas, storage rooms, bathrooms, attached garages, attics, plenums, laundry rooms and rooms of similar use, may be heat-responsive devices.
3. This section shall not apply to occupancies or any alterations thereto conforming to the construction provisions of this exception which were under construction or in existence on March 4, 1972. "Under construction" as used in this exception shall mean that actual work had been performed on the construction site and shall not be construed to mean that the hospital, home, nursery, institution, sanitarium or any portion thereof, was or is in the planning stage. The provisions of this exception shall apply to those buildings or structures having bearing walls and structural flame protected in accordance with the provisions of Column Type 1A of Table 601.
4. In detention facilities where inmates are not restrained.

The provisions of this section shall not apply to any facility used to house six or less persons on the premises.

407.6.1 *When a new addition is to be made to an unsprinklered building or structure as permitted by this subsection, such new addition shall be sprinklered as required by this section and shall be separated from the existing building or structures by not less than a two-hour fire-resistive fire barrier.*

When a sprinkler system is added to an existing unsprinklered building or structure, the sprinklered area(s) shall be separated from the remainder of the building by not less than a one-hour fire-resistive fire barrier. The provisions of this section do not apply to any facility used to house six or less persons on the premises.

407.8 Automatic fire detection. ~~Corridors in Group I-2, Condition 1, occupancies, long-term care facilities, detoxification facilities and spaces permitted to be open to the corridors by Section 407.2 shall be equipped with an automatic fire detection system. Group I-2, Condition 2, occupancies shall be equipped with smoke detection as required in Section 407.2.~~
~~**Exceptions:**~~
~~1. Corridor smoke detection is not required where sleeping rooms are provided with smoke detectors that comply with UL 268. Such detectors shall provide a visual display on the corridor side of each sleeping room and an audible and visual alarm at the care provider's station attending each unit.~~
~~2. Corridor smoke detection is not required where sleeping room doors are equipped with automatic door-closing devices with integral smoke detectors on the unit sides installed in accordance with their listing, provided that the integral detectors perform the required alerting function.~~ *See Section 907.2.6.2.*

407.9 Secured yards. Grounds are permitted to be fenced and gates therein are permitted to be equipped with locks, provided that safe dispersal areas having 30 net square feet (2.8 m2) for bed and stretcher care recipients and 6 net square feet (0.56 m2) for ambulatory care recipients and other occupants are located between the building and the fence. Such provided safe dispersal areas shall be located not less than 50 feet (15 240 mm) from the building they serve. *Each safe dispersal area shall have a minimum of two exits. The aggregate clear width of exits from a safe dispersal area shall be determined on the basis of not less than one exit unit of 22 inches (559 mm) for each 500 persons to be accommodated, and no exit shall be less than 44 inches (1118 mm) in width. Gates shall not be installed across corridors or passageways leading to such dispersal areas unless they comply with egress requirements. Keys to gate locks shall be provided in accordance with the California Fire Code.*

407.11 Special Hazards.

407.11.1 *Storage and handling of flammable, combustible liquids and hazardous materials shall be in accordance with the California Fire Code.*

407.11.2 *All exterior openings in a boiler room or room containing central heating equipment, if located below openings in another story, or if less than 10 feet (3048 mm) from other doors or windows of the same building, shall be protected by a fire assembly having a three-fourths-hour fire protection rating.*

407.11.3 Safety padding. *See Sections 308.1 and 408.14.*

407.11.4 Floor Surfaces. *Rooms occupied by patients whose personal liberties are restrained shall have noncombustible floor surfaces see Sections 308.1 and ~~804.4.2~~804.4.3.*

408.1.1 Definitions. The following terms are defined in Chapter 2:
CELL.
CELL COMPLEX.
CELL TIERS.
CENTRAL CONTROL BUILDING.
COURTROOM DOCK.
COURTHOUSE HOLDING FACILITY.
DAY ROOM.
DETENTION ELEVATOR.
DETENTION TREATMENT ROOM.
DORMITORY.
HOLDING FACILITY.
HOUSING UNIT.
RESTRAINT.
SALLYPORT.
SMALL MANAGEMENT YARD.
SECURE INTERVIEW ROOMS.
TEMPORARY HOLDING CELL, ROOM OR AREA.
TEMPORARY HOLDING FACILITY.

408.1.2 Construction. *Group I-3 Occupancies shall be housed in buildings of Type IA or Type IB.*

Exception: *Such occupancies may be housed in one-story buildings of Type IIA, Type IIIA or Type VA construction provided the floor area does not exceed 5,200 square feet (483m2) between fire walls of two-hour fire-resistive construction with openings protected by fire assemblies having 1- and 11/2-hour fire-protection rating.*

408.1.2.1 Nonbearing walls and partitions interior. *Nonbearing cell or dormitory walls within cell complexes shall be of noncombustible construction.*

408.1.2.2 Intervening spaces. *Common rooms and spaces within Group I-3 occupancies can be considered an intervening space in accordance with Section 1014.2, and not considered a corridor, when they meet any of the following:*

1. The inmate and/or staff movement within cell complexes, medical housing wings, and mental health housing wings of Type I construction.
2. Areas within any temporary holding area of non-combustible construction.
3. Areas within secure mental health treatment facilities of non-combustible construction.

408.1.2.3 Courthouse Holding Facilities. *Group I-3 courthouse holding facilities shall be considered a separate and distinct building from the remaining courthouse building for the purpose of determining the type of construction where all of the following conditions are met:*

1. 2-hour fire barriers in accordance with Section 707 and 2-hour horizontal assemblies in accordance with Section 711 are provided to separate the courthouse holding facility from all other portions of the courthouse building.
2. Any of the structure used to support courthouse holding facilities meets the requirements for the Group I-3 portion of the building
3. Each courthouse holding facility located above the first story is less than 1,000 square feet in area~~,~~ and is designed to hold 10 or less in-custody defendants

4. Courthouse holding facilities located above the first story containing an internal stairway discharging to the main courthouse holding facility at the first story or basement
5. Additional exits from the courthouse holding facility located above the first story shall be permitted to exit through the courtrooms
6. The main courthouse holding facility located on the first story or basement has at least one exit directly to the exterior and additional means of egress shall be permitted to pass through a 1-hour corridor or lobby in the courthouse building

408.1.2.4 Horizontal building separation for combined Group I-3/Group B occupancy.
A Group B Administration building one story in height shall be permitted to located above a Group I-3 (or Group I-3/I-2) housing/treatment building which is one story above grade and shall be classified as a separate and distinct building for the purpose of determining the type of construction, and shall be considered a separate fire area, where all of the following conditions are met:

1. A 3-hour floor-ceiling assembly below the administration building is constructed as a horizontal assembly in accordance with Section 711.
2. Interior shafts for stairs, elevators, and mechanical systems complete the 3-hour separation between the Group B and Group I-3 (or Group I-3/I-2)
3. The Group I-3 occupancy (or Group I-3/I-2occupancies, correctional medical and mental health uses) below is minimum Type I-B construction with 2-hour fire resistive rated exterior walls
4. No unprotected openings are allowed in lower roofs within 10 feet of unprotected windows in the upper floor
5. The Group B building above is of non-combustible construction and equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1
6. The Group B occupancy building above has all required means of egress capable of discharging directly to the exterior to a safe dispersal area

408.1.2.5 Temporary Holding Area. *In buildings protected with automatic sprinklers, corridor serving temporary holding rooms shall be one hour fire resistance rated when the temporary holding occupant load is greater than 20.*

408.1.2.6 Temporary Holding Facilities. *Temporary holding facilities with nine or fewer persons under restraint may be classified as Group B when located in a buildings complying withal of the following conditions:*

1. The building shall be protected throughout with a monitored automatic sprinkler system installed in accordance with Section 903.3.1.1
2. The building shall protected with a automatic fire alarm system with notification appliances throughout the holding facility in accordance with Section 907.2
3. The building shall be constructed of Type I, IIA, IIIA or VA construction.

408.1.2.7 Secure Interview Rooms*. Secure Interview Rooms used for law enforcement shall be permitted to locked, and shall not be classified as Group I-3 occupancies where all of the following conditions are met:*

1. A monitored automatic sprinkler system shall be provided throughout buildings and portions thereof including Secure Interview Rooms. The automatic sprinkler system shall comply with Section 903.1.1.
2. Secure Interview Rooms shall be located in non-combustible construction.
3. Secure Interview Rooms have glazed or barred openings with direct, continuous observation from law enforcement personnel who have a means to open the secure interview room.
4. Not more than 6 occupants in Secure Interview Rooms shall be located in the same fire area.
5. An automatic smoke detection system shall be installed within Secure Interview Rooms and mechanical and electrical rooms.

408.2 Other occupancies. Buildings or portions of buildings in Group I-3 occupancies where security operations necessitate the locking of required means of egress shall be permitted to be classified as a different occupancy. Occupancies classified as other than Group I-3 shall meet the applicable requirements of this code for that occupancy where provisions are made for the release of occupants at all times.

Means of egress from detention and correctional occupancies that traverse other use areas shall, as a minimum, conform to requirements for detention and correctional occupancies.

Exceptions*:*

1. It is permissible to exit through a horizontal exit into other contiguous occupancies that do not conform to detention and correctional occupancy egress provisions but that do comply with requirements set forth in the appropriate occupancy, as long as the occupancy is not a Group H use.
2. Regardless of the provisions of Section 508, laundry areas and kitchens including associated dining areas, where commercial/institutional equipment is used shall be separated from the remainder of the building by construction capable of resisting the passage of smoke.
3. For the purpose of occupancy separation only courtroom docks that are directly accessory to courtrooms need not be separated from a courtroom.

408.2.1 Correctional medical and mental health uses*. Where a Group I-2 occupancy in accordance with Section 308.4 and a Group I-3 occupancy occur together in building or portions of buildings, the following Subsections of Sections of 407 shall apply: 407.2.1; 407.2.2; 407.2.3; 407.3.1; 407.3.1.1; 407.4; 407.10.*

408.3.1.1 *Cell doors shall open outwardly or slide laterally.*

408.3.6 Exit discharge. ~~Exits are permitted to discharge into a fenced or walled courtyard. Enclosed yards or courts shall be of a size to accommodate all occupants, be located not less than 50 feet (15 240 mm) from the building and have an area of not less than 15 square feet (1.4 m2) per person.~~

408.3.6.1 *Exits are permitted to discharge into a fenced or walled courtyard. Enclosed yards or courts shall be of a size to accommodate all occupants, a minimum of 50 feet (15 240 mm) from the building with a net area of 3 square feet (~~1.4~~0.28 m2) per person. A gate shall be provided from the safe dispersal area to allow for the necessary relocation of occupants.*

408.3.6.2 *Exterior fenced enclosures and fenced enclosures utilized for recreational or activity purposes, used for exit termination for more than 20 persons, and which do not provide a safe dispersal area, shall have not less than two exits.*

408.3.6.3 *Fenced enclosure utilized for recreational or activity purposes only, for more than 49 people, and which do not provide a safe dispersal area, shall be provided with not less than two exits.*

408.3.6.4 *Fenced enclosures located on roofs of buildings one or more stories in height shall be provided with not less than two exits regardless of occupant load.*

408.3.6.5 *Fenced enclosures utilized for Central Control Buildings not normally occupied and not accessed by inmates or the general public are permitted to have only one exit from the fenced enclosure. These fenced enclosures shall only be occupied during emergency response conditions by not more than 29 prison staff occupants. Access to the fenced area shall be controlled remotely or at the gate with a key.*

408.3.8.1 *Where the number and arrangement of exits complies with the requirements of Chapter 10, other stairways which occur within the secure area of the detention facility and are not used for required exiting but are used primarily for the movement of inmates and security staff need not extend to the exterior.*

408.3.9 Dead-end balconies. *Exit balconies serving cell tiers shall not extend more than 50 feet (15 240 mm) beyond an exit stairway.*

408.3.10 Travel Distance. *The travel distance may be increased to 300 feet for portions of Group I-3 occupancies open only to staff or where inmates are escorted at all times by staff.*

408.3.11 Number of exits required. *In temporary holding areas of non-combustible construction, a second means of egress is required when the occupant load is greater than 20.*

408.4 Locks. Egress doors are permitted to be locked in accordance with the applicable use condition. Doors from a refuge area to the outisde are permitted to be locked with a key in lieu of locking methods described in Section 408.4.1. The keys to unlock the exterior doors shall be available at all times and the locks shall be operable from both sides of the door. *Security hardware may be used on any fire-rated door.*

408.4.3 Redundant operation. ~~Remote release, m~~*M*echanically operated sliding doors or ~~remote release~~, mechanically operated locks shall be provided with a mechanically operated release mechanism at each door~~, or~~ *and* shall be provided with a ~~redundan~~t remote release control*.*

408.5.1 Floor openings. ~~Openings in floors within a housing unit are permitted without a shaft enclosure, provided all of the following conditions are met:~~*The open space in front of a cell tier and connected chases, not exceeding two tiers in height, shall not be considered a vertical shaft and need not meet the fire-resistive shaft enclosure requirements of Section ~~708~~ 713.*

~~1. The entire normally occupied areas so interconnected are open and unobstructed so as to enable observation of the areas by supervisory personnel;~~
~~2. Means of egress capacity is sufficient for all occupants from all interconnected cell tiers and areas;~~
~~3. The height difference between the floor levels of the highest and lowest cell tiers shall not exceed 23 feet (7010 mm); and~~
~~4. Egress from any portion of the cell tier to an exit or exit access door shall not require travel on more than one additional floor level within the housing unit.~~

408.6 Smoke barrier. Occupancies in Group I-3 shall have smoke barriers complying with Sections 408.7 and 709 to divide every story occupied by residents for sleeping, or any other story having an occupant load of 50 or more persons, into no fewer than two smoke compartments.

Exception: Spaces having a direct exit to one of the following, provided that the locking arrangement of the doors involved complies with the requirements for doors at the smoke barrier for the use condition involved:

1. A public way.
2. A building separated from the resident housing area by a 2-hour fire-resistance-rated assembly or 50 feet (15 240 mm) of open space.
3. A secured yard or court having a holding space 50 feet (15 240 mm) from the housing area that provides 6 square feet (0.56 m2) or more of refuge area per occupant, including residents, staff and visitors.
4. Holding facility.

408.6.1 Smoke compartments. The number of residents in any smoke compartment shall be not more than 200. The distance of travel to a door in a smoke barrier from any room door required as exit access shall be not greater than 150 feet (45 720 mm). The distance of travel to a door in a smoke barrier from any point in a room shall be not greater than 200 feet (60 960 mm).

Exception: *The travel distance may be increased by 50 feet from areas open only to the staff.*

408.8 Subdivision of ~~resident housing~~ areas. ~~Sleeping areas and any contiguous day room, group activity space or other common spaces where residents are housed~~ *Each cell complex* shall be separated from other *cell complexes or other* spaces ~~in accordance with Sections 408.8.1 through 408.8.4~~ *by a smoke-tight partition*.

~~**408.8.1 Occupancy Conditions 3 and 4.** Each sleeping area in Occupancy Conditions 3 and 4 shall be separated from the adjacent common spaces by a smoke-tight partition where the distance of travel from the sleeping area through the common space to the corridor exceeds 50 feet (15 240 mm).~~

~~**408.8.2 Occupancy Condition 5.** Each sleeping area in Occupancy Condition 5 shall be separated from adjacent sleeping areas, corridors and common spaces by a smoketight partition. Additionally, common spaces shall be separated from the corridor by a smoke-tight partition.~~

~~**408.8.3 Openings in room face.** The aggregate area of openings in a solid sleeping room face in Occupancy Conditions 2, 3, 4 and 5 shall not exceed 120 square inches (0.77 m2). The aggregate area shall include all openings including door undercuts, food passes and grilles. Openings shall be not more than 36 inches (914 mm) above the floor. In Occupancy Condition 5, the openings shall be closeable from the room side.~~

~~**408.8.4**~~**408.8.*1*** **Smoke-tight doors.** Doors in openings in partitions required to be smoke tight by Section 408.8 shall be substantial doors, of construction that will resist the passage of smoke. Latches and door closures are not required on cell doors.

408.9 Windowless buildings. For the purposes of this section, a windowless building or portion of a building is one with nonopenable windows, windows not readily breakable or without windows. ~~Windowless buildings shall be provided with~~

~~an engineered smoke control system to provide a tenable environment for exiting from the smoke compartment in the area of fire origin in accordance with Section 909 for each windowless smoke compartment.~~

408.9.1 Smoke venting. *Windowless buildings containing use conditions 3, 4 or 5 shall be provided with an engineered smoke control system in accordance with Section 909, windows or doors, smoke vents, or equivalent means to provide a tenable environment for exiting from the smoke compartment in the area of fire origin. If windows or doors are used to meet this section, at least two windows or doors to the exterior must be provided at or above the highest occupied level in each smoke compartment, and the windows or doors must be operable or readily breakable and arranged to manually vent smoke.*
Exceptions:
1. Local adult detention facilities, CDCR and CDCR mental health housing facilities shall be exempt from this section when they meet each of the following criteria:
1.1. Are Type IA or IB construction
1.2. Are protected with sprinklers throughout in accordance with Section 903.3.1.1
1.3. Include a fire alarm system with smoke detection in accordance with NFPA 72 in the dayroom and/or corridor serving as exit access from the cells, reporting to a 24 hour central control at the institution
1.4. Include at least one exit from each housing unit that discharges directly to the exterior
1.5. The building is divided into at least two smoke compartments per Section 408.6.1
1.6. Staffing in the institution is sufficient to evacuate inmates from the smoke compartment 24 hours per day, as approved by the enforcing
2. No venting or smoke control is required when an engineering analysis shows an acceptable safe egress time compared to the onset of untenable conditions within a windowless building or portion of a windowless building and approved by the enforcing agency.

408.12 Emergency and standby power systems. *Special electrical systems, exit illumination, power installations and alternate on-site electrical supplies shall be provided for every building or portion of a building housing 10 or more inmates in a detention or correctional facility in accordance with the provisions of the California Electrical Code. There shall be a source of emergency power in all detention facilities capable of providing minimal lighting in all housing units, activity areas, corridors, stairs and central control points, and to maintain fire and life safety, security, communications and alarm systems.*

408.13 Windows. *In security areas within cell complexes sprinklered throughout, the area of glazing in one-hour corridor walls and smoke barrier walls shall not be restricted, provided:*

1. All openings are protected by fixed glazing listed and labeled for a fire-protection of at least 3/4 hour; or
2. Fixed security glazing set in noncombustible frames. Shall comply with the minimum requirements of one of the following test standards: ASTM F 1233-98, Class III glass, or; California Department of Corrections, CDC 860-94d, or H.P. White Laboratory, Inc., HPW-TP- 0500.02, Forced Entry Level III.
3. In lieu of the sizes set forth in CBC, the size and area of glazed assemblies shall conform to the following: Windows required to have a three-fourths-hour fire-resistive rating or windows protected by fixed security glazing, as delineated in Items 1 and 2 above, may have an area not greater than 84 square feet (7.8 m2) with neither width nor height exceeding 12 feet (3658 mm).

408.14 Safety padding. *Padding material used on walls, floors and ceilings in Group I and R-2.1 occupancies shall be of an approved type tested in accordance with the procedures established by State Fire Marshal Standard 12-8-100, Room Fire Test for Wall and Ceiling Materials, California Code of Regulations, Title 24, Part 12.*

408.15 Small management yards.

408.15.1 General. *The provisions of Sections 408.15.1 through 408.15.5 shall apply to small management yards. Small management yards may be used by a maximum of two occupants at any one time for a maximum of 2 hours per day.*

408.15.2 Construction. *Small management yards shall be constructed in accordance with all of the following:*

1. Constructed of Type IB noncombustible materials.
2. Fence material shall be noncombustible.
3. Have a maximum area of 150 square feet (14 m2).
4. Yard area covering shall not exceed 75 square feet (7 m2) or a maximum of 50 percent of the fenced enclosure.

5. Electrical lighting or devices of any type shall not be permitted within the yard.

Exception: *Low voltage devices dedicated for the operation of toilets.*

408.15.3 Fire protection system provisions.

408.15.3.1 Automatic sprinkler systems. *An automatic sprinkler system shall be provided in accordance with Section 903.3.1.1*

Exception: *Small management yards where a distance of 10 feet (3048 mm) is maintained from all buildings or structures and 4 feet (1220 mm) is maintained from containment fencing.*

408.15.3.2 Fire alarm systems. *An approved fire alarm system shall be provided in accordance with Section 907.*

Exception: *Small management yards where a distance of 10 feet (3048 mm) is maintained from all buildings or structures and 4 feet (1220 mm) is maintained from containment fencing.*

408.15.4 Means of egress. *Except as modified or as provided for in this section, the provisions of Section 408.3 and Chapter 10 shall apply. Small management yards shall comply with all of the following:*
1. Staff-controlled manual released locks shall be provided.
2. Staff escorting inmates to and from small management yards shall be equipped with radios and personal alarms to notify central control in case of a fire.
3. The safe dispersal area as defined by Section 1027.5 shall not be reduced due to placement of these yards.
4. An exit, remote from the main entrance is required in the containment fencing.

408.15.5 Special provisions. *Inmate exercise clothing and toilet paper tissue shall be the only combustible materials permitted in small management yards.*

409.3 Projection room and equipment ventilation. Ventilation shall be provided in accordance with the ~~*International*~~*California Mechanical Code*.

411.1 General. Special amusement buildings having an occupant load of 50 or more shall comply with the requirements for the appropriate Group A occupancy and Sections 411.1 through 411.8. Special amusement buildings having an occupant load of less than 50 shall comply with the requirements for a Group B occupancy and Sections 411.1 through 411.8.

Exception: Special amusement buildings 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*~~*California* Fire Code.

412.1 General. Aircraft-related occupancies shall comply with Sections 412.1 through 412.8 and the ~~*International*~~*California* Fire Code.

412.6.1 Occupancy group. Aircraft paint hangars shall be classified as Group H-2. Aircraft paint hangars shall comply with the applicable requirements of this code and the ~~*International*~~*California* Fire Code for such occupancy.

412.6.6 Ventilation. Aircraft paint hangars shall be provided with ventilation as required in the ~~*International*~~*California Mechanical Code*.

413.1 General. High-piled stock or rack storage in any occupancy group shall comply with the ~~*International*~~*California* Fire Code.

414.1.1 Other provisions. Buildings and structures with an occupancy in Group H shall comply with this section and the applicable provisions of Section 415 and the ~~*International*~~*California Fire Code*. *For Group L occupancies see Section ~~443~~453.*

414.1.2 Materials. The safe design of hazardous material occupancies is material dependent. Individual material requirements are also found in Sections 307 and 415, and in the ~~*International*~~*California Mechanical Code* and the ~~*International*~~*California Fire Code*.

414.1.2.1 Aerosols. Level 2 and 3 aerosol products shall be stored and displayed in accordance with the ~~*International*~~*California Fire Code*. See Section 311.2 and the ~~*International*~~*California Fire Code* for occupancy group requirements.

414.2 Control areas. Control *areas* shall comply with Sections 414.2.1 through 414.2.5 and the ~~*International*~~*California Fire Code*.

414.2.5 Hazardous material in Group M display and storage areas and in Group S storage areas. The aggregate quantity of nonflammable solid and nonflammable or noncombustible liquid hazardous materials permitted within a single control area of a Group M display and storage area, a Group S storage area or an outdoor control area is permitted to exceed the maximum allowable quantities per control area specified in Tables 307.1(1) and 307.1(2) without classifying the building or use as a Group H occupancy, provided that the materials are displayed and stored in accordance with the ~~*International*~~*California* Fire Code and quantities do not exceed the maximum allowable specified in Table 414.2.5(1).

In Group M occupancy wholesale and retail sales uses, indoor storage of flammable and combustible liquids shall not exceed the maximum allowable quantities per control area as indicated in Table 414.2.5(2), provided that the materials are displayed and stored in accordance with the ~~*International*~~*California* Fire Code.

The maximum quantity of aerosol products in Group M occupancy retail display areas, storage areas adjacent to retail display areas and retail storage areas shall be in accordance with the ~~*International*~~*California* Fire Code.

TABLE 414.2.5(1)
MAXIMUM ALLOWABLE QUANTITY PER INDOOR AND OUTDOOR CONTROL AREA IN GROUP M AND S OCCUPANCIES NONFLAMMABLE SOLIDS AND NONFLAMMABLE AND NONCOMBUSTIBLE LIQUIDS[d,e,f]

[Table not shown for clarity]

a. Hazard categories are as specified in the ~~*International*~~*California* Fire Code.
b. Maximum allowable quantities shall be increased 100 percent in buildings that are sprinklered in accordance with Section 903.3.1.1. When Note c also applies, the increase for both notes shall be applied accumulatively.
c. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, in accordance with the ~~*International*~~*California* Fire Code. When Note b also applies, the increase for both notes shall be applied accumulatively.
d. See Table 414.2.2 for design and number of control areas.
e. Allowable quantities for other hazardous material categories shall be in accordance with Section 307.
f. Maximum quantities shall be increased 100 percent in outdoor control areas.
g. Maximum amounts shall be increased to 2,250 pounds when individual packages are in the original sealed containers from the manufacturer or packager and do not exceed 10 pounds each.
h. Maximum amounts shall be increased to 4,500 pounds when individual packages are in the original sealed containers from the manufacturer or packager and do not exceed 10 pounds each.
i. The permitted quantities shall not be limited in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
j. Quantities are unlimited in an outdoor control area.

TABLE 414.2.5(2)
MAXIMUM ALLOWABLE QUANTITY OF FLAMMABLE AND COMBUSTIBLE LIQUIDS IN WHOLESALE AND RETAIL SALES OCCUPANCIES PER CONTROL AREA[a]

TYPE OF LIQUID	MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA (gallons)		
	Sprinklered in accordance with note b densities and arrangements	Sprinklered in accordance with Tables 5704.3.6.3(4) through 5704.3.6.3(8) and 5704.3.7.5.1 of the ~~*International*~~*California* Fire Code	Nonsprinklered
Class IA	60	60	30

Class IB, IC, II and IIIA	7,500 [c]	15,000[c]	1,600
Class IIIB	Unlimited	Unlimited	13,200

[Table Notes not shown for clarity]

414.3 Ventilation. Rooms, areas or spaces in which explosive, corrosive, combustible, flammable or highly toxic dusts, mists, fumes, vapors or gases are or may be emitted due to the processing, use, handling or storage of materials shall be mechanically ventilated where required by this code, the ~~*International*~~*California* Fire Code or the ~~*International*~~*California* Mechanical Code.

Emissions generated at workstations shall be confined to the area in which they are generated as specified in the ~~*International*~~*California* Fire Code and the ~~*International*~~*California* Mechanical Code.

414.5 Inside storage, dispensing*, handling* and use. The inside storage, dispensing and use of hazardous materials shall be in accordance with Sections 414.5.1 through ~~414.5.3~~414.5.4 of this code and the ~~*International*~~*California Fire Code*.

414.5.1 Explosion control. Explosion control shall be provided in accordance with the ~~International~~*California* Fire Code as required by Table 414.5.1 where quantities of hazardous materials specified in that table exceed the maximum allowable quantities in Table 307.1(1) or where a structure, room or space is occupied for purposes involving explosion hazards as required by Section 415 or the ~~International~~*California* Fire Code.

TABLE 414.5.1
EXPLOSION CONTROL REQUIREMENTS[a, h]
[Table not shown for clarity]

a. See Section 414.1.3.
b. See the ~~*International*~~*California* Fire Code.
c. As generated during manufacturing or processing.
d. Storage or use.
e. In open use or dispensing.
f. Rooms containing dispensing and use of hazardous materials when an explosive environment can occur because of the characteristics or nature of the hazardous materials or as a result of the dispensing or use process.
g. A method of explosion control shall be provided when Class 2 water-reactive materials can form potentially explosive mixtures.
h. Explosion venting is not required for Group H-5 fabrication areas complying with Section 415.11.1 and the ~~*International*~~*California* Fire Code.

414.5.2 Emergency or standby power. Where required by the ~~International~~*California* Fire Code or this code, mechanical ventilation, treatment systems, temperature control, alarm, detection or other electrically operated systems shall be provided with emergency or standby power in accordance with Section 2702. For storage and use areas for highly toxic or toxic materials, see Sections 6004.2.2.8 and 6004.3.4.2 of the ~~International~~*California* Fire Code.

414.5.3 Spill control, drainage and containment. Rooms, buildings or areas occupied for the storage of solid and liquid hazardous materials shall be provided with a means to control spillage and to contain or drain off spillage and fire protection water discharged in the storage area where required in the ~~International~~*California* Fire Code. The methods of spill control shall be in accordance with the ~~International~~*California* Fire Code.

~~414.5.5~~414.5.4 Hazardous material handling. *The handling of hazardous materials shall be in accordance with California Fire Code Section ~~2705~~5003.*

414.6 Outdoor storage, dispensing and use. The outdoor storage, dispensing and use of hazardous materials shall be in accordance with the ~~International~~*California* Fire Code.

415.1 Scope. The provisions of Sections 415.1 through 415.11 shall apply to the storage and use of hazardous materials in excess of the maximum allowable quantities per control area listed in Section 307.1. Buildings and structures with an occupancy in Group H shall also comply with the applicable provisions of Section 414 and the ~~*International*~~*California Fire Code*.

415.6 Fire separation distance. Group H occupancies shall be located on property in accordance with the other provisions of this chapter. In Groups H-2 and H-3, not less than 25 percent of the perimeter wall of the occupancy shall be an exterior wall.

Exceptions:
1. Liquid use, dispensing and mixing rooms having a floor area of not more than 500 square feet (46.5 m2) need not be located on the outer perimeter of the building where they are in accordance with the ~~*International*~~*California Fire Code* and NFPA 30.
2. Liquid storage rooms having a floor area of not more than 1,000 square feet (93 m2) need not be located on the outer perimeter where they are in accordance with the ~~*International*~~*California Fire Code* and NFPA 30.
3. Spray paint booths that comply with the ~~*International*~~*California Fire Code* need not be located on the outer perimeter.

415.6.1 Group H occupancy minimum fire separation distance. Regardless of any other provisions, buildings containing Group H occupancies shall be set back to the minimum fire separation distance as set forth in Sections 415.6.1.1 through 415.6.1.4. Distances shall be measured from the walls enclosing the occupancy to lot lines, including those on a public way. Distances to assumed lot lines established for the purpose of determining exterior wall and opening protection are not to be used to establish the minimum fire separation distance for buildings on sites where explosives are manufactured or used when separation is provided in accordance with the quantity distance tables specified for explosive materials in the ~~*International*~~*California Fire Code*.

415.5.1.1 Group H-1. Group H-1 occupancies shall be set back not less than 75 feet (22 860 mm) and not less than required by the ~~*International*~~*California Fire Code*.

Exception: Fireworks manufacturing buildings separated in accordance with NFPA 1124.

415.6.1.4 Explosive materials. Group H-2 and H-3 occupancies containing materials with explosive characteristics shall be separated as required by the ~~*International*~~*California* Fire Code. Where separations are not specified, the distances required shall be determined by a technical report issued in accordance with Section 414.1.3.

TABLE 415.6.2
DETACHED BUILDING REQUIRED
[Table not shown for clarity]

For SI: 1 ton = 906 kg, 1 cubic foot = 0.02832 m3, 1 pound = 0.454 kg.
a. For materials that are detonable, the distance to other buildings or lot lines shall be in accordance with Chapter 56 of the InternationalCalifornia Fire Code based on trinitrotoluene (TNT) equivalence of the material. For materials classified as explosives, see Chapter 56 of the International Fire Code.
b. “Maximum Allowable Quantity” means the maximum allowable quantity per control area set forth in Table 307.1(1).
c. Limited to Division 1.4 materials and articles, including articles packaged for shipment, that are not regulated as an explosive under Bureau of Alcohol, Tobacco, Firearms and Explosives (BATF) regulations or unpackaged articles used in process operations that do not propagate a detonation or deflagration between articles, provided the net explosive weight of individual articles does not exceed 1 pound.

415.9 Group H-2. Occupancies in Group H-2 shall be constructed in accordance with Sections 415.9.1 through 415.9.3 and the ~~*International*~~*California Fire Code*.

415.9.1 Flammable and combustible liquids. The storage, handling, processing and transporting of flammable and combustible liquids in Group H-2 and H-3 occupancies shall be in accordance with Sections 415.8.2.1 through 415.9.1.1, the ~~*International*~~*California Mechanical Code* and the ~~*International*~~*California Fire Code*.

415.9.1.3 Tanks. Storage tanks shall be approved tanks conforming to the requirements of the ~~*International*~~*California Fire Code*.

415.9.1.4 Leakage containment. A liquid-tight containment area compatible with the stored liquid shall be provided. The method of spill control, drainage control and secondary containment shall be in accordance with the ~~*International*~~*California Fire Code*.

Exception: Rooms where only double-wall storage tanks conforming to Section 415.9.1.3 are used to store Class I, II and IIIA flammable and combustible liquids shall not be required to have a leakage containment area.

415.9.1.6 Tank vent. Storage tank vents for Class I, II or IIIA liquids shall terminate to the outdoor air in accordance with the ~~*International*~~*California Fire Code*.

415.9.1.7 Room ventilation. Storage tank areas storing Class I, II or IIIA liquids shall be provided with mechanical ventilation. The mechanical ventilation system shall be in accordance with the ~~*International*~~*California Mechanical Code* and the ~~*International*~~*California Fire Code*.

415.9.1.8 Explosion venting. Where Class I liquids are being stored, explosion venting shall be provided in accordance with the ~~*International*~~*California Fire Code*.

415.9.2 Liquefied petroleum gas facilities. The construction and installation of liquefied petroleum gas facilities shall be in accordance with the requirements of this code, the ~~*International*~~*California Fire Code,* the ~~*International*~~*California Mechanical Code*, the ~~International Fuel Gas Code~~*California Plumbing Code* and NFPA 58.

415.9.3 Dry cleaning plants. The construction and installation of dry cleaning plants shall be in accordance with the requirements of this code, the ~~*International*~~*California Mechanical Code*, the ~~*International*~~*California Plumbing Code* and NFPA 32. Dry cleaning solvents and systems shall be classified in accordance with the ~~*International*~~*California Fire Code*.

415.10 Groups H-3 and H-4. Groups H-3 and H-4 shall be constructed in accordance with the applicable provisions of this code and the ~~*International*~~*California Fire Code*.

415.11 Group H-5. In addition to the requirements set forth elsewhere in this code, Group H-5 shall comply with the provisions of Sections 415.11.1 through 415.10.11 and the ~~*International*~~*California Fire Code.*

415.11.1.7 Transporting hazardous production materials to fabrication areas. HPM shall be transported to fabrication areas through enclosed piping or tubing systems that comply with Section 415.11.6 through service *corridors* complying with Section 415.11.3, or in corridors as permitted in the exception to Section 415.11.2. The handling or transporting of HPM within service corridors shall comply with the ~~*International*~~*California Fire Code*.

415.11.4 Storage of hazardous production materials. Storage of hazardous production materials (HPM) in fabrication areas shall be within approved or listed storage cabinets or gas cabinets or within a workstation. The storage of HPM in quantities greater than those listed in Section 5004.2 of the ~~*International*~~*California Fire Code* shall be in liquid storage rooms, HPM rooms or gas rooms as appropriate for the materials stored. The storage of other hazardous materials shall be in accordance with other applicable provisions of this code and the ~~*International*~~*California Fire Code*.

415.11.7.2 Gas detection system operation. The continuous gas detection system shall be capable of monitoring the room, area or equipment in which the gas is located at or below all the following gas concentrations:
1. Immediately dangerous to life and health (IDLH) values where the monitoring point is within an exhausted enclosure, ventilated enclosure or gas cabinet.
2. Permissible exposure limit (PEL) levels when the monitoring point is in an area outside an exhausted enclosure, ventilated enclosure or gas cabinet.
3. For flammable gases, the monitoring detection threshold level shall be vapor concentrations in excess of 25 percent of the lower flammable limit (LFL) where the monitoring is within or outside an exhausted enclosure, ventilated enclosure or gas cabinet.
4. Except as noted in this section, monitoring for highly toxic and toxic gases shall also comply with Chapter 60 of the ~~*International*~~*California Fire Code*.

415.11.9.3 Signals. The emergency control station shall receive signals from emergency equipment and alarm and detection systems. Such emergency equipment and alarm and detection systems shall include, but not be limited to, the following where such equipment or systems are required to be provided either in this chapter or elsewhere in this code:

1. Automatic sprinkler system alarm and monitoring systems.
2. Manual fire alarm systems.
3. Emergency alarm systems.
4. Continuous gas detection systems.
5. Smoke detection systems.

6. Emergency power system.
7. Automatic detection and alarm systems for pyrophoric liquids and Class 3 water-reactive liquids required in Section 2705.2.3.4 of the ~~*International*~~*California* Fire Code.
8. Exhaust ventilation flow alarm devices for pyrophoric liquids and Class 3 water-reactive liquids cabinet exhaust ventilation systems required in Section 1805.2.3.4 of the ~~*International*~~*California Fire Code*.

415.11.10.1 Required electrical systems. Emergency power shall be provided for electrically operated equipment and connected control circuits for the following systems:

1. HPM exhaust ventilation systems.
2. HPM gas cabinet ventilation systems.
3. HPM exhausted enclosure ventilation systems.
4. HPM gas room ventilation systems.
5. HPM gas detection systems.
6. Emergency alarm systems.
7. Manual and automatic fire alarm systems.
8. Automatic sprinkler system monitoring and alarm systems.
9. Automatic alarm and detection systems for pyrophoric liquids and Class 3 water-reactive liquids required in Section 2705.2.3.4 of the ~~*International*~~*California Fire Code*.
10. Flow alarm switches for pyrophoric liquids and Class 3 water-reactive liquids cabinet exhaust ventilation systems required in Section 2705.2.3.4 of the ~~*International*~~*California Fire Code*.
11. Electrically operated systems required elsewhere in this code or in the ~~*International*~~*California Fire Code* applicable to the use, storage or handling of HPM.

415.11.11 Automatic sprinkler system protection in exhaust ducts for HPM. An approved automatic sprinkler system shall be provided in exhaust ducts conveying gases, vapors, fumes, mists or dusts generated from HPM in accordance with Sections 415.11.11.1 through 415.11.11.3 and the ~~*International*~~*California Mechanical Code*.

~~415.11~~415.12 Group H occupancies located above the 10th story.

~~415.11.1~~415.12.1 Fire – smoke barrier. *Any story containing a Group H occupancy above the 10th story shall be subdivided by a fire-smoke barrier constructed as a fire barrier having a fire resistance rating of not less than 2 hours and shall also comply with the smoke barrier requirements of Section 710. The 2-hour fire-smoke barrier shall be in accordance with Sections 415.11.1.1 through 415.11.1.5.*

~~415.11.1.1~~415.12.1.1 *The 2-hour fire-smoke barrier shall be continuous from exterior wall to exterior wall.*

~~415.11.1.2~~415.12.1.2 *The fire-smoke barrier shall divide the story so that the square footage on each side of the 2-hour fire-smoke barrier is not less than 30 percent of the total floor area.*

~~415.11.1.3~~415.12.1.3 *A minimum of one door opening shall be provided in the 2-hour fire-smoke barrier for emergency access.*

~~415.11.1.4~~415.12.1.4 *Each side of the 2-hour fire-smoke barrier shall be designed as a separate smoke zone designed in accordance with Section 909.6.*

~~415.11.1.5~~415.12.1.5 *The area on each side of the 2-hour fire-smoke barrier shall be served by a minimum of one exit enclosure in accordance with Section 1022.*

~~415.12~~415.13 Elevators and elevator lobbies above the 10th story. *Any story containing a Group H occupancy above the 10th story shall be provided with elevators and elevator lobbies in accordance with Sections ~~415.12.1~~ 415.13.1 through ~~415.12.3~~415.13.3.*

~~415.12.1~~415.13.1 *An elevator that serves every story of the building shall be provided on each side of the 2-hour fire-smoke barrier.*

~~415.12.2~~415.13.2 *An elevator lobby shall be provided on each side of the 2-hour fire-smoke barrier at each floor in accordance with Section 708.14.1. Exceptions to 708.14.1 shall not apply.*

~~415.12.3~~415.13.3 *The elevator and its associated elevator lobbies and elevator machine rooms shall be pressurized in accordance with Section 909.6.*

416.1 General. The provisions of this section shall apply to the construction, installation and use of buildings and structures, or parts thereof, for the application of flammable finishes. Such construction and equipment shall comply with the ~~*International*~~*California Fire Code*.

416.2.2 Ventilation. Mechanical ventilation and interlocks with the spraying operation shall be in accordance with the ~~*International*~~*California* Mechanical Code.

416.3 Spraying spaces. Spraying spaces shall be ventilated with an exhaust system to prevent the accumulation of flammable mist or vapors in accordance with the ~~*International*~~*California Mechanical Code*. Where such spaces are not separately enclosed, noncombustible spray curtains shall be provided to restrict the spread of flammable vapors.

416.4 Spray booths. Spray booths shall be designed, constructed and operated in accordance with the ~~*International*~~*California Fire Code*.

419.8 Ventilation. The applicable ventilation requirements of the ~~*International*~~*California Mechanical Code* shall apply to each area within the live/work unit for the function within that space.

SECTION 420
GROUPS ~~I-1,~~ R-1, R-2, *R-2.1*, R-3*, R-3.1* and R-4

420.1 General. Occupancies in Groups ~~I-1,~~ R-1, R-2, *R-2.1*, R-3, *R-3.1* and R-4 shall comply with the provisions of Sections 420.1 through 420.6 and other applicable provisions of this code.

420.4 Smoke barriers in Group ~~I-1, Condition 2~~*R-2.1*. Smoke barriers shall be provided in Group ~~I-1, Condition 2~~*R-2.1*, to subdivide every story used by persons receiving care, treatment or sleeping and to provide other stories with an occupant load of 50 or more persons, into no fewer than two smoke compartments. Such stories shall be divided into smoke compartments with an area of not more than 22,500 square feet (2092 m2) and the distance of travel from any point in a smoke compartment to a smoke barrier door shall not exceed 200 feet (60 960 mm). The smoke barrier shall be in accordance with Section 709.

420.5 Automatic sprinkler system. Group R occupancies shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.2.8. Group ~~I-1~~*R-2.1* occupancies shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.2.6. Quick response or residential automatic sprinklers shall be installed in accordance with Section 903.3.2.

420.6 Fire alarm systems and smoke alarms. Fire alarm systems and smoke alarms shall be provided in Group ~~I-1,~~ R-1, R-2*, R-2.1* and R-4 occupancies in accordance with Sections 907.2.6, 907.2.8, 907.2.9 and 907.2.10, respectively. Singleor multiple- station smoke alarms shall be provided in Groups ~~I-1,~~ R-2*, R-2.1*, R-3 and R-4 in accordance with Section 907.2.11.

~~420.9~~420.10 Licensed 24-hour care facilities in a Group R-2.1, R-3.1 or R-4 occupancy. *See Section ~~425~~435 for Special Provisions for licensed 24-hour care facilities in a Group R-2.1, R-3.1, or R-4 occupancy.*

~~***420.10 Existing Group R Occupancies.*** *See Chapter 34.*~~

SECTION [F] 426
COMBUSTIBLE DUSTS, GRAIN PROCESSING AND STORAGE

426.1 Combustible dusts, grain processing and storage. 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 NFPA 61, NFPA 85, NFPA 120, NFPA 484, NFPA 654, NFPA 655 and NFPA 664 and the ~~International~~*California* Fire Code.

426.1.4 Explosion control. Explosion control shall be provided as specified in the ~~International~~*California* Fire Code, or spaces shall be equipped with the equivalent mechanical ventilation complying with the ~~International~~*California* Mechanical Code.

SECTION ~~425~~435
SPECIAL PROVISIONS FOR LICENSED 24-HOUR CARE FACILITIES IN A GROUP R-2.1, R-3.1, R-4 [SFM]

***~~425.1~~435.1* Scope.** *The provisions of this section shall apply to 24-hour care facilities in a Group R-2.1, R-3.1 or R-4 occupancy licensed by a governmental agency.*

***~~425.2~~435.2* General.** *The provisions in this section shall apply in addition to general requirements in this code.*

~~425.2.1~~435.2.1 *Restraint shall not be practiced in a Group R-2.1, R-3.1 or R-4 Occupancies.*

Exception: *Occupancies which meet all the requirements for a Group I-3 Occupancy.*

~~425.2.2~~435.2.2 *Pursuant to Health and Safety Code Section 13133, regulations of the state fire marshal pertaining to occupancies classified as Residential Facilities (RF) and Residential Care Facilities for the Elderly (RCFE) shall apply uniformly throughout the state and no city, county, city and county, including a charter city or charter county, or fire protection district shall adopt or enforce any ordinance or local rule or regulation relating to fire and panic safety which is inconsistent with these regulations. A city, county, city and county, including a charter city or charter county may pursuant to Health and Safety Code Section 13143.5, or a fire protection district may pursuant to Health and Safety Code Section 13869.7, adopt standards more stringent than those adopted by the state fire marshal that are reasonably necessary to accommodate local climate, geological or topographical conditions relating to roof coverings for Residential Care Facilities for the Elderly.*

Exception: *Local regulations relating to roof coverings in facilities licensed as a residential care facility for the elderly (RCFE) per Health and Safety Code Section 13133.*

***~~425.3~~435.3* Building height and area provisions.**

~~425.3.1~~435.3.1 *Group R-2.1, R-3.1 and R-4 shall be constructed in accordance with Table 503.*

***~~425.3.2~~435.3.2* Limitations six or less clients.** *Group R-3.1 occupancies where nonambulatory clients are housed above the first story, having more than two stories in height or having more than 3,000 square feet (279 m2) of floor area above the first story shall not be of less than one-hour fire-resistance-rated construction throughout. In Group R3.1 occupancies housing a bedridden client, the client sleeping room shall not be located above or below the first story.*

Exception: *Clients who become bedridden as a result of a temporary illness as defined in Health and Safety Code Sections 1566.45, 1568.0832 and 1569.72. A temporary illness is an illness, which persists for 14 days or less. A bedridden client may be retained in excess of the 14 days upon approval by the Department of Social Services and may continue to be housed on any story in a Group R-3.1 occupancy classified as a licensed residential facility. Every licensee admitting or retaining a bedridden resident shall, within 48 hours of the resident's admission or retention in the facility, notify the local fire authority with jurisdiction of the estimated length of time the resident will retain his or her bedridden status in the facility.*

***~~425.3.3~~435.3.3* Limitations seven or more clients.** *Group R-4 occupancies where nonambulatory clients are housed above the first story and there is more than 3,000 square feet (279 m2) of floor area above the first story or housing more than 16 clients above the first story shall be constructed of not less than one-hour fire-resistance-rated construction throughout.*

***~~425.3.4~~435.3.4* Nonambulatory elderly clients.** *Group R-4 occupancies housing nonambulatory elderly clients shall be of not less than one-hour fire-resistance-rated construction throughout.*

***~~425.4~~435.4* Type of construction provisions.**

~~425.4.1~~435.4.1 *Group R-2.1, occupancies are not permitted in nonfire-resistance-rated construction, see Health and Safety Code Section 13131.5.*

~~425.5~~435.5 Fire-resistance-rated construction provisions.

~~425.5.1~~435.5.1 Smoke barriers required. *Group R-2.1 and R-4 occupancies licensed as a Residential Care Facility (RCF) with individual floor areas over 6,000 square feet (557 m2) per floor, shall be provided with smoke barriers, constructed in accordance with Section 710. Group R-2.1 occupancies housing bedridden clients shall be provided with smoke barriers constructed in accordance with Section 710 regardless of the number of clients. When smoke barriers are required, the area within a smoke compartment shall not exceed 22,500 square feet (2090 m2) nor shall its travel distance exceed 200 feet (60 960 mm). Such smoke barriers shall divide the floor as equally as possible.*

~~425.5.2~~435.5.2 Smoke partitions. *Group R-2.1 occupancies where smoke partitions are required, framing shall be covered with noncombustible materials having an approved thermal barrier with an index of not less than 15 in accordance with FM **4**880, UL 1040, NFPA 286 or UL 1715.*

~~425.5.3~~435.5.3 Independent egress. *At least two means of egress shall be provided from each smoke compartment created by smoke barriers. Means of egress may pass through adjacent compartments provided it does not return through the smoke compartment from which means of egress originated.*

~~425.6~~435.6 Interior finish provisions.

~~425.6.1~~435.6.1 Interior wall and ceiling finish. *Group R-3.1 occupancies housing a bedridden client shall comply with interior wall and ceiling finish requirements specified for Group I-2 occupancies in Table 803.9.*

~~425.6.2~~435.6.2 Safety padding. *Padding material used on walls, floors and ceilings in Group I and R-2.1 occupancies shall be of an approved type tested in accordance with the procedures established by State Fire Marshal Standard 12-8-100, Room Fire Test for Wall and Ceiling Materials, California Code of Regulations, Title 24, Part 12.*

~~425.7~~435.7 Fire protection system provisions.

~~425.7.1~~435.7.1 Automatic sprinkler systems in Group R-2.1, R-3.1 and R-4 occupancies. *An automatic sprinkler system shall be installed where required in Section 903.*

~~425.7.2~~435.7.2 Fire alarm systems in Group R-2.1 and R-4 occupancies. *An approved fire alarm system shall be installed where required in Section 907.*

~~425.7.3~~435.7.3 Smoke alarms in Groups R-2.1, R-3.1 and R-4 occupancies. *Smoke alarms shall be installed where required in Section 907.2.11.2.*

~~425.7.4~~435.7.4 Hearing impaired. *See Section 907.5.2.3.5.*

~~425.8~~435.8 Means of egress provisions.

~~425.8.1~~435.8.1 General. *In addition to the general means of egress requirements of Chapter 10, this section shall apply to Group R-2.1, R-3.1 and R-4 occupancies.*

~~425.8.2~~435.8.2 Number of exits.

~~425.8.2.1~~435.8.2.1 *Group R-2.1, R-3.1 and R-4 occupancies shall have a minimum of two exits.*

Exception: *Ancillary use areas or occupancies shall have egress as required by Section 1021.*

~~425.8.3~~435.8.3 Egress arrangements.

~~425.8.3.1~~435.8.3.1 *Egress through adjoining dwelling units shall not be permitted.*

***~~425.8.3.2~~435.8.3.2* Group R-3.1 occupancies housing nonambulatory clients.** *In a Group R-3.1 occupancy, bedrooms used by nonambulatory clients shall have access to at least one of the required exits which shall conform to one of the following:*

1. Egress through a hallway or area into a bedroom in the immediate area which has an exit directly to the exterior and the corridor/hallway is constructed consistent with the dwelling unit interior walls. The hallway shall be separated from common areas by a solid wood door not less than 1 3/8 inch (35 mm) in thickness, maintained self-closing or shall be automatic closing by actuation of a smoke detector installed in accordance with Section 716.5.9.
2. Egress through a hallway which has an exit directly to the exterior. The hallway shall be separated from the rest of the house by a wall constructed consistent with the dwelling unit interior walls and opening protected by a solid wood door not less than 1 3/8 inch (35 mm) in thickness, maintained self-closing or shall be automatic closing by actuation of a smoke detector installed in accordance with Section 716.5.9.
3. Direct exit from the bedroom to the exterior shall be of a size as to permit the installation of a door not less than 3 feet (914 mm) in width and not less than 6 feet 8 inches (2032 mm) in height. When installed, doors shall be capable of opening at least 90 degrees and shall be so mounted that the clear width of the exit way is not less than 32 inches (813 mm).
4. Egress through an adjoining bedroom which exits to the exterior.

***~~425.8.3.3~~435.8.3.3* Group R-3.1 occupancies housing only one bedridden client.** *In Group R-3.1 occupancies housing a bedridden client and not provided with an approved automatic sprinkler system, all of the following shall apply:*

1. In Group R-3.1 occupancies housing a bedridden client, a direct exit to the exterior of the residence shall be provided from the client sleeping room.
2. Doors to a bedridden client's sleeping room shall be of a self-closing, positive latching 1-3/8 inch solid wood door. Such doors shall be provided with a gasket so installed as to provide a seal where the door meets the jam on both sides and across the top. Doors shall be maintained selfclosing or shall be automatic closing by actuation of a smoke alarm in accordance with Section 716.5.9.
3. Group R-3.1 occupancies housing a bedridden client, shall not have a night latch, dead bolt, security chain or any similar locking device installed on any interior door leading from a bedridden client's sleeping room to any interior area such as a corridor, hallway and or general use areas of the residence in accordance with Chapter 10.
4. The exterior exit door to a bedridden client's sleeping room shall be operable from both the interior and exterior of the residence.
5. Every required exit doorway from a bedridden client sleeping room shall be of a size as to permit the installation of a door not less than 3 feet (914 mm) in width and not less than 6 feet 8 inches (2032 mm) in height. When installed in exit doorways, exit doors shall be capable of opening at least 90 degrees and shall be so mounted that the clear width of the exit way is not less than 32 inches (813 mm).
***Note:** A sliding glass door can be used as an exterior exit doorway as long as it is operable from the inside and outside and the clear width of the exit way is not less than 32 inches (813 mm).*

***~~425.8.3.4~~435.8.3.4* Intervening rooms.** *A means of exit shall not pass through more than one intervening room. A means of egress shall not pass through kitchens, storerooms, closets, garages or spaces used for similar purposes.*

***Exception:** Kitchens which do not form separate rooms by construction.*

***~~425.8.4~~435.8.4* Corridors.**

~~425.8.4.1~~435.8.4.1 *Unless specified by Section ~~425.8.4~~435.8.4, corridors serving Group R-2.1 and Group R-4 occupancies shall comply with Section 1018.1.*

In Group R-2.1 occupancies provided with fire sprinklers throughout and which are required to have rated corridors, door closers need not be installed on doors to client sleeping rooms.

~~425.8.4.3~~435.8.4.3 *In a Group R-2.1 and Group R-4 occupancies having smoke barriers, cross-corridor doors in corridors 6 feet (1829 mm) or less in width shall have, as a minimum, a door 36 inches (914 mm) in width.*

***~~425.8.5~~435.8.5* Changes in level.** *In Group R-3.1 occupancies housing nonambulatory clients interior changes in level up to 0.25 inch (6 mm) may be vertical and without edge treatment. Changes in level between 0.25 inch (6 mm) and 0.5*

inch (12.7 mm) shall be beveled with a slope no greater than 1 unit vertical in 2 units horizontal (50 percent slope). Changes in level greater than 0.5 inch (12.7 mm) shall be accomplished by means of a ramp.

~~425.8.6~~435.8.6 Stairways.

~~425.8.6.1~~435.8.6.1 *Group R-2.1 and Group R-4 occupancies housing more than six nonambulatory clients above the first floor shall be provided with two vertical exit enclosures. Stairway enclosures shall be in compliance with Section 1022. Exceptions to Section 1022 shall not apply in facilities licensed as a 24-hour care facility*

~~425.8.6.2~~435.8.6.2 *Group R-3.1 occupancies may continue to use existing stairways (except for winding and spiral stairways which are not permitted as a required means of egress) provided the stairs have a maximum rise of 8 inches (203 mm) with a minimum run of 9 inches (229 mm). The minimum stairway width may be 30 inches (762 mm).*

~~425.8.7.1~~435.8.7.1 Doors within floor separations. *Doors within such floor separations shall be tight fitting solid wood at least 13/8 inches (35 mm) in thickness. Door glazing shall not exceed 1296 square inches (32 918 mm2) with no dimension greater than 54 inches (1372 mm). Such doors shall be positive latching, smoke gasketed and shall be automatic-closing by smoke detection.*

~~425.8.8~~435.8.8 Fences and gates. *Grounds of a Residential Care Facility for the Elderly serving Alzheimer clients may be fenced and gates therein equipped with locks, provided safe dispersal areas are located not less than 50 feet (15 240 mm) from the buildings. Dispersal areas shall be sized to provide an area of not less than 3 square feet (0.28m2) per occupant. Gates shall not be installed across corridors or passageways leading to such dispersal areas unless they comply with egress requirements.*

~~425.8.9~~435.8.9 Basement exits. *One exit is required to grade level when the basement is accessible to clients.*

~~425.8.10~~435.8.10 Delayed egress locks. *See Section ~~1008.1.9.7~~1010.1.9.7.*

~~425.9~~435.9 Request for alternate means of protection for facilities housing bedridden clients. *Request for alternate means of protection shall apply to Sections ~~425~~435 through ~~425.9~~435.9. Request for approval to use an alternative material, assembly or materials, equipment, method of construction, method of installation of equipment, or means of protection shall be made in writing to the local fire authority having jurisdiction by the facility, client or the client's authorized representative. Sufficient evidence shall be submitted to substantiate the need for an alternate means of protection. The facility, client or the client's representative or the local fire authority having jurisdiction may request a written opinion from the State Fire Marshal concerning the interpretation of the regulations promulgated by the State Fire Marshal for a particular factual dispute. The State Fire Marshal shall issue the written opinion within 45 days following the request. Approval of a request for use of an alternative material, assembly or materials, equipment, method of construction, method of installation of equipment, or means of protection made pursuant to this section shall be limited to Group R, 3.1 occupancies housing a bedridden client. Approvals made by the local fire authority having jurisdiction and the written opinion by the State Fire Marshal shall be applicable only to the requesting facility and shall not be construed as establishing any precedent for any future request by that facility or any other facility.*

~~425.10~~435.10 Temporarily bedridden clients. *Clients who become temporarily bedridden as defined in Health and Safety Code Section 1569.72, as enforced by the Department of Social Services, may continue to be housed on any story in Group R-2.1, R-3.1 or R-4 occupancies classified as Residential Care Facilities for the Elderly (RCFE). Every Residential Care Facility for the Elderly (RCFE) admitting or retaining a bedridden resident shall, within 48 hours of the resident's admission or retention in the facility, notify the local fire authority with jurisdiction of the estimated length of time the resident will retain his or her bedridden status in the facility.*

SECTION ~~426~~436
GROUP I-4 [SFM]

~~426.1~~436.1 Group I-4 special provisions. *Rooms classified as Group I-4 shall not be located above or below the first story.*

Exceptions:
1. Basements or stories having floor levels located within 4 feet (1219 mm), measured vertically, from adjacent ground level at the level of exit discharge, provided the basement or story has exterior exit doors at that level.

2. In buildings equipped with an automatic sprinkler system throughout, rooms used for kindergarten, first- and second-grade children or for day-care purposes may be located on the second story, provided there are at least two exterior exit doors, or other egress systems complying with Section 1017 with two exits, for the exclusive use of such occupants. Egress systems for the exclusive use of such occupants shall be maintained until exit discharge at grade is attained.
3. Group I-4 child-care facilities may be located above the first story in buildings of Type I construction and in Types II-A and Ill-A construction, subject to the limitation of Section 503 when:
3.1. Group I-4 childcare facilities with children under the age of seven or containing more than 12 children per story shall not be located above the fourth floor; and
3.2. The entire story in which the Group I-4 child-care facility is located is equipped with an approved manual fire alarm and smoke-detection system. (See the Fire Code.) Actuation of an initiating device shall sound an audible alarm throughout the entire story. When a building fire alarm system is required by other provisions of this code or the Fire Code, the alarm system shall be connected to the building alarm system. An approved alarm signal shall sound at an approved location in the Group I-4 child-care facility to indicate a fire alarm or sprinkler flow condition in other portions of the building; and
3.3 Group I-4 child-care facilities, if more than 1,000 square feet (92.9 m2) in area, is divided into at least two compartments of approximately the same size by a smoke barrier with door openings protected by smoke- and draft-control assemblies having a fire-protection rating of not less than 20 minutes. Smoke barriers shall have a fire-resistive rating of not less than one hour. In addition to the requirements of Section 508.3.3, occupancy separations between Group I-4 child-care and other occupancies shall be constructed as smoke barriers. Door openings in the smoke barrier shall be tightfittinq, with gaskets installed as required by Section 710, and shall be automatic closing by actuation of the automatic sprinklers, fire alarm or smoke-detection system.
3.4. Each compartment formed by the smoke barrier has not less than two exits or exit access doors, one of which is permitted to pass through the adjoining compartment; and
3.5 Where two or more exits or exit access are required at least one shall not share a common path of travel.
3.6. The building is equipped with an automatic sprinkler system throughout.

SECTION 4~~27~~437
Reserved

SECTION 4~~28~~438
Reserved

SECTION 4~~29~~439
ROAD TUNNELS, BRIDGES, AND OTHER LIMITED ACCESS HIGHWAYS [SFM]

~~429.1~~439.1 ***General.*** *Road tunnels, bridges, and other limited access highways that are state owned shall comply with NFPA 502.*

SECTION 4~~30~~440
HORSE RACING STABLES [SFM]

~~430.1~~440.1 *For automatic sprinkler and fire alarm system requirements applying to each building, barn or structure which is used by an association regulated by the California Horse Racing Board for the stabling of horses or human habitation, and the stable area grounds, including any additional location where any excess horses are stabled see Title 4, Division 4, Article 17, Section 1927.*

SECTION 4~~31~~441
PET KENNELS [SFM]

~~431.1~~441.1 *These regulations shall apply to every building or fire area in which a pet dealer, as defined in Health and Safety Code Section 122125, maintains a kennel.*

~~431.2~~441.2 ***Automatic sprinkler system.*** *An approved automatic sprinkler system complying with California Fire Code Section 903 shall be installed.*

Exception: *Where a fire alarm system that is connected to a central reporting station that alerts the local fire department in case of fire.*

SECTION ~~432~~442
COMBUSTION ENGINES AND GAS TURBINES[SFM]

~~432.1~~442.1 General. *The installation of combustion engines and gas turbines shall be in accordance with NFPA-37 and this chapter.*

~~432.2~~442.2 Separation.

~~432.2.1~~442.2.1 Construction. *Every room in which is installed a combustion engine or gas turbine shall be separated from the remainder of the building by not less than a one-hour fire barrier.*

~~432.2.2~~442.2.2 Exterior openings. *When doors, windows or louvered openings are located below openings in another story or less than 10 feet (3048 mm) from doors, windows or louvered openings of the same building, they shall be protected by a fire assembly having a 3/4-hour rating. Such fire assemblies shall be fixed, automatic or self-closing.*

~~432.2.2.1~~442.2.2.1 Interior openings. *In other than buildings housing Group I and R-2.1 occupancies, interior openings shall be allowed in buildings protected by an automatic fire sprinkler system throughout.*

~~432.2.3~~442.2.3 Location. *Combustion engines and gas turbines used for emergency power shall not be located in a room or area used for any other purpose other than equipment and controls related to the generation and distribution of emergency power.*

~~432.2.4~~442.2.4 Special hazards. *The handling and use of flammable or combustible liquids shall comply with the California Fire Code.*

SECTION ~~435~~445
RESERVED

SECTION ~~436~~446
WINERY CAVES [SFM]

~~436.1~~446.1 Scope. *The use of subterranean space for winery facilities in natural or manmade caves shall be in accordance with this section.*

~~436.2~~446.2 Definitions.

~~436.3~~446.3 General. *For definitions of ASSEMBLY, FIRE APPLIANCE and NONCOMBUSTIBLE, see Chapter 2.*

~~436.4~~446.4 Limited application. *For the purpose of Section ~~436~~446, certain terms are defined as follows:*

TYPE 1 WINERY CAVES *are natural or manmade caves used solely for storage and/or processing of wine at a winery facility. Type 1 winery caves are not accessible to the public.*

TYPE 2 WINERY CAVES *are natural or manmade caves used for the storage and/or processing of wine at a winery facility. Type 2 winery caves are accessible to the public on guided tours only.*

TYPE 3 WINERY CAVES *are natural or manmade caves used for the storage and/or processing of wine at a winery facility. Type 3 winery caves are accessible to the public on guided tours and contain assembly use areas.*

~~436.5~~446.5 Permits. *For permits to operate Type 2 and 3 winery caves, see Section 105.*

~~436.6~~446.6 Fire apparatus access roads. *Fire apparatus access roads shall be constructed and maintained in accordance with the California Fire Code, Section 503.*

~~436.7~~446.7 Construction requirements.

***~~436.7.1~~446.7.1* Allowable area.** *The area of winery caves shall not be limited if constructed entirely of noncombustible materials. Winery caves constructed with combustible materials shall be limited in area so that no point is more than 150 feet (45 720 mm) from an exit.*

***~~436.7.2~~446.7.2* Interior construction.** *The walls and ceilings of winery caves shall not contain hidden or concealed spaces.*

***~~436.8~~446.8* General requirements.**

***~~436.8.1~~446.8.1* Public tours.** *Tours for the public shall be continuously guided by staff knowledgeable in the location of exits and the use of emergency notification devices.*

***~~436.8.2~~446.8.2* Standby personnel.** *Per the California Fire Code, Section 2404.20, when, in the opinion of the fire chief, it is essential for public safety, the owner, agent or lessee shall employ one or more qualified persons, as required and approved by the chief, to be on duty at such place. Such individuals shall be in uniform or otherwise easily identifiable. Standby personnel shall be subject to the fire chief's orders at all times when so employed and shall remain on duty during the times such places are open to the public or when such activity is being conducted. Before the start of any activity requiring standby personnel, such individuals shall: 1. Inspect the required fire appliances to ensure they are in the proper place and in good working order. 2. Inspect all exits to verify accessibility and proper operation. While on duty, such individuals shall not be required or permitted to perform any duties other than those specified by the fire chief.*

***~~436.8.3~~446.8.3* Open-flame devices.** *The use of candles and other open-flame devices shall be in accordance with California Fire Code Section 308.1.7.*

***~~436.9~~446.9* Portable fire extinguishers and other fire appliances.** *Portable fire extinguishers shall be located to be readily accessible. Its type, location and spacing throughout the facility shall be in accordance with the provisions of Title 19, Chapter 3 and California Fire Code Section 906.1. Other fire appliances shall be maintained at the site as required by the fire chief.*

***~~436.10~~446.10* Fire alarm systems.** *An approved manual fire alarm system conforming with the provisions of the California Fire Code, Section 907.2.1 shall be provided in all Type 3 winery caves.*

***~~436.11~~446.11* Exits.**

***~~436.11.1~~446.11.1* Distribution.** *Exits shall be located remotely from each other and arranged to minimize any possibility that more than one may be blocked off by any one fire or other emergency condition.*

***~~436.11.2~~446.11.2* Number.** *Winery caves shall be provided with a minimum of two exits. Assembly areas of Type 3 winery caves shall be provided with exits as required by the California Building Code for Group A Occupancies.*

***~~436.12~~446.12* Exit illumination.**

***~~436.12.1~~446.12.1* General.** *Exits shall be illuminated to a minimum intensity of not less than 1 foot-candle (10.76 lx) at floor level whenever the winery cave is occupied. Fixtures providing exit illumination shall be supplied from a dedicated circuit or source of power used only for exit illumination.*

***~~436.12.2~~446.12.2* Separate sources of power.** *The power supply for exit illumination may be provided by the premises' wiring system. In the event of its failure, illumination shall be automatically provided from an emergency system in Types 2 and 3 winery caves. Emergency systems shall be supplied from storage batteries or an on-site generator set, and the system shall be installed in accordance with the requirements of the California Electrical Code.*

***~~436.13~~446.13* Exit signs.** *Exit signs shall be installed at required exits and where otherwise necessary to clearly indicate the exits from assembly areas in Type 3 winery caves.*

***~~436.14~~446.14* Maximum occupant load.** *Occupant load requirements in the assembly areas of Type 3 winery caves shall be in accordance with Section 1004.*

***~~436.15~~446.15* Seating arrangements.** *Seating arrangements in the assembly areas of Type 3 winery caves shall be in accordance with California Fire Code, Section 1028.9.*

SECTION ~~437~~447
RESERVED

SECTION ~~438~~448
RESERVED

SECTION ~~439~~449
PUBLIC LIBRARIES [SL AND SFM]

Public libraries funded from the California Library Construction and Renovation Act of 1988.

***~~439.1~~449.1* Automatic sprinkler system.** *Automatic sprinkler systems shall be installed in: 1. New facilities, including additions; 2. Existing facilities to which a project adds the lesser of 5,000 square feet (465 m2) or 10 percent of the size of the existing facility, if the existing facility does not already have an automatic sprinkler system.*

***~~439.2~~449.2* System monitoring requirement.** *All fire protection systems shall be monitored by a fire alarm supervising station in accordance with the NFPA 72.*

***~~439.3~~449.3* Book return slots.** *Any interior book return with a slot piercing the exterior wall shall have a separate sprinkler head and be enclosed in fire-rated construction.*

***~~439.4~~449.4* Automatic sprinkler and extinguishing systems.** *For public libraries constructed with funds awarded under the California Reading and Literacy Improvement and Public Library Construction and Renovation Bond Act of 2000:*
1. Fire sprinkler system requirement. *All libraries funded for new construction, including additions, shall have automatic fire sprinkler systems installed.*
2. Fire sprinkler system requirement for renovations of existing facilities. *If there is no automatic fire sprinkler system in the existing facility, grant recipients shall be required to install a fire sprinkler system throughout the existing facility.*
3. Fire sprinkler system types. *The grant recipient may choose, on approval by the local fire authority, from wet-pipe, dry-pipe or pre-action systems, utilizing listed standard, early suppression fast response (ESFR), or on/off type sprinkler heads.*
4. Book return rooms and slots. *Book return rooms with slots in exterior walls shall have an automatic sprinkler head and be of approved fire-resistive construction. Book return slots and book drops shall have an additional automatic sprinkler head when shielded from the room sprinkler head.*
5. System monitoring requirement. *All fire protection systems shall be monitored by a fire alarm supervising station in accordance with the National Fire Protection Association (NFPA) 72.*
6. Alternate fire-extinguishing systems for specialized areas. *When approved by the fire authority having jurisdiction, other types of approved automatic fire-extinguishing systems may be utilized as an alternate to sprinklers in the following areas: rare book rooms, central computer rooms and telecommunication rooms.*
7. Automatic sprinkler system plan requirement. *Fire sprinkler system drawings shall use the furniture plan as a background for coordination with furniture and book stack location and height.*

SECTION ~~440~~450
GROUP C [SFM]

***~~440.1~~450.1* Group C Occupancies defined.**

***~~440.1.1~~450.1.1* Organized camps.** *For the purposes of these regulations, Group C Occupancies shall mean "organized camps" as defined in Section 18897, Health and Safety Code.*

***~~440.1.1.1~~450.1.1.1* Description.** *An organized camp is a site with programs and facilities established for the primary purpose of providing an outdoor group living experience with social, spiritual, educational or recreational objectives, for five days or more during one or more seasons of the year. The term "organized camp" does not include a motel, tourist camp, trailer park, resort, hunting camp, auto court, labor camp, penal or correctional camp, child-care institution or*

home-finding agency nor does it include any charitable or recreational organization which complies with the rules and regulations for recreational trailer parks provided for by Section 18301 (b), Health and Safety Code.

~~440.1.2~~450.1.2 Tents and tent structures. *For the purpose of this chapter, a tent or tent structure is defined as any shelter of which 25 percent or more of the walls or roof, or both, are constructed of, or covered or protected by, a canvas or any other fabric material.*

~~440.2~~450.2 Purpose and intent. *The provisions of this section are established to provide fire and life safety in organized camps, but at the same time preserve the basic concept of outdoor living. It is the intent of this section that organized camps shall be considered as a separate and distinct occupancy.*

~~440.3~~450.3 Basic building and structures.

~~440.3.1~~450.3.1 Building classification. *Every building or structure shall be classified into the occupancy group they most nearly resemble and be constructed in accordance with appropriate occupancy requirements specified in this part.*

Exceptions:
1. Tents, tent structures, and buildings and structures that do not exceed 25 feet (7620 mm) in any lateral dimension and where such building or structure is not more than one story.
2. For fire safety, buildings or structures on the premises of an organized camp which are used for sleeping purposes, regardless of their similarity to other occupancy groups, shall conform to the provisions of Sections ~~440.4~~450.4, ~~440.5~~450.5, ~~440.6~~450.6and ~~440.7~~450.7.
3. For fire safety, buildings and structures which are not used for sleeping purposes shall conform to the provisions of Section ~~440.7~~450.7,which shall supersede any similar provisions contained in this part.

~~440.3.2~~450.3.2 Occupant load. *The living shelter whether a building, structure, tent and tent structure, or cabin, shall provide a minimum of 30 square feet (2.8 m2) of superficial floor area per person for single-tier bed units, and 20 square feet (1.9 m2) of superficial floor area per person for two-tier bed units. More than two tiers per bed unit are prohibited. There shall be at least 3 feet (914 mm) of lateral distance between beds.*

Exception: *Intermittent short-term organized camps are not required to provide shelter facilities but, if provided, they shall comply with this section.*

~~440.4~~450.4 General.

~~440.4.1~~450.4.1 Buildings intended for sleeping. *Buildings and structures used or intended for sleeping purposes which do not exceed any one of the limitations set forth below shall conform to the provisions of Sections ~~440.5~~450.5and ~~440.7~~450.7.*

1. One story in height
2. Twenty-five feet (7620 mm) in any lateral dimension

Exception: *This provision shall not apply to buildings or structures conforming to construction provisions of this section in effect prior to January 1, 1985.*

3. Maximum housing of 12 persons

~~440.4.2~~450.4.2 Limitations. *Buildings and structures used or intended for sleeping purposes, including those so used in whole or in part by staff personnel, and which exceed any one of the limitations set forth in Section ~~440.4.1~~450.4.1, shall conform to the provisions of Sections ~~440.5~~450.5 and ~~440.7~~450.7.*

Exception: *Buildings or structures used exclusively for living and sleeping purposes by resident custodial or caretaker personnel only may be constructed in accordance with the provisions of these regulations for a Group R, 3 Occupancy.*

~~440.5~~450.5 Special buildings, tents and tent structures.

~~440.5.1~~450.5.1 Special buildings. *In addition to the provisions of Section ~~440.7~~450.7, special buildings conforming to the limitations specified in Section ~~440.4.1~~450.4.1 shall conform to the following:*

1. The flame-spread end-point rating of all interior finish materials shall not exceed 200.
2. Every room or area housing more than eight persons shall be provided with not less than two approved exits, each of which shall be direct to the exterior and shall not be less than 32 inches (813 mm) in clear width and 6 feet 8 inches (2032 mm) in height. Rooms or areas housing eight or less persons shall be provided with at least one such exit direct to the exterior.
3. Every exit door shall be openable from the inside without the use of any key, special knowledge or effort.
4. Exit doors need not be hung to swing in the direction of exit travel. Where exit doors are hung to swing in the direction of exit travel, a landing conforming to the provisions of Section 1008.1.5 shall be provided. 5. When the distance (measured vertically) between the ground level and the floor level exceeds 8 inches (203 mm), a stairway from each exit shall be provided. Steps shall have a rise of not more than 8 inches (203 mm) and a run of not less than 9 inches (229 mm). Such stairway shall be at least as wide as the door it serves.

***Exception:** In lieu of a stairway, a ramp having a slope of not more than 1 foot (305 mm) of rise for each 8 feet (2438 mm) of run may be provided.*

6. When the floor level at any door opening of any building or structure is more than 30 inches (762 mm) above the adjacent ground level, handrails or guardrails shall be provided on the landing, balcony or porch, and on every stairway or ramp to ground level.
7. Buildings and structures or groups of buildings and structures shall be separated from each other by not less than 10 feet (3048 mm). This section shall not apply to existing buildings and structures of existing Group C Occupancies.

***~~440.5.2~~450.5.2 Tents and tent structures.** In addition to the provisions of Section ~~440.7~~450.7, tents and tent structures, or groups thereof, shall conform to the provisions of Section ~~440.5~~450.5, except as follows:*

1. Regardless of any other provisions of this section, heating of tents and tent structures shall be prohibited unless written permission is obtained from the fire chief.
2. All canvas or other fabric material shall be treated and maintained in a flame-retardant condition.

Exceptions:
1. Tents in existence prior to January 1, 1979, provided the following conditions are met:
1.1. Tents shall not exceed 80 square feet (7.4 m2) in area.
1.2. No electrical devices, except flashlights, are installed or used in the tents.
1.3. Tents are not located closer than 30 feet (9144 mm) to any open fire.
1.4. Smoking is prohibited in the tents.
1.5. All other applicable provisions of this article are met.

2. Canvas or materials used exclusively to protect windows and similar openings in walls.
3. Canvas or materials used as a windbreak enclosure of not more than three sides and open to the sky.

***Note:** It is not the intent of Section ~~440.5.2~~450.5.2 that strict adherence to the width and height requirements of exit openings be enforced for exits from tents.*

***~~440.6~~450.6 Building and structures for sleeping.** Buildings and structures, or portions thereof, used or intended for sleeping purposes and which exceed the height, area or capacity limitations specified in Section ~~440.4.1~~450.4.1 shall conform to the provisions of this section.*

***~~440.6.1~~450.6.1 Area, height and type of construction.** Buildings and structures, or portions thereof, shall not exceed the limits of area, height and type of construction specified in these regulations for a Group R-2.1 occupancy. Such buildings and structures shall not be of less than one-hour fire-resistive construction throughout.*

***~~440.6.2~~450.6.2 Location on property.** The fire-resistive protection of exterior walls and openings, as determined by location on property, shall be in accordance with the provisions of these regulations for a Group R-2.1 occupancy.*

***~~440.6.3~~450.6.3 Exits.** Stairs, exits and smoke-proof enclosures shall be provided in accordance with the provisions of Chapter 10.*

***~~440.6.4~~450.6.4 Enclosure of vertical openings.** Exits shall be enclosed as specified in Chapter 10. Elevator shafts, vent shafts and other vertical openings shall be enclosed and enclosures shall be as set forth in Chapter 7.*

***~~440.6.5~~450.6.5* Fire-extinguishing systems.** *Automatic fire-extinguishing systems, standpipes, and basement pipe inlets shall be installed when and as specified in Chapter 9 for buildings, based on the occupancy they most nearly resemble.*

***~~440.6.6~~450.6.6* Automatic fire alarm system.** *See Section 907.*

***~~440.7~~450.7* Special requirements.** *The provisions of this section shall apply to the premises and to all buildings and structures of all organized camps.*

***~~440.7.1~~450.7.1* Electrical.** *The installation of all electrical wiring shall conform to the applicable provisions of the California Electrical Code.*

***~~440.7.2~~450.7.2* Heating equipment.** *Heating equipment, and the installation thereof, shall conform to the provisions of the California Mechanical Code.*

***~~440.7.3~~450.7.3* Motion picture booths.** *Motion picture machine booths shall conform to the requirements of Section 409.*

***~~440.7.4~~450.7.4* Interior finish.** *Interior finish shall conform to the requirements of Chapter 8, except as permitted in Section ~~440.5.1~~450.5.1, Item 1.*

***~~440.7.5~~450.7.5* Heater room openings.** *All exterior openings in rooms containing central heating equipment, low-pressure boilers or water-heating boilers used as part of the heating system, if located below openings in another story, or if less than 10 feet (3048 mm) from other doors or windows of the same building, shall be protected by a fire assembly having a three-fourths-hour fire-resistive rating. Such fire assemblies shall be fixed, automatic or self-closing.*

Exception: *The requirement for three-fourths-hour fire assembly protection of openings may be deleted if the entire room is protected by an automatic sprinkler system conforming to the provisions of Section 903.*

***~~440.7.6~~450.7.6* Heating rooms.** *Every room containing central- heating equipment, low-pressure boiler or water-heating boiler used as part of the heating system shall be separated from the rest of the building by a one-hour fire-resistive fire barrier with all openings protected as set forth in Section 707.6.*

Exceptions:
1. Boilers or central heating plants where the largest piece of fuel equipment does not exceed 400,000 Btu per hour (135 kW) input.
2. When any such opening is protected by a pair of fire doors, the inactive leaf shall be normally secured in the closed position and shall be openable only by use of a tool. An astragal shall be provided and the active leaf shall be self-closing.

***~~440.7.7~~450.7.7* Exits.** *For purposes of determining occupant load for exit requirements, see Section ~~440.3.2~~450.3.2.*

***~~440.7.8~~450.7.8* Liquefied petroleum gas.** *The construction and installation of all tanks, cylinders, equipment and systems used or intended for use in conjunction with any liquefied petroleum gas shall conform to the provisions of the California Mechanical Code and the California Fire Code.*

***~~440.7.9~~450.7.9* Air-conditioning and ventilation systems.** *Heating units used as an integral part of an air-conditioning and ventilation system shall be installed in accordance with Sections ~~440.7.2~~450.7.2, ~~440.7.3~~450.7.3 and ~~440.7.6~~450.7.6.*

***~~440.8~~450.8* Camp fire alarm.** *Every organized camp shall provide and maintain a device or devices suitable for sounding a fire alarm. Such device or devices may be of any type acceptable to the enforcing agency provided they are distinctive in tone from all other signaling devices or systems and shall be audible throughout the camp premises. When an automatic fire alarm system is provided, as required by Section ~~440.6.6~~450.6.6, all signaling devices required by this section shall be of the same type as that used in the automatic system.*

SECTION ~~441~~451
RESERVED

SECTION ~~442~~452

SCHOOL FACILITIES FOR KINDERGARTEN THROUGH 12th GRADE AND GROUP E DAY CARE.

~~442.1~~452.1 General Provisions*. School facilities for Kindergarten through 12th grade and Group E day care shall comply with the provisions of this section and other applicable provisions of this code including requirements for specific occupancies.*

~~442.1.1~~452.1.1 Location on property. *All buildings housing Group E occupancies shall front directly on a public street or an exit discharge not less than 20 feet (6096 mm) in width. The exit discharge to the public street shall be a minimum 20-foot-wide (6096 mm) right-of-way, unobstructed and maintained only as access to the public street. At least one required exit shall be located on the public street or on the exit discharge*

~~442.1.2~~452.1.2 Separate means of egress systems required. *Every room with an occupant load of 300 or more shall have one of its exits or exit-access doorways lead directly into a separate means of egress system that consists of not less than two paths of exit travel which are separated by a smoke barrier in accordance with Section 709 in such a manner to provide an atmospheric separation that precludes contamination of both paths of exit travel by the same fire. Not more than two required exits or exit-access doorways shall enter into the same means of egress system.*

~~442.1.3~~452.1.3 Fences and gates. *School grounds may be fenced and gates therein may be equipped with locks, provided that safe dispersal areas based on 3 square feet (0.28 m^2) per occupant are located between the school and the fence. Such required safe dispersal areas shall not be located less than 50 feet (15 240 mm) from school buildings.*

Every public and private school shall conform with Section 32020 of the Education Code which states:

The governing board of every public school district, and the governing authority of every private school, which maintains any building used for the instruction or housing of school pupils on land entirely enclosed (except for building walls) by fences of walls, shall, through cooperation with the local law enforcement and fire-protection agencies having jurisdiction of the area, make provision for the erection of gates in such fences or walls. The gates shall be of sufficient size to permit the entrance of the ambulances, police equipment and fire-fighting apparatus used by the law enforcement and fire-protection agencies. There shall be no less than one such access gate and there shall be as many such gates as needed to assure access to all major buildings and ground areas. If such gates are to be equipped with locks, the locking devices shall be designed to permit ready entrance by the use of the chain or bolt-cutting devices with which the local law enforcement and fire-protection agencies may be equipped.

~~442.1.4~~452.1.4 Special provisions. *Rooms used by kindergarten, first-, or second-grade pupils, and Group E day care, shall not be located above or below the first story.*

Exceptions:
1. Kindergarten, first-, or second-grade pupils, or day care may be located in basements or stories having floor levels located within 4 feet (1219 mm), measured vertically, from the adjacent ground level at the level of exit discharge, provided the basement or story has exterior exit doors at that level.
2. In buildings equipped with an automatic sprinkler system throughout, rooms used for kindergarten, first- and second-grade children or for day-care purposes may be located on the second story, provided there are at least two exterior exit doors, or other egress systems complying with Section 1018 with two exits, for the exclusive use of such occupants. Egress systems for the exclusive use of such occupants shall be maintained until exit discharge at grade is attained.
3. Group E day-care facilities may be located above the first story in buildings of Type I-A, Type I-B, Type II-A and III-A construction, subject to the limitation of Section 503 when:
3.1. Facilities with children under the age of seven or containing more than 12 children per story shall not be located above the fourth floor; and
3.2. The entire story in which the day-care facility is located is equipped with an approved manual fire alarm and smoke-detection system. Actuation of an initiating device shall sound an audible alarm throughout the entire story. When a building fire alarm system is required by other provisions of this code, the alarm system shall be interconnected and sound the day-care fire alarm system; and
3.3. The day-care facility, if more than 1,000 square feet (92.9 m2) in area, is divided into at least two compartments of approximately the same size by a smoke barrier in accordance with Section 709. In addition to the requirements of Section 508, occupancy separations between daycare and other occupancies shall be constructed as smoke barriers. Door openings in the smoke barrier shall be tight fitting, with gaskets installed as required by Section

716.5.3.1 and shall be automatic closing by actuation of the fire sprinklers, fire alarm or smoke detection system; and
3.4. Each compartment formed by the smoke barrier has not less than two exits or exit-access doors, one of which is permitted to pass through the adjoining compartment, and
3.5. At least one exit or exit-access door from the day-care facility shall be into a separate means of egress with not less than two paths of exit travel, which are separated in such a manner to provide an atmospheric separation.
3.6. The building is equipped with an automatic sprinkler system throughout.

***~~442.1.5~~452.1.5* Special hazards.** *School classrooms constructed after January 1, 1990, not equipped with automatic sprinkler systems, which have metal grilles or bars on all their windows and do not have at least two exit doors within 3 feet (914 mm) of each end of the classroom opening to the exterior of the building or to a common hallway used for evacuation purposes, shall have an inside release for the grilles or bars on at least one window farthest from the exit doors. The window or windows with the inside release shall be clearly marked as emergency exits.*

***~~442.1.6~~452.1.6* Class I, II or III-A flammable liquids.** *Class I, II or III-A flammable liquids shall not be placed, stored or used in Group E occupancies, except in approved quantities as necessary in laboratories and classrooms and for operation and maintenance as set forth in the California Fire Code.*

SECTION ~~443~~453
GROUP L [SFM]

***~~443.1~~453.1* Scope.** *The provisions of this section shall apply to buildings or structures, or portions thereof, containing one or more Group L laboratory suites as defined in Section ~~443.2~~453.2.*

***~~443.2~~453.2* Definitions.** *The following terms are defined in Chapter 2:*

LABORATORY SUITE.
LIQUID TIGHT FLOOR.

***~~443.3~~453.3* Laboratory suite requirements.**

~~443.3.1~~453.3.1 *The gross square footage of an individual laboratory suite shall not exceed 10,000 sq ft (929 m2).*

~~443.3.2~~453.3.2 *An individual laboratory suite shall not serve more than a single tenant.*

Exception: *A laboratory suite controlled by a single responsible party.*

***~~443.4~~453.4* Construction**

***~~443.4.1~~453.4.1* Separation of laboratory suites.**

~~443.4.1.1~~453.4.1.1 *Laboratory suites shall be separated from other occupancies in accordance with Table 508.4.*

~~443.4.1.2~~453.4.1.2 *Laboratory suites shall be separated from other laboratory suites by a fire barrier having a fire-resistance rating of not less than 1-hour.*

~~443.4.1.3~~453.4.1.3 *Laboratory suites shall be separated from control areas by a minimum 2-hour fire-resistance rating in accordance with Sections 707 and 711.*

Exception: *Laboratory suites shall be separated from control areas by a minimum 1-hour fire-resistance rating on floor levels below the 4th story.*

***~~443.4.1.4~~453.4.1.4* Horizontal separation.** *The floor construction of the laboratory suite and the construction supporting the floor of the laboratory suite shall have a minimum 2-hour fire-resistance rating in accordance with Section 711.*

Exceptions:

1. The floor construction of the laboratory suite and the construction supporting the floor of the laboratory suite are allowed to be 1-hour fire-resistance rated in buildings of Type IIA, IIIA and VA construction.
2. When an individual laboratory suite occupies more than one story, the intermediate floors contained within the suite shall comply with the requirements of Table 601.

~~443.4.2~~453.4.2 Structural design occupancy category.

~~443.4.2.1~~453.4.2.1 *Buildings containing Group L occupancies with an occupant load greater than 500 for colleges or adult education facilities, or other buildings with an occupant load greater than 5,000 shall be classified as Occupancy Category III in accordance with Chapters 16 and 16A.*

~~443.4.2.2~~453.4.2.2 *Other buildings containing Group L occupancies shall be classified as Occupancy Category II in accordance with Chapters 16 and 16A.*

~~443.4.3~~453.4.3 Fire barrier and fire-smoke barrier.

~~443.4.3.1~~453.4.3.1 Fire barrier. *A fire barrier having a fire resistance rating of not less than 2-hours shall divide any story containing more than one laboratory suite above the 4th story.*

~~443.4.3.1.1~~453.4.3.1.1 *Fire barriers shall be continuous from exterior wall to exterior wall,*

~~443.4.3.1.2~~453.4.3.1.2 *The fire barrier shall divide the floor so that the square footage on each side of the 2-hour fire barrier is not less than 30 percent of the total floor area, and*

~~443.4.3.1.3~~453.4.3.1.3 *The number of laboratory suites on each side of the 2-hour fire barrier shall not be less than 25 percent of the total number of laboratory suites on the floor.*

~~443.4.3.2~~453.4.3.2 Fire-smoke barrier. *Any story containing a Group L occupancy above the 10th story shall be subdivided by a fire-smoke barrier constructed as a fire barrier having a fire resistance rating of not less than 2-hours and shall also comply with the smoke barrier requirements of Section 709.*

The 2-hour fire- smoke barrier shall be in accordance with Sections ~~443.4.3~~453.4.3 through ~~443.4.3.2.3~~453.4.3.2.3.

~~443.4.3.2.1~~453.4.3.2.1 *A minimum of one door opening shall be provided in the 2-hour fire-smoke barrier for emergency access.*

~~443.4.3.2.2~~453.4.3.2.2 *Each side of the 2-hour fire- smoke barrier shall be designed as a separate smoke zone designed in accordance with Section 909.6.*

~~443.4.3.2.3~~453.4.3.2.3 *The area on each side of the 2-hour firesmoke barrier shall be served by a minimum of one exit enclosure in accordance with Section 1022.*

~~443.4.4~~453.4.4 Emergency response equipment area. *An area for emergency response equipment shall be provided on each floor in an approved location. The area shall be a minimum of 50 square feet (4.6 m2), accessed from outside the laboratory suite and identified with signage*

~~443.4.5~~453.4.5 Liquid tight floor. *All portions of the laboratory suite where hazardous materials may be present shall be provided with a liquid tight floor. Where the floor is designed to provide spill control or secondary containment the floor shall be designed in accordance with California Fire Code Section 5004.2.*

~~443.4.6~~453.4.6 Emergency power. *An emergency power system shall be provided in accordance with Chapter 27.*

~~443.4.6.1~~453.4.6.1 Required systems. *Emergency power shall be provided for all electrically operated equipment, systems and connected control circuits including:*

1. Mechanical ventilation systems. See section ~~443.4.7.2~~453.4.7.2. Emergency alarm and monitoring systems.
3. Temperature control systems required to prevent unsafe process excursions or chemical reactions.
4*. Treatment systems and scrubbers.*

5. Egress lighting.
6. Electrically operated systems required elsewhere in this code and the California Fire Code.

~~443.4.7~~453.4.7 Ventilation.

~~443.4.7.1~~453.4.7.1 Compatibility. *Incompatible materials shall not be conveyed in the same duct system. Combined products in mechanical exhaust ducts shall not create a physical hazard or reaction that could degrade the duct material. The building official may require a technical report in accordance with Section ~~443.7.1~~453.7.1.*

~~443.4.7.2~~453.4.7.2 Fire dampers, smoke dampers and combination fire/smoke dampers. *Fire dampers, smoke dampers or fire/smoke dampers shall not be permitted in product conveying and other mechanical exhaust duct systems used to maintain a safe laboratory environment. When the exhaust duct penetrates the laboratory suite boundary the exhaust duct shall be located within a horizontal assembly having a fire resistance rating equal to the fire barrier.*

~~443.4.7.3~~453.4.7.3 Duct materials. *Product conveying and other mechanical exhaust duct systems used to maintain a safe laboratory environment shall be constructed in accordance with Chapters 5 and 6 of the California Mechanical Code.*

~~443.4.7.4~~453.4.7.4 Laboratory suite exhaust air.

~~443.4.7.4.1~~453.4.7.4.1 *Exhaust air from laboratory suites shall not be recirculated.*

~~443.4.7.4.2~~453.4.7.4.2 *Laboratory suite exhaust air shall be independently ducted to a point outside the building or a roof top structure.*

Exceptions:
1. Exhaust ducts serving a single laboratory suite.
2. Exhaust ducts serving separate laboratory suites on the same story may be connected to a common duct within a fire rated vertical shaft when the sub-duct extends vertically upward at least 22 inches.
3. Exhaust ducts serving separate laboratory suites on the basement through the 4th story may be connected to a common duct within a fire rated vertical shaft when the sub-duct extends vertically upward at least 22 inches.
4. Exhaust ducts serving separate laboratory suites on the 5th story and above may be connected to a common duct that does not exceed 100 vertical feet within a fire rated vertical shaft when the subducts extends vertically upward at least 22 inches. Ducts serving the 5th story and above shall be separate from the duct serving the 4th story and below, but may be within the same fire rated shaft.

~~443.4.7.4.3~~453.4.7.4.3 *Laboratory suite exhaust ducts shall not penetrate the 2-hour fire barrier required by Section ~~443.4.3~~453.4.3.* ***Exception:*** *Where the exhaust duct is enclosed in a 2-hour shaft in accordance with Section 708.*

~~443.4.7.5~~453.4.7.5 Ventilation rates. *Mechanical exhaust ventilation systems shall provide a minimum ventilation rate not less than 1 cubic feet per minute per square foot [0.00508 m3/(s·m2)] of floor area, or 6 air exchanges per hour, whichever is greater. Systems shall operate continuously at the designed ventilation rate.*

~~443.4.7.6~~453.4.7.6 Mechanical ventilation systems on emergency power. *When operating on emergency power, the ventilation rate may be reduced to a level sufficient to maintain a differential pressure negative to the surrounding area.*

~~443.4.7.7~~453.4.7.7 Mechanical ventilation system balancing. *Mechanical ventilation systems shall be designed and balanced such that during normal and emergency conditions the door opening forces comply with the requirements of Sections 1008.1.3 and Chapter 11B as applicable. Emergency conditions shall include: supply fan shutdown or failure, closing of smoke dampers or combination fire/smoke dampers, or emergency power.*

~~443.5~~453.5. Fire protection systems. See Chapter 9.

~~443.6~~453.6 Means of egress.

~~443.6.1~~453.6.1 Access to exits. *Every portion of a laboratory suite containing hazardous materials and having a floor area of 500 square feet (19 m²) or more shall have access to not less than two separate exits or exit-access doorways in accordance with Section 1015.2.*

***~~443.6.2~~453.6.2* Door swing.** *All exit and exit-access doors serving areas with hazardous materials shall swing in the direction of exit travel, regardless of the occupant load served.*

***~~443.6.3~~453.6.3* Panic hardware.** *Exit and exit access doors from areas with hazardous materials shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware.*

***~~443.6.4~~453.6.4* Buildings more than four stories.** *A minimum of one exit shall be provided to serve the floor on each side of the 2-hour fire barrier and shall comply with the provisions of Chapter 10.*

***~~443.6.5~~453.6.5* Corridors.** *Corridors shall comply with Section 1018 and shall have opening protection in accordance with Tables 716.5 and 716.6.*

***~~443.7~~453.7* Hazardous materials.**

***~~443.7.1~~453.7.1* Technical report.** *The enforcing agency may require a technical opinion and report to identify and develop methods of protection from the hazards presented by the hazardous materials. A qualified person, firm or corporation, approved by the enforcing agency, shall prepare the opinion and report, and shall be provided without charge to the enforcing agency. The opinion and report may include, but is not limited to, the preparation of a hazardous material management plan (HMMP); chemical analysis; recommendations for methods of isolation, separation, containment or protection of hazardous materials or processes, including appropriate engineering controls to be applied; the extent of changes in the hazardous behavior to be anticipated under conditions of exposure to fire or from hazard control procedures; and the limitations or conditions of use necessary to achieve and maintain control of the hazardous materials or operations. The report shall be entered into the files of the code enforcement agencies. Proprietary and trade secret information shall be protected under the laws of the state or jurisdiction having authority.*

***~~443.7.2~~453.7.2* Multiple hazards.** *When a hazardous material has multiple hazards, all hazards shall be addressed and controlled in accordance with the provisions of this code.*

***~~443.7.3~~453.7.3* Percentage of maximum allowable quantities.** *The percentage of the maximum allowable quantity of hazardous materials per laboratory suite permitted for each story level within a building shall be in accordance with Table ~~443.7.3.1~~453.7.3.1.*

TABLE ~~443.7.3.1~~453.7.3.1
HAZARDOUS MATERIALS QUANTITY PER LABORATORY SUITE

STORY		PERCENTAGE OF MAXIMUM ALLOWABLE QUANTITY PER LABORATORY SUITE[a, b]	Number of Lab Suites per floor based on Construction Type				
			Type IA	Type IB	Type IIA, IIIA, IV	Type IIB, IIIB, VA	Type VB
Above grade plane	Above 20	0	NP	NP	NP	NP	NP
	15 to 20	25	4	NP	NP	NP	NP
	11 ,12, 13, 14	50	8	NP	NP	NP	NP
	7, 8, 9, 10	50	16	NP	NP	NP	NP
	6	75	20	20	NP	NP	NP
	4, 5	75	20	20	20	NP	NP
	3	100	UL	UL	UL	UL	NP
	1, 2	100	UL	UL	UL	UL	UL
Below grade plane	1	75 [c]	10	10	10	10	10
	2	50 [d]	5	5	5	5	5
	3 and below	0	NP	NP	NP	NP	NP

UL = Unlimited, NP= Not permitted
a. Percentages shall be of the maximum allowable quantity per laboratory suite shown in Tables 307.1(1) and 307.1(2). Allowable hazardous material increases for buildings equipped throughout with an automatic sprinkler system shall not be applicable to Group L occupancies.
b. When an individual laboratory suite occupies more than one story, the more restrictive percentage of the maximum allowable quantity per laboratory suite shall apply.
c. The total aggregate quantity of flammable liquids on the first story below grade shall be limited to the maximum total aggregate quantity for Group B occupancy control areas.

d. The total aggregate quantity of flammable liquids on the second story level below grade shall be limited to a maximum total aggregate quantity for Group B occupancy control areas.

~~443.7.4~~453.7.4 Handling and transportation. *The handling and transportation of hazardous materials shall be in accordance with Section 5003 of the California Fire Code.*

~~443.7.5~~453.7.5 Transportation of hazardous materials above the 10th story. *Transportation of hazardous materials above the 10th story shall be limited to 5 percent of the maximum allowable quantities of Tables 307.1 (1) and 307.1(2.) Quantities are permitted to be increased 100 percent in buildings with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Materials where footnote g of Table 307.1(1) applies shall not be increased.*

~~443.8~~453.8 Elevators and elevator lobbies above the 10th story. *Any story containing a Group L occupancy above the 10th story shall be provided with elevators and elevator lobbies in accordance with Sections ~~443.8.1~~453.8.1 through ~~443.8.3~~453.8.3.*

~~443.8.1~~453.8.1 *An elevator that serves every story of the building shall be provided on each side of the 2-hour fire-smoke barrier.*

~~443.8.2~~453.8.2 *An elevator lobby shall be provided on each side of the 2-hour fire-smoke barrier at each floor in accordance with Section ~~413.14.1~~3006. ~~Exceptions to 413.14.1 shall not apply.~~*

~~443.8.3~~453.8.3 *The elevator and its associated elevator lobbies and elevator machine rooms shall be pressurized in accordance with Section 909.6.*

~~443.9~~453.9 Existing Group L (Formerly Group H-8) occupancies, additions, alterations, or repairs. *See ~~Section 3416~~California Fire Code Chapter 11 and California Existing Building Code.*

SECTION ~~444~~454
RESERVED

SECTION ~~445~~455
LARGE FAMILY DAY-CARE HOMES [SFM]

~~445.1~~455.1 Large family day-care homes.

~~445.2~~455.2 *For purposes of clarification, Health and Safety Code Section 1597.46 is repeated.*

(a) A city, county, or city and county shall not prohibit large family day care homes on lots zoned for single-family dwellings, but shall do one of the following:

(1) Classify these homes as a permitted use of residential property for zoning purposes.

(2) Grant a nondiscretionary permit to use a lot zoned for a single-family dwelling to any large family day-care home that complies with local ordinances prescribing reasonable standards, restrictions and requirements concerning spacing and concentration, traffic control, parking and noise control relating to such homes, and complies with subdivision (d) and any regulations adopted by the state fire marshal pursuant to that subdivision. Any noise standards shall be consistent with local noise ordinances implementing the noise element of the general plan and shall take into consideration the noise level generated by children. The permit issued pursuant to this paragraph shall be granted by the zoning administrator, if any, or if there is no zoning administrator by the person or persons designated by the planning agency to grant such permits, upon the certification without a hearing.
(3) Require any large family day-care home to apply for a permit to use a lot zoned for single-family dwellings. The zoning administrator, if any, or if there is no zoning administrator, the person or persons designated by the planning agency to handle the use permits shall review and decide the applications. The use permit shall be granted if the large family day care home complies with local ordinances, if any, prescribing reasonable standards, restrictions and requirements concerning spacing and concentration, traffic control, parking and noise control relating to such homes, and complies with subdivision (d) and any regulations adopted by the state fire marshal pursuant to that subdivision.

Any noise standards shall be consistent with local noise ordinances implementing the noise element of the general plan and shall take into consideration the noise levels generated by children.

The local government shall process any required permit as economically as possible, and fees charged for review shall not exceed the costs of the review and permit process. Not less than 10 days prior to the date on which the decision will be made on the application, the zoning administrator or person designated to handle such use permits shall give notice of the proposed use by mail or delivery to all owners shown on the last equalized assessment roll as owning real property within a 100-foot radius of the exterior boundaries of the proposed large family day care home. No hearing on the application for a permit issued pursuant to this paragraph shall be held before a decision is made unless a hearing is requested by the applicant or other affected person. The applicant or other affected person may appeal the decision. The appellant shall pay the cost, if any of the appeal.

(b) A large family day-care home shall not be subject to the provisions of Division 13 (commencing with Section 21000) of the Public Resources Code.

(c) Use of a single-family dwelling for the purposes of a large family day-care home shall not constitute a change of occupancy for purposes of Part 1.5 (commencing with Section 17910) of Division 13 (State Housing Law), or for purposes of local building and fire codes.
(d) Large family day-care homes shall be considered as single- family residences for the purposes of the State Uniform Building Standards Code and local building and fire codes, except with respect to any additional standards specifically designed to promote the fire and life safety of the children in these homes adopted by the State Fire Marshal pursuant to this subdivision.

~~445.3~~455.3 Smoke alarms. *Large family day-care homes shall be equipped with State Fire Marshal approved and listed single station residential type smoke alarms. The number and placement of smoke alarms shall be determined by the enforcement authority.*

~~445.4~~455.4 Fire extinguishers. *Large and small family day-care homes shall be equipped with a portable fire extinguisher having a minimum 2A10BC rating.*

~~445.5~~455.5 Fire alarm devices. *See Section 907.2.6.4.*

~~445.6~~455.6 Compliance. *Every large-family day-care home shall comply with the provisions for Group R-3 occupancies and, if appropriate, Section ~~426.1~~436.1. For the purposes of Section ~~426.1~~436.1, the first story shall be designated as the floor used for residential occupancy nearest to the street level which provides primary access to the building.*

Enforcement of the provisions shall be in accordance with the Health and Safety Code Sections 13145 and 13146. No city, county, city and county, or district shall adopt or enforce any building ordinance or local rule or regulation relating to the subject of fire and life safety in large-family day-care homes which is inconsistent with those standards adopted by the State Fire Marshal, except to the extent the building ordinance or local rule or regulation applies to single-family residences in which day care is not provided.

~~445.7~~455.7 Special hazards. *Every unenclosed gas-fired water heater or furnace which is within the area used for child care in a large family day-care home shall be protected in such a way as to prevent children from making contact with those appliances.*

Exception: *This does not apply to kitchen stoves or ovens.*

~~445.8~~455.8 Exiting. *See Section 1015.7.*

CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

503.1 General. Unless otherwise specifically modified in Chapter 4 and this chapter, building height, number of stories and building area shall not exceed the limits specified in Sections 504 and 506 based on the type of construction as determined by Section 602 and the occupancies as determined by Section 302 except as modified hereafter. Building height, number of stories and building area provisions shall be applied independently. Each portion of a building separated by one or more fire walls complying with Section 706 shall be considered to be a separate building.

Exceptions:

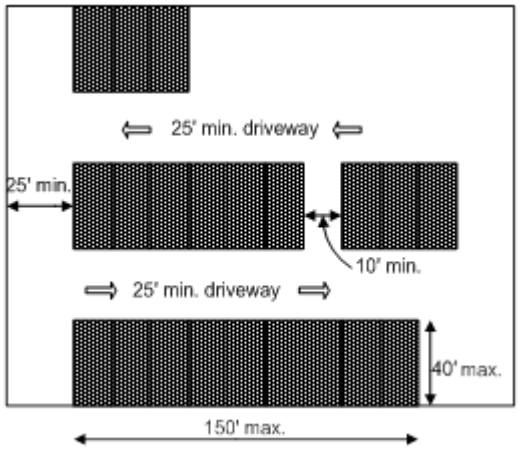
1. [HCD 1] Limited-density owner-built rural dwellings may be of any type of construction which will provide for a sound structural condition. Structural hazards which result in an unsound condition and which may constitute a substandard building are delineated by Section 17920.3 of the Health and Safety Code.

2. Other than structural requirements, solar photovoltaic panels supported by a structure with no use underneath shall not constitute additional story or additional floor area and may exceed the height limit when constructed on a roof top of a building provided the following conditions are met:

1.1. For all occupancies, the highest point of the structure/panel shall meet the lower of the two values below:
1. 3' above the allowable building height per this code.
2. 3' above the roof of the building immediately below.

2.1. For installations on flat roofs in other than Group R-3 and R-4 occupancies, the highest point of the structure/panel shall meet the lower of the two values below:
1. 10' above the allowable building height per this code.
2. 10' above the roof of the building immediately below.

3. Other than structural requirements, solar photovoltaic panels supported by a structure over parking stalls shall not constitute additional story or additional floor area and may exceed the height limit as specified in exception 2 (above) when the following conditions are met (see Figure 5-1):
1. The area within the perimeter of the photovoltaic array has maximum rectangular dimension of 40 feet by 150 feet.
2. The distance between solar photovoltaic array structures is a minimum of 10 feet clear.
3. The driveway aisle separating solar photovoltaic array structures has a minimum width of 25 feet clear.
4. Solar photovoltaic array structure is used only for parking purposes with no storage.
5. Completely open on all sides (other than necessary structural supports) with no interior partitions.



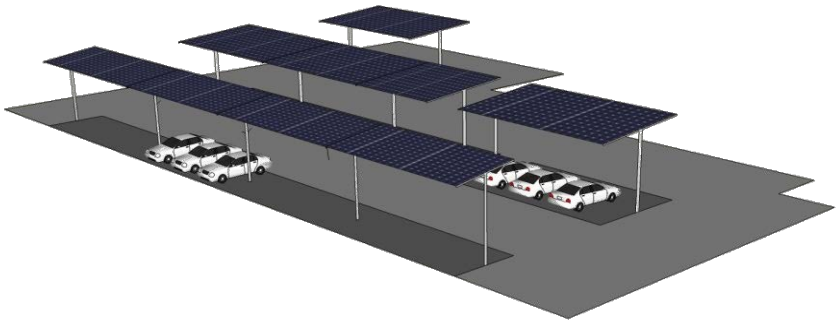


Figure 5-1

TABLE 504.3[a, ~~i~~]
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[b]	UL	160	65	55	65	55	65	50	40
	S	UL	180	85	75	85	75	85	70	60
A, E	*NS[b]*	*UL*	*160*	*65*	*55*	*65*	*55*	*65*	*50*	*40*
	S (without area increase)	*UL*	*180*	*85*	*75*	*85*	*75*	*85*	*70*	*60*
	S (with area increase)	*UL*	*160*	*65*	*55*	*65*	*55*	*65*	*50*	*40*

H-1, H-2, H-3, H-5, *L*	NS[c, d]	UL	160	65	55	65	55	65	50	40
	S									
H-4	NS[c, d]	UL	160	65	55	65	55	65	50	40
	S *(without area increase)*	UL	180	85	75	85	75	85	70	60
	S (with area increase)	*UL*	*160*	*65*	*55*	*65*	*55*	*65*	*50*	*40*
~~I-1 Condition 1,~~ I-3	NS[d, e]	UL	160	~~65~~*NP*	~~55~~*NP*	~~65~~*NP*	~~55~~*NP*	~~65~~*NP*	~~50~~*NP*	~~40~~*NP*
	S *(without area increase)*	UL	180	~~85~~*NP*	~~75~~*NP*	~~85~~*NP*	~~75~~*NP*	~~85~~*NP*	~~70~~*NP*	~~60~~*NP*
	S (with area increase)	UL	160	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*
~~I-1 Condition 2,~~ I-2, *I-2.1*	NS[d, f, e]	UL	160	65	55	65	55	65	50	40
	S *(without area increase)*	UL	180	85						
	S (with area increase)	*UL*	*160*	*65*						
I-4	NS[d, g]	UL	160	65	55	65	55	65	50	40
	S *(without area increase)*	UL	180	85	75	85	75	85	70	60
	S (with area increase)	*UL*	*160*	*65*	*55*	*65*	*55*	*65*	*50*	*40*
R-*1*[h]	NS[d, h]	UL	160	65	55	65	55	65	50	40
	S13R	60	60	60	~~60~~*55*	60	~~60~~*55*	60	~~60~~*50*	~~60~~*40*
	S *(without area increase)*	UL	180	85	75	85	75	85	70	60
	S (with area increase)	*UL*	*160*	*65*	*55*	*65*	*55*	*65*	*50*	*40*
R-2[h]	NS[d, h]	UL	160	65	55	65	55	65	50	40
	S13R	60	60	60	~~60~~*55*	60	~~60~~*55*	60	~~60~~*50*	~~60~~*40*
	S *(without area increase)*	UL	180	85	75	85	75	85	70	60
	S (with area increase)	*UL*	*160*	*65*	*55*	*65*	*55*	*65*	*60*[i]	*40*
R-3, R-3.1[h]	NS[d, h]	UL	160	65	55	65	55	65	50	40
	S13D	*60*	*60*	*60*	*60*	*60*	*60*	*60*	*50*	*40*
	S13R	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	85	70	60
R-2.1, R-4[h]	NS[d, h]	UL	160	65	55	65	55	65	50	40
	S13D	*60*	*60*	*60*	*55*	*60*	*55*	*60*	*50*	*40*
	S13R	60	60	60	~~60~~*55*	60	~~60~~*55*	60	~~60~~*50*	~~60~~*40*
	S	*UL*	*160*	*65*	*55*	*65*	*55*	*65*	*50*	*40*

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; *NP = Not Permitted;* NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2*; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.3*.

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

b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.

c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.

d. The NS value is only for use in evaluation of existing building height in accordance with the ~~International~~*California Existing Building Code.*

e. New Group ~~I-1 and~~ I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. ~~For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.~~

f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and Section 1103.5 of the ~~International~~*California* Fire Code.

g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.

h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

i. In other than Group A, E, H, I, L, and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, the S increases for height and stories in tables 504.3 and 504.4 are permitted in addition to the S area increase in accordance with Table 506.2.
j. For Group R-2 buildings of Type VA construction equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1,S area increase is permitted in addition to the height and story increase provided the height shall not exceed 60 feet and 4 stories.

TABLE 504.4[a, b, n]
ALLOWABLE NUMBER OF STORIES 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-1	NS	UL	5	3	2	3	2	3	2	1
	S *(without area increase)*	UL	6	4	3	4	3	4	3	2
	S (with area increase)	*UL*	*5*	*3*	*2*	*3*	*2*	*3*	*2*	*1*
A -2	NS	UL	11	3	2	3	2	3	2	1
	S *(without area increase)*	UL	12	4	3	4	3	4	3	2
	S (with area increase)	*UL*	*11*	*3*	*2*	*3*	*2*	*3*	*2*	*1*
A-3	NS	UL	11	3	2	3	2	3	2	1
	S *(without area increase)*	UL	12	4	3	4	3	4	3	2
	S (with area increase)	*UL*	*11*	*3*	*2*	*3*	*2*	*3*	*2*	*1*
A-4	NS	UL	11	3	2	3	2	3	2	1
	S *(without area increase)*	UL	4	3	4	3	4	3	3	2
	S (with area increase)	*UL*	*11*	*3*	*2*	*3*	*2*	*3*	*2*	*1*
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
	S *(without area increase)*	UL	6	4	3	4	3	4	2	2
	S (with area increase)	*UL*	*5*	*3*	*2*	*3*	*2*	*3*	*1*	*1*
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
	S	UL	12	6	4	5	4	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	1	1	NP
	S									
H -2	NS[c, d]	~~UL~~*20*	3	2	1	2	1	2	1	1
	S									
H-3	NS[c, d]	~~UL~~*20*	6	4	2	4	2	4	2	1
	S									
H-4	NS[c, d]	~~UL~~*20*	7	5	3	5	3	5	3	2
	S *(without area increase)*	~~UL~~*20*	8	6	4	6	4	6	4	3
	S (with area increase)	~~UL~~20	7	5	3	5	3	5	3	2
H-5	NS[c, d]	4	4	3	3	3	3	3	3	2
	S									
~~I-1 Condition 1~~	~~NS[d, e]~~	~~UL~~	~~9~~	~~4~~	~~3~~	~~4~~	~~3~~	~~4~~	~~3~~	~~2~~
	~~S~~	~~UL~~	~~10~~	~~5~~	~~4~~	~~5~~	~~4~~	~~5~~	~~4~~	~~3~~
~~I-1 Condition 2~~	~~NS[d, e]~~	~~UL~~	~~9~~	~~4~~	~~3~~	~~4~~	~~3~~	~~4~~	~~3~~	~~2~~

	~~S~~	~~UL~~	~~10~~	~~5~~						
I-2 / *I-2.1*[j]	NS[d,f]	UL	4	2						
	S *(without area increase)*	UL	5	3	1	1	NP	1	1	NP
	S (with area increase)	*UL*	*4*	*2*						
I-3	NS[d,e]	~~UL~~*NP*	~~4~~*NP*	~~2~~*NP*	~~1~~ *NP*	~~2~~ *NP*	~~1~~ *NP*	~~2~~ *NP*	~~2~~ *NP*	~~1~~ *NP*
	S *(without area increase)*	UL	~~5~~*3*	~~3~~ *NP*	~~2~~ *NP*	~~3~~ *NP*	~~2~~ *NP*	~~3~~ *NP*	~~3~~ *NP*	~~2~~ *NP*
	S (with area increase)	*UL*	*2*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*
I-4	NS[d,g]	UL	5	3	2	3	2	3	1	1
	S *(without area increase)*	UL	6	4	3	4	3	4	2	2
	S (with area increase)	*UL*	*5*	*3*	*2*	*3*	*2*	*3*	*1*	*1*
L	NS	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*
	S	*20*	*6*	*5*	*3*	*5*	*3*	*5*	*3*	*2*
M	NS	UL	11	4	2	4	2	4	3	1
	S	UL	12	5	3	5	3	5	4	2
R-1[h]	NS[d,~~h~~]	UL	11	4	4	4	4	4	3	2
	S13R	4	4						~~4~~*3*	~~3~~*2*
	S *(without area increase)*	UL	12	5	5	5	5	5	4	3
	S (with area increase)	*UL*	*11*	*4*	*4*	*4*	*4*	*4*	*3*	*2*
R-2[h]	NS[d,~~h~~]	UL	11	4	4	4	4	4	3	2
	S13R	4	4	4					~~4~~*3*	~~3~~*2*
	S *(without area increase)*	UL	12	5	5	5	5	5	4	3
	S (with area increase)	*UL*	*11*	*4*	*4*	*4*	*4*	*4*	*4*[o]	*2*
R-2.1[h]	NS[d,~~h~~]	*UL*	*6*[l]	*3*[k]	*NP*	*3*[k]	*NP*	*NP*	*3*[k]	*NP*
	S13R	*UL*	*4*[l]	*3*[k]	*NP*	*3*[k]	*NP*	*NP*	*3*[k]	*NP*
	S	*UL*	*6*[l]	*3*[k]	*NP*	*3*[k]	*NP*	*NP*	*3*[k]	*NP*
R-3, *R-3.1*[h]	NS[d,~~h~~]	UL	11						3	3
	S13D	*4*	*4*	4	4	4	4	4	*3*	*3*
	S13R	4	4						~~4~~	~~4~~
	S	UL	12	5	5	5	5	5	4	4
R-4[h]	NS[d,~~h~~]	UL	11[l]							
	S13D	4	4[l]	4[k]	4[m]	4[k]	4[m]	4[m]	3[k]	2[m]
	S13R	4	4[l]							
	S	UL	11[l]							
S-1	NS	UL	11							
	S	UL	12	5	3	4	3	5	4	2
S-2[i]	NS	UL	11	5	3	4	3	4	4	2
	S	UL	12	6	4	5	4	5	5	3
U	NS	UL	5	4	2	3	2	4	2	1
	S	UL	6	5	3	4	3	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2*; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.3*.

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

b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.

c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.

d. The NS value is only for use in evaluation of existing building height in accordance with the ~~International~~*California* Existing Building Code.
e. New Group ~~I-1 and~~ I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. ~~For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.~~
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and Section 1103.5 of the ~~International~~*California* Fire Code.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.
i . See Section 408.1.2 for specific exceptions to construction type, allowable building areas and allowable heights.
j. Restraint shall not be permitted in any building except in Group I-3 occupancies constructed for such use (see Section 408.1.2).
k. Nonambulatory persons shall be limited to the first 2 stories.
l. Nonambulatory persons shall be limited to the first 5 stories.
m. Nonambulatory elderly clients are not permitted in buildings of these types of construction. See Section ~~425.3.3~~435.3.3 and ~~425.3.4~~435.3.4.
n. In other than Group A, E, H, I, L, and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, the S increases for height and stories in tables 504.3 and 504.4 are permitted in addition to the S area increase in accordance with Table 506.2.
o. For Group R-2 buildings of Type VA construction equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1,S area increase is permitted in addition to the height and story increase provided the height shall not exceed 60 feet and 4 stories.

TABLE 506.2[a, b, *i*]
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
	SM *(without height increase)*	UL	UL	46,500	25,500	42,000	25,500	45,000	34,500	16,500
	SM (with height increase)	*UL*	*UL*	*15,500*	*8,500*	*14,000*	*8,500*	*15,000*	*11,500*	*5,500*
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
	SM *(without height increase)*	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
	SM (with height increase)	*UL*	*UL*	*15,500*	*9,500*	*14,000*	*9,500*	*15,000*	*11,500*	*6,000*
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
	SM *(without height increase)*	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
	SM (with height increase)	*UL*	*UL*	*15,500*	*9,500*	*14,000*	*9,500*	*15,000*	*11,500*	*6,000*
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
	SM *(without height increase)*	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
	SM (with height increase)	*UL*	*UL*	*15,500*	*9,500*	*14,000*	*9,500*	*15,000*	*11,500*	*6,000*
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
E	NS	UL	UL	26,500	14,500	23,500	14,500	25,500	18,500	9,500

	S1	UL	UL	106,000	58,000	94,000	58,000	102,000	74,000	38,000
	SM *(without height increase)*	UL	UL	79,500	43,500	70,500	43,500	76,500	55,500	28,500
	SM (with height increase)	*UL*	*UL*	*26,500*	*14,500*	*23,500*	*14,500*	*25,500*	*18,500*	*9,500*
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	33,500	14,000	8~~,~~.500
	S1	UL	UL	100,000	62,000	76,000	48,000	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	100,500	42,000	25,500
F -2	NS	UL	UL	37,500	23,000	28,500	18,000	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9~~,~~.500	7,000	10,500	7,500	NP
	S1									
H -2	NS[c]	21,000	16,500	11,000	7,000	9~~,~~.500	7,000	10,500	7,500	NP
	S1									
	SM									
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	10,000	5,000
	S1									
	SM									
H-4	NS[c]	UL	UL	37,500	17,500	28,500	17,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	144,000	72,000	26,000
	SM *(without height increase)*	UL	UL	112,500	52,500	85,500	52,500	108,000	54,000	19,000
	SM (with height increase)	*UL*	*UL*	*37,500*	*17,500*	*28,500*	*17,500*	*36,000*	*18,000*	*6,500*
H-5	NS[c]	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 *(without height increase)*	UL	UL	112,500	69,000	85,500	57,000	108,000	54,000	27,000
	SM (with height increase)	*UL*	*UL*	*37,500*	*23,000*	*28,500*	*19,000*	*36,000*	*18,000*	*9,000*
~~I-1~~	~~NS[d,e]~~	~~UL~~	~~55,000~~	~~19,000~~	~~10,000~~	~~16,500~~	~~10,000~~	~~18,000~~	~~10,500~~	~~4,500~~
	~~S1~~	~~UL~~	~~220,000~~	~~76,000~~	~~40,000~~	~~66,000~~	~~40,000~~	~~72,000~~	~~42,000~~	~~18,000~~
	~~SM~~	~~UL~~	~~165,000~~	~~57,000~~	~~30,000~~	~~49,500~~	~~30,000~~	~~54,000~~	~~31,500~~	~~13,500~~
I-2 / *I-2.1*	NS[d,f]	UL	UL	15,000	11,000	12,000	NP	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	48,000	38,000	NP
	SM *(without height increase)*	UL	UL	45,000	33,000	36,000	NP	36,000	28,500	NP
	SM (with height increase)	*UL*	*UL*	*15,000*	*11,000*	*12,000*	*NP*	*12,000*	*9,500*	*NP*
I-3	NS[d,e]	UL	~~UL~~ *15,100*	~~15,000~~ *NP*	~~10,000~~ *NP*	~~10,500~~ *NP*	~~7,500~~ *NP*	~~12,000~~ *NP*	~~7,500~~ *NP*	~~5,000~~ *NP*
	S1	UL	~~UL~~ *45,300*	~~45,000~~ *NP*	~~40,000~~ *NP*	~~42,000~~ *NP*	~~30,000~~ *NP*	~~48,000~~ *NP*	~~30,000~~ *NP*	~~20,000~~ *NP*
	SM *(without height increase)*	UL	~~UL~~ *30,200*	~~45,000~~ *NP*	~~30,000~~ *NP*	~~31,500~~ *NP*	~~22,500~~ *NP*	~~36,000~~ *NP*	~~22,500~~ *NP*	~~15,000~~ *NP*
	SM (with height increase)	*UL*	*15,100*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*
I-4	NS[d,g]	UL	60,500	26,500	13,000	23,500	13,000	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	102,000	74,000	36,000
	SM *(without height increase)*	UL	181,500	79,500	39,000	70,500	39,000	76,500	55,500	27,000
	SM (with height increase)	*UL*	*60,500*	*26,500*	*13,000*	*23,500*	*13,000*	*25,500*	*18,500*	*9,000*
L	*NS*	*UL*	*60,000*	*37,500*	*17,500*	*28,500*	*17,500*	*36,000*	*18,000*	*6,500*
	S1									
	SM									
M	NS	UL	UL	21,500	12,500	18,500	12,500	20,500	14,000	9,000

	S1	UL	UL	86,000	50,000	74,000	50,000	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	61,500	42,00	27,000
R-1[h]	NS[d,h]	UL	UL	24,000	16,000	24,000	16,000	20,500	12,00	7,000
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000
	SM *(without height increase)*	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000
	SM (with height increase)	*UL*	*UL*	*24,000*	*16,000*	*24,000*	*16,000*	*20,500*	*12,00*	*7,000*
R -2[h]	NS[d,h]	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000
	SM *(without height increase)*	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000
	SM (with height increase)	*UL*	*UL*	*24,000*	*16,000*	*24,000*	*16,000*	*20,500*	*12,000*	*7,000*
R-2 Type VA construction[h]	NS[d,h]	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	12,000	*NP*
	S13R									
	S1	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	48,000	*NP*
	SM *(without height increase)*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	36,000	*NP*
	SM (with height increase)	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*36,000*[i]	*NP*
R-2.1[h]	*NS*[d]	*UL*	*55,000*	*19,000*	*NP*	*16,500*	*NP*	*NP*	*16,500*	*NP*
	S13R									
	S1	*UL*	*220,000*	*76,000*	*40,000*	*66,000*	*40,000*	*72,000*	*42,000*	*18,000*
	SM (without height increase)	*UL*	*165,000*	*57,000*	*30,000*	*49,500*	*30,000*	*54,000*	*31,500*	*13,500*
	SM (with height increase)	*UL*	*55,000*	*19,000*	*NP*	*16,500*	*NP*	*NP*	*16,500*	*NP*
R-3 */ R-3.1*[h]	NS[d,h]	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13D									
	S13R									
	S1									
	SM									
R-4[h]	NS[d,h]	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000
	SM *(without height increase)*	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000
	SM (with height increase)	*UL*	*UL*	*24,000*	*16,000*	*24,000*	*16,000*	*20,500*	*12,000*	*7,000*
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	76,500	42,000	27,000
S -2	NS	UL	79,000	39,000	26,000	39,000	26,000	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	17,000	78,000	115,500	63,000	40,500
U	NS	UL	35,500	19,000	8,500	14,000	8,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	54,000	27,000	16,500

Note: UL = Unlimited; NP = Not permitted;
For SI: 1 square foot = 0.0929 m2.
NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic

sprinkler system installed in accordance with Section 903.3.1.2*; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.3*.
a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the ~~International~~*California* Existing Building Code.
e. New Group ~~I-1 and~~ I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. ~~For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.~~
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and Section 1103.5 of the ~~International~~*California* Fire Code.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.
i. In other than Group A, E, H, I, L, and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, the S increases for height and stories in tables 504.3 and 504.4 are permitted in addition to the S area increase in accordance with Table 506.2.
j. For Group R-2 buildings of Type VA construction equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1,S area increase is permitted in addition to the height and story increase provided the height shall not exceed 60 feet and 4 stories.

[SFM amendments incorporated into Tables 504.3 and 504.4]
~~**504.2 Automatic sprinkler system increase.** Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the value specified in Table 503 for maximum building height is increased by 20 feet (6096 mm) and the maximum number of *stories* is increased by one. Increases are permitted in addition to the building *area* increase in accordance with Section 506.2. *In other than Group A, E, H, I, L, and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, these increases are permitted in addition to the area increase in accordance with Section 506.3.* For Group R-*2* buildings *of Type VA construction* equipped throughout with an approved automatic sprinkler system in accordance with Section *903.3.1.1*, the value specified in Table 503 for maximum *building height* is increased by 20 feet (6096 mm) and the maximum number of *stories* is increased by one, but shall not exceed 60 feet (18 288 mm) or four *stories*, respectively, *these increases are permitted in addition to the area increase in accordance with Section 506.3. For Group R-3 buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.2, the value specified in Table 503 for maximum building height is increased by 20 feet (6096 mm) and the maximum number of stories is increased by one, but shall not exceed 60 feet (18 288 mm) or four stories, respectively.*~~

~~**Exceptions:** The use of an automatic sprinkler system to increase building heights shall not be permitted for the following conditions:~~
~~1. Buildings, or portions of buildings, classified as a Group I-2 occupancy of Type IIB, III, IV or V construction.~~
~~2. Buildings, or portions of buildings, classified as a Group H-1, H-2, H-3 or H-5 occupancy.~~
~~3. *Fire-resistance rating* substitution in accordance with Table 601, Note d.~~
~~*4. [SFM] Buildings, or portions of buildings, classified as a Group L occupancy.*~~
~~*5. [SFM] Buildings, or portions of buildings, classified as a Licensed Group R-2.1 or R-4 occupancy.*~~

[SFM amendments incorporated into Table 506.2]
~~**506.3 Automatic sprinkler system increase.** Where a building is equipped throughout with *an approved automatic sprinkler system in accordance with Section 903.3.1.1, the building area limit*ation in Table 503 is permitted to be increased by an additional 200 percent (*Is* = 2) for buildings with more than one *story above grade plane* and an additional 300 percent (*Is* = 3) for buildings with no more than one *story above grade plane*. *In other than Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, these* increases are permitted in addition to the height and story increases in accordance with Section 504.2. *For Group R-2 buildings of Type VA construction equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, these increases are permitted in addition to the height and story increase in accordance with Section 504.2.*~~

~~**Exception:** The building area limitation increases shall not be permitted for the following conditions:~~

~~1. The automatic sprinkler system increase shall not apply to buildings with an occupancy in Group H-1.~~
~~2. The automatic sprinkler system increase shall not apply to the building area of an occupancy in Group H-2 or H-3. For buildings containing such occupancies, the allowable building area shall be determined in accordance with Section 508.4.2, with the sprinkler system increase applicable only to the portions of the building not classified as Group H-2 or H-3.~~
~~3. Fire-resistance rating substitution in accordance with Table 601, Note d.~~
~~*4. [SFM] The automatic sprinkler system increase shall not apply to buildings with an occupancy in Group L.*~~

[SFM amendments incorporated into Table 506.2]
~~**506.4.1 Area determination.** *In other than Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, the* total allowable building area of a single occupancy building with more than one story above grade plane shall be determined by multiplying the allowable building area per story (Aa), as determined in Section 506.1, by the number of stories above grade plane as listed below:~~

~~1. For buildings with two stories above grade plane, multiply by 2;~~
~~2. For buildings with three or more stories above grade plane, multiply by 3; and~~
~~3. No story shall exceed the allowable building area per story (Aa), as determined in Section 506.1, for the occupancies on that story.~~

~~**Exceptions:**~~
~~Unlimited area buildings in accordance with Section 507.~~

~~*For Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, the total allowable building area of a single occupancy building with more than one story above grade plane shall be determined by multiplying the allowable building area per story (Aa), as determined in Section 506.1, by the number of stories above grade plane as listed below:*~~

~~*1. For buildings with two or more stories above grade plane, multiply by 2;*~~
~~*2. No story shall exceed the allowable building area per story (Aa), as determined in Section 506.1, for the occupancies on that story.*~~

~~***Exception:** Unlimited area buildings in accordance with Section 507.*~~

[SFM amendments incorporated into Section 506.2.3 and 506.2.4]
~~**506.5.2 More than one story above grade plane.** For buildings with more than one story above grade plane and containing mixed occupancies, each story shall individually comply with the applicable requirements of Section 508.1.~~

~~For *other than Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal*, 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 based on the applicable provisions of Section 508.1 shall not exceed 3.~~

~~*For Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, buildings with more than two 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 based on the applicable provisions of Section 508.1 shall not exceed 2.*~~

[Relocated from 2013 CBC 506.5.2]
506.2.3 Single-occupancy, multistory buildings. The allowable area of a single-occupancy building with more than one story above grade plane shall be determined in accordance with Equation 5-2:

$Aa = [At + (NS \times If)] \times Sa$ **(Equation 5-2)**

where:

Aa = Allowable area (square feet).
At = Tabular allowable area factor (NS, S13R 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 = *For other than Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal,* ~~A~~actual number of building stories above grade plane, not to exceed three. *For Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal,* actual number of building stories above grade plane, not to exceed two.

~~For buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2, use the actual number of building stories above grade plane, not to exceed four.~~

No individual story shall exceed the allowable area (*Aa*) as determined by Equation 5-2 using the value of *Sa* = 1.

[Relocated from 2013 CBC 506.5.2]
506.2.4 Mixed-occupancy, multistory buildings. Each story of a mixed-occupancy building with more than one story above grade plane shall individually comply with the applicable requirements of Section 508.1. For buildings with more than three stories above grade plane, the total building area shall be such that the aggregate sum of the ratios of the actual area of each story divided by the allowable area of such stories, determined in accordance with Equation 5-3 based on the applicable provisions of Section 508.1, shall not exceed three*, provided the aggregate sum of the ratios for portions of mixed occupancy, multistory buildings containing A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, including any other associated non-separated occupancies, shall not exceed two.*

$Aa = [At + (NS \times If)]$ **(Equation 5-3)**

where:

Aa = Allowable area (square feet).
At =Tabular allowable area factor (NS, S13R 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*903.3.1.1*, 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.~~

507.4 Sprinklered, one-story buildings. The area of a ~~Group A-4 building no more than one story above grade plane of other than Type V construction, or the area of a~~ Group B, F, M or S building no more than one story above grade plane of any construction type, shall not be limited where the building is provided with an automatic sprinkler system throughout in accordance with Section 903.3.1.1 and is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

Exceptions:
1. Buildings and structures of Type I and II construction for rack storage facilities that do not have access by the public shall not be limited in height, provided that such buildings conform to the requirements of Sections 507.3, 903.3.1.1 and Chapter 23 of the ~~*International*~~ *California Fire Code*.
~~2. The automatic sprinkler system shall not be required in areas occupied for indoor participant sports, such as tennis, skating, swimming and equestrian activities in occupancies in Group A-4, provided that:~~
~~2.1. Exit doors directly to the outside are provided for occupants of the participant sports areas; and~~
~~2.2. The building is equipped with a fire alarm system with manual fire alarm boxes installed in accordance with Section 907.~~

507.11 Group E buildings. The area of a Group E building no more than one story above grade plane, of Type II*A*, IIIA or IV construction, shall not be limited when all of the following criteria are met:

1. Each classroom shall have not less than two means of egress, with one of the means of egress being a direct exit to the outside of the building complying with Section 1020.

2. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. The building is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

TABLE 509
INCIDENTAL USES

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Furnace room where any piece of equipment is over 400,000 Btu per hour input	1 hour or provide automatic sprinkler system [a]
Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower	1 hour or provide automatic sprinkler system [a]
Refrigerant machinery rooms	1 hour or provide automatic sprinkler system [a]
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 [a]
[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.	*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 [a]
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 [a]
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.[a]

For SI: 1 square foot = 0.0929 m2, 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.

***~~509.10~~510.10* Group R.** *Buildings housing protective social care homes or in occupancies housing inmates who are not restrained need not be of one-hour fire- resistive construction when not more than two stories in height. In no case shall individual floor areas exceed 3,000 square feet (279 m2). The fire-resistive protection of the exterior walls shall not be less than one hour where such walls are located within 5 feet (1524 mm) of the property line. Openings within such walls are not permitted. Openings in exterior nonrated walls need not be protected.*

CHAPTER 6
TYPES OF CONSTRUCTION

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (hours)

	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
BUILDING ELEMENT	**A**	**B**	**A**	**B**	**A**	**B**	**HT**	**A[d]**	**B**
Primary structural frame[f] (see Section 202)	3[a]	2[a]	1	0	1	0	HT	1	0
Bearing walls Exterior[e, f] Interior	 3 3[a]	 2 2[a]	 1 1	 0 0	 2 1	 2 0	 2 1/HT	 1 1	 0 0
Nonbearing walls and partitions Exterior	See Table 602								
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	See Section 602.4.6	0	0
Floor construction and secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
Roof construction and secondary members (see Section 202)	11/2[b]	1[b, c]	1[b, c]	0[c]	1[b, c]	0	HT	1[b, c]	0

For SI: 1 foot = 304.8 mm.
a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.
b*.1*. Except in Group *A, E*, F-1, H, *I, L*, M, *R-1, R-2, R-2.1* and S-1 *occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal,* fire protection of structural members shall not be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.
b.2 For Group A, E, I, L, R-1, R-2, and R-2.1 occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, fire protection of members other than the structural frame shall not be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.
b.3. One-story portions of Group A and E assembly occupancies the roof-framing system of Type II A or Type III A construction may be of unprotected construction when such roof-framing system is open to the assembly area and does not contain concealed spaces.
c. In all occupancies, heavy timber shall be allowed where a 1-hour or less fire-resistance rating is required.
d. Not less than the fire-resistance rating required by other sections of this code.
e. Not less than the fire-resistance rating based on fire separation distance (see Table 602).
f. Not less than the fire-resistance rating as referenced in Section 704.10.

602.1 General. Buildings and structures erected or to be erected, altered or extended in height or area shall be classified in one of the five construction types defined in Sections 602.2 through 602.5. The building elements shall have a fire-resistance rating not less than that specified in Table 601 and exterior walls shall have a fire-resistance rating not less than that specified in Table 602. Where required to have a fire-resistance rating by Table 601, building elements shall comply with the applicable provisions of Section 703.2. The protection of openings, ducts and air transfer openings in building elements shall not be required unless required by other provisions of this code.

Exception: *Noncombustible structural members supporting solar photovoltaic panels are not required to meet the fire resistance rating for the following:*

1. Photovoltaic panel supported by a structure and having 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 noncombustible 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.
3. Solar photovoltaic panels supported by a structure over parking stalls where the panels constitute the roof and all the following conditions are met (see Figure 5-1):

3.1. The area within the perimeter of the solar photovoltaic array has maximum rectangular dimension of 40 feet by 150 feet.
3.2. The distance between solar photovoltaic array structures is a minimum of 10 feet clear.
3.3. The driveway aisle separating solar photovoltaic array structures has a minimum width of 25 feet clear.
3.4. Solar photovoltaic array structure is used only for parking purposes with no storage.
3.5. Completely open on all sides (other than necessary structural supports) with no interior partitions.

TABLE 602
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a,d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e], *L*	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R[i h], S-2, U[i h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA Others	3 2	2 1	1 1
10 ≤ X < 30	IA, IB IIB, VB Others	2 1 1	1 0 1	1[c] 0 1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.
a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 705.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.3.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
~~i.~~h. Group R-3 and Group U occupancies when used as accessory to Group R-3 occupancies, shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet or more; or when equipped throughout with an automatic residential fire sprinkler system installed in accordance with Section 903.3 the fire-resistance rating shall not be required where the fire separation distance is 3 feet or more.

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.

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).

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 Sections 801 and 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 410.3 and 410.4, respectively.
13. Combustible exterior wall coverings, balconies and similar projections and bay or oriel windows in accordance with Chapter 14.
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 803.11.
19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.7 and 1406.3.
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*~~*California Mechanical Code*.
26. Wall construction of freezers and coolers of less than 1,000 square feet (92.9 m2), 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.

603.1.1 Ducts. The use of nonmetallic ducts shall be permitted where installed in accordance with the limitations of the ~~*International*~~*California Mechanical Code*.

603.1.2 Piping. The use of combustible piping materials shall be permitted where installed in accordance with the limitations of the ~~*International*~~*California Mechanical Code* and the ~~*International*~~*California Plumbing Code*.

603.1.3 Electrical. The use of electrical wiring methods with combustible insulation, tubing, raceways and related components shall be permitted when installed in accordance with the limitations of ~~this code~~ *the California Electrical Code*.

CHAPTER 7
FIRE-RESISTANCE-RATED CONSTRUCTION

702.1 Definitions. The following terms are defined in Chapter 2.

ANNULAR SPACE.
BUILDING ELEMENT.
CEILING RADIATION DAMPER.
COMBINATION FIRE/SMOKE DAMPER.

CORRIDOR DAMPER.
DAMPER.
DRAFTSTOP
F RATING.
FIRE BARRIER.
FIRE DAMPER.
FIRE DOOR.
FIRE DOOR ASSEMBLY.
FIRE PARTITION.
FIRE PROTECTION RATING.
FIRE-RATED GLAZING.
FIRE RESISTANCE.
FIRE-RESISTANCE RATING.
FIRE-RESISTANT JOINT SYSTEM.
FIRE SEPARATION DISTANCE.
FIRE-SMOKE BARRIER.
FIRE WALL.
FIRE WINDOW ASSEMBLY.
FIREBLOCKING.
FLOOR FIRE DOOR ASSEMBLY.
HORIZONTAL ASSEMBLY.
JOINT.
L RATING.
MEMBRANE PENETRATION.
MEMBRANE-PENETRATION FIRESTOP.
MEMBRANE-PENETRATION FIRESTOP SYSTEM.
MINERAL FIBER.
MINERAL WOOL.
PENETRATION FIRESTOP.
SELF-CLOSING.
SHAFT.
SHAFT ENCLOSURE.
SMOKE BARRIER.
SMOKE COMPARTMENT.
SMOKE DAMPER.
SPLICE.
T RATING.
THROUGH PENETRATION.
THROUGH-PENETRATION FIRESTOP SYSTEM.

705.5 Fire-resistance ratings. *For other than Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11* regulated by the Office of the State Fire Marshal, exterior walls shall be fire-resistance rated in accordance with Tables 601 and 602 and this section. 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.

For Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, exterior walls shall be fire-resistance rated in accordance with Tables 601 and 602 and this section. The required fire-resistance rating of exterior walls shall be rated for exposure to fire from both sides.

705.8.1 Allowable area of openings. The maximum area of unprotected and protected openings permitted in an exterior wall in any story of a building shall not exceed the percentages specified in Table 705.8.

Exceptions:
1. In other than Group H occupancies, unlimited unprotected openings are permitted in the first *story* above grade plane either:

1.1. Where the wall faces a street and has a fire separation distance of more than 15 feet (4572 mm); or
1.2. Where the wall faces an unoccupied space. The unoccupied space shall be on the same lot or dedicated for public use, shall be not less than 30 feet (9144 mm) in width and shall have access from a street by a posted fire lane in accordance with the ~~*International*~~*California Fire Code*.

2. Buildings whose exterior bearing walls, exterior nonbearing walls and exterior primary structural frame are not required to be fire-resistance rated shall be permitted to have unlimited unprotected openings.

705.8.5 Vertical separation of openings. Openings in exterior walls in adjacent stories shall be separated vertically to protect against fire spread on the exterior of the buildings where the openings are within 5 feet (1524 mm) of each other horizontally and the opening in the lower story is not a protected opening with a fire protection rating of not less than 3/4 hour. Such openings shall be separated vertically not less than 3 feet (914 mm) by spandrel girders, exterior walls or other similar assemblies that have a fire-resistance rating of not less than 1 hour, rated for exposure to fire from both sides, or by flame barriers that extend horizontally not less than 30 inches (762 mm) beyond the exterior wall. Flame barriers shall have a fire-resistance rating of not less than 1 hour. The unexposed surface temperature limitations specified in ASTM E 119 or UL 263 shall not apply to the flame barriers or vertical separation unless otherwise required by the provisions of this code.

Exceptions:
1. This section shall not apply to buildings that are three stories or less above grade plane.
2. This section shall not apply to buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1~~ or 903.3.1.2~~.
3. Open parking garages.

705.12 Exterior Graphics on Exterior Walls of High-Rise Buildings. *Where installed on the exterior walls of high-rise buildings, exterior graphics, both permanent and temporary, greater than 100 square feet in area or greater than 10 feet in either dimension shall comply with the following conditions subject to the review and approval of the fire code official and building official:*

1. The materials used for graphics installed at a height greater than 40 feet above the grade plane shall be noncombustible materials or shall have a flame spread index not greater than 25 when tested in accordance with ASTM E84 or UL 723.
2. The method of attachment and mounting of the graphics to the exterior wall shall be such that the graphics are securely attached.
3. The graphics shall not interfere with the active or passive ventilation required for the building and the required smoke control systems in the building.
4. The graphics shall not impair the functions of any fire or life safety systems in the building.

TABLE 706.4
FIRE WALL FIRE-RESISTANCE RATINGS

GROUP	FIRE RESISTANCE RATING (hours)
A, B, E, H-4, I, R-1, R-2, *R-2.1,* U, *L*	3[a]
F-1, H-3[b], H-5, M, S-1	3
H-1,H-2	4[b]
F-2, S-2, R-3, R-4	2

a. In Type II or V construction, walls shall be permitted to have a 2-hour fire-resistance rating.
b. For Group H-1, H-2 or H-3 buildings, also see Sections 415.7 and 415.8.

707.1 General. Fire barriers installed as required elsewhere in this code or the ~~*International*~~*California Fire Code* shall comply with this section.

TABLE 707.3.10
FIRE-RESISTANCE RATING REQUIREMENTS FOR FIRE BARRIER ASSEMBLIES OR HORIZONTAL ASSEMBLIES BETWEEN FIRE AREAS

OCCUPANCY GROUP	FIRE-RESISTANCE RATING (hours)
H-1, H-2	4
F-1, H-3, S-1	3

A, B, E, F-2, H-4, H-5, I, *L,* M, R, S-2	2
U	1

708.3 Fire-resistance rating. Fire partitions shall have a fire-resistance rating of not less than 1 hour.

Exceptions:
1. Corridor walls permitted to have a 1/2 hour fire-resistance rating by Table 1020.1.
2. Dwelling unit and sleeping unit separations in buildings of Type IIB, IIIB and VB construction shall have fire-resistance ratings of not less than 1/2 hour in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Walls separating enclosed tenant spaces in Group B high-rise buildings of Type I and II construction equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

708.4 Continuity. Fire partitions 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 or to the fire-resistance-rated floor/ceiling or roof/ceiling assembly above, and shall be securely attached thereto. In combustible construction where the fire partitions are not required to be continuous to the sheathing, deck or slab, the space between the ceiling and the sheathing, deck or slab above shall be fireblocked or draftstopped in accordance with Sections 718.2 and 718.3 at the partition line. The supporting construction shall be protected to afford the required fire-resistance rating of the wall supported, except for walls separating tenant spaces in covered and open mall buildings, walls separating dwelling units, walls separating sleeping units and corridor walls, in buildings of Type IIB, IIIB and VB construction.

Exceptions:
1. The wall need not be extended into the crawl space below where the floor above the crawl space has a minimum 1-hour fire-resistance rating.
2. Where the room-side fire-resistance-rated membrane of the corridor is carried through to the underside of the floor or roof sheathing, deck or slab of a fire-resistance- rated floor or roof above, the ceiling of the corridor shall be permitted to be protected by the use of ceiling materials as required for a 1-hour fire-resistance- rated floor or roof system.
3. Where the corridor ceiling is constructed as required for the corridor walls, the walls shall be permitted to terminate at the upper membrane of such ceiling assembly.
4. The fire partitions separating tenant spaces in a covered or open mall building, complying with Section 402.4.2.1, are not required to extend beyond the underside of a ceiling that is not part of a fire-resistance-rated assembly. A wall is not required in attic or ceiling spaces above tenant separation walls.
5. Attic fireblocking or draftstopping is not required at the partition line in Group R-2 buildings that do not exceed four stories above grade plane, provided the attic space is subdivided by draftstopping into areas not exceeding 3,000 square feet (279 m2) or above every two dwelling units, whichever is smaller.
6. Fireblocking or draftstopping is not required at the partition line in buildings equipped with an automatic sprinkler system installed throughout in accordance with Section 903.3.1.1 or 903.3.1.2, provided that automatic sprinklers are installed in *all* combustible floor/ceiling and roof/ceiling spaces.

709.5 Openings. Openings in a smoke barrier shall be protected in accordance with Section 716.

Exceptions:
1. In ~~Group I-1 Condition 2,~~ Group I-2*, I-2.1, R-2.1* and ambulatory care facilities, where a pair of opposite-swinging doors are installed across a corridor in accordance with Section 709.5.1, the doors shall not be required to be protected in accordance with Section 716. The doors shall be close fitting within operational tolerances, and shall not have a center mullion or undercuts in excess of 3/4 inch (19.1 mm), louvers or grilles. The doors shall have head and jamb stops, and astragals or rabbets at meeting edges. Where permitted by the door manufacturer's listing, positive- latching devices are not required.
2. In ~~Group I-1 Condition 2,~~ Group I-2*, R-2.1* and ambulatory care facilities, horizontal sliding doors installed in accordance with Section 1010.1.4.3 and protected in accordance with Section 716.

710.2 Materials. The walls shall be of materials permitted by the building type of construction. *In Group I-2 and I-2.1, smoke partitions shall have framing covered with noncombustible materials having an approved thermal barrier with an index of not less than 15 in accordance with FM 4880, UL 1040, NFPA 286 or UL 1715.*

710.8 Ducts and air transfer openings. The space around a duct penetrating a smoke partition shall be filled with an *approved* material to limit the free passage of smoke. Air transfer openings in smoke partitions shall be provided with a *smoke damper* complying with Section 717.3.2.2. *For Group A, E, H, I, L and R occupancies, high-rise buildings, and*

other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, duct openings in smoke partitions shall also be provided with a smoke damper complying with Section 717.3.2.2.

Exceptions:
1. Where the installation of a smoke damper will interfere with the operation of a required smoke control system in accordance with Section 909, approved alternative protection shall be utilized.
2. [SFM] Smoke dampers are not required in corridor penetrations where the duct is constructed of steel not less than 0.019-inch (0.40 mm) in thickness and there are no openings serving the corridor.

712.1.3 Escalator openings. *In other than Groups I-2, I-2.1, and I-3,* ~~W~~*w*here a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, vertical openings for escalators shall be permitted where protected in accordance with Section 712.1.3.1 or 712.1.3.2.

712.1.9 Two-story openings. In other than Groups I-2, *I-2.1* and I-3, a vertical opening that is not used as one of the applications listed in this section shall be permitted if the opening complies with all of the items below:
1. Does not connect more than two stories.
2. Does not penetrate a horizontal assembly that separates fire areas or smoke barriers that separate smoke compartments.
3. Is not concealed within the construction of a wall or a floor/ceiling assembly.
4. Is not open to a corridor in Group I and R occupancies.
5. Is not open to a corridor on nonsprinklered floors.
6. Is separated from floor openings and air transfer openings serving other floors by construction conforming to required shaft enclosures.

713.13 Waste and linen chutes and incinerator rooms. Waste and linen chutes shall comply with the provisions of NFPA 82, Chapter 5 and shall meet the requirements of Sections 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.

~~**713.14.1 Elevator lobby.** An enclosed elevator lobby shall be provided at each floor where an elevator shaft enclosure connects more than *two stories in Group A, E, H, I, L, R-1, R-2 and R-2.1 occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, and more than three stories for all other occupancies.* The lobby enclosure shall separate the elevator shaft enclosure doors from each floor by fire partitions. In addition to the requirements in Section 708 for fire partitions, doors protecting openings in the elevator lobby enclosure walls shall also comply with Section 716.4.3 as required for corridor walls and penetrations of the elevator lobby enclosure by ducts and air transfer openings shall be protected as required for corridors in accordance with Section 717.5.4.1. Elevator lobbies shall have at least one means of egress complying with Chapter 10 and other provisions within this code.~~

~~**Exceptions:**~~
~~1. Enclosed elevator lobbies are not required at the level(s) of exit discharge, provided the level(s) of exit discharge is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1.~~
~~2. Elevators not required to be located in a shaft in accordance with Section 708.2 are not required to have enclosed elevator lobbies.~~
~~3. Enclosed elevator lobbies are not required where additional doors are provided at the hoistway opening in accordance with Section 3002.6. Such doors shall comply with the smoke and draft control door assembly requirements in Section 716.5.3.1 when tested in accordance with UL 1784 without an artificial bottom seal.~~
~~4. Enclosed elevator lobbies are not required where the building is protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. This exception shall not apply to the following:~~

~~*4.1. Group A occupancies;*~~
~~*4.2. Group E occupancies;*~~
~~*4.3. Group H occupancies;*~~
~~*4.4. Group I occupancies;*~~
~~*4.5. Group L occupancies;*~~
~~*4.6. Group R-1, R-2 and R-2.1 occupancies; and*~~
~~*4.7. High-rise buildings.*~~

~~5. Smoke partitions shall be permitted in lieu of fire partitions to separate the elevator lobby at each floor where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. In addition to the requirements in Section 711 for smoke partitions, doors protecting openings in the smoke partitions shall also comply with Sections 711.5.2, 711.5.3, and 715.4.8 and duct penetrations of the smoke partitions shall be protected as required for corridors in accordance with Section 716.5.4.1.~~
~~6. *[SFM] When approved, in other than Group I-2 occupancies* enclosed elevator lobbies are not required where the elevator hoistway is pressurized in accordance with Section 708.14.2.~~
~~7. Enclosed elevator lobbies are not required where the elevator serves only open parking garages in accordance with Section 406.3.~~
~~*8. [SFM] Enclosed elevator lobbies are not required where the hoistway door has a fire-protection rating as required by Section 708.7 and the hoistway door opening is also protected by a listed and labeled smoke containment system complying with ICC ES AC 77.*~~

~~*See Section 403.6 for additional requirements for highrise buildings.*~~

716.5.3 Door assemblies in corridors and smoke barriers. Fire door assemblies required to have a minimum fire protection rating of 20 minutes where located in corridor walls or smoke barrier walls having a fire-resistance rating in accordance with Table 716.5 shall be tested in accordance with NFPA 252 or UL 10C without the hose stream test.

Exceptions:
1. Viewports that require a hole not larger than 1 inch (25 mm) in diameter through the door, have not less than a 0.25-inch-thick (6.4 mm) glass disc and the holder is of metal that will not melt out where subject to temperatures of 1,700°F (927°C).
2. Corridor door assemblies in occupancies of Group I-2 shall be in accordance with Section 407.3.1.
3. Unprotected openings shall be permitted for corridors in multitheater complexes where each motion picture auditorium has not fewer than one-half of its required exit or exit access doorways opening directly to the exterior or into an exit passageway.
4. Horizontal sliding doors in smoke barriers that comply with Sections 408.6 and ~~408.8.4~~ *408.8.1* in occupancies in Group I-3
5. Cell or room doors, including cell or room doors with integral side-lites that are part of the door assembly in Group I-3 occupancies which open into a required exit corridor within a cell complex.

716.5.5 Doors in interior exit stairways and ramps and exit passageways. Fire door assemblies in interior exit stairways and ramps and exit passageways shall have a maximum transmitted temperature rise of not more than 450°F (250°C) above ambient at the end of 30 minutes of standard fire test exposure.

Exception: The maximum transmitted temperature rise is not required in buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1~~ or 903.3.1.2~~.

716.5.7.1 Fire door labeling requirements. Fire doors shall be labeled showing the name of the manufacturer or other identification readily traceable back to the manufacturer, the name or trademark of the third party inspection agency, the fire protection rating and, where required for fire doors in interior exit stairways and ramps and exit passageways by Section 716.5.5, the maximum transmitted temperature end point. Smoke and draft control doors complying with UL 1784 shall be labeled as such and shall comply with Section 716.5.7.3. Labels shall be approved and permanently affixed. The label shall be applied at the factory or location where fabrication and assembly are performed.

Exception: *In Group I-3 doors which are required to be 45 minutes or higher shall be fire-rated assemblies or certified by the manufacturer as being equivalent to the required standard.*

716.5.9.3 Smoke-activated doors. Automatic-closing doors installed in the following locations shall be automatic-closing by the actuation of smoke detectors installed in accordance with Section 907.3 or by loss of power to the smoke detector or hold-open device. Doors that are automatic-closing by smoke detection shall not have more than a 10-second delay before the door starts to close after the smoke detector is actuated:
1. Doors installed across a corridor.
2. Doors installed in the enclosures of exit access stairways and ramps in accordance with Sections 1019 and 1023, respectively.
3. Doors that protect openings in exits or corridors required to be of fire-resistance-rated construction.
4. Doors that protect openings in walls that are capable of resisting the passage of smoke in accordance with Section 509.4.

5. Doors installed in smoke barriers in accordance with Section 709.5.
6. Doors installed in fire partitions in accordance with Section 708.6.
7. Doors installed in a fire wall in accordance with Section 706.8.
8. Doors installed in shaft enclosures in accordance with Section 713.7.
9. Doors installed in waste and linen chutes, discharge openings and access and discharge rooms in accordance with Section 713.13. Loading doors installed in waste and linen chutes shall meet the requirements of Sections 716.5.9 and 716.5.9.1.1.
10. Doors installed in the walls for compartmentation of underground buildings in accordance with Section 405.4.2.
11. Doors installed in the elevator lobby walls of underground buildings in accordance with Section 405.4.3.
12. Doors installed in smoke partitions in accordance with Section 710.5.2.3.
~~12~~ 13. [SFM] Doors installed in walls required to be fire rated in accordance with Section 509.4.
~~13~~ 14. [SFM] Doors installed in walls required to be fire rated in accordance with Section 508.4.

In Group I-2 and I-2.1 occupancies smoke activated doors installed in the above locations shall be automatic closing by actuation of the fire alarm system, or actuation of smoke detectors installed in accordance with Section ~~907.10~~ 907.3, or activation of the sprinkler system installed in accordance with Section 903.1.

TABLE 716.6
FIRE WINDOW ASSEMBLY FIRE PROTECTION RATINGS
[Table not shown for clarity]
[Editorial Note: Publisher to verify that rows line up across the columns. Currently, Mixed occupancy separations, Fire partitions, and Smoke barriers.do not line up properly across the columns. No changes in regulatory effect, solely editorial clarification.]

717.2.2 Hazardous exhaust ducts. *Fire dampers* for hazardous exhaust duct systems shall comply with the *~~International~~California Mechanical Code*.

717.5.2 Fire barriers. *In other than Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal.* Ducts and air transfer openings of fire barriers shall be protected with approved 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 E 119 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 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 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.

[SFM] For Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, ducts and air transfer openings of fire barriers shall be protected with approved fire and smoke dampers installed in accordance with their listing. Ducts and air transfer openings shall not penetrate exit enclosures and exit passageways except as permitted by Sections 1022.4 and 1023.6, respectively.

Exceptions:
1. Fire dampers are not required at penetrations of fire barriers where penetrations are tested in accordance with ASTM E119 as part of the fire-resistance rated assembly.
2. Fire and smoke dampers are not required where ducts are used as part of an approved smoke control system in accordance with Section 909 and where the use of a fire or smoke damper would interfere with the operation of a smoke control system.

717.5.4 Fire partitions. *In other than Group A, E, I and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal,* ducts and air transfer openings that penetrate *fire partitions* shall be protected with *listed fire dampers* installed in accordance with their listing.

Exceptions: In occupancies other than Group H *and L*, fire dampers are not required where any of the following apply:

1. Corridor walls in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and the duct is protected as a through penetration in accordance with Section 714.
2. Tenant partitions in covered and open mall buildings where the walls are not required by provisions elsewhere in the code to extend to the underside of the floor or roof sheathing, slab or deck above.
3. The duct system is constructed of *approved* materials in accordance with the ~~*International*~~*California Mechanical Code* and the duct penetrating the wall complies with all of the following requirements:

3.1. The duct shall not exceed 100 square inches (0.06 m2).
3.2. The duct shall be constructed of steel not less than 0.0217 inch (0.55 mm) in thickness.
3.3. The duct shall not have openings that communicate the corridor with adjacent spaces or rooms.
3.4. The duct shall be installed above a ceiling.
3.5. The duct shall not terminate at a wall register in the fire-resistance-rated wall.
3.6. A minimum 12-inch-long (305 mm) by 0.060-inch-thick (1.52 mm) steel sleeve shall be centered in each duct opening. The sleeve shall be secured to both sides of the wall and all four sides of the sleeve with minimum 11/2-inch by 11/2-inch by 0.060-inch (38 mm by 38 mm by 1.52 mm) steel retaining angles. The retaining angles shall be secured to the sleeve and the wall with No. 10 (M5) screws. The annular space between the steel sleeve and the wall opening shall be filled with mineral wool batting on all sides.

4. Such walls are penetrated by ducted HVAC systems, have a required fire-resistance rating of 1 hour or less, 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 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.

For Group A, E, I and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, ducts and air transfer openings that penetrate fire partitions shall be protected with listed fire dampers installed in accordance with their listings.

Exceptions:
1. Fire dampers are not required in corridor penetrations where the duct is constructed of steel not less than 0.019 inch (0.48 mm) in thickness, protected as a through penetration in accordance with Section 713 and there are no openings serving the corridor.
2. Fire dampers are not required where the duct system is constructed of approved materials in accordance with the California Mechanical Code and the duct penetrating the wall complies with all of the following requirements:

2.1 For other than corridors in Group I-2 occupancies the duct shall not exceed 100 square inches (0.6 m2).
2.2 The duct shall be constructed of steel a minimum of 0.0217 inch (0.55 mm) in thickness.
2.3 The duct shall not have openings that communicate the corridor with adjacent spaces or rooms.
2.4 The duct shall be installed above a ceiling.
2.5 The duct shall not terminate at a wall register in the fire-resistance rated wall.
2.6 The duct shall be protected as a through penetration in accordance with Section 714 or shall comply with the all of the following:

1. A minimum 12-inch-long (305 mm) by 0.060-inch-thick (1.52 mm) steel sleeve shall be centered in each duct opening.
2. The sleeve shall be secured to both sides of the wall and for all four sides of the sleeve with minimum 11/2-inch by 11/2-inch by 0.060-inch (38 mm by 38 mm by 1.52 mm) steel retaining angles.

3. The retaining angles shall be secured to the sleeve and the wall with No. 10 (M5) screws.
4. The annular space between the steel sleeve and the wall opening shall be filled with mineral wool batting on all sides.

717.5.4.1 Corridors. *In other than Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal*, ~~D~~duct and air transfer openings that penetrate corridors shall be protected with dampers as follows:
1. A corridor damper shall be provided where corridor ceilings, constructed as required for the corridor walls as permitted in Section 708.4, Exception 3, are penetrated.

2. A ceiling radiation damper shall be provided where the ceiling membrane of a fire-resistance rated floor-ceiling or roof-ceiling assembly, constructed as permitted in Section 708.4, Exception 2, is penetrated.
3. A listed smoke damper designed to resist the passage of smoke shall be provided at each point a duct or air transfer opening penetrates a corridor enclosure required to have smoke and draft control doors in accordance with Section 716.5.3.

Exceptions:
1. Smoke dampers are not required where the building is equipped throughout with an approved smoke control system in accordance with Section 909, and smoke dampers are not necessary for the operation and control of the system.
2. Smoke dampers are not required in corridor penetrations where the duct is constructed of steel not less than 0.019 inch (0.48 mm) in thickness and there are no openings serving the corridor.

[SFM] *For Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, a listed smoke damper designed to resist the passage of smoke shall also be provided at each point a duct or air transfer opening penetrates a fire-resistance rated corridor enclosure required to have smoke and draft doors in accordance with Section ~~715.5.3~~ 716.5.3.*

Exceptions:
1. Smoke dampers are not required 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.
2. Smoke damper are not required in corridor penetrations where the duct is constructed of steel not less than 0.019 inch (0.48 mm) in thickness and there are no openings serving the corridor.

717.6.1 Through penetrations. In occupancies other than Groups I-2*, I-2.1* and I-3, a duct constructed of approved materials in accordance with the ~~*International*~~*California Mechanical Code* that penetrates a fire-resistance-rated floor/ceiling assembly that connects not more than two *stories* is permitted without shaft enclosure protection, provided a listed fire damper is installed at the floor line or the duct is protected in accordance with Section 714.4. For air transfer openings, see Section 712.1.9.

Exception: A duct is permitted to penetrate three floors or less without a fire damper at each floor, provided such duct meets all of the following requirements:

1. The duct shall be contained and located within the cavity of a wall and shall be constructed of steel having a minimum wall thickness of 0.0187 inches (0.4712 mm) (No. 26 gage).
2. The duct shall open into only one dwelling or sleeping unit and the duct system shall be continuous from the unit to the exterior of the building.
3. The duct shall not exceed 4-inch (102 mm) nominal diameter and the total area of such ducts shall not exceed 100 square inches (0.065 m2) in any 100 square feet (9.3 m2) of floor area.
4. The annular space around the duct is protected with materials that prevent the passage of flame and hot gases sufficient to ignite cotton waste where subjected to ASTM E 119 or UL 263 time-temperature conditions under a minimum positive pressure differential of 0.01 inch (2.49 Pa) of water at the location of the penetration for the time period equivalent to the fire-resistance rating of the construction penetrated.
5. Grille openings located in a ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly shall be protected with a listed ceiling radiation damper installed in accordance with Section 717.6.2.1.

717.6.2 Membrane penetrations. Ducts and air transfer openings constructed of approved materials in accordance with the ~~*International*~~*California Mechanical Code* that penetrate the ceiling membrane of a fire-resistance-rated floor/ceiling or roof/ceiling assembly shall be protected with one of the following:

1. A shaft enclosure in accordance with Section 713.
2. A listed ceiling radiation damper installed at the ceiling line where a duct penetrates the ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly.
3. In floor assemblies composed of noncombustible materials, a shaft shall not be required where the duct connects not more than three stories, the annular space around the penetrating duct is protected with an approved noncombustible material that resists the free passage of flame and the products of combustion and a fire damper is installed at each floor line.

717.6.3 Nonfire-resistance-rated floor assemblies. Duct systems constructed of approved materials in accordance with the ~~*International*~~*California Mechanical Code* that penetrate nonfire-resistance-rated floor assemblies shall be protected by any of the following methods:

1. A shaft enclosure in accordance with Section 713.
2. The duct connects not more than two stories, and the annular space around the penetrating duct is protected with an approved noncombustible material that resists the free passage of flame and the products of combustion.
3. The duct connects not more than three stories, and the annular space around the penetrating duct is protected with an approved noncombustible material that resists the free passage of flame and the products of combustion and a fire damper is installed at each floor line.

Exception: Fire dampers are not required in ducts within individual residential dwelling units.

718.3.3 Other groups. In other groups, draftstopping shall be installed so that horizontal floor areas do not exceed 1,000 square feet (93 m2).

Exceptions:
1. *In other than Group A, E, H, I, L and R-2.1 occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal,* draftstopping is not required in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. *In Group A, E, H, I and L occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, where an automatic sprinkler system in accordance with Section 903.3.1.1 is installed, the area between draft stops may be 3,000 square feet (279 m2)and the greatest horizontal dimension may be 100 feet (30 480 mm).*

718.4.3 Other groups. Draftstopping shall be installed in attics and concealed roof spaces, such that any horizontal area does not exceed 3,000 square feet (279 m2).

Exceptions:
1. In other than Group A, E, H, I and L and R-2.1 occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, draftstopping is not required in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. In Group A, E, H, I, L and R-2.1 occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, where an automatic sprinkler system in accordance with Section 903.3.1.1 is installed, the area between draft stops may be 9,000 square feet (836 m2)and the greatest horizontal dimension may be 100 feet (30 480 mm).

718.5 Combustible materials in concealed spaces in Type I or II construction. Combustible materials shall not be permitted in concealed spaces of buildings of Type I or II construction.

Exceptions:
1. Combustible materials in accordance with Section 603.
2. Combustible materials exposed within plenums complying with Section 602 of the ~~*International*~~*California Mechanical Code*.
3. Class A interior finish materials classified in accordance with Section 803.
4. Combustible piping within partitions or shaft enclosures installed in accordance with the provisions of this code.
5. Combustible piping within concealed ceiling spaces installed in accordance with the ~~*International*~~*California Mechanical Code* and the ~~*International*~~*California Plumbing Code*.
6. Combustible insulation and covering on pipe and tubing, installed in concealed spaces other than plenums, complying with Section 720.7.

720.1 General. Insulating materials, including facings such as vapor retarders and vapor-permeable membranes, similar coverings and all layers of single and multilayer reflective foil insulations, shall comply with the requirements of this section. Where a flame spread index or a smoke-developed index is specified in this section, such index shall be determined in accordance with ASTM E 84 or UL 723. Any material that is subject to an increase in flame spread index or smoke-developed index beyond the limits herein established through the effects of age, moisture or other atmospheric conditions shall not be permitted.

Exceptions:
1. Fiberboard insulation shall comply with Chapter 23.
2. Foam plastic insulation shall comply with Chapter 26.
3. Duct and pipe insulation and duct and pipe coverings and linings in plenums shall comply with the ~~*International*~~*California Mechanical Code*.
4. All layers of single and multilayer reflective plastic core insulation shall comply with Section 2613.

720.7 Insulation and covering on pipe and tubing. Insulation and covering on pipe and tubing shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 450.

Exception: Insulation and covering on pipe and tubing installed in plenums shall comply with the ~~*International*~~*California Mechanical Code.*

CHAPTER 7A [SFM]
MATERIALS AND CONSTRUCTION METHODS FOR EXTERIOR WILDFIRE EXPOSURE

SECTION 701A
SCOPE, PURPOSE AND APPLICATION

701A.1 Scope. *This chapter applies to building materials, systems and/or assemblies used in the exterior design and construction of new buildings located within a Wildland-Urban Interface Fire Area as defined in Section 702A.*

701A.2 Purpose. *The purpose of this chapter is to establish minimum standards for the protection of life and property by increasing the ability of a building located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area to resist the intrusion of flames or burning embers projected by a vegetation fire and contributes to a systematic reduction in conflagration losses.*

701A.3 Application. *New buildings located in any Fire Hazard Severity Zone or any Wildland-Urban Interface Fire Area designated by the enforcing agency constructed after the application date shall comply with the provisions of this chapter.*

Exceptions:
1. Buildings of an accessory character classified as a Group U occupancy and not exceeding 120 square feet in floor area, when located at least 30 feet from an applicable building.
2. Buildings of an accessory character classified as Group U occupancy of any size located least 50 feet from an applicable building.
3. Buildings classified as a Group UAgricultural Building, as defined in Section 202 of this code (see also Appendix C – Group UAgricultural Buildings), when located at least 50 feet from an applicable building.
4. Additions to and remodels of buildings originally constructed prior to the applicable application date.

701A.3.1 ***Application date and where required.*** *New buildings for which an application for a building permit is submitted on or after July 1, 2008 located in any Fire Hazard Severity Zone or Wildland Interface Fire Area shall comply with all sections of this chapter, including all of the following areas:*

1. All unincorporated lands designated by the State Board of Forestry and Fire Protection as State Responsibility Area (SRA) including:
1.1. Moderate Fire Hazard Severity Zones
1.2. High Fire Hazard Severity Zones
1.3. Very-High Fire Hazard Severity Zones

2. Land designated as Very-High Fire Hazard Severity Zone by cities and other local agencies.
3. Land designated as Wildland Interface Fire Area by cities and other local agencies.

Exceptions:
1. New buildings located in any Fire Hazard Severity Zone within State Responsibility Areas, for which an application for a building permit is submitted on or after January 1, 2008, shall comply with all sections of this chapter.

2. New buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland Interface Fire Area designated by cities and other local agencies for which an application for a building permit is submitted on or after December 1, 2005 but prior to July 1, 2008, shall only comply with the following sections of this chapter:
2.1. Section 705A – Roofing
2.2. Section 706A – Attic Ventilation

701A.4 Inspection and certification. *Building permit applications and final completion approvals for buildings within the scope and application of this chapter shall comply with the following:*

1. Building permit issuance. The local building official shall, prior to construction, provide the owner or applicant a certification that the building as proposed to be built complies with all applicable state and local building standards, including those for materials and construction methods for wildfire exposure as described in this chapter. Issuance of a building permit by the local building official for the proposed building shall be considered as complying with this section.
2. Building permit final. The local building official shall, upon completion of construction, provide the owner or applicant with a copy of the final inspection report that demonstrates the building was constructed in compliance with all applicable state and local building standards, including those for materials and construction methods for wildfire exposure as described in this chapter. Issuance of a certificate of occupancy by the local building official for the proposed building shall be considered as complying with this section.

701A.5 Vegetation management compliance. *Prior to building permit final approval, the property shall be in compliance with the vegetation management requirements prescribed in California Fire Code Section 4906, including California Public Resources Code 4291 or California Government Code Section 51182. Acceptable methods of compliance inspection and documentation shall be determined by the enforcing agency and may include any of the following:*

1. Local, state or federal fire authority or designee authorized to enforce vegetation management requirements
2. Enforcing agency
3. Third party inspection and certification authorized to enforce vegetation management requirements
4. Property owner certification authorized by the enforcing agency

SECTION 702A
DEFINITIONS

For the purposes of this chapter, certain terms are defined below:

CDF DIRECTOR *means the Director of the California Department of Forestry and Fire Protection.*

EXTERIOR COVERING. *The exposed siding or cladding material applied to the exterior side of an exterior wall, roof eave soffit, floor projection or exposed underfloor framing.*

FIRE PROTECTION PLAN *is a document prepared for a specific project or development proposed for aWildland Urban Interface Fire Area. It describes ways to minimize and mitigate potential for loss from wildfire exposure.*

The Fire Protection Plan shall be in accordance with this chapter and the California Fire Code, Chapter 49. When required by the enforcing agency for the purposes of granting modifications, a fire protection plan shall be submitted. Only locally adopted ordinances that have been filed with the California Building Standards Commission or the Department of Housing and Community Development in accordance with Section 1.1.8 shall apply.

FIRE HAZARD SEVERITY ZONES *are geographical areas designated pursuant to California Public Resources Codes Sections 4201 through 4204 and classified as Very High, High, or Moderate in State Responsibility Areas or as Local Agency Very High Fire Hazard Severity Zones designated pursuant to California Government Code, Sections 51175 through 51189. See California Fire Code ~~Article 86~~Chapter 49.*

The California Code of Regulations, Title 14, Section 1280, entitles the maps of these geographical areas as "Maps of the Fire Hazard Severity Zones in the State Responsibility Area of California."

HEAVY TIMBER. *A type of construction classification specified in Section 602. For use in this chapter, heavy timber shall be sawn lumber or glue laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). Heavy timber walls or floors shall be sawn or glue-laminated planks splined, tongue-and-grove, or set close together and well spiked.*

IGNITION-RESISTANT MATERIAL. *A type of building material that resists ignition or sustained flaming combustion sufficiently so as to reduce losses from wildland-urban interface conflagrations under worst-case weather and fuel conditions with wildfire exposure of burning embers and small flames, as prescribed in Section 703A and SFM Standard 12-7A-5, Ignition-Resistant Material.*

LOCAL AGENCY VERY HIGH FIRE HAZARD SEVERITY ZONE *means an area designated by a local agency upon the recommendation of the CDF Director pursuant to Government Code Sections 51177(c), 51178 and 5118 that is not a state responsibility area and where a local agency, city, county, city and county, or district is responsible for fire protection.*

LOG WALL CONSTRUCTION. *A type of construction in which exterior walls are constructed of solid wood members and where the smallest horizontal dimension of each solid wood member is at least 6 inches (152 mm).*

RAFTERTAIL. *The portion of roof rafter framing in a sloping roof assembly that projects beyond and overhangs an exterior wall.*

ROOF EAVE. *The lower portion of a sloping roof assembly that projects beyond and overhangs an exterior wall at the lower end of the rafter tails. Roof eaves may be either "open" or "enclosed." Open roof eaves have exposed rafter tails and an unenclosed space on the underside of the roof deck. Enclosed roof eaves have a boxed-in roof eave soffit with a horizontal underside or sloping rafter tails with an exterior covering applied to the underside of the rafter tails.*

ROOF EAVE SOFFIT. *An enclosed boxed-in soffit under a roof eave with exterior covering material applied to the soffit framing creating a horizontal surface on the exposed underside.*

STATE RESPONSIBILITY AREA *means lands that are classified by the Board of Forestry pursuant to Public Resources Code Section 4125 where the financial responsibility of preventing and suppressing forest fires is primarily the responsibility of the state.*

WILDFIRE *is any uncontrolled fire spreading through vegetative fuels that threatens to destroy life, property, or resources as defined in Public Resources Code Sections 4103 and 4104.*

WILDFIRE EXPOSURE *is one or a combination of radiant heat, convective heat, direct flame contact and burning embers being projected by vegetation fire to a structure and its immediate environment.*

WILDLAND-URBAN INTERFACE FIRE AREA *is a geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires.*

SECTION 703A
STANDARDS OF QUALITY

703A.1 General. *Building material, systems, assemblies and methods of construction used in this chapter shall be in accordance with Section 703A.*

703A.2 Qualification by testing. *Material and material assemblies tested in accordance with the requirements of Section 703A shall be accepted for use when the results and conditions of those tests are* met. *Product evaluation testing of material and material assemblies shall be approved or listed by the State Fire Marshal, or identified in a current report issued by an approved agency.*

703A.3 Approved agency. *Product evaluation testing shall be performed by an approved agency as defined in Section 1702. The scope of accreditation for the approved agency shall include building product compliance with this code.*

703A.4 Labeling. *Material and material assemblies tested in accordance with the requirements of Section 703A shall bear an identification label showing the fire test results. That identification label shall be issued by a testing and/or inspecting agency approved by the State Fire Marshal.*

1. Identification mark of the approved testing and/or inspecting agency
2. Contact and identification information of the manufacturer

3. Model number or identification of the product or material
4. Pre-test weathering specified in this chapter
5. Compliance standard as described under Section 703A.7

703A.5 Weathering and surface treatment protection.

703A.5.1 General. *Material and material assemblies tested in accordance with the requirements of Section 703A shall maintain their fire test performance under conditions of use, when installed in accordance with the manufacturers instructions.*

703A.5.2 Weathering. *Fire-retardant-treated wood and fire-retardant-treated wood shingles and shakes shall meet the fire test performance requirements of this chapter after being subjected to the weathering conditions contained in the following standards, as applicable to the materials and the conditions of use.*

703A.5.2.1 Fire-retardant-treated wood. *Fire-retardant-treated wood shall be tested in accordance with ASTM D 2898, "Standard Practice for Accelerated Weathering of Fire-Retardant Treated Wood for Fire Testing (Method A)" and the requirements of Section 2303.2.*

703A.5.2.2 Fire-retardant-treated wood shingles and shakes. *Fire-retardant-treated wood shingles and shakes shall be approved and listed by the State Fire Marshal in accordance with Section 208(c), Title 19 California Code of Regulations.*

703A.5.3 Surface treatment protection. *The use of paints, coatings, stains or other surface treatments are not an approved method of protection as required in this chapter.*

703A.6 Alternates for materials, design, tests and methods of construction. *The enforcing agency is permitted to modify the provisions of this chapter for site-specific conditions in accordance with Section 1.11.2.4. When required by the enforcing agency for the purposes of granting modifications, a fire protection plan shall be submitted in accordance with the California Fire Code, Chapter 49.*

703A.7 Standards of quality. *The State Fire Marshal standards for exterior wildfire exposure protection listed below and as referenced in this chapter are located in the California Referenced Standards Code, Part 12 and Chapter 35 of this code.*

SFM Standard 12-7A-1, *Exterior Wall Siding and Sheathing. A fire resistance test standard consisting of a 150 kW intensity direct flame exposure for a 10-minute duration.*

SFM Standard 12-7A-2, *Exterior Windows. A fire resistance test standard consisting of a 150 kW intensity direct flame exposure for a 8-minute duration.*

SFM Standard 12-7A-3, *Horizontal Projection Underside A fire resistance test standard consisting of a 300 kW intensity direct flame exposure for a 10-minute duration.*

SFM Standard 12-7A- 4, *Decking. A two-part test consisting of a heat release rate (Part A) deck assembly combustion test with an under deck exposure of 80 kW intensity direct flame for a 3-minute duration, and a (Part B) sustained deck assembly combustion test consisting of a deck upper surface burning ember exposure with a 12 mph wind for 40 minutes using a 2.2 lb (1 kg) burning "Class A" size 12" x 12" x 2.25" (300 mm x 300 mm x 57 mm) roof test brand.*

SFM Standard 12-7A-4A, *Decking Alternate Method A. A heat release rate deck assembly combustion test with an under deck exposure of 80 kW intensity direct flame for a 3-minute duration,*

SFM Standard 12-7A-5, *Ignition-resistant Material. A generic building material surface burning flame spread test standard consisting of an extended 30 minute ASTM E84 or UL 723 test method as is used for fire-retardant-treated wood.*

SECTION 704A
IGNITION-RESISTANT CONSTRUCTION

704A.1 General. *The materials prescribed herein for ignition resistance shall conform to the requirements of this chapter.*

704A.2 Ignition-resistant material. *Ignition-resistant material shall be determined in accordance with the test procedures set forth in SFM Standard 12-7A-5 "Ignition-Resistant Material" or in accordance with this section.*

704A.3 Alternative methods for determining ignition-resistant material. *Any one of the following shall be accepted as meeting the definition of ignition-resistant material:*

1. Noncombustible material. Material that complies with the definition for noncombustible materials in Section 202.
2. Fire-retardant-treated wood. Fire-retardant-treated wood identified for exterior use that complies with the requirements of Section 2303.2.
3. Fire-retardant-treated wood shingles and shakes. Fire-retardant-treated wood shingles and shakes, as defined in Section 1505.6 and listed by State Fire Marshal for use as "Class B" roof covering, shall be accepted as an ignition-resistant wall covering material when installed over solid sheathing.

SECTION 705A
ROOFING

705A.1 General. *Roofs shall comply with the requirements of Chapter 7A and Chapter 15. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions.*

705A.2 Roof coverings. *Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to prevent the intrusion of flames and embers, be firestopped with approved materials or have one layer of minimum 72 pound (32.4 kg) mineral-surfaced nonperforated cap sheet complying with ASTM D3909 installed over the combustible decking.*

705A.3 Roof valleys. *Where valley flashing is installed, the flashing shall be not less than 0.019-inch (0.48 mm) No. 26 gage galvanized sheet corrosion-resistant metal installed over not less than one layer of minimum 72 pound (32.4 kg) mineral- surfaced nonperforated cap sheet complying with ASTM D 3909, at least 36-inch-wide (914 mm) running the full length of the valley.*

705A.4 Roof gutters. *Roof gutters shall be provided with the means to prevent the accumulation of leaves and debris in the gutter.*

SECTION 706A
VENTS

706A.1 General. *Where provided, ventilation openings for enclosed attics, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, and underfloor ventilation shall be in accordance with Section 1203 and Sections 706A.1 through 706A.3 to resist building ignition from the intrusion of burning embers and flame through the ventilation openings.*

SECTION 707A
EXTERIOR COVERING

707A.1 Scope. *The provisions of this section shall govern the materials and construction methods used to resist building ignition and/or safeguard against the intrusion of flames resulting from small ember and short-term direct flame contact exposure.*

707A.2 General. *The following exterior covering materials and/or assemblies shall comply with this section:*

1. Exterior wall covering material
2. Exterior wall assembly
3. Exterior exposed underside of roof eave overhangs
4. Exterior exposed underside of roof eave soffits
5. Exposed underside of exterior porch ceilings
6. Exterior exposed underside of floor projections
7. Exterior underfloor areas

Exceptions:
1. Exterior wall architectural trim, embellishments, fascias, and gutters
2. Roof or wall top cornice projections and similar assemblies
3. Roof assembly projections over gable end walls
4. Solid wood rafter tails and solid wood blocking installed between rafters having minimum dimension 2 inch (50.8 mm) nominal
5. Deck walking surfaces shall comply with Section 709A.4 only

707A.3 Exterior walls. *The exterior wall covering or wall assembly shall comply with one of the following requirements:*

1. Noncombustible material
2. Ignition-resistant material
3. Heavy timber exterior wall assembly
4. Log wall construction assembly
5. Wall assemblies that meet the performance criteria in accordance with the test procedures for a 10-minute direct flame contact exposure test set forth in SFM Standard 12-7A-1

Exception: *Any of the following shall be deemed to meet the assembly performance criteria and intent of this section:*

1. One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering or cladding on the exterior side of the framing
2. The exterior portion of a 1-hour fire resistive exterior wall assembly designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual

707A.3.1 Extent of exterior wall covering. *Exterior wall coverings shall extend from the top of the foundation to the roof, and terminate at 2 inch (50.8 mm) nominal solid wood blocking between rafters at all roof overhangs, or in the case of enclosed eaves, terminate at the enclosure.*

707A.4 Open roof eaves. *The exposed roof deck on the underside of unenclosed roof eaves shall consist of one of the following:*

1. Noncombustible material
2. Ignition-resistant material
3. One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside exterior of the roof deck
4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the roof deck designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual

Exceptions: *The following materials do not require protection:*
1. Solid wood rafter tails on the exposed underside of open roof eaves having a minimum nominal dimension of 2 inch (50.8 mm)
2. Solid wood blocking installed between rafter tails on the exposed underside of open roof eaves having a minimum nominal dimension of 2 inch (50.8 mm)
3. Gable end overhangs and roof assembly projections beyond an exterior wall other than at the lower end of the rafter tails
4. Fascia and other architectural trim boards

SECTION 708A
EXTERIOR WINDOWS AND DOORS

708A.1 General.

708A.2 Exterior glazing. *The following exterior glazing materials and/or assemblies shall comply with this section:*

1. Exterior windows
2. Exterior glazed doors
3. Glazed openings within exterior doors

4. Glazed openings within exterior garage doors
5. Exterior structural glass veneer

708A.2.1 Exterior windows and exterior glazed door assembly requirements. *Exterior windows and exterior glazed door assemblies shall comply with one of the following requirements:*

1. Be constructed of multipane glazing with a minimum of one tempered pane meeting the requirements of Section 2406 Safety Glazing, or
2. Be constructed of glass block units, or
3. Have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 257, or
4. Be tested to meet the performance requirements of SFM Standard 12-7A-2

708A.2.2 Structural glass veneer. *The wall assembly behind structural glass veneer shall comply with Section 707A.3.*

708A.3 Exterior doors. *Exterior doors shall comply with one of the following:*

1. The exterior surface or cladding shall be of noncombustible or ignition-resistant material, or
2. Shall be constructed of solid core wood that comply with the following requirements:
2.1. Stiles and rails shall not be less than 13/8 inches thick.
2.2. Raised panels shall not be less than 11/4 inches thick, except for the exterior perimeter of the raised panel that may taper to a tongue not less than 3/8 inch thick.

3. Shall have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 252.
4. Shall be tested to meet the performance requirements of SFM Standard 12-7A-1.

708A.3.1 Exterior door glazing. *Glazing in exterior doors shall comply with Section 708A.2.1.*

SECTION 709A
DECKING

709A.1 General. *The walking surface material of decks, porches, balconies and stairs shall comply with the requirements of this section.*

709A.2 Where required. *The walking surface material of decks, porches, balconies and stairs shall comply with the requirements of this section when any portion of such surface is within 10 feet (3048 mm) of the building.*

709A.3 Decking Surfaces. *The walking surface material of decks, porches, balconies and stairs shall be constructed with one of the following materials:*

1. Ignition-resistant material that complies with the performance requirements of both SFM Standard 12-7A-4 and SFM Standard 12-7A-5.
2. Exterior fire retardant treated wood
3. Noncombustible material
4. Any material that complies with the performance requirements of SFM Standard 12-7A-4A when attached exterior wall covering is also either noncombustible or ignition-resistant material.

Exception: *Wall material may be of any material that otherwise complies with this chapter when the decking surface material complies with the performance requirements ASTM E 84 with a Class B flame spread rating.*

SECTION 710A
ACCESSORY STRUCTURES

710A.1 General. *Accessory and miscellaneous structures, other than buildings covered by Section 701A.3, which pose a significant exterior exposure hazard to applicable buildings during wildfires shall be constructed to conform to the ignition resistance requirements of this section.*

710A.2 Applicability. *The provisions of this section shall apply to trellises, arbors, patio covers, carports, gazebos and similar structures of an accessory or miscellaneous character.*

Exceptions:
1. Decks shall comply with the requirements of Section 709A.
2. Awnings and canopies shall comply with the requirements of Section 3105.

710A.3 Where required. *Accessory structures shall comply with the requirements of this section.*

710A.3.1 *Attached accessory structures shall comply with the requirements of this section.*

710A.3.2 *When required by the enforcing agency, detached accessory structures within 50 feet of an applicable building shall comply with the requirements of this section.*

710A.4. Requirements. *When required by the enforcing agency accessory structures shall be constructed of noncombustible or ignition-resistant materials.*

CHAPTER 8
INTERIOR FINISHES

TABLE 803.11
INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY[k]

GROUP	SPRINKLERED[l]			NONSPRINKLERED		
	Interior exit stairways and interior exit ramps and exit passageways [a, b]	Corridors and enclosure for exit access stairways and exit access ramps	Rooms and enclosed spaces [c]	Interior exit stairways and interior exit ramps and exit passageways [a, b]	Corridors and enclosure for exit access stairways and exit access ramps	Rooms and enclosed spaces [c]
A-1 & A-2	B	B	C	A	A[d]	B[e]
A-3[f], A-4, A-5	B	B	C	A	A[d]	C
B, E, M, R-1	B	C	C	A	B	C
R-4[m]	B	C	C	A	B	B
F	C	C	C	B	C	C
H, *L*	B	B	C[g]	A	A	B
~~I-1~~	~~B~~	~~C~~	~~C~~	~~A~~	~~B~~	~~B~~
I-2, *I-2.1*	B	B	B[h, i]	A	A	B
I-3	A	A[j]	~~C~~ *B*	~~A~~ *NP*	~~A~~ *NP*	~~B~~ *NP*
I-4	B	B	B[h, i]	A	A	B
R-2	C	C	C	B	B	C
R-2.1	*B*	*C*	*C*	*A*	*B*	*B*
R-3[m], *R-3.1*	C	C	C	C	C	C
S	C	C	C	B	B	C
U	No restrictions			No restrictions		

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929m2.
NP = Not permitted [SFM]

a. Class C interior finish materials shall be permitted for wainscotting or paneling of not more than 1,000 square feet of applied surface area in the grade lobby where applied directly to a noncombustible base or over furring strips applied to a noncombustible base and fireblocked as required by Section 803.13.1.

b. In other than Group I-3 occupancies in buildings less than three stories above grade plane, Class B interior finish for nonsprinklered buildings and Class C interior finish for sprinklered buildings shall be permitted in interior exit stairways and ramps.

~~b. In other than Group I-2 *and I-2.1* occupancies in buildings less than three stories above grade plane of other than Group I-3, Class B interior finish for nonsprinklered buildings and Class C interior finish for sprinklered buildings shall be permitted in interior exit stairways and ramps.~~

c. Requirements for rooms and enclosed spaces shall be based upon spaces enclosed by partitions. Where a fire-resistance rating is required for structural elements, the enclosing partitions shall extend from the floor to the ceiling. Partitions that do not comply with this shall be considered enclosing spaces and the rooms or spaces on both sides shall be considered one. In determining the applicable requirements for rooms and enclosed spaces, the specific occupancy thereof shall be the governing factor regardless of the group classification of the building or structure.

d. Lobby areas in Group A-1, A-2 and A-3 occupancies shall not be less than Class B materials.

e. Class C interior finish materials shall be permitted in places of assembly with an occupant load of 300 persons or less.

f. For places of religious worship, wood used for ornamental purposes, trusses, paneling or chancel furnishing shall be permitted.

g. Class B material is required where the building exceeds two stories.

h. Class C interior finish materials shall be permitted in administrative spaces.

i. Class C interior finish materials shall be permitted in rooms with a capacity of four persons or less.

j. Class B materials shall be permitted as wainscotting extending not more than 48 inches above the finished floor in corridors and exit access stairways and ramps.

k. Finish materials as provided for in other sections of this code.

l. Applies when protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

m. Where Group R-3 and R-4 occupancies are permitted in Section 903.2.8 to be protected by automatic sprinkler system installed in accordance with Section 903.3.1.3 the requirements for a non-sprinklered building shall apply.

804.4 Interior floor finish requirements. Interior floor covering materials shall comply with Sections 804.4.1 and 804.4.2 and interior floor finish materials shall comply with Section ~~804.4.2~~*804.4.3*.

804.4.1 Test requirement. In all *other* occupancies *except I-3*, *interior floor finish and* interior floor covering materials shall comply with the requirements of the ~~DOC FF-1 "pill test" (CPSC 16 CFR Part 1630) or with ASTM D 2859~~ *ASTM Standard E 648, and having a Specific Optical Density smoke rating not to exceed 450 per ASTM E 662. For Group I-3 occupancies see Section 804.4.3.*

804.4.2 Minimum critical radiant flux. In all occupancies, interior floor finish and floor covering materials in enclosures for stairways and ramps, exit passageways, corridors and rooms or spaces not separated from corridors by partitions extending from the floor to the underside of the ceiling shall withstand a minimum critical radiant flux. The minimum critical radiant flux shall be not less than Class I in Groups ~~I-1,~~ I-2 and ~~I-3~~ *R-2.1* and not less than Class II in Groups A, B, E, H, *I-2.1*, I- 4, M, R-1, R-2 and S.

Exception: Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, Class II materials are permitted in any area where Class I materials are required, and materials complying with ~~DOC FF-1 "pill test" (CPSC 16 CFR Part 1630) or with ASTM D 2859~~*ASTM Standard E 648, and having a Specific Optical Density smoke rating not to exceed 450 per ASTM E 662* are permitted in any area where Class II materials are required.

804.4.3 Group I-3 Occupancy floor surfaces. *Interior floor finish and floor coverings occupied by inmates or patients whose personal liberties are restrained shall be noncombustible.*

Exception: *Noncombustible floor finish and floor coverings in areas where restraint is not used may have carpet or other floor covering materials applied in areas protected by an automatic sprinkler system and meeting ASTM Standard E 648, and having a specific optical density smoke rating not to exceed 450 per ASTM E 662. The carpeting and carpet padding shall be tested as a unit in accordance with floor covering radiant panel test meeting class 1 and has a critical radiant flux limit of not less than 0.45 watt per centimeter square. The carpeting and padding shall be identified by a hang-tag or other suitable method as to manufacturer and style and shall indicate the classification of the material based on the limits set forth above.*

[Editorial Note: Remove existing amendments to Section 806.1. Model code section has changed and amendment no longer applies.]

~~**806.1 General requirements.** In occupancies in Groups A, E, I and R-1 and dormitories in Group R-2, curtains, draperies, hangings and other decorative materials suspended from walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 806.2 or be noncombustible.~~

~~**Exceptions:**~~
~~1. Curtains, draperies, hangings and other decorative materials suspended from walls of sleeping units and dwelling units in dormitories in Group R-2 protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1 and such materials are limited to not more than 50 percent of the aggregate area of walls.~~
~~2. Decorative materials, including, but not limited to, photographs and paintings in dormitories in Group R-2 where such materials are of limited quantities such that a hazard of fire development or spread is not present.~~

~~In Groups I-1, and I-2 *and I-2.1*, combustible decorative materials shall meet the flame propagation criteria of NFPA 701 unless the decorative materials, including, but not limited to, photographs and paintings, are of such limited quantities that a hazard of fire development or spread is not present. In Group I-3, combustible decorative materials are prohibited.~~

~~Fixed or movable walls and partitions, paneling, wall pads and crash pads applied structurally or for decoration, acoustical correction, surface insulation or other purposes shall be considered interior finish if they cover 10 percent or more of the wall or of the ceiling area, and shall not be considered decorative materials or furnishings.~~

~~In Group B and M occupancies, fabric partitions suspended from the ceiling and not supported by the floor shall meet the flame propagation performance criteria in accordance with Section 806.2 and NFPA 701 or shall be noncombustible.~~

806.7 Interior trim. Material, other than foam plastic used as interior trim, shall have a minimum *Class B flame spread and 450 smoke-developed index in Group I-3 and for all other occupancies* Class C flame spread and smoke-developed index when tested in accordance with ASTM E 84 or UL 723, as described in Section 803.1.1. Combustible trim, excluding handrails and guardrails, shall not exceed 10 percent of the specific wall or ceiling area in which it is attached.

CHAPTER 9
FIRE PROTECTION SYSTEMS

901.2 Fire protection systems. Fire protection systems shall be installed, repaired, operated and maintained in accordance with this code and the ~~*International*~~*California Fire Code*.

Any fire protection system for which an exception or reduction to the provisions of this code has been granted shall be considered to be a required system.

Exception: Any fire protection system or portion thereof not required by this code shall be permitted to be installed for partial or complete protection provided that such system meets the requirements of this code.

901.3 Modifications. Persons shall not remove or modify any fire protection system installed or maintained under the provisions of this code or the ~~*International*~~*California Fire Code* without approval by the building official.

901.5 Acceptance tests. Fire protection systems shall be tested in accordance with the requirements of this code and the ~~*International*~~*California Fire Code*. When required, the tests shall be conducted in the presence of the building official. Tests required by this code, the ~~*International*~~*California Fire Code* and the standards listed in this code shall be conducted at the expense of the owner or the owner's authorized agent. It shall be unlawful to occupy portions of a structure until the required fire protection systems within that portion of the structure have been tested and approved.

901.6.2 Fire alarm systems. Fire alarm systems required by the provisions of Section 907.2 of this code and Sections 907.2 and 907.9 of the ~~*International*~~*California Fire Code* shall be monitored by an approved supervising station in accordance with Section 907.6.6.

Exceptions:
1. Single- and multiple-station smoke alarms required by Section 907.2.11.
2. Smoke detectors in Group I-3 occupancies.
3. Supervisory service is not required for automatic sprinkler systems in one- and two-family dwellings.

902.1 Definitions. The following terms are defined in Chapter 2.

ALARM NOTIFICATION APPLIANCE.
ALARM SIGNAL.

ALARM VERIFICATION FEATURE.
ANNUNCIATOR.
AUDIBLE ALARM NOTIFICATION APPLIANCE.
AUTOMATIC.
AUTOMATIC FIRE-EXTINGUISHING SYSTEM.
AUTOMATIC SMOKE DETECTION SYSTEM.
AUTOMATIC SPRINKLER SYSTEM.
AUTOMATIC WATER MIST SYSTEM.
AVERAGE AMBIENT SOUND LEVEL.
CARBON DIOXIDE EXTINGUISHING SYSTEMS.
CEILING LIMIT.
CLEAN AGENT.
COMMERCIAL MOTOR VEHICLE.
CONSTANTLY ATTENDED LOCATION.
DELUGE SYSTEM.
DETECTOR, HEAT.
DRY-CHEMICAL EXTINGUISHING AGENT.
ELECTRICAL CIRCUIT PROTECTIVE SYSTEM.
ELEVATOR GROUP.
EMERGENCY ALARM SYSTEM.
EMERGENCY VOICE/ALARM COMMUNICATIONS.
FIRE ALARM BOX, MANUAL.
FIRE ALARM CONTROL UNIT.
FIRE ALARM SIGNAL.
FIRE ALARM SYSTEM.
FIRE APPLIANCE.
FIRE AREA.
FIRE COMMAND CENTER.
FIRE DETECTOR, AUTOMATIC.
FIRE PROTECTION SYSTEM.
FIRE SAFETY FUNCTIONS.
FOAM-EXTINGUISHING SYSTEM.
HALOGENATED EXTINGUISHING SYSTEM.
INITIATING DEVICE.
MANUAL FIRE ALARM BOX.
MULTIPLE-STATION ALARM DEVICE.
MULTIPLE-STATION SMOKE ALARM.
NOTIFICATION ZONE.
NUISANCE ALARM.
PRIVATE GARAGE.
RECORD DRAWINGS.
SINGLE-STATION SMOKE ALARM.
SMOKE ALARM.
SMOKE DETECTOR.
SMOKEPROOF ENCLOSURE.
STANDPIPE SYSTEM, CLASSES OF.
Class I system.
Class II system.
Class III system.
STANDPIPE, TYPES OF.
Automatic dry.
Automatic wet.
Manual dry.
Manual wet.
Semiautomatic dry.
SUPERVISING STATION.

SUPERVISORY SERVICE.
SUPERVISORY SIGNAL.
SUPERVISORY SIGNAL-INITIATING DEVICE.
TIRES, BULK STORAGE OF.
TROUBLE SIGNAL.
VISIBLE ALARM NOTIFICATION APPLIANCE.
WET-CHEMICAL EXTINGUISHING SYSTEM.
WIRELESS PROTECTION SYSTEM.
ZONE.
ZONE, NOTIFICATION.

903.2 Where required. Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in Sections 903.2.1 through 903.2.12.

~~**Exception:** Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided those spaces or areas are equipped throughout with an automatic smoke detection system in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour fire barriers constructed in accordance with Section 707 or not less than 2-hour horizontal assemblies constructed in accordance with Section 711, or both.~~

903.2.1.2 Group A-2. An automatic sprinkler system shall be provided for fire areas containing Group A-2 occupancies and intervening floors of the building where one of the following conditions exists:
1. The fire area exceeds 5,000 square feet (464.5 m^2).
2. The fire area has an occupant load of 100 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.
4. The structure exceeds 5,000 square feet (465 m2), contains more than one fire area containing a Group A-2 occupancy, and is separated into two or more buildings by fire walls of less than four hour fire resistance rating without openings.

903.2.1.3 Group A-3. An automatic sprinkler system shall be provided for fire areas containing Group A-3 occupancies and intervening floors of the building where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m^2).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.
4. *The structure exceeds 12,000 square feet (1155 m^2), contains more than one fire area containing exhibition and display rooms, and is separated into two or more buildings by fire walls of less than four hour fire resistance rating without openings.*

903.2.3 Group E. An automatic sprinkler system shall be provided for Group E occupancies as follows:

1. Throughout all Group E fire areas greater than 12,000 square feet (1115 m^2) in area.
2. Throughout every portion of educational buildings below the lowest *level of exit discharge* serving that portion of the building.

Exception: An automatic sprinkler system is not required in any area below the lowest level of exit discharge serving that area where every classroom throughout the building has not fewer than one exterior *exit* door at ground level.

3. In rooms or areas with special hazards such as laboratories, vocational shops and other such areas where hazardous materials in quantities not exceeding the maximum allowable quantity are used or stored.
4. Throughout any Group E structure greater than 12,000 square feet (1115 m^2) in area, which contains more than one fire area, and which is separated into two or more buildings by fire walls of less than four hour fire resistance rating without openings.
5. For public school state funded construction projects see Section 903.2.19.

903.2.4.1 Woodworking operations. An automatic sprinkler system shall be provided throughout all Group F-1 occupancy fire areas that contain woodworking operations in excess of 2,500 square feet (232 m2) in area that generate finely divided combustible waste or use finely divided combustible materials.

[SFM] A fire wall of less than four-hour fire-resistance rating without openings, or any fire wall with openings, shall not be used to establish separate fire areas.

903.2.5.4 Group H occupancies located above the 10th story. *The fire sprinkler system shall be designed and zoned to provide separate indication upon water-flow for each side of the 2-hour fire-smoke barrier above the 10th story.*

903.2.6 Group I. An automatic sprinkler system shall be provided throughout buildings with a Group I *fire area*.

Exceptions:
~~1. An automatic sprinkler system installed in accordance with Section 903.3.1.2 shall be permitted in Group I-1 Condition 1 facilities.~~
~~2. An automatic sprinkler system is not required where Group I-4 day care facilities are at the level of exit discharge and where every room where care is provided has not fewer than one exterior exit door.~~
~~3. In buildings where Group I-4 day care is provided on levels other than the level of exit discharge, an automatic sprinkler system in accordance with Section 903.3.1.1 shall be installed on the entire floor where care is provided, all floors between the level of care and the level of exit discharge, and all floors below the level of exit discharge other than areas classified as an open parking garage.~~
1. Those areas exempted by Section 407.6 of the California Building Code.
2. Pursuant to Health and Safety Code Section 13113 (d), Group I-2 occupancies, or any alterations thereto, located in Type IA construction in existence on March 4, 1972.

903.2.6.1 Group I-2. *In an existing, unsprinklered Group I-2, nurses' station open to fire-resistive exit access corridors shall be protected by an automatic sprinkler system located directly above the nurses' station. It shall be permitted to connect the automatic sprinkler system to the domestic water service.*

903.2.6.2 Group I-3. *Every building, or portion thereof, where inmates or persons are in custody or restrained shall be protected by an automatic sprinkler system conforming to NFPA 13. The main sprinkler control valve or valves and all other control valves in the system shall be locked in the open position and electrically supervised so that at least an audible and visual alarm will sound at a constantly attended location when valves are closed. The sprinkler branch piping serving cells may be embedded in the concrete construction.*

903.2.7 Group M. An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy where one of the following conditions exists:

1. A Group M fire area exceeds 12,000 square feet (1115 m^2).
2. A Group M fire area is located more than three stories above grade plane.
3. The combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m2).
4. A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m2).
5. The structure exceeds 24,000 square feet (465 m2), contains more than one fire area containing a Group M occupancy, and is separated into two or more buildings by fire walls of less than 4-hour fire resistance rating without openings.

903.2.7.1 High-piled storage. An automatic sprinkler system shall be provided in accordance with the ~~*International*~~*California Fire Code* in all buildings of Group M where storage of merchandise is in high-piled or rack storage arrays.

[Editorial Note: Remove amendment to 2013 CFC section 903.2.8.1. Current model code language to remain.]
~~**903.2.8.1 Group R-3 or R-4 congregate residences.** An automatic sprinkler system installed in accordance with Section 903.3.1.3 shall be permitted in Group R-3 or R-4 congregate residences with 16 or fewer residents.~~

903.2.8.4 ~~Care facilities~~*Group R-3.1*. An automatic sprinkler system installed in accordance with Section 903.3.1.3 shall be permitted in ~~care facilities with five~~*Group R-3.1 occupancies with six* or fewer individuals in a single-family dwelling.

903.2.10 Group S-2 enclosed parking garages. An automatic sprinkler system shall be provided throughout buildings classified as enclosed parking garages in accordance with Section 406.6 where either of the following conditions exists:
1. Where the fire area of the enclosed parking garage exceeds 12,000 square feet (1115 m^2).

2. Where the enclosed parking garage is located beneath other groups.

~~**Exception:** Enclosed parking garages located beneath Group R-3 occupancies.~~

903.2.11.4 Ducts conveying hazardous exhausts. Where required by the ~~*International*~~*California Mechanical Code*, automatic sprinklers shall be provided in ducts conveying hazardous exhaust, or flammable or combustible materials.

Exception: Ducts where the largest cross-sectional diameter of the duct is less than 10 inches (254 mm).

TABLE 903.2.11.6
ADDITIONAL REQUIRED SUPPRESSION SYSTEMS

SECTION	SUBJECT
402.5, 402.6.2	Covered and open mall buildings
403.3	High rise buildings
403.3	High-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access*
404.3	Atriums
405.3	Underground structures
407.6	Group I-2
410.7	Stages
411.4	Special amusement buildings
412.3.6	Airport traffic control towers
412.4.6, 412.4.6.1, 412.6.5	Aircraft hangars
415.11.11	Group H-5 HPM exhaust ducts
416.5	Flammable finishes
417.4	Drying rooms
419.5	Live/work units
424.3	Children's play structures
~~*430*~~*440*	*Horse Racing Stables*
~~*431*~~*441*	*Pet Kennels*
~~*439*~~*449*	*Public Libraries*
507	Unlimited area buildings
509.4	Incidental use areas
1029.6.2.3	Smoke-protected assembly seating
~~IFC~~*CFC*	Sprinkler system requirements as set forth in Section 903.2.11.6 of the ~~*International*~~*California Fire Code*

For SI: 1 cubic foot = 0.023 m3.

903.2.12 During construction. Automatic sprinkler systems required during construction, alteration and demolition operations shall be provided in accordance with Chapter 33 of the ~~*International*~~*California Fire Code*.

903.2.13 *Reserved.*

903.2.14 Motion picture and television production studio sound stages, approved production facilities and production locations.

903.2.14.1 Existing sound stages and approved production facilities. *All existing sound stages and approved production facilities equipped with an automatic fire sprinkler system shall be maintained in accordance with the provisions of California Fire Code Chapter 9.*

903.2.14.2 New sound stages. *All new sound stages shall be equipped with an approved automatic fire sprinkler system. The system shall be installed in accordance with the provisions of the California Fire Code Chapter 9 and shall meet the minimum design requirements of an Extra Hazard, Group 2 system.*

903.2.15 Automatic sprinkler system—existing highrise buildings. *See ~~Section 3414.27~~California Fire Code Chapter 11 and California Existing Building Code.*

903.2.15.1 Existing Group R-1 and R-2 high-rise buildings fire-extinguishing systems. *See ~~Section 3413.13.3.3~~California Fire Code Chapter 11 and California Existing Building Code.*

903.2.16 Group L occupancies. *An automatic sprinkler system shall be installed throughout buildings housing Group L occupancies. Sprinkler system design for research laboratories and similar areas of a Group L occupancy shall not be less than that required for Ordinary Hazard Group 2 with a design area of not less than 3,000 square feet (279 m2).*

In mixed occupancies, portions of floors or buildings not classified as Group L occupancies shall be provided with sprinkler protection designed of not less than that required for Ordinary Hazard Group 1 with a design area of not less than 3,000 square feet (279 m2).

903.2.16.1 Group L occupancies located above the 10th story. *The automatic sprinkler system shall be designed and zoned to provide separate indication upon water-flow for each side of the 2-hour fire-smoke barrier above the 10th story.*

903.2.17.1 Automatic sprinkler system. *An automatic sprinkler system shall be installed in all stations of fixed guideway transit systems.*

Exceptions:
1. Guideways when the closest sprinkler heads to the guideway are within 3 feet (914 mm) of the edge, over the platform, and spaced 6 feet (1829 mm) on center parallel to the guideway
2. Station agent booths not exceeding 150 square feet (13.9 m2) in area, when provided with an approved smoke detector connected to the building fire alarm system
3. Power substations
4. Machinery rooms, electrical rooms and train control rooms protected by an approved automatic fixed fire-extinguishing system
5. Open stations
6. Station platform areas open to three or more sides

903.2.17.2 Station guideway deluge system. *Underground stations and stations in open cuts with walls 5 feet (1524 mm) above he top of the running rail and with a raised platform shall be provided with an under-vehicle guideway manually activated deluge sprinkler system. In open cut stations, such system shall be provided in guideways which are situated between a raised platform edge and a retaining wall.*

903.2.17.2.1 *Systems shall be provided along the entire length of track at each station platform.*

903.2.17.2.2 *Deluge nozzles with caps shall be located in the approximate center of track with spacing designed to completely wet the undersides of the vehicle at the applied density.*

903.2.17.2.3 *System density shall be a minimum of 0.19 gallon per minute (gpm) per square foot (0.72 L/m per m2) for the design area. When more than one zone is provided, two adjacent zones are required to be considered operating for calculating purposes.*

903.2.17.2.4 *Deluge systems shall be directly connected to a water supply capable of supplying the required flow rate for a minimum 30-minute duration.*

903.2.17.2.5 *Controls or manually operable valves shall be in a location acceptable to the Fire Code Official. All deluge systems shall be monitored by the station fire alarm system.*

903.2.17.2.6 *Each valve shall be monitored by a separate circuit. The alarm panel shall be located in an area normally occupied by station personnel or signals shall be transmitted to the operations control center (OCC).*

903.2.18 Group U private garages and carports accessory to Group R-3 occupancies. *Carports with habitable space above and attached garages, accessory to Group R-3 occupancies, shall be protected by residential fire sprinklers in accordance with this section. Residential fire sprinklers shall be connected to, and installed in accordance with, an automatic residential fire sprinkler system that complies with Section R313 of the California Residential Code or with NFPA 13D. Fire sprinklers shall be residential sprinklers or quick-response sprinklers, designed to provide a minimum density of 0.05 gpm/ft2 (2.04 mm/min) over the area of the garage and/or carport, but not to exceed two sprinklers for hydraulic calculation purposes. Garage doors shall not be considered obstructions with respect to sprinkler placement.*

Exception: *An automatic residential fire sprinkler system shall not be required when additions or alterations are made to existing carports and/or garages that do not have an automatic residential fire sprinkler system installed in accordance with this section.*

903.2.19 Public school state funded construction projects for kindergarten through 12th grade — automatic sprinkler system requirements.

903.2.19.1 New public school campus. *An automatic sprinkler system shall be provided in all occupancies. The provisions of this section shall apply to any public school project consisting of one or more buildings on a new school campus and receiving state funds pursuant to Leroy F. Greene School Facilities Act of 1998, California Education Code sections 17070.10 through 17079. For purposes of this section, new campus refers to a school site, where an application for construction of original buildings was made to DSA on or after July 1, 2002.*

Exceptions:
1. A relocatable building that is sited with the intent that it be at the site for less than three years and is sited upon a temporary foundation in a manner that is designed to permit easy removal. Also see CCR, Title 24, Part 1, California Administrative Code, Section 4-314 for definition of relocatable building.
2. Detached buildings designed and used for non-instructional purposes that meet the applicable requirements for that occupancy. Buildings would include, but not be limited to:

Concession Stand
Press Box
Restroom Facilities
Shade Structure
Snack Bar
Storage Building
Ticket Booth

903.2.19.1.1 *Sprinklers shall be installed in spaces where the ceiling creates a "ceiling-plenum" or space above the ceiling is utilized for environmental air.*

903.2.19.1.2 Fire-resistive substitution for new campus. *A new public school campus shall be entitled to include in the design and construction documents all of the applicable fire-resistive construction substitutions as permitted by this code.*

903.3 Installation requirements. Automatic sprinkler systems shall be designed and installed in accordance with Sections 903.3.1 through ~~*903.3.8*~~ *903.3.9*.

903.3.1.1 NFPA 13 sprinkler systems. Where the provisions of this code require that a building or portion thereof be equipped throughout *with an automatic sprinkler* system in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 *as amended in Chapter 35* except as provided in Sections 903.3.1.1.1 and 903.3.1.1.2.

903.3.1.1.1 Exempt locations. *In other than Group I-2, I-2.1 and I-3 occupancies,* automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion.

Sprinklers shall not be omitted from a room merely because it is damp, of fire-resistance-rated construction or contains electrical equipment.

1. A room where the application of water, or flame and water, constitutes a serious life or fire hazard.
2. A room or space where sprinklers are considered undesirable because of the nature of the contents, where approved by the fire code official.
~~3. Generator and transformer rooms separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours.~~
~~4. Rooms or areas that are of noncombustible construction with wholly noncombustible contents.~~
~~5~~*3*. Fire service access elevator machine rooms and machinery spaces.
~~6~~4. Machine rooms, machinery spaces, control rooms and control spaces associated with occupant evacuation elevators designed in accordance with Section 3008.
5. Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, and associated electrical power distribution equipment, provided those spaces or areas are equipped throughout with an automatic smoke detection system in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour fire barriers constructed in accordance with Section 707 or not less than 2-hour horizontal assemblies constructed in accordance with Section 712, or both.
6. Solar photovoltaic panel structures with no use underneath. Signs may be provided, as determined by the enforcing agency prohibiting any use underneath including storage.
7. 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.

903.3.1.2 NFPA 13R sprinkler systems. Automatic sprinkler systems in Group R occupancies up to and including four stories in height in buildings not exceeding 60 feet (18 288 mm) in height above grade plane shall be permitted to be installed throughout in accordance with NFPA 13R *as amended in Chapter 35.*

The number of stories of Group R occupancies constructed in accordance with Sections 510.2 and 510.4 shall be measured from the horizontal assembly creating separate buildings.

903.3.2 Quick-response and residential sprinklers. Where automatic sprinkler systems are required by this code, quick-response or residential automatic sprinklers shall be installed in all of the following areas in accordance with Section 903.3.1 and their listings:

1. Throughout all spaces within a smoke compartment containing care recipient sleeping units in Group I-2 in accordance with this code.
2. Throughout all spaces within a smoke compartment containing treatment rooms in ambulatory care facilities.
3. Dwelling units, and sleeping units in Group ~~I-1 and~~ R occupancies.
4. Light-hazard occupancies as defined in NFPA 13.

903.3.5 Water supplies. Water supplies for automatic sprinkler systems shall comply with this section and the standards referenced in Section 903.3.1. The potable water supply shall be protected against backflow in accordance with ~~the requirements of this section and the *International Plumbing Code*~~*Health and Safety Code Section 13114.7.* For connections to public waterworks systems, the water supply test used for design of fire protection systems shall be adjusted to account for seasonal and daily pressure fluctuations based on information from the water supply authority and as approved by the fire code official.

903.3.7 Fire department connections. Fire department connections for automatic sprinkler systems shall be installed in accordance with Section 912.~~*The location of fire department connections shall be approved by the fire code official.*~~

~~***903.3.8***~~ ***903.3.9 Floor control valves.*** *Floor control valves and waterflow detection assemblies shall be installed at each floor where any of the following occur:*

1. Buildings where the floor level of the highest story is located more than 30 feet above the lowest level of fire department vehicle access
2. Buildings that are four or more stories in height
3. Buildings that are two or more stories below the highest level of fire department vehicle access

Exception: *Group R-3 and R-3.1 occupancies floor control valves and waterflow detection assemblies shall not be required.*

903.4.2 Alarms. ~~An Approved~~ *One exterior approved* audible device, located on the exterior of the building in an approved location, shall be connected to each automatic sprinkler system. Such sprinkler waterflow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system. *Visible alarm notification appliances shall not be required except when required by section 907.*

903.4.3 Floor control valves. Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor in high-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access.*

903.5 Testing and maintenance. Sprinkler systems shall be tested and maintained in accordance with the ~~*International*~~*California Fire Code*.

904.2.2 Commercial hood and duct systems. Each required commercial kitchen exhaust hood and duct system required by Section 609 of the ~~*International*~~*California Fire Code* or Chapter 5 of the ~~*International*~~*California Mechanical Code* to have a Type I hood shall be protected with an approved automatic fire-extinguishing system installed in accordance with this code.

904.3.1 Electrical wiring. Electrical wiring shall be in accordance with *the* ~~NFPA 70~~*California Electrical Code.*

904.5 Wet-chemical systems. Wet-chemical extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5 and* NFPA 17A and their listing. Records of inspections and testing shall be maintained.

904.6 Dry-chemical systems. Dry-chemical extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5 and* NFPA 17 and their listing. Records of inspections and testing shall be maintained.

904.7 Foam systems. Foam-extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5,* NFPA 11 and NFPA 16 and their listing. Records of inspections and testing shall be maintained.

904.8 Carbon dioxide systems. Carbon dioxide extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5 and* NFPA 12 and their listing. Records of inspections and testing shall be maintained.

904.9 Halon systems. Halogenated extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5 and* NFPA 12A and their listing. Records of inspections and testing shall be maintained.

904.10 Clean-agent systems. Clean-agent fire-extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5 and* NFPA 2001 and their listing. Records of inspections and testing shall be maintained.

904.11.1.3 Water supply protection. Connections to a potable water supply shall be protected against backflow in accordance with the ~~*International*~~*California* Plumbing Code.

~~**904.11**~~**904.12 Commercial cooking systems.** ~~The automatic fire-extinguishing system for commercial cooking systems shall be of a type recognized for protection of commercial cooking equipment and exhaust systems of the type and arrangement protected. Preengineered automatic dry- and wet-chemical extinguishing systems shall be tested in accordance with UL 300 and listed and labeled for the intended application. Other types of automatic fire-extinguishing systems shall be listed and labeled for specific use as protection for commercial cooking operations. The system shall be installed in accordance with this code, its listing and the manufacturer's installation instructions. Automatic fire-extinguishing systems of the following types shall be installed in accordance with the referenced standard indicated, as follows:~~ *Commercial cooking equipment that produces grease laden vapors shall be provided*

with a Type I Hood, in accordance with the California Mechanical Code, and an automatic fire extinguishing system that is listed and labeled for its intended use as follows:
~~1. Carbon dioxide extinguishing systems, NFPA 12.~~
~~2. Automatic sprinkler systems, NFPA 13.~~
~~3. Foam-water sprinkler system or foam-water spray systems, NFPA 16.~~
~~4. Dry-chemical extinguishing systems, NFPA 17.~~
~~5. Wet-chemical extinguishing systems, NFPA 17A.~~
1. Wet chemical extinguishing system, complying with UL 300.
2. Carbon dioxide extinguishing systems.
3. Automatic fire sprinkler systems.

All existing dry chemical and wet chemical extinguishing systems shall comply with UL 300.
Exception:
Public schools kitchens, without deep-fat fryers, shall be upgraded to a UL 300 compliant system during state funded modernization projects that are under the jurisdiction of the Division of the State Architect.

All systems shall be installed in accordance with the California Mechanical Code, appropriate adopted standards, their listing and the manufacturer's installation instructions.

Exception: Factory-built commercial cooking recirculating systems that are tested, *listed, labeled and installed* in accordance with UL 710B and the *California Mechanical Code*.

905.1 General. Standpipe systems shall be provided in new buildings and structures in accordance with this sections 905.2 through 905.10. In buildings used for high-piled combustible storage, fire protection shall be in accordance with the ~~*International*~~*California* Fire Code.

905.2 Installation standard. Standpipe systems shall be installed in accordance with this section and NFPA 14 *as amended in Chapter 35.* Fire department connections for standpipe systems shall be in accordance with Section 912.

905.3 Required installations. Standpipe systems shall be installed where required by Sections 905.3.1 through ~~905.3.8~~905.3.*11.1*. Standpipe systems are allowed to be combined with automatic sprinkler systems.

Exception: Standpipe systems are not required in Group R-3 occupancies.

905.3.1 Height. *In other than Group R-3 and R-3.1 occupancies,* class III standpipe systems shall be installed throughout ~~buildings where the floor level of the highest story is located more than 30 feet (9144 mm) above the lowest level of fire department vehicle access, or where the floor level of the lowest story is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access.~~*at each floor where any of the following occur:*

*1. B*uildings where the floor level of the highest *story* is located more than 30 feet (9144 mm)above the lowest level of fire department vehicle access.
2. Buildings that are four or more stories in height
3. Buildings where the floor level of the lowest *story* is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access.
4. Buildings that are two or more stories below the highest level of fire department vehicle access.

Exceptions:
1. Class I standpipes are allowed in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Class I manual standpipes are allowed in open parking garages where the highest floor is located not more than 150 feet (45 720 mm) above the lowest level of fire department vehicle access.
3. Class I manual dry standpipes are allowed in open parking garages that are subject to freezing temperatures, provided that the hose connections are located as required for Class II standpipes in accordance with Section 905.5.
4. Class I standpipes are allowed in basements equipped throughout with an automatic sprinkler system.
5. In determining the lowest level of fire department vehicle access, it shall not be required to consider either of the following:
5.1. Recessed loading docks for four vehicles or less.
5.2. Conditions where topography makes access from the fire department vehicle to the building impractical or impossible.

905.3.6 Helistops and heliports. Buildings with a rooftop helistop or heliport shall be equipped with a Class I or III standpipe system extended to the roof level on which the helistop or heliport is located in accordance with Section 2007.5 of the ~~*International*~~*California Fire Code*.

905.3.9 Smokeproof enclosures. *For smokeproof enclosures see Section 909.20.*

905.3.10 Group I-3. *Housing units within cell complexes where 50 or more inmates are restrained, shall be provided with Class I wet standpipes. In addition, Class I wet standpipes shall be located so that it will not be necessary to extend hose lines through interlocking security doors and any doors in smoke-barrier walls, horizontal fire walls or fire barrier walls. Standpipes located in cell complexes may be placed in secured pipe chases.*

905.4 Location of Class I standpipe hose connections. Class I standpipe hose connections shall be provided in all of the following locations:

1. In every required interior exit stairway, a hose connection shall be provided for each story above and below grade. Hose connections shall be located at an intermediate landing between stories, unless otherwise *approved* by the fire code official. *See Section* ~~*909.20.3.2*~~ *909.20.2.3 for additional provisions in smokeproof enclosures.*
2. On each side of the wall adjacent to the exit opening of a horizontal exit.

Exception: Where floor areas adjacent to a horizontal exit are reachable from an interior exit stairway hose connection by a ~~30-foot hose stream from~~ nozzle attached to 100 feet (30 480 mm) of hose *as measured along the path of travel*, a hose connection shall not be required at the horizontal exit.

3. In every exit passageway, at the entrance from the exit passageway to other areas of a building.

Exception: Where floor areas adjacent to an exit passageway are reachable from an interior exit stairway hose connection by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the entrance from the exit passageway to other areas of the building.

4. In covered mall buildings, adjacent to each exterior public entrance to the mall and adjacent to each entrance from an exit passageway or exit corridor to the mall. In open mall buildings, adjacent to each public entrance to the mall at the perimeter line and adjacent to each entrance from an exit passageway or exit corridor to the mall.
5. Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), a hose connection shall be located to serve the roof or at the highest landing of an interior exit stairway with access to the roof provided in accordance with Section 1011.12.
6. Where the most remote portion of a ~~nonsprinklered~~ floor or story is more than 150 feet (45 720 mm) from a hose connection ~~or the most remote portion of a sprinklered floor or *story* is more than 200 (60 960mm) *150 feet (45 720 mm)* from a hose connection~~, the fire code official is authorized to require that additional hose connections be provided in *approved* locations. *The distances from a hose connection shall be measured along the path of travel.*

905.5 Location of Class II standpipe hose connections. Class II standpipe hose connections shall be accessible and located so that all portions of the building are within 30 feet (9144 mm) of *a listed variable stream fog nozzle* attached to 100 feet (30 480 mm) of hose.

TABLE 906.3(1)
FIRE EXTINGUISHERS FOR CLASS A FIRE HAZARDS

	LIGHT (Low) HAZARD OCCUPANCY	**ORDINARY (Moderate) HAZARD OCCUPANCY**	**EXTRA (High) HAZARD OCCUPANCY**
Minimum Rated Single Extinguisher	2-A[c]	2-A	4-A[a]
Maximum Floor Area Per Unit of A	3,000 square feet	1,500 square feet	1,000 square feet

Maximum Floor Area For Extinguisher[b]	11,250 square feet	11,250 square feet	11,250 square feet
Maximum distance of travel to extinguisher	75 feet	75 feet	75 feet

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929m2, 1 gallon = 3.785 L.
a. Two 21/2-gallon water-type extinguishers shall be deemed the equivalent of one 4-A rated extinguisher.
b. ~~Annex E.3.3 of NFPA10 provides more details~~*California Code of Regulations, Title 19, Division 1, Chapter 3* concerning application of the maximum floor area criteria.
c. Two water-type extinguishers each with a 1-A rating shall be deemed the equivalent of one 2-A rated extinguisher for Light (Low) Hazard Occupancies.

906.3.2 Class B fire hazards. Portable fire extinguishers for occupancies involving flammable or combustible liquids with depths less than or equal to 0.25-inch (6.4 mm) shall be selected and placed in accordance with Table 906.3(2).

Portable fire extinguishers for occupancies involving flammable or combustible liquids with a depth of greater than 0.25-inch (6.4 mm) shall be selected and placed in accordance with ~~NFPA 10~~*California Code of Regulations, Title 19, Division 1, Chapter 3.*

TABLE 906.3(2)
FIRE EXTINGUISHERS FOR FLAMMABLE OR COMBUSTIBLE LIQUIDS WITH DEPTHS LESS THAN OR EQUAL TO 0.25 INCH

TYPE OF HAZARD	BASIC MINIMUM EXTINGUISHER RATING	MAXIMUM DISTANCE OF TRAVEL TO EXTINGUISHERS (feet)
Light (Low)	5-B 10-B	30 50
Ordinary (Moderate)	10-B 20-B	30 50
Extra (High)	40-B 80-B	30 50

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.
Note. For requirements on water-soluble flammable liquids and alternative sizing criteria, see ~~Section 5.5 of NFPA 10~~*California Code of Regulations, Title 19, Division 1, Chapter 3*.

906.3.4 Class D fire hazards. Portable fire extinguishers for occupancies involving combustible metals shall be selected and placed in accordance with ~~NFPA10~~*California Code of Regulations, Title 19, Division 1, Chapter 3*.

907.1.2 Fire alarm shop drawings. Shop drawings for fire alarm systems shall be submitted for review and approval prior to system installation, and shall include, but not be limited to, all of the following where applicable to the system being installed:

1. A floor plan that indicates the use of all rooms.
2. Locations of alarm-initiating devices.
3. Locations of alarm notification appliances, including candela ratings for visible alarm notification appliances.
4. Design minimum audibility level for occupant notification.
5. Location of fire alarm control unit, transponders and notification power supplies.
6. Annunciators.
7. Power connection.

8. Battery calculations.
9. Conductor type and sizes.
10. Voltage drop calculations.
11. Manufacturers' data sheets indicating model numbers and listing information for equipment, devices and materials.
12. Details of ceiling height and construction.
13. The interface of fire safety control functions.
14. Classification of the supervising station.
15. All plans and shop drawings shall use the symbols identified in NFPA 170, Standard for Fire Safety and Emergency Symbols.

Exception: *Other symbols are allowed where approved by the enforcing agency*

907.1.3 Equipment. Systems and components shall be *California State Fire Marshal* listed and approved *in accordance with California Code of Regulations, Title 19, Division 1* for the purpose for which they are installed.

907.1.4 Fire-walls and fire barrier walls. *For the purpose of Section 907 fire walls and fire barrier walls shall not define separate buildings.*

907.1.5 Fire alarm use. *A fire alarm system shall not be used for any purpose other than fire warning or mass notification and where permitted by NFPA 72.*

907.2 Where required—new buildings and structures. An approved fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Sections 907.2.1 through 907.2.23 and provide occupant notification in accordance with Section 907.5, unless other requirements are provided by another section of this code.

Not fewer than one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or waterflow detection devices. Where other sections of this code allow elimination of fire alarm boxes due to sprinklers, *or automatic fire alarm systems,* a single fire alarm box shall be installed *at a location approved by the enforcing agency.*

Exceptions:
1. The manual fire alarm box is not required for fire alarm ~~systems~~*control units* dedicated to elevator recall control, ~~and~~supervisory service *and fire sprinkler monitoring.*
2. The manual fire alarm box is not required for Group R-2 occupancies unless required by the fire code official to provide a means for fire watch personnel to initiate an alarm during a sprinkler system impairment event. Where provided, the manual fire alarm box shall not be located in an area that is accessible to the public.
3. The manual fire alarm box is not required to be installed when approved by the fire code official.

907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the occupant load due to the assembly occupancy is 300 or more. Group A occupancies not separated from one another in accordance with Section 707.3.10 shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes *with an occupant load of less than 1,000,* shall be provided with a fire alarm system as required for the Group E occupancy.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler waterflow.

Every Group A building used for educational purposes shall be provided with a manual or automatic fire alarm system. This provision shall apply to, but shall not necessarily be limited to, every community college and university.

Exception: *Privately owned trade or vocational schools or any firm or company which provides educational facilities and instructions for its employees.*

907.2.1.1 System initiation in Group A occupancies with an occupant load of 1,000 or more. Activation of the fire alarm in Group A occupancies with an occupant load of 1,000 or more shall initiate a signal using an emergency

voice/alarm communications system in accordance with Section 907.5.2.2. *Group A occupancies with an occupant load of 10,000 or more, see Section 907.2.1.3.*

Exception: Where approved, the prerecorded announcement is allowed to be manually deactivated for a period of time, not to exceed 3 minutes, for the sole purpose of allowing a live voice announcement from an approved, constantly attended location.

907.2.1.3 Public address system. *Pursuant to Health and Safety Code Section 13108.9, for all buildings or structures constructed on or after July 1, 1991, which are intended for public assemblies of 10,000 or more persons a public address system with an emergency backup power system shall be required.*

907.2.2 Group B. A manual fire alarm system shall be installed in Group B occupancies where one of the following conditions exists:

1. The combined Group B occupant load of all floors is 500 or more.
2. The Group B occupant load is more than 100 persons above or below the lowest level of exit discharge.
3. The fire area contains an ambulatory care facility.
4. Group B occupancies containing educational facilities, see Section 907.2.2.2.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

907.2.2.2 Group B Educational facilities. *Every Group B building used for educational purposes shall be provided with a manual or automatic fire alarm system. This provision shall apply to, but shall not necessarily be limited to, every community college and university.*

Exception: *Privately owned trade or vocational schools or any firm or company which provides educational facilities and instructions for its employees.*

907.2.3 Group E. A manual *and automatic* fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E occupancies *with an occupant load of 50 or more persons or containing more than one classroom or one or more rooms used for Group E or I-4 day care purposes in accordance with this section.* When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Exceptions:
~~1. A manual fire alarm system is not required in Group E occupancies with an occupant load of 50 or less.~~
~~2.~~*1.* Emergency voice/alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be required in Group E occupancies with occupant loads of 100 or less, provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.
~~3~~*2.* Manual fire alarm boxes are not required in Group E occupancies where all of the following apply:
~~3.1~~*2.1.* Interior corridors are protected by smoke detectors.
~~3.2~~*2.2.* Auditoriums, cafeterias, gymnasiums and similar areas are protected by heat detectors or other approved detection devices.
~~3.3~~*2.3.* Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.
~~4~~*3.* Manual fire alarm boxes shall not be required in Group E occupancies where all of the following apply:
~~4.1~~*3.1.* The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.
~~4.2~~*3.2.* The emergency voice/alarm communication system will activate on sprinkler water flow.
~~4.3~~*3.3.* Manual activation is provided from a normally occupied location.
~~4.4~~*3.4. The capability to activate the evacuation signal from a central point is provided.*
~~3~~*4. For public school state funded construction projects see Section 907.2.29.*

907.2.3.1 System connection. *Where more than one fire alarm control unit is used at the school campus, they shall be interconnected and shall operate all notification appliances.*

Exception: *Interconnection of fire alarm control units is not required when all the following are provided:*

1. Buildings that are separated a minimum of 20 feet (6096 mm) and in accordance with the California Building Code; and
2. There is a method of two way communication between each classroom and the school administrative office approved by the fire enforcing agency; and
3. A method of manual activation of each fire alarm system is provided.

907.2.3.2 Assemblies located within a Group E occupancy. *Assembly occupancies with an occupant load of less than 1,000 and located within a Group E occupancy campus or building shall be provided with a fire alarm system as required for the Group E occupancy.*

907.2.3.3 Notification. *The fire alarm system notification shall comply with the requirements of Section 907.5.*

907.2.3.4 Annunciation. *Annunciation of the fire alarm system shall comply with the requirements of Section 907.6.3.1.*

907.2.3.5 Monitoring. *School fire alarm systems shall be monitored in accordance with Section ~~907.6.5.2~~ 907.6.6.2.*

907.2.3.6 Automatic fire alarm system. *Automatic detection shall be provided in accordance with this section.*

907.2.3.6.1 Smoke detectors. *Smoke detectors shall be installed at the ceiling of every room and in "ceiling- plenums" utilized for environmental air. Where the ceiling is attached directly to the underside of the roof structure, smoke detectors shall be installed on the ceiling only.*

Exception: *Where the environment or ambient conditions exceed smoke detector installation guidelines; heat detectors or fire sprinklers shall be used.*

907.2.3.6.2 Heat detectors. *Heat detectors shall be installed in combustible spaces where sprinklers or smoke detectors are not installed.*

907.2.3.7 Private schools. *An automatic fire alarm system shall be provided in new buildings of private schools.*

Exception: *Automatic detection devices are not required where an approved automatic sprinkler system is installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate on sprinkler water flow and manual activation is provided from a normally occupied location.*

907.2.3.8 Day-care, Group E.

907.2.3.8.1 *An automatic fire alarm system shall be provided in all buildings used as or containing a Group E day-care.*

Exception: *Automatic detection devices are not required where an approved automatic sprinkler system is installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate on sprinkler water flow and manual activation is provided from a normally occupied location.*

907.2.3.8.2 *Smoke detectors shall be installed in every room used for sleeping or napping.*

907.2.5 Group H. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group H-5 occupancies and in occupancies used for the manufacture of organic coatings. An automatic smoke detection system shall be installed for highly toxic gases, organic peroxides and oxidizers in accordance with Chapters 60, 62 and 63, respectively, of the ~~*International*~~*California Fire Code*.

907.2.5.1 Group H occupancies located above the 10th story. *Manual fire alarm boxes shall be required on each side of the 2-hour fire-smoke barrier and at each exit above the 10th story.*

907.2.6 Group I. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group I occupancies. An automatic smoke detection system that activates the occupant notification system in accordance with Section 907.5 shall be provided in accordance with Sections 907.2.6.1, 907.2.6.2 and 907.2.6.3.3.

Exceptions:
~~1. Manual fire alarm boxes in sleeping units of Group I-1 and I-2 occupancies shall not be required at exits if located at all care-providers' control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that the distances of travel required in Section 907.4.2.1 are not exceeded.~~
1. *Large family day-care.*
2. Occupant notification systems are not required to be activated where private mode signaling installed in accordance with NFPA 72 is approved by the fire code official and staff evacuation responsibilities are included in the fire safety and evacuation plan required by Section 404 of the ~~*International*~~*California* Fire Code.

907.2.6.1 Group I-1. *Reserved*. ~~In Group I-1 occupancies, an automatic smoke detection system shall be installed in *corridors*, waiting areas open to *corridors* and *habitable spaces* other than *sleeping units* and kitchens. The system shall be activated in accordance with Section 907.5.~~

~~**Exceptions:**~~
~~1. For Group I-1 Condition 1 occupancies, smoke detection in *habitable spaces* is not required where the facility is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1.~~
~~2. Smoke detection is not required for exterior balconies.~~

~~**[F] 907.2.6.1.1 Smoke alarms.** Single- and multiple- station smoke alarms shall be installed in accordance with Section 907.2.11.~~

907.2.6.2 Group I-2 *and Group I-2.1*. ~~An automatic smoke detection system shall be installed in corridors in Group I-2 Condition 1 facilities and spaces permitted to be open to the corridors by Section 407.2. The system shall be activated in accordance with Section 907.4. Group I-2 Condition 2 occupancies shall be equipped with an automatic smoke detection system as required in Section 407.~~
~~**Exceptions:**~~
~~1. Corridor smoke detection is not required in smoke compartments that contain sleeping units where such units are provided with smoke detectors that comply with UL 268. Such detectors shall provide a visual display on the *corridor* side of each *sleeping unit* and shall provide an audible and visual alarm at the care-providers' station attending each unit.~~
~~2. Corridor smoke detection is not required in smoke compartments that contain sleeping units where *sleeping unit* doors are equipped with automatic door-closing devices with integral smoke detectors on the unit sides installed in accordance with their listing, provided that the integral detectors perform the required alerting function.~~
A manual and automatic fire alarm system shall be installed in Group I-2 and I-2.1 occupancies. Where automatic fire suppression systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Exception: *Where an entire facility is used for the housing of persons, none of whom are physically or mentally handicapped or nonambulatory, and are between the ages of 18 and 64, the buildings or structures comprising such facility shall be exempt from the provisions of this subsection relating to the installation of an automatic fire alarm system.*

907.2.6.2.1 Notification. *The fire alarm notification system shall be in accordance with Section 907.5.2.5.*

907.2.6.2.2 Automatic fire detection. *Smoke detectors shall be provided in accordance with this section.*

1. In patient and client sleeping rooms. Actuation of such detectors shall cause a visual display on the corridor side of the room in which the detector is located and shall cause an audible and visual alarm at the respective nurses' station. A nurse call system listed for this function is an acceptable means of providing the audible and visual alarm at the respective nurses' station and corridor room display. Operation of the smoke detector shall not include any alarm verification feature.

Exception: *In patient and client rooms equipped with existing automatic door closers having integral smoke detector, the integral detector is allowed to substitute for the room smoke detector, provided it meets all the required alerting functions.*

2. Group I-2 nurses' stations. A minimum of one (1) smoke detector shall be installed at the nurses' station and centrally located.
3. In waiting areas and corridors onto which they open, in the same smoke compartment, in accordance with Section 407.2.1.

907.2.6.3 Group I-3 occupancies. Group I-3 occupancies shall be equipped with a manual fire alarm system and automatic smoke detection system installed for alerting staff.

Exception: *An automatic smoke detection system is not required within temporary holding cells.*

907.2.6.3.3 Automatic smoke detection system. An automatic smoke detection system shall be installed throughout resident housing areas, including sleeping units and contiguous day rooms, group activity spaces and other common spaces normally accessible to ~~residents~~*inmates*.

Exceptions:
1. Other approved smoke detection arrangements ~~providing equivalent protection including, but not limited to, placing detectors in exhaust ducts from cells or behind protective guards listed for the purpose, are allowed when necessary to prevent damage or tampering.~~ *may be used to prevent damage or tampering or for other purposes provided the function of detecting any fire is fulfilled and the location of the detectors is such that the speed of detection will be equivalent to that provided by the spacing and location required in accordance with NFPA 72 as referenced in Chapter 35. This may include the location of detectors in return air ducts from cells, behind grilles or in other locations. Spot type, combination duct and open area smoke detectors may be used when located not more than 14 inches (356mm) from the return air grill. For initiation and annunciation purposes, these detectors may be combined in groups of four. The fire code official having jurisdiction, however, must approve the proposed equivalent performance of the design.*
~~2. Sleeping units in Use Conditions 2 and 3 as described in Section 308.~~
~~3. Smoke detectors are not required in sleeping units with four or fewer occupants in smoke compartments that are equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1.~~
2. For detention housing and/or mental health housing area(s), including correctional medical and mental health uses, automatic smoke detection system in sleeping units shall not be required when all of the following conditions are met:

2.1. All rooms, including the inmate cells are provided with an automatic sprinkler system in accordance with Section 903.3.1.1.
2.2. Building is continuously staffed by a correctional officer at all times.
~~*2.3. The exception to Section 903.2.6.2 shall not apply.*~~

3. Smoke detectors are not required to be installed in inmate cells with 2 or fewer occupants in detention facilities which do not have a correctional medical and mental health use.
4. Smoke detectors are not required to be installed in inmate day rooms of detention facilities where 24 hour direct visual supervision is provided by a correctional officer(s) and a manual fire alarm box is located in the control room.

907.2.6.3.4 System annunciation. *A staff alerting fire alarm shall sound at all staff control stations on the floor of activation and an audible and visual signal shall be indicated on an annunciator at the facility control center upon activation of any automatic extinguishing system, automatic detection system, or any smoke detector or manual actuating or initiating device. In addition, where there are staff-control stations on the floor, an audible, visual and manual alarm shall be located in each staff control station.*

Fire and trouble signals of fire alarm systems and sprinkler water-flow and supervisory signals of extinguishing systems shall be annunciated in an area designated as the facility control center which shall be constantly attended by staff personnel. All such signals shall produce both an audible signal and visual display at the facility control center indicating the building, floor zone or other designated area from which the signal originated in accordance with Section 907.6.3.

All local detention facilities within the scope of Section 6031.4 of the Penal Code shall have a automatic smoke detection system. A manual fire alarm-initiating device shall be installed in all guard control stations and shall be capable of alerting personnel in a central control point to the presence of fire or smoke within the facility.

907.2.9 Group R-2 *and R-2.1*. Fire alarm systems and smoke alarms shall be installed in Group R-2 *and R-2.1* occupancies as required in Sections 907.2.9.1 through ~~*907.2.9.3*~~ *907.2.9.4.*

907.2.9.1 Manual fire alarm system. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-2 occupancies where any of the following conditions apply:

1. Any dwelling unit or sleeping unit is located three or more stories above the lowest level of exit discharge.
2. Any dwelling unit or sleeping unit is located more than one story below the highest level of exit discharge of exits serving the dwelling unit or sleeping unit.

3. The building contains more than 16 dwelling units or sleeping units.
4. Congregate residences with more than 16 occupants.

Exceptions:
1. A fire alarm system is not required in buildings not more than two stories in height where all dwelling units or sleeping units and contiguous attic and crawl spaces are separated from each other and public or common areas by not less than 1-hour fire partitions and each dwelling unit or sleeping unit has an exit directly to a public way, egress court or yard.
2. Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and the occupant notification appliances will automatically activate throughout the notification zones upon a sprinkler water flow.
3. A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open-ended corridors designed in accordance with Section 1027.6, Exception 3.

907.2.9.4 Licensed Group R-2.1 occupancies. *Licensed Group R-2.1 occupancies housing more than six nonambulatory, elderly clients shall be provided with an approved manual and automatic fire alarm system.*

Exceptions: *Buildings housing nonambulatory clients on the first story only and which are protected throughout by the following:*
1. An approved and supervised automatic sprinkler system, as specified in Sections 903.3.1.1 or 903.3.1.2, which upon activation will initiate the fire alarm system to notify all occupants.
2. A manual fire alarm system.
3. Smoke alarms required by Section 907.2.11.

907.2.9.4.1 Smoke alarms. *Single- and multiple-station smoke alarms shall be installed in accordance with Section 907.2.11.*

907.2.11 Single- and multiple-station smoke alarms. Listed single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with Sections 907.2.11.1 through ~~*907.2.11.4*~~*907.2.11.8* and NFPA 72.

Exception: *For Group R occupancies. A fire alarm system with smoke detectors located in accordance with this section may be installed in lieu of smoke alarms. Upon actuation of the detector, only those notification appliances in the dwelling unit or guest room where the detector is actuated shall activate.*

907.2.11.1.1 Group R-1. Single- or multiple-station smoke alarms shall be installed in all of the following locations in Group R-1:

1. In sleeping areas.
2. In every room in the path of the means of egress from the sleeping area to the door leading from the sleeping unit.
3. In each story within the sleeping unit, including basements. For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

See Section ~~*907.2.11.5*~~*907.2.11.8 for specific location requirements.*

907.2.11.2 Groups R-2, *R-2.1,* R-3, *R-3.1*~~,~~ *and* R-4. Single- or multiple-station smoke alarms shall be installed and maintained in Groups R-2, *R-2.1,* R-3, *R-3.1*~~,~~ *and* R-4 regardless of occupant load at all of the following locations:

1. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.
2. In each room used for sleeping purposes.
3. In each story within a dwelling unit, including basements but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.
4. In a Group R-3.1 occupancies, in addition to the above, smoke alarms shall be provided throughout the habitable areas of the dwelling unit except kitchens.

See Section ~~*907.2.11.5*~~*907.2.11.8 for specific location requirements.*

907.2.11.2.1 Group I-4 occupancies. *Large family day-care homes shall be equipped with State Fire Marshal approved and listed single station residential type smoke alarms.*

907.2.11.2.2 Group R-3.1. *In all facilities housing a bedridden client, smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms shall be electrically interconnected so as to cause all smoke alarms to sound a distinctive alarm signal upon actuation of any single smoke alarm. Such alarm signal shall be audible throughout the facility at a minimal 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.*

907.2.11.2.3 Smoke alarms. *Smoke alarms shall be tested and maintained in accordance with the manufacturer's instructions. Smoke alarms that no longer function shall be replaced.*

907.2.11.5 Interconnection. Where more than one smoke alarm is required to be installed within an individual dwelling unit or sleeping unit in Group R ~~or I-1~~ occupancies, the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

907.2.11.6 Power source. In new construction *and in newly classified Group R-3.1 occupancies,* required smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms with integral strobes that are not equipped with battery backup shall be connected to an emergency electrical system in accordance with Section 2702. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.
Exception: Smoke alarms are not required to be equipped with battery backup where they are connected to an emergency electrical system that complies with Section 2702.

~~907.2.11.5~~ 907.2.11.8 Specific location requirements.
Extract from NFPA 72 Section 29.8.3.4 Specific Location Requirements.*
This extract has been provided by NFPA as amended by the Office of the State Fire Marshal and adopted by reference 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 40ºF (4ºC) or exceed 100ºF (38ºC).
(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.

Exception: *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) Installation near bathrooms. Smoke alarms shall be installed not less than a 3-foot (0.91 m) horizontal distance from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by other sections of the code.
(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.
**For additional requirements or clarification see NFPA 72.*

~~907.2.11.6~~907.2.11.9 Existing Group R Occupancies. *See the California Residential Code for existing Group R-3 occupancies or Chapter 11 of the California Fire Code for all other existing Group R occupancies.*

907.2.13 High-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access*. High-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access* shall be provided with an automatic smoke detection system in accordance with Section 907.2.13.1, a fire department communication system in accordance with Section 907.2.13.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.

Exceptions:
1. Airport traffic control towers in accordance with Sections 412 and 907.2.22.
2. Open parking garages in accordance with Section 406.5.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1.
4. Low-hazard special occupancies in accordance with Section 503.1.1.
5. ~~Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415.~~
~~6.~~ In Group ~~I-1 and~~ I-2*, I-2.1 and R-2.1* occupancies, the alarm shall sound at a constantly attended location and occupant notification shall be broadcast by the emergency voice/alarm communication system.

907.2.13.1 Automatic smoke detection. Automatic smoke detection in high-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access* shall be in accordance with Sections 907.2.13.1.1 and 907.2.13.1.2.

907.2.13.1.2 Duct smoke detection. *Smoke detectors listed for use in air duct systems shall be provided in accordance with this section and the California Mechanical Code. The activation of any detector required by this section shall initiate a visible and audible supervisory signal at a constantly attended location.* Duct smoke detectors complying with Section 907.3.1 shall be located as follows:

1. In the main return air and exhaust air plenum of each air-conditioning system having a capacity greater than 2,000 cubic feet per minute (cfm) (0.94 m3/s). Such detectors shall be located in a serviceable area downstream of the last duct inlet.
2. At each connection to a vertical duct or riser serving two or more stories from a return air duct or plenum of an air-conditioning system. In Group R-1 and R-2 occupancies, a smoke detector is allowed to be used in each return air riser carrying not more than 5,000 cfm (2.4 m3/s) and serving not more than 10 air-inlet openings.

907.2.13.2 Fire department communication system. Where a wired communication system is *approved* in lieu of an emergency responder radio coverage system in accordance with Section 510 of the ~~*International*~~*California Fire Code*, the

wired fire department communication system shall be designed and installed in accordance with NFPA 72 and shall operate between a fire command center complying with Section 911, elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside interior exit stairways. The fire department communication device shall be provided at each floor level within the interior exit stairway.

907.2.15 High-piled combustible storage areas. An automatic smoke detection system shall be installed throughout high-piled combustible storage areas where required by Section 3206.5 of the ~~*International*~~*California Fire Code*.

907.2.16 Aerosol storage uses. Aerosol storage rooms and general-purpose warehouses containing aerosols shall be provided with an *approved* manual fire alarm system where required by the ~~*International*~~*California Fire Code*.

907.2.24 Motion picture and television production studio sound stages and approved production facilities.

907.2.24.1 Sound stages—solid-ceiling sets and platforms. *Where required by Chapter 48 of the California Fire Code, all interior solid-ceiling sets over 600 square feet (55.7m2) in area, and platforms (when provided) over 600 square feet (55.7 m2) in area and which exceed 3 feet (914 mm) in height shall be protected by an approved heat detector system. Heat detectors shall be spaced 30 feet (9144 mm) on center or as required by the manufacturer's installation instructions. The fire alarm system shall be connected to an approved supervising station in accordance with Section 907.6.5 or a local alarm which will give an audible signal at a constantly attended location.*

907.2.24.2 Production locations—solid-ceiling sets and platforms. *Where required by Chapter 48 of the California Fire Code in buildings with existing fire protection systems and where production intends to construct solid-ceiling sets over 600 square feet (55.7 m2) in area, and platforms over 600 square feet (55.7 m2) in area and which exceed 3 feet (914 mm) in height shall be protected by an approved heat detector system. Heat detectors shall be spaced 30 feet (9144 mm) on center or as required by the manufacturer's installation instructions. The fire alarm system shall be connected to an approved supervising station in accordance with Section 907.6.5 or a local alarm which will give an audible signal at a constantly attended location.*

907.2.24.3 Fire alarm control units. *Fire alarm control units shall be California State Fire Marshal listed and shall be utilized in accordance with their listing. Control units are permitted to be temporarily supported by sets, platforms or pedestals.*

907.2.24.4 Heat detectors.

907.2.24.4.1 *Heat detection required by this section shall be defined as a portable system as it is intended to be reinstalled when platforms or sets are changed.*

907.2.24.4.2 *Heat detectors shall be secured to standard outlet boxes and are allowed to be temporarily supported by sets, platforms or pedestals.*

907.2.24.4.3 *Heat detectors shall be provided for solid-ceiling sets and platforms where required by Sections 4805.3 and 4811.14.*

907.2.25 Group C occupancies (organized camps).

907.2.25.1 General. *Every building and structure used or intended for sleeping purposes shall be provided with an automatic smoke-detection system.*

Exceptions:
1. Buildings and structures in existence and in operation prior to January 1, 1985.
2. Tents, tent structures and buildings and structures that do not exceed 25 ft (7620 mm) in any lateral dimensions and where such building or structure is not more than one story.

907.2.25.2 Camp fire alarm. *Every organized camp shall provide and maintain audible appliances, or devices suitable for sounding a fire alarm. Such audible appliances or devices may be of any type acceptable to the enforcing agency provided they are distinctive in tone from all other signaling devices or systems and shall be audible throughout the camp premises. When an automatic fire alarm system is provided, as required by Section ~~440.6.6~~450.6.6 of the California Building Code, all audible appliances required by this section shall be of the same type as that used in the automatic system.*

907.2.26.1 General. *Every fixed guideway transit station shall be provided with an approved emergency voice/alarm communication system in accordance with NFPA 72. The emergency voice/alarm communication system, designed and installed so that damage to any one speaker will not render any paging zone of the system inoperative.*

Exception: *Open stations*

907.2.26.2 System components. *Each station fire alarm system shall consist of:*

1. Fire alarm control unit at a location as permitted by the enforcing agency.
2. An alarm annunciator(s). The annunciator(s) shall be located at a point acceptable to the enforcing agency. The annunciator(s) shall indicate the type of device and general location of alarm. All alarm, supervisory and trouble signals shall be transmitted to the local annunciator(s) and the operations control center.
3. Manual fire alarm boxes shall be provided throughout passenger platforms and stations.

Exception: *Two-way emergency communication reporting devices (emergency telephones) are allowed to be used in lieu of manual fire alarm boxes as permitted by the enforcing agency. Such devices shall provide two-way communication between the operations control center and each device. Such devices shall be located as required for manual fire alarm boxes, and shall be distinctly identified by signs, coloring or other means acceptable to the enforcing agency.*

4. Automatic smoke detectors in all ancillary spaces.

Exceptions:
1. Ancillary spaces protected by an approved fixed automatic extinguishing system; or
2. Ancillary spaces protected by quickresponse sprinklers.
5. Automatic control of exiting components.

907.2.26.3 Emergency voice/alarm communication system. *Each station shall be provided with a an emergency voice/alarm communication system capable of transmitting voice , recorded or electronically generated textual messages to all areas of the station. The system(s) shall be configured such that the messages can be initiated from either the Emergency Management Panel (EMP) or the operations control center.*

907.2.26.4 Emergency telephones. *A dedicated two-way emergency communication phone system designed and installed in accordance with NFPA 72 shall be provided in all underground stations to facilitate direct communications for emergency response between remote locations and the EMP.*

907.2.26.4.1 *Remote emergency phones shall be located at ends of station platforms, each hose outlet connection and station valve rooms.*

907.2.26.4.2 *Provisions shall be made in the design of this two-way emergency communication phone system for extensions of the system to the next passenger station or guideway portal.*

907.2.27 Winery caves. *An approved manual fire alarm system conforming to the provisions of Section 907.2 shall be provided in all Type 3 winery caves.*

907.2.28 Group L. *A manual fire alarm system shall be installed throughout buildings containing Group L occupancies. When Group L occupancies are located in mixed use buildings, at least one manual fire alarm shall be located in the Group L occupancy.*

907.2.28.1 Group L occupancies located above the 10th story. *Manual fire alarm boxes shall be required on each side of the 2-hour fire-smoke barrier and at each exit above the 10th story.*

907.2.29 Public school state funded construction projects for kindergarten through 12th grade — automatic fire alarm system requirements.

907.2.29.1 New public school campus. *An automatic fire alarm system shall be provided in all occupancies that activates the occupant notification system signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6. The provisions of this section shall apply to any public school project consisting of one or more buildings on a new school campus and receiving state funds*

pursuant to Leroy F. Greene School Facilities Act of 1998, California Education Code sections 17070.10 through 17079. For purposes of this section, new campus refers to a school site, where an application for construction of original buildings was made to DSA on or after July 1, 2002.

Exceptions:
1. A relocatable building that is sited with the intent that it be at the site for less than three years and is sited upon a temporary foundation in a manner that is designed to permit easy removal. Also see CCR, Title 24, Part 1, California Administrative Code, Section 4-314 for definition of relocatable building.
2. Detached buildings designed and used for non-instructional purposes that meet the applicable requirements for that occupancy. Buildings would include, but not be limited to:

Concession Stand
Press Box
Restroom Facilities
Shade Structure
Snack Bar
Storage Building
Ticket Booth

3. Emergency voice/alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be required in Group E occupancies with occupant loads of 100 or less, provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.

907.2.29.2 New building on an existing public school campus. *An automatic fire alarm system shall be provided in all occupancies. The provisions of this section shall apply to any public school project construction of a new building on an existing campus and receiving state funds pursuant to Leroy F. Green, School Facilities Act of 1998, California Education Code sections 17070.10 through 17079. For purposes of this section, an existing campus refers to a school site, where an application for construction of original buildings was made to DSA prior to July 1, 2002.*

Exceptions:
1. A construction project that has an estimated total cost of less than $200,000.
2. A relocatable building that is sited with the intent that it be at the site for less than three years and is sited upon a temporary foundation in a manner that is designed to permit easy removal. See California Administrative Code, Section 4-314 for definition of relocatable building.
3. Detached buildings designed and used for non-instructional purposes that meet the applicable requirements for that occupancy. Buildings would include, but not be limited to:

Concession Stand
Press Box
Restroom Facilities
Shade Structure
Snack Bar
Storage Building
Ticket Booth

907.2.29.3 Alterations to existing buildings on an existing public school campus. *An automatic fire alarm system shall be provided for all portions within the scope of an alteration project. The provisions of this section shall apply to any public school project on an existing campus and receiving state funds pursuant to Leroy F. Green, School Facilities Act of 1998, California Education Code sections 17070.10 through 17079. For purposes of this section, an existing campus refers to a school site, where an application for construction of original buildings was made to DSA prior to July 1, 2002.*

Exceptions:
1. A construction project that has an estimated total cost of less than $200,000.
2. A relocatable building that is sited with the intent that it be at the site for less than three years and is sited upon a temporary foundation in a manner that is designed to permit easy removal. See California Administrative Code, Section 4-314 for definition of relocatable building.

3. Detached buildings designed and used for non-instructional purposes that meet the applicable requirements for that occupancy. Buildings would include, but not be limited to:

Concession Stand
Press Box
Restroom Facilities
Shade Structure
Snack Bar
Storage Building
Ticket Booth

907.2.29.4 Day-care, Group E or Group I-4 located on a public school campus. *An automatic fire alarm system shall be provided in all buildings used as or containing a Group E or Group I-4 day-care.*

907.3 Fire safety functions. Automatic fire detectors utilized for the purpose of performing fire safety functions shall be connected to the building's fire alarm control unit where a fire alarm system is ~~required by Section 907.2~~*installed*. Detectors shall, upon actuation, perform the intended function and activate the alarm notification appliances or activate a visible and audible supervisory signal at a constantly attended location. In buildings not equipped with a fire alarm system, the automatic fire detector shall be powered by normal electrical service and, upon actuation, perform the intended function. The detectors shall be located in accordance with NFPA 72.

907.3.1 Duct smoke detectors. Smoke detectors installed in ducts shall be listed for the air velocity, temperature and humidity present in the duct. Duct smoke detectors shall be connected to the building's fire alarm control unit when a fire alarm system is required by section 907.2. Activation of a duct smoke detector shall initiate a visible and audible supervisory signal at a constantly attended location and shall perform the intended fire safety function in accordance with this code and the ~~International~~*California Mechanical Code*. In facilities that are required to be monitored by a supervising station, duct smoke detectors shall report only as a supervisory signal and not as a fire alarm. They shall not be used as a substitute for required open area detection.

Exceptions:
1. The supervisory signal at a constantly attended location is not required where duct smoke detectors activate the building's alarm notification appliances.
2. In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and an audible signal in an approved location. Smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

907.3.2 Delayed egress locks. Where delayed egress locks *or devices* are installed on means of egress doors in accordance with Section 1010.1.9.7, an automatic smoke ~~or heat~~ *detection* system shall be installed as required by that section *and Section 1010.1.9.7*.

907.3.2.1 *In other than Groups I, R-2.1 and R-4 occupancies for single-story building, smoke detectors shall be installed at ceilings throughout all occupied areas and mechanical/electrical spaces. For multiple-story buildings, smoke detectors shall be installed throughout all occupied areas and mechanical/electrical spaces for the story where delayed egress devices are installed. Additional detectors are required on adjacent stories where occupants of those stories utilize the same means of egress.*

Exception: *Refer to Section 907.3.2.4 for Group A courthouse occupancies.*

907.3.2.2 For Group I and R-2.1 occupancies. *Smoke detectors shall be installed at ceilings throughout all occupied areas and mechanical/electrical spaces of smoke-compartments where delayed egress devices are installed. Additional detectors are required in adjacent smoke-compartments where occupants of those compartments utilize the same means of egress.*

907.3.2.3 For Group R-4. *Occupancies licensed as residential care facilities for the elderly, and housing clients with Alzheimer's disease or dementia residential facilities, smoke detectors shall be installed at ceilings throughout all occupiable rooms and areas and mechanical/ electrical rooms and spaces.*

907.3.2.4 For Group A Courthouse occupancies. *Approved automatic smoke detection system shall be installed at ceilings in all occupied corridors and mechanical/electrical spaces of smoke-compartments where delayed egress devices are installed.*

907.3.3 Elevator emergency operation. Automatic fire detectors installed for elevator emergency operation shall be installed in accordance with the provisions of ~~ASME A17.1~~*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders* and NFPA 72.

907.4.2.1 Location. Manual fire alarm boxes shall be located not more than 5 feet (1524 mm) from the entrance to each exit. In buildings not protected by an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, additional manual fire alarm boxes shall be located so that the exit access travel distance to the nearest box does not exceed 200 feet (60 960 mm).

Exception: *When individual dwelling units are served by a single exit stairway, additional boxes at other than the ground floor may be omitted.*

907.4.2.7 Operation. *Manual fire alarm boxes shall be operable with one hand including boxes with protective covers.*

907.5.2.1.3 Audible alarm signal. *The audible signal shall be the standard fire alarm evacuation signal, ANSI S3.41 Audible Emergency Evacuation Signal, "three pulse temporal pattern," as described in NFPA 72.*

Exception: *The use of the existing evacuation signaling scheme shall be permitted where approved by the enforcing agency.*

907.5.2.2 Emergency voice/alarm communication systems. Emergency voice/alarm communication systems required by this code shall be designed and installed in accordance with NFPA 72. The operation of any automatic fire detector, sprinkler waterflow device or manual fire alarm box shall automatically sound an alert tone followed by voice instructions giving approved information and directions for a general or staged evacuation in accordance with the building's fire safety and evacuation plans required by Section 404 of the ~~*International*~~*California Fire Code*. In high-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access,* the system shall operate on at least the alarming floor, the floor above and the floor below. Speakers shall be provided throughout the building by paging zones. At a minimum, paging zones shall be provided as follows:

1. Elevator groups.
2. Interior exit stairways.
3. Each floor.
4. Areas of refuge as defined in Chapter 2.

Exception: In Group ~~I-1 and~~ I-2*, I-2.1 and R-2.1* occupancies, the alarm shall sound in a constantly attended area and a general occupant notification shall be broadcast over the overhead page.

907.5.2.3.1 Public use areas and common use areas. Visible alarm notification appliances shall be provided in public use areas and common use areas, *including but not limited to:*

~~4~~1. Band rooms
~~11~~2. Classrooms
~~2~~3. Corridors
~~5~~4. Gymnasiums
~~9~~5. Lobbies
~~10~~6. Meeting rooms
~~6~~7. Multipurpose rooms
~~3~~8. Music practice rooms
~~7~~9. Occupational shops
~~8~~10. Occupied rooms where ambient noise impairs hearing of the fire alarm
11. Sanitary facilities including restrooms, bathrooms and shower rooms

Exception: Where employee work areas have audible alarm coverage, the notification appliance circuits serving the employee work areas shall be initially designed with not less than 20- percent spare capacity to account for the potential of adding visible notification appliances in the future to accommodate hearing-impaired employee(s).

907.5.2.3.2 Groups ~~I-1 and~~ R-1 *and R-2.1*. Group ~~I-1 and~~ R-1 *and R-2.1* dwelling units or sleeping units in accordance with Table 907.5.2.3.2 shall be provided with a visible alarm notification appliance, activated by both the in-room smoke alarm and the building fire alarm system.

TABLE 907.5.2.3.2
VISIBLE ALARMS

NUMBER OF SLEEPING UNITS	SLEEPING ACCOMMODATIONS WITH VISIBLE ALARMS
6 to 25	2
26 to 50	4
51 to 75	7
76 to 100	9
101 to 150	12
151 to 200	14
201 to 300	17
301 to 400	20
401 to 500	22
501 to 1,000	5% of total
1,001 and over	50 plus 3 for each 100 over 1,000

[SFM] Also see Chapter 11B.

907.5.2.3.3 Group R-2. In Group R-2 occupancies required by Section 907 to have a fire alarm system, all dwelling units and sleeping units shall be provided with the capability to support visible alarm notification appliances in accordance with ~~Chapter 10 of ICC A117.1~~*NFPA 72.* Such capability shall be permitted to include the potential for future interconnection of the building fire alarm system with the unit smoke alarms, replacement of audible appliances with combination audible/visible appliances, or future extension of the existing wiring from the unit smoke alarm locations to required locations for visible appliances.

~~907.5.2.3.5~~907.5.2.3.4 Groups R-2.1, R-3.1 and R-4. *Protective social care facilities which house persons who are hearing impaired, shall be provided with notification appliances for the hearing impaired installed in accordance with NFPA 72 and which shall activated upon initiation of the fire alarm system or the smoke alarms.*

907.5.2.4 Group E Schools. *One audible alarm notification appliance shall be mounted on the exterior of a building to alert occupants at each playground area.*

907.5.2.5 Groups I-2 and I-2.1. *Audible appliances shall be used in nonpatient areas. Visible appliances are allowed to be used in lieu of audible appliances in patient occupied areas. Audible appliances located in patient areas shall be only chimes or similar sounding appliances for alerting staff.*

In occupancies housing nonambulatory persons where restraint is practiced, staff and attendants shall be provided and housed or located in such a manner that such supervisory personnel will also be alerted upon activation of the fire alarm system or any detector required by this section.

907.6.1 Wiring. Wiring shall comply with the requirements of ~~NFPA 70~~*California Electrical Code* and NFPA 72. Wireless protection systems utilizing radio-frequency transmitting devices shall comply with the special requirements for supervision of low-power wireless systems in NFPA 72.

907.6.1.1 High-rise Buildings. *Wiring for fire alarm signaling line circuits, initiating circuits, and notification circuits in high-rise buildings shall be in accordance with the following:*

1. Class A in accordance with NFPA 72.

Exception: *Initiating circuits which serve only a single initiating device.*

2. Enclosed in continuous metallic raceways in accordance with the California Electrical Code.

Exception: *Metallic cable (MC) shall be permitted for fire alarm notification circuits where continuous metallic raceways are not required for survivability.*

907.6.4 Zones. *Fire alarm systems shall be divided into zones where required by this section. For the purposes of annunciation and notification, zoning shall be in accordance with the following:*

1. Where the fire-protective signaling system serves more than one building, each building shall be considered as a separate zone.
2. Each floor of a building shall be considered as a separate zone.
3. Each section of floor of a building that is separated by fire walls or by horizontal exits shall be considered as a separate zone.
4. Each ~~floor shall be zoned separately and a~~ zone shall not exceed 22,500 square feet (2090 m2). The length of any zone shall not exceed 300 feet (91 440 mm) in any direction.

Exception: Automatic sprinkler system zones shall not exceed the area permitted by NFPA 13.

5. For Group I-3 occupancies each cell complex shall be considered a separate zone.
6. For Group H and L occupancies above the 10th story, each side of the 2-hour fire-smoke barrier shall be considered a separate zone.
7. Annunciation shall be further divided into zones where deemed necessary by the enforcing agency.

~~**907.6.3.1**~~**907.6.4.1** ***Annunciation.*** *Alarm, supervisory and trouble signals shall be annunciated in the main control unit by means of an audible signal and a visual display in accordance with NFPA 72. Identification of the type of alarm and supervisory initiating devices, such as manual, automatic, sprinkler waterflow, sprinkler valve supervisory, fire-pump supervisory, etc., shall be separately indicated.*

Exception: *Group R-3 occupancies.*

~~**907.6.4.1**~~***907.6.4.1.1*** ~~**Zoning indicator**~~ ***Annunciator*** **panel.** A ~~Zoning indicator~~ *annunciator* panel *complying with Section* ~~*907.6.3.1*~~*907.6.4.1* and the associated controls shall be provided in an approved *remote* location *where deemed necessary by the enforcing agency*. The visual zone indication shall lock in until the system is reset and shall not be canceled by the operation of an audible alarm-silencing switch.

907.6.4.2 High-rise buildings. In high-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access,* a separate zone by floor shall be provided for each of the following types of alarm-initiating devices where provided:

1. Smoke detectors
2. Sprinkler waterflow devices
3. Manual fire alarm boxes
4. Other approved types of automatic fire detection devices or suppression systems

~~***907.6.3.3***~~***907.6.4.3*** ***High-Rise Buildings Zoning Annunciator Panel*** *– In high-rise buildings, a zoning annunciator panel shall be provided in the Fire Command Center. This panel shall not be combined with the Firefighter Smoke Control Panel unless approved. Panel shall be in matrix format or an approved equivalent configuration. All indicators shall be based upon positive confirmation. The panel shall include the following features at a minimum:*

1. Fire alarm initiating devices with individual annunciation per floor for manual fire alarm boxes, area smoke detectors, elevator lobby smoke detectors, duct smoke detectors, heat detectors, auxiliary alarms, and sprinkler waterflow. (Red LED)
2. Sprinkler and standpipe system control valves per floor - supervisory. (Yellow LED)
3. Common fire alarm system trouble. (Yellow LED)

4. Annunciation Panel Power On. (Green LED)
5. Lamp test. (Push Button)

~~907.6.3.4~~907.6.4.4 Notification zoning. *Upon activation of initiating devices where occupant notification is required for evacuation, all notification zones shall operate simultaneously throughout the building.*

Exceptions:
1. High-rise buildings as permitted in Section 907.2.13,
2. Hospitals and convalescent facilities with staff alerting notification appliances or emergency voice/alarm communication, zoning shall be in accordance with the approved fire plan.
3. Detention facilities.
4. Upon approval by the fire code official in buildings which are sprinklered throughout, specific notification zoning shall be permitted where the notification zones are separated by a minimum of a 2-hour fire barrier and 2-hour fire-resistive floor assembly. The system shall have the capability to activate all other notification zones by automatic and manual means.
5. Upon approval by the fire code official in buildings which are sprinklered throughout, specific notification zoning shall be permitted where the activated initiating device or fire extinguishing system is separated from any nonactive notification zones by a minimum of 300 ft horizontal distance. The system shall have the capability to activate all other notification zones by automatic and manual means.
6. Where a Group H or L occupancy is located above the 10th story, each side of the 2-hour fire-smoke barrier shall be considered a separate zone.

907.6.6 Monitoring. Fire alarm systems required by this chapter or by the *~~International~~California Fire Code* shall be monitored by an approved supervising station in accordance with NFPA 72 *and this section*.

Exception: Monitoring by a supervising station is not required for:

1. Single- and multiple-station smoke alarms required by Section 907.2.11.
2. ~~Smoke detectors in~~ Group I-3 occupancies *shall be monitored in accordance with Section 907.2.6.3.*
3. Automatic sprinkler systems in one- and two-family dwellings.

907.6.6.2 Termination of monitoring service. Termination of fire alarm monitoring services shall be in accordance with Section 901.9 of the *~~International~~California Fire Code*.

~~907.6.5.3~~907.6.6.3 Group E schools. *Fire alarm systems shall transmit the alarm, supervisory and trouble signals to an approved supervising station in accordance with NFPA 72. The supervising station shall be listed as either UUFX (Central Station) or UUJS (remote & proprietary) by the Underwriters Laboratory Inc. (UL) or other approved listing and testing laboratory or shall comply with the requirements of standard, FM 3011.*

907.8 Inspection, testing and maintenance. The maintenance and testing schedules and procedures for fire alarm and fire detection systems shall be in accordance with Section 907.8 of the *~~International~~California Fire Code*.

908.6 Refrigerant detector. Machinery rooms shall contain a refrigerant detector with an audible and visual alarm. The detector, or a sampling tube that draws air to the detector, shall be located in an area where refrigerant from a leak will concentrate. The alarm shall be actuated at a value not greater than the corresponding TLV-TWA values for the refrigerant classification shown in the *~~International~~California Mechanical Code*. Detectors and alarms shall be placed in approved locations.

908.7 Carbon dioxide (CO2) systems. Emergency alarm systems in accordance with Section 5307.5.2 of the *~~International~~California* Fire Code shall be provided where required for compliance with Section 5307.5 of the *~~International~~California* Fire Code.

909.1 Scope and purpose. This section applies to mechanical or passive smoke control systems where they are required by other provisions of this code. The purpose of this section is to establish minimum requirements for the design, installation and acceptance testing of smoke control systems that are intended to provide a tenable environment for the evacuation or relocation of occupants. These provisions are not intended for the preservation of contents, the timely restoration of operations or for assistance in fire suppression or overhaul activities. Smoke control systems regulated by this section serve a different purpose than the smoke- and heat-venting provisions found in Section 910.

Mechanical smoke control systems shall not be considered exhaust systems under Chapter 5 of the ~~*International*~~*California Mechanical Code*.

909.10.2 Ducts. Duct materials and joints shall be capable of withstanding the probable temperatures and pressures to which they are exposed as determined in accordance with Section 909.10.1. Ducts shall be constructed and supported in accordance with the ~~*International*~~*California Mechanical Code*. Ducts shall be leak tested to 1.5 times the maximum design pressure in accordance with nationally accepted practices. Measured leakage shall not exceed 5 percent of design flow. Results of such testing shall be a part of the documentation procedure. Ducts shall be supported directly from fire-resistance-rated structural elements of the building by substantial, noncombustible supports.

Exception: Flexible connections, for the purpose of vibration isolation, complying with the ~~*International*~~*California Mechanical Code* and that are constructed of approved fire-resistance-rated materials.

[Editorial Note: Relocate existing amendments from Section 909.12 to 909.12.1 due to section split.]
909.12 Detection and control systems. Fire detection systems providing control input or output signals to mechanical smoke control systems or elements thereof shall comply with the requirements of Section 907. Such systems shall be equipped with a control unit complying with UL 864 and *listed* as smoke control equipment.

~~*The status of dampers shall be determined using limit or proximity switches installed at the damper or incorporated into the damper actuator. Where multiple dampers are grouped together in an assembly requiring one or more actuators, each damper shall be independently controlled by a separate actuator and provided with an individual limit or proximity switch, or the dampers shall be linked together by a reliable and durable mechanical or otherwise permanent means into one or more groups, with each group provided with a common limit or proximity switch.*~~

~~*The status of fans shall be determined by sensing the air flow downstream of the fans using pressure differential switches or transmitters, or by other means of positive proof of air flow where approved by the enforcing authority.*~~

909.12.1 Verification. Control systems for mechanical smoke control systems shall include provisions for verification. Verification shall include positive confirmation of actuation, testing, manual override and the presence of power downstream of all disconnects. A preprogrammed weekly test sequence, report abnormal conditions audibly, visually and by printed report. The preprogrammed weekly test shall operate all devices, equipment and components used for smoke control.

The status of dampers shall be determined using limit or proximity switches installed at the damper or incorporated into the damper actuator. Where multiple dampers are grouped together in an assembly requiring one or more actuators, each damper shall be independently controlled by a separate actuator and provided with an individual limit or proximity switch, or the dampers shall be linked together by a reliable and durable mechanical or otherwise permanent means into one or more groups, with each group provided with a common limit or proximity switch.

The status of fans shall be determined by sensing the air flow downstream of the fans using pressure differential switches or transmitters, or by other means of positive proof of air flow where approved by the enforcing authority.

Exception: Where verification of individual components tested through the preprogrammed weekly testing sequence will interfere with, and produce unwanted effects to, normal building operation, such individual components are permitted to be bypassed from the preprogrammed weekly testing, where approved by the building official and in accordance with both of the following:
1. Where the operation of components is bypassed from the preprogrammed weekly test, presence of power downstream of all disconnects shall be verified weekly by a listed control unit.
2. Testing of all components bypassed from the preprogrammed weekly test shall be in accordance with Section 909.20.6 of the ~~*International*~~*California* Fire Code.

909.12.2 Wiring. In addition to meeting requirements of ~~NFPA 70~~*California California Electrical Code*, all wiring, regardless of voltage, shall be fully enclosed within continuous raceways.

909.13.1 Materials. Control-air tubing shall be harddrawn copper, Type L, ACR in accordance with ASTM B 42, ASTM B 43, ASTM B 68, ASTM B 88, ASTM B 251 and ASTM B 280. Fittings shall be wrought copper or brass, solder type in accordance with ASME B 16.18 or ASME B16.22. Changes in direction shall be made with appropriate tool bends. Brass compression-type fittings shall be used at final connection to devices; other joints shall be brazed

using a BCuP-5 brazing alloy with solidus above 1,100°F (593°C) and liquids below 1,500°F (816°C). Brazing flux shall be used on copper-to-brass joints only.

Exception: Nonmetallic tubing used within control panels and at the final connection to devices provided all of the following conditions are met:
1. Tubing shall comply with the requirements of Section 602.2.1.3 of the ~~*International*~~*California Mechanical Code.*
2. Tubing and connected devices shall be completely enclosed within a galvanized or paintgrade steel enclosure having a minimum thickness of 0.0296 inch (0.7534 mm) (No.22 gage). Entry to the enclosure shall be by copper tubing with a protective grommet of neoprene or teflon or by suitable brass compression to male barbed adapter.
3. Tubing shall be identified by appropriately documented coding.
4. Tubing shall be neatly tied and supported within the enclosure. Tubing bridging cabinets and doors or moveable devices shall be of sufficient length to avoid tension and excessive stress. Tubing shall be protected against abrasion. Tubing serving devices on doors shall be fastened along hinges.

909.16 Fire fighter's smoke control panel. A fire fighter's smoke control panel for fire department emergency response purposes only shall be provided and shall include manual control or override of automatic control for mechanical smoke control systems. The panel shall be located in a fire command center complying with Section 911 in high-rise buildings, *Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access* or buildings with smoke-protected assembly seating. In all other buildings, the fire fighter's smoke control panel shall be installed in an approved location adjacent to the fire alarm control panel. The fire fighter's smoke control panel shall comply with Sections 909.16.1 through 909.16.3.

909.16.1 Smoke control systems. Fans within the building shall be shown on the fire-fighter's control panel. A clear indication of the direction of airflow and the relationship of components shall be displayed. Status indicators shall be provided for all smoke control equipment, annunciated by fan and zone, and by *approved* pilot-lamp-type indicators as follows:

1. Fans, dampers and other operating equipment in their normal status—WHITE.
2. Fans, dampers and other operating equipment in their off or closed status—RED.
3. Fans, dampers and other operating equipment in their on or open status—GREEN.
4. Fans, dampers and other operating equipment in a fault status—YELLOW/AMBER.

909.16.3 Control action and priorities. The fire fighter's control panel actions shall be as follows:

1. ON-OFF and OPEN-CLOSE control actions shall have the highest priority of any control point within the building. Once issued from the fire fighter's control panel, automatic or manual control from any other control point within the building shall not contradict the control action. Where automatic means are provided to interrupt normal, nonemergency equipment operation or produce a specific result to safeguard the building or equipment including, but not limited to, duct freezestats, duct smoke detectors, high-temperature cutouts, temperature-actuated linkage and similar devices, such means shall be capable of being overridden by the fire fighter's control panel. The last control action as indicated by each fire fighter's control panel switch position shall prevail. Control actions shall not require the smoke control system to assume more than one configuration at any one time.

Exception: Power disconnects required by ~~NFPA 70~~*California Electrical Code.*

2. Only the AUTO position of each three-position fire fighter's control panel switch shall allow automatic or manual control action from other control points within the building. The AUTO position shall be the NORMAL, nonemergency, building control position. Where a fire-fighter's control panel is in the AUTO position, the actual status of the device (on, off, open, closed) shall continue to be indicated by the status indicator described in Section 909.16.1. Where directed by an automatic signal to assume an emergency condition, the NORMAL position shall become the emergency condition for that device or group of devices within the zone. Control actions shall not require the smoke control system to assume more than one configuration at any one time.

909.18.9 Identification and documentation. Charts, drawings and other documents identifying and locating each component of the smoke control system, and describing it.s proper function and maintenance requirements, shall be maintained on file at the building as an attachment to the report required by Section 909.18.8.3. Devices shall have an approved identifying tag or mark on them consistent with the other required documentation and shall be dated indicating the last time they were successfully tested and by whom.

An approved operations manual describing the complete operations of the smoke control system and functioning of the firefighters smoke control panel shall be maintained at the fire command center.

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 application provisions of Section 1023 and an open exterior balcony or ~~ventilated~~ vestibule meeting the requirements of this section. Where access to the roof is required by the ~~*International*~~*California Fire Code*, such access shall be from the smokeproof enclosure where a smokeproof enclosure is required.

909.20.1 Access. Access to the stairway or ramp shall be by way of a vestibule or an open exterior balcony. The minimum dimension of the vestibule shall be not less than the ~~required~~ width of the corridor leading to the vestibule *as calculated in accordance with Section 1005.1,* but shall not have a width of less than 44 inches (1118 mm) and shall not have a length of less than 72 inches (1829 mm)in the direction of egress travel.

909.20.2.2 Vestibule doors. *Where access to the stairway is by way of a vestibule, **t**he door assembly from the building into the vestibule shall be a 90-minute fire door assembly complying with Section ~~715.4.4~~716.5.5. The door assembly from the vestibule to the stairway shall have not less than a 20-minute fire protection rating and shall comply with the requirements for a smoke door assembly in accordance with Section ~~715.4.3~~716.5.3. The door shall be installed in accordance with NFPA-105.*

909.20.2.3 Standpipes. *Where access to the stairway is by way of a vestibule, Fire department standpipe connections and valves serving the floor shall be within the vestibule unless otherwise approved by the fire code official. Standpipe connections in vestibules shall be located in such a manner so as not to obstruct egress where hose lines are connected and charged.*

909.20.2.4 Pressure differences. *The minimum pressure differences within the vestibule with the doors closed shall be 0.05-inch water gage (12.44 Pa) positive pressure relative to the fire floor and 0.05-inch water gage (12.44 Pa) negative pressure relative to the exit enclosure. No pressure difference is required relative to a nonfire floor.*

909.20.2.5 Relief vent. *A relief vent capable of discharging a minimum of 2,500 cubic feet per minute (1180 L/s) of air at the design pressure difference shall be located in the upper portion of such pressurized exit enclosures.*

Exception: *When approved by the enforcing agency, other engineered design methods capable of discharging a minimum of 2,500 cubic feet per minute (1180 L/s) of air at the design pressure difference shall be permitted.*

909.20.3 Natural ventilation alternative. The provisions of Sections 909.20.3.1 ~~through~~ *and* ~~909.20.3.3~~*909.20.3.2* shall apply to ventilation of smokeproof enclosures by natural means.

909.20.3.1 Balcony doors. Where access to the stairway or ramp is by way of an open exterior balcony, the door assembly into the enclosure shall be a fire door assembly in accordance with Section 716.5.

~~**909.20.3.2 Vestibule doors.** Where access to the stairway is by way of a vestibule, the door assembly into the vestibule shall be a fire door complying with Section 716.5. The door assembly from the vestibule to the stairway shall have not less than a 20-minute fire protection rating complying with Section 716.5.~~

~~**909.20.3.3**~~***909.20.3.2*** **Vestibule ventilation.** *Where access to the stairway is by way of a vestibule, ~~E~~*each vestibule shall have a minimum net area of 16 square feet (1.5 m2) of opening in a wall facing an outer court, yard or public way that is not less than 20 feet (6096 mm) in width.

909.20.4 Mechanical ~~ventilation~~*pressurization* alternative. The provisions of Sections 909.20.4.1 through ~~909.20.4.4~~*909.20.4.3* shall apply to ventilation ~~of smokeproof~~ *to pressurization* enclosures by mechanical means.

909.20.4.1 Pressure differences. *The pressurization system shall be designed so that the minimum pressure differences provided within the vestibule with the doors closed shall be 0.05-inch water gage (12.44 Pa) positive pressure relative to the fire floor and 0.05-inch water gage (12.44 Pa) negative pressure relative to the exit enclosure. No pressure difference is required relative to a nonfire floor.*

~~**909.20.4.1 Vestibule doors.** The door assembly from the building into the vestibule shall be a fire door assembly complying with Section 716.5.3. The door assembly from the vestibule to the stairway or ramp shall not have less than a 20-minute fire protection rating and shall meet the requirements for a smoke door assembly in accordance with Section 716.5.3. The door shall be installed in accordance with NFPA 105.~~

~~**909.20.4.2 Vestibule ventilation.** The vestibule shall be supplied with not less than one air change per minute and the exhaust shall be not less than 150 percent of supply. Supply air shall enter and exhaust air shall discharge from the vestibule through separate, tightly constructed ducts used only for that purpose. Supply air shall enter the vestibule within 6 inches (152 mm) of the floor level. The top of the exhaust register shall be located at the top of the smoke trap but not more than 6 inches (152 mm) down from the top of the trap, and shall be entirely within the smoke trap area. Doors in the open position shall not obstruct duct openings. Duct openings with controlling dampers are permitted where necessary to meet the design requirements, but dampers are not otherwise required.~~

~~**909.20.4.2.1 Engineered ventilation system.** Where a specially engineered system is used, the system shall exhaust a quantity of air equal to not less than 90 air changes per hour from any vestibule in the emergency operation mode and shall be sized to handle three vestibules simultaneously. Smoke detectors shall be located at the floor-side entrance to each vestibule and shall activate the system for the affected vestibule. Smoke detectors shall be installed in accordance with Section 907.3.~~

~~**909.20.4.3 Smoke trap.** The vestibule ceiling shall be not less than 20 inches (508 mm) higher than the door opening into the vestibule to serve as a smoke and heat trap and to provide an upward-moving air column. The height shall not be decreased unless approved and justified by design and test.~~

~~**909.20.4.4 Stairway or ramp shaft air movement system.** The stairway or ramp shaft shall be provided with a dampered relief opening and supplied with sufficient air to maintain a minimum positive pressure of 0.10 inch of water (25 Pa) in the shaft relative to the vestibule with all doors closed.~~

~~**909.20.5 Stairway and ramp pressurization alternative.** Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the vestibule is not required, provided each interior exit stairway or ramp is pressurized to not less than 0.10 inch of water (25 Pa) and not more than 0.35 inchs of water (87 Pa) in the shaft relative to the building measured with all interior exit stairway and ramp doors closed under maximum anticipated conditions of stack effect and wind effect.~~

~~**909.20.6***909.20.4.3* ~~**Ventilating**~~***Pressurization*** **equipment.** The activation of ~~ventilating~~*pressurization* equipment required by ~~the alternatives in Sections 909.20.4 and 909.20.5~~ *Section 909.20.4* shall be by smoke detectors installed at each floor level at an *approved* location at the entrance to the smokeproof enclosure *and upon activation of the automatic controls required by Section* ~~*909.12.3*~~*909.12.4*. When the closing device for the *stair* 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.

~~**909.20.6.1***909.20.4.3.1* ~~**Ventilation**~~***Pressurization*** **systems.** Smokeproof enclosure ~~ventilation~~*pressurization* systems shall be independent of other building ventilation systems. The equipment, control wiring, power wiring and ductwork shall comply with one of the following:

1. Equipment, control wiring, power wiring and ductwork shall be located exterior to the building and directly connected to the smokeproof enclosure or connected to the smokeproof enclosure by ductwork enclosed by not less than 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both.
2. Equipment, control wiring, power wiring and ductwork shall be located within the smokeproof enclosure with intake or exhaust directly from and to the outside or through ductwork enclosed by not less than 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both.
3. Equipment, control wiring, power wiring and ductwork shall be located within the building if separated from the remainder of the building, including other mechanical equipment, by not less than 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both.

Exceptions:
1. Control wiring and power wiring utilizing a 2-hour rated cable or cable system.
2. Where encased with not less than 2 inches (51 mm) of concrete.

3. Control wiring and power wiring protected by a listed electrical circuit protective system with a fire-resistance rating of not less than 2 hours.

~~909.20.6.2~~*909.20.4.3.2* Standby power. ~~Mechanical vestibule~~ *Pressurization* and stairway and ramp shaft ventilation systems and automatic fire detection systems shall be powered in accordance with Section 2702.

~~909.20.6.3~~*909.20.4.3.3* Acceptance and testing. Before the mechanical equipment is approved, the system shall be tested in the presence of the building official to confirm that the system is operating in compliance with these requirements.

911.1 General. Where required by other sections of this code and in buildings classified as high-rise buildings by this code *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access*, a fire command center for fire department operations shall be provided and shall comply with Sections 911.1.1 through 911.1.6.

911.1.6 Required features. The fire command center shall comply with NFPA 72 and shall contain all of the following features:

1. The emergency voice/alarm communication system control unit.
2. The fire department communications system.
3. ~~Fire detection and alarm system annunciator~~*Fire alarm system zoning annunciator panel required by Section 907.6.3.3*.
4. Annunciator unit visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air distribution systems.
6. The fire fighter's control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking interior exit stairway doors simultaneously.
8. Sprinkler valve and waterflow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire fighter air replenishment system, fire-fighting equipment and fire department access and the location of fire walls, fire barriers, fire partitions, smoke barriers and smoke partitions.
13. An approved Building Information Card that contains, but is not limited to, the following information:
13.1. General building information that includes:
property name, address, the number of floors in the building above and below grade, use and occupancy classification (for mixed uses, identify the different types of occupancies on each floor), and the estimated building population during the day, night and weekend.
13.2. Building emergency contact information that includes: a list of the building's emergency contacts including but not limited to building manager and building engineer and their respective work phone number, cell phone number, e-mail address.
13.3. Building construction information that includes: the type of building construction including but not limited to floors, walls, columns, and roof assembly.
13.4. Exit access and exit stairway information that includes: number of exit access and exit stairways in the building, each exit access and exit stairway designation and floors served, location where each exit access and exit stairway discharges, interior exit stairways that are pressurized, exit stairways provided with emergency lighting, each exit stairway that allows reentry, exit stairways providing roof access; elevator information that includes: number of elevator banks, elevator bank designation, elevator car numbers and respective floors that they serve; location of elevator machine rooms, control rooms and control spaces; location of sky lobby, location of freight elevator banks.
13.5. Building services and system information that includes: location of mechanical rooms, location of building management system, location and capacity of all fuel oil tanks, location of emergency generator, location of natural gas service.
13.6. Fire protection system information that includes: location of standpipes, location of fire pump room, location of fire department connections, floors protected by automatic sprinklers, location of different types of automatic sprinkler systems installed including, but not limited to, dry, wet, and pre-action.
13.7 Hazardous material information that includes: location of hazardous material, quantity of hazardous material.
14. Work table.
15. Generator supervision devices, manual start and transfer features.
16. Public address system, where specifically required by other sections of this code.

17. Elevator fire recall switch in accordance with ~~ASME A17.1~~*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*.
18. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.
19. A master switch for unlocking elevator lobby doors permitted by Section ~~1008.1.9.12~~1010.1.9.10.
[SFM] Fire command centers shall not be used for the housing of any boiler, heating unit, generator, combustible storage, or similar hazardous equipment or storage.

***~~911.1.6~~911.1.7* Ventilation.** *The Fire Command Center shall be provided with an independent ventilation or air-conditioning system.*

912.4 Access. Immediate access to fire department connections shall be maintained at all times and without obstruction by fences, bushes, trees, walls or any other fixed or moveable object. Access to fire department connections shall be *approved* by the fire chief.

Exceptions:
1. Fences, where provided with an access gate equipped with a sign complying with the legend requirements of Section ~~912.4~~912.5 and a means of emergency operation. The gate and the means of emergency operation shall be approved by the fire chief and maintained operational at all times.
2. When acceptable to the fire authority having jurisdiction, fire department connections for Group I-3 detention facilities may be located inside all security walls or fences on the property.

912.6 Backflow protection. The potable water supply to automatic sprinkler and standpipe systems shall be protected against backflow as required by ~~the *International Plumbing Code*~~ *Health and Safety Code Section 13114.7*.

913.6 Fire pumps in high-rise buildings. *Engine-driven fire pumps and electric drive fire pumps supplied by generators shall both be provided with an on-premises fuel supply, sufficient for not less than 8-hour full-demand operation at 100% of the rated pump capacity in addition to all other required supply demands in accordance with Sections 9.6 and 11.4.2 of NFPA 20 and this Section. (Also see Section ~~604.2.14.1.1~~604.1.4.1 of the California Fire Code.)*

916.1 General. Emergency responder radio coverage shall be provided in all new buildings in accordance with Section 510 of the ~~*International*~~*California Fire Code*.

CHAPTER 10
MEANS OF EGRESS

1001.3 Maintenance. Means of egress shall be maintained in accordance with the ~~*International*~~*California Fire Code*.

1001.4 Fire safety and evacuation plans. Fire safety and evacuation plans shall be provided for all occupancies and buildings where required by the ~~*International*~~*California Fire Code*. Such fire safety and evacuation plans shall comply with the applicable provisions of Sections 401.2 and 404 of the ~~*International*~~*California Fire Code*.

1003.1 Applicability. The general requirements specified in Sections 1003 through 1015 shall apply to all three elements of the means of egress system, in addition to those specific requirements for the exit access, the exit and the exit discharge detailed elsewhere in this chapter.

Exception: *Exiting requirements for Fixed Guideway Transit Systems shall be as per Section ~~433.3~~443.*

1003.2 Ceiling height. The means of egress shall have a ceiling height of not less than 7 feet 6 inches (2286 mm).

Exceptions:
1. Sloped ceilings in accordance with Section 1208.2.
2. Ceilings of dwelling units and sleeping units within residential occupancies in accordance with Section 1208.2.
3. Allowable projections in accordance with Section 1003.3.
4. Stair headroom in accordance with Section 1011.3
5. Door height in accordance with Section 1010.1.1.
6. Ramp headroom in accordance with Section 1012.5.2.

7. The clear height of floor levels in vehicular and pedestrian traffic areas of public and private parking garages in accordance with Section 406.4.1.
8. Areas above and below *mezzanine* floors in accordance with Section 505.2.
9. In Group I-2, I-2.1 and I-3 occupancies, the means of egress shall have a ceiling height of not less than 8 feet (2439 mm).

1003.3 Protruding objects. Protruding objects on circulation paths shall comply with the requirements of Sections 1003.3.1 through 1003.3.4.

Exception: *In Group I-2 and Group I-2.1 occupancies, protruding objects shall not extend more than 12 inches (305 mm) below the minimum ceiling height required by Section 1003.2.*

1003.3.3.1 Horizontal projections for Group I-2* and I-2.1 *occupancies. *Structural elements, fixtures or furnishings shall not project horizontally from either side more than 1-1/2 inches (38 mm) into the required width of an exit access corridor serving any area caring for one or more nonambulatory or bedridden persons.*

Exceptions:
1. Handrails are permitted to protrude 31/2 inches (89 mm) from the wall.
2. Alcohol-based hand-rub dispensers are permitted to protrude 4 inches.
3. Manual fire alarm boxes with a protective cover installed are permitted to protrude 4 inches.

1003.5 Elevation change. Where changes in elevation of less than 12 inches (305 mm) exist in the *means of egress*, sloped surfaces shall be used. Where the slope is greater than one unit vertical in 20 units horizontal (5-percent slope), *ramps* complying with Section 1012 shall be used. Where the difference in elevation is 6 inches (152 mm) or less, the *ramp* shall be equipped with either handrails or floor finish materials that contrast with adjacent floor finish materials.

Exceptions:
1. A single step with a maximum riser height of 7 inches (178 mm) is permitted for buildings with occupancies in Groups F, H, R-2, R-3, S and U at exterior doors not required to be accessible by Chapter ~~11~~ *11A or 11B*.
2. A stair with a single riser or with two risers and a tread is permitted at locations not required to be accessible by Chapter ~~11~~ *11A or 11B* where the risers and treads comply with Section 1011.5, the minimum depth of the tread is 13 inches (330 mm) and not less than one handrail complying with Section 1014 is provided within 30 inches (762 mm) of the centerline of the normal path of egress travel on the stair.
3. A step is permitted in aisles serving seating that has a difference in elevation less than 12 inches (305 mm) at locations not required to be accessible by Chapter ~~11~~ *11A or 11B*, provided that the risers and treads comply with Section 1029.13 and the aisle is provided with a handrail complying with Section 1029.15.

Throughout a story in a Group I-2 ~~occupancy~~ *and Group I-2.1 occupancies*, any change in elevation in portions of the means of egress that serve nonambulatory persons shall be by means of a *ramp* or sloped walkway.

[Editorial Note: Remove existing amendments to Section 1004.1.1.1-1004.1.1.3. Model code now matches old CA amendments.]
1004.1.1.1 Intervening spaces or accessory areas. Where occupants egress from one or more rooms, areas or spaces through others, the design occupant load shall be the combined occupant load of interconnected accessory or intervening spaces. Design of egress path capacity shall be based on the cumulative portion of occupant loads of all rooms, areas or spaces to that point along the path of egress travel.
~~**1004.1.1.1 Intervening spaces *or accessory areas*.** Where occupants egress from one *or more* rooms, areas or spaces through *others*, the design occupant load shall be *the combined occupant load of interconnected accessory or intervening spaces. Design of egress path capacity shall* be based on the cumulative *portion of* occupant loads of all rooms, areas or spaces to that point along the path of egress travel.~~

1004.1.1.2 Adjacent levels for mezzanines. That portion of the occupant load of a mezzanine with required egress through a room, area or space on an adjacent level shall be added to the occupant load of that room, area or space.
~~**1004.1.1.2 Adjacent levels *for mezzanines*.** *That portion of* occupant load of a mezzanine with *all required* egress through a room, area or space on an adjacent level shall be added to the *occupant load* of that room, area or space.~~

1004.1.1.3 Adjacent stories. Other than for the egress components designed for convergence in accordance with Section 1005.6, the occupant load from separate stories shall not be added.

~~***1004.1.1.3 Adjacent stories.*** *Other than for the egress components designed for convergence in accordance with Section 1005.6, the occupant load from separate stories shall not be added.*~~

TABLE 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	**OCCUPANT LOAD FACTOR[a]**
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal Baggage claim Baggage handling Concourse Waiting areas	 20 gross 300 gross 100 gross 15 gross
Assembly Gaming floors (keno, slots, etc.) Exhibit gallery and museum	 11 gross 30 net
Assembly with fixed seats	See Section 1004.7
Assembly without fixed seats Concentrated (chairs only-not fixed) Standing space Unconcentrated (tables and chairs)	 7 net 5 net 15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	100 gross
Courtrooms-other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational Classroom area Shops and other vocational room areas	 20 net 50 net
Exercise rooms	50 gross
H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas Inpatient treatment areas Outpatient areas Sleeping areas	 240 gross 100 gross 120 gross
Kitchens, commercial	200 gross
Laboratory *Educational*	 *50 net*

Laboratories, non-educational *Laboratory suite*[a~~b~~]	*100 net* *200 gross*
Library Reading rooms Stack area	 50 net 100 gross
Locker rooms	50 gross
Mall buildings – covered and open	See Section 402.8.2
Mercantile Areas on other floors Storage, stock, shipping areas	 60 gross 300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools Rink and pool Decks	 50 gross 15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m2.
[a] Floor area in square feet per occupant.
[b] *See Section 453.2.*

1005.3.2 Other egress components. The capacity, in inches, of means of egress components other than stairways shall be calculated by multiplying the occupant load served by such component by a means of egress capacity factor of 0.2 inch (5.1 mm) per occupant.

Exceptions:
1. For other than Group H and I-2 occupancies, the capacity, in inches, of means of egress components other than stairways shall be calculated by multiplying the occupant load served by such component by a means of egress capacity factor of 0.15 inch (3.8 mm) per occupant in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.
2. Facilities with smoke-protected assembly seating shall be permitted to use the capacity factors in Table 1029.6.2 indicated for level or ramped aisles for means of egress components other than stairways where the entire path for means of egress from the seating to the exit discharge is provided with a smoke control system complying with Section 909.
3. Facilities with outdoor smoke-protected assembly seating shall be permitted to the capacity factors in Section 1029.6.3 indicated for level or ramped aisles for means of egress components other than stairways where the entire path for means of egress from the seating to the exit discharge is open to the outdoors.

~~2.~~3. For Group H-1, H-2, H-3 and H-4 occupancies the total width of means of egress in inches (mm) shall not be less than the total occupant load served by the means of egress multiplied by 0.4 inches (5.08 mm) per occupant.
~~3.~~4. 3. Means of egress complying with Section ~~1028~~ 1029.

1005.7.1 Doors. Doors, when fully opened, shall not reduce the required width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one-half.

Exceptions:
1. *In other than Group I-2 occupancies,* surface-mounted latch release hardware shall be exempt from inclusion in the 7-inch maximum (178 mm) encroachment where both of the following conditions exist:
1.1. The hardware is mounted to the side of the door facing away from the adjacent wall where the door is in the open position.
1.2. The hardware is mounted not less than 34 inches (865 mm) nor more than 48 inches (1219 mm) above the finished floor.

2. The restrictions on door swing shall not apply to doors within individual dwelling units and sleeping units of Group R-2 occupancies and dwelling units of Group R-3 occupancies.

1005.7.2 Other projections. Handrail projections shall be in accordance with the provisions of Section 1014.8. Other nonstructural projections such as trim and similar decorative features shall be permitted to project into the required width not more than 11/2 inches (38 mm) on each side.

~~**Exception**: Projections are permitted in corridors within Group I-2 Condition 1 in accordance with Section 407.4.3.~~

~~**1015.1**~~ **1006.2.1 Egress based on occupant load and common path of egress travel distance**. Two exits or exit access doorways from any space shall be provided where the design occupant load or the common path of egress travel distance exceeds the values listed in Table 1006.2.1.

Exceptions:
1. In Group R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped through- out with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and the common path of egress travel does not exceed 125 feet (38 100 mm).
2. Care suites in Group I-2 occupancies complying with Section 407.4.
~~4.~~3. In detention and correctional facilities and holding cells, such as are found in courthouse buildings, when the occupant load is more than 20 see Section 408.3.11.

[Editorial Note: CA amendments to section Table 1006.2.1.1 are relocated from 2013 CBC Tables 1014.3 and 1015.1]

TABLE ~~1014.3~~ 1006.2.1
SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)		
		WITHOUT SPRINKLER SYSTEM (feet)		WITH SPRINKLER SYSTEM (feet)
		Occupant Load		
		≤30	>30	
A[c], E, M	49	75	*75*	75[a]
B	49	100	*75*	100[a]
F	49	75	*75*	100[a]
H-1, H-2, H-3	3	NP	NP	25[b]
H-4, H-5	10	NP	NP	75[b]
~~I-1,~~ I-2[d], *I-2.1,* I-4	10	NP	NP	75[a]
I-3	10	NP	NP	100[a]
R-1	10	NP	NP	75[a]
R-2	10	NP	NP	125[a]
R-2.1	*10*	*NP*	*NP*	*75*
R-3[e], *R-3.1* [e]	10	NP	NP	125[a]*.g*
R-4[e]	10	~~75~~ *NP*	~~75~~ *NP*	125[a]*.g*
S[f]	29	100	*75*	100[a]
U	49	100	*75*	75[a]
L	*See Section 453.6.1*			

a. 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.
b. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.
c. For a room or space used for assembly purposes having fixed seating, see Section 1029.8.
d. For the travel distance limitations in Group I-2, see Section 407.4.
e. The length of common path of egress travel distance in a Group R-3 occupancy located in a mixed occupancy building or within a Group R-3 or R-4 congregate living facility.
f. The length of common path of egress travel distance in a Group S-2 open parking garage shall be not more than 100 feet.
g. For the travel distance limitations in Group R-3 and R-4 equipped throughout with an automatic sprinkler system in

accordance with Section 903.3.1.3, see Section 1006.2.2.6
h. For holding cells, see Section 408.3.11.

1006.2.2 Egress based on use. The numbers of exits or access to exits shall be provided in the uses described in Sections 1006.2.2.1 through ~~1006.2.2.5~~*1006.2.2.7*.

~~**1015.5**~~**1006.2.2.3 Refrigerated rooms or spaces.** Rooms or spaces having a floor area larger than 1,000 square feet (93 m2), containing a refrigerant evaporator and maintained at a temperature below 68°F (20°C), shall have access to not less than two exits or exit access doorways.

Exit access travel distance shall be determined as specified in Section 1017.1, but all portions of a refrigerated room or space shall be within 150 feet (45 720 mm) of an exit or exit access doorway where such rooms are not protected by an approved automatic sprinkler system. Egress is allowed through adjoining refrigerated rooms or spaces.

Exception: Where using refrigerants in quantities limited to the amounts based on the volume set forth in the ~~International~~*California* Mechanical Code.

~~**1015.6**~~**1006.2.2.4 Day care means of egress**. Day care facilities, rooms or spaces where care is provided for more than 10 children that are 2~~1/2~~ years of age or less, shall have access to not less than two exits or exit access doorways.

1006.2.2.6 Group R-3 and R-4*. Where Group R-3 occupancies are permitted by Section 903.2.8 to be protected by an automatic sprinkler system installed in accordance with Section 903.3.1.3, the exit access travel distance for Group R-3 shall not be more than 125 feet. Where Group R-4 occupancies are permitted by Section 903.2.8 to be protected by an automatic sprinkler system installed in accordance with Section 903.3.1.3, the exit access travel distance for Group R-4 shall not be more than 75 feet.*

~~**1015.7**~~**1006.2.2.7** ***Large family day-care home.*** *Every story or basement of a large family day-care home shall be provided with two exits which are remotely located from each other. Every required exit shall be of a size to permit the installation of a door not less than 32 inches (813 mm) in clear width and not less than 6 feet 8 inches (2,032 mm) in height. A manually operated horizontal sliding door may be used as one of the two required exits.*

Where basements are used for day-care purposes, one of the two required exits shall provide access directly to the exterior without entering the first story. The second exit from the basement may either pass through the story above or exit directly to the exterior.

Rooms used for day-care purposes shall not be located above the first story.

Exception: *Buildings equipped with an automatic sprinkler system throughout and which have at least one of the required exits providing access directly to the exterior. NFPA 13R may be used in large family day-care homes. The sprinkler omissions of NFPA 13R shall not apply unless approved by the enforcing agency.*

Exit doors, including manually operated horizontal sliding doors, shall be openable from the inside without use of a key or any special knowledge or effort.

Tables ~~1021.1~~1006.3.2(1) and ~~1021.2~~1006.3.2(2) are not applicable to this occupancy classification.

TABLE ~~1021.2(1)~~1006.3.2(1)
STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 *AND R-3* OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane ~~above grade plane~~	R-2[a,b] *R-3*[a]	4 dwelling units *NA*	125 feet *NA*
Fourth story above grade plane ~~above grade plane~~ and higher ~~higher~~	~~NP~~ *R-3* [a]	NA	~~NA~~*125 feet*

For SI: 1 foot = 3048 mm.
NP – Not Permitted
NA – Not Applicable
a. Buildings classified as Group R-2 *or R-3* equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1029.
b. This table is used for R-2 occupancies consisting of dwelling units. For R-2 occupancies consisting of sleeping units, use Table 1006.3.2(2).

TABLE ~~1021.2(2)~~1006.3.2(2)
STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)
First story above ~~above~~ or below grade plane ~~below grade plane~~	A, B[b], E F[b], M, U	49 occupants	75 feet
	H-2, H-3	3 occupants	25 feet
	H-4, H-5, I, R-1, R-2[a,c], R-4	10 occupants	75 feet
	I-2, I-2.1	*7 occupants*	*50 feet*
	S	29 occupants	75 feet
Second story above grade plane ~~above grade plane~~	B, F, M, S[d]	29 occupants	75 feet
Third story above grade plane ~~above grade plane~~ and higher ~~higher~~	NP	NA	NA

For SI: 1 foot = 304.8 mm.
NP – Not Permitted
NA – Not Applicable
a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1029.
b. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall have a maximum exit access travel distance of 100 feet.
c. This table is used for R-2 occupancies consisting of sleeping units. For R-2 occupancies consisting of dwelling units, use Table 1006.3.2(1).
d. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

~~1006.1~~1008.2 Illumination required. Illumination required. The means of egress serving a room or space shall be illuminated at all times that the room or space is occupied..

Exceptions:
1. Occupancies in Group U.
2. Aisle accessways in Group A.
3. Dwelling units and sleeping units in Groups R-1, R-2 and R-3.
4. Sleeping units of Group I*, R-2.1 and R-4* occupancies.

~~1007.1~~1009.1 Accessible means of egress required. Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one *means of egress* are required by Section 1006.2 or 1006.3 from any accessible space, each accessible portion of the space shall be served by ~~not less than two~~ accessible means of egress *in at least the same number as required by Section ~~1015.1~~1006.2* or *~~1021.1~~1006.3. In addition to the requirements of this chapter, means of egress, which provide access to, or egress from, buildings for persons with disabilities, shall also comply with the requirements of Chapter 11A or 11B as applicable.*

Exceptions:
1. Accessible means of egress are not required to be provided in existing buildings.
2. One accessible means of egress is required from an accessible mezzanine level in accordance with Section 1009.3, 1009.4 or 1009.5, *and Chapter 11A or 11B, as applicable.*

3. In assembly areas with ramped aisles or stepped aisles, one accessible means of egress is permitted where the common path of egress travel is accessible and meets the requirements in Section 1029.8*, and Chapter 11A or 11B, as applicable.*

~~1007.4~~1009.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of ~~Section 2.27 of ASME A17.1~~*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*. Standby power shall be provided in accordance with Chapter 27 and Section 3003. The elevator shall be accessed from an area of refuge complying with Section 1009.6.

Exceptions:
1. Areas of refuge are not required at the elevator in open parking garages.
2. Areas of refuge are not required in buildings and facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
3. Areas of refuge are not required at elevators not required to be located in a shaft in accordance with Section 712.
4. Areas of refuge are not required at elevators serving smoke-protected assembly seating areas complying with Section 1029.6.2.
5. Areas of refuge are not required for elevators accessed from a refuge area in conjunction with a horizontal exit.

~~1007.5~~ 1009.5 Platform lifts. Platform lifts shall be permitted to serve as part of an accessible means of egress, where allowed as part of a required accessible route in ~~Section 1109.8 of the except for Item 10~~ *Chapter 11B*. Standby power for the platform lift shall be provided in accordance with Chapter 27.

~~1007.6.1~~1009.6.3 Size. Each area of refuge shall be sized to accommodate ~~one~~ *two* wheelchair space ~~of~~ *that are not less than* 30 inches by 48 inches (762 mm by 1219 mm). *The total number of such 30-inch by 48-inch (762 mm by 1219 mm) spaces per story shall be not less than one for every 200 persons of calculated occupant load served by the area of refuge.* ~~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.

Exception: *The enforcing agency may reduce the size of each required area of refuge to accommodate one wheelchair space that is not less than 30 inches by 48 inches (762 mm by 1219 mm) on floors where the occupant load is less than 200.*

~~1007.8.1~~1009.8.1 System requirements – Two-way communication systems shall provide communication between each required location ~~and the fire command center or~~ *and* 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*n approved* monitoring location ~~or 9-1-1~~. The two-way communication system shall include both audible and visible signals.

~~1007.8.2~~1009.8.2 Directions – Directions for the use of the two-way communication system, instructions for summoning assistance via the two-way communication system and written identification of the location shall be posted adjacent to the two-way communication system. Signage shall comply with ~~the ICC A117.1~~ *Chapter 11A, Section 1143A* requirements for visual characters..

~~1007.12~~1009.12 Alarms/emergency warning systems/accessibility. *If emergency warning systems are required, they shall activate a means of warning the hearing impaired. Emergency warning systems as part of the fire-alarm system shall be designed and installed in accordance with NFPA 72 as amended in Chapter 35.*

~~1008.1.1.1~~1010.1.1.1 Projections into clear width. There shall not be projections into the required clear 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).

Exceptions:
1. Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the floor.
2. In a Group I-2 or I-2.1 occupancy, there shall be no projections into the clear width of doors used for the movement of beds and litter patients in the means of egress.

[Editorial Note: Relocate existing amendments from Section 1010.1.2 to 1010.1.2.1 due to section split.]
1010.1.2.1 Direction of swing. Pivot or side-hinged swinging 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. *For Group L occupancies, see Section 453.6.2.*

In a Group I-2 occupancy, all required exterior egress doors shall open in the direction of egress regardless of the occupant load served.

~~1008.1.4.4.1~~1010.1.4.4.1 Special provisions school classrooms. *School classrooms constructed after January 1, 1990, not equipped with automatic sprinkler systems, which have metal grilles or bars on all their windows and do not have at least two exit doors within 3 feet (914 mm) of each end of the classroom opening to the exterior of the building or to a common hallway used for evacuation purposes, shall have an inside release for the grilles or bars on at least one window farthest from the exit doors. The window or windows with the inside release shall be clearly marked as emergency exits.*

~~1008.1.9.1~~1010.1.9.1 Hardware. Door handles, pulls, latches, locks and other operating devices on doors required to be accessible by Chapter 11*A or 11B* shall not require tight grasping, tight pinching or twisting of the wrist to operate.

These design requirements for door handles, pulls, latches, locks and other operating devices, intended for use on required means of egress doors in other than Group R and M occupancies with an occupant load of 10 or less, shall comply with SFM Standard 12-10-2, Section 12-10-202 contained in the CCR, Title 24, Part 12, California Referenced Standards Code.

~~**1010.1.9.6 Controlled egress doors in Groups I-1 and I-2.** Electric locking systems, including electromechanical 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 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.~~
Reserved

1010.1.9.10 ~~**Locking arrangements in correctional facilities.** In occupancies in Groups A-2, A-3, A-4, B, E, F, I-2, I-3, M and S within correctional and detention facilities, doors in means of egress serving rooms or spaces occupied by persons whose movements are controlled for security reasons shall be permitted to be locked where equipped with egress control devices that shall unlock manually and by not less than one of the following means:~~
~~1. Activation of an automatic sprinkler system installed in accordance with Section 903.3.1.1.~~
~~2. Activation of an approved manual fire alarm box.~~
~~3. A signal from a constantly attended location.~~
Reserved.

~~1008.1.9.12~~1010.1.9.12 Access-controlled elevator lobby ~~egress~~ doors in high-rise office buildings. *For elevator lobbies in high-rise office buildings where the occupants of the floor are not required to travel through the elevator lobby*

to reach an exit, when approved by the fire chief, the doors separating the elevator lobby from the adjacent occupied tenant space that also serve as the entrance doors to the tenant space shall be permitted to be equipped with an approved entrance and egress access control provided all of the following requirements are met:

1. The building is provided throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. A smoke detector is installed on the ceiling on the tenant side of the elevator lobby doors along the center line of the door opening, not less than 1 foot and not more than 5 feet from the door opening, and is connected to the fire alarm system.
3. A remote master switch capable of unlocking the elevator lobby doors shall be provided in the fire command center for use by the fire department.
4. Locks for the elevator lobby shall be U.L. and California State Fire Marshal listed fail-safe type locking mechanisms. The locking device shall automatically release on activation of any fire alarm device on the floor of alarm (waterflow, smoke detector, manual pull stations, etc.). All locking devices shall unlock, but not unlatch, upon activation.
5. A two-way voice communication system, utilizing dedicated lines, shall be provided from each locked elevator lobby to the 24-hour staffed location on site, annunciated as to location. Operating instructions shall be posted above each two-way communication device.

Exception: *When approved by the fire chief, two-way voice communication system to an off-site facility may be permitted where means to remotely unlock the access controlled doors from the off-site facility are provided.*

6. An approved momentary mushroom-shaped palm button connected to the doors and installed adjacent to each locked elevator lobby door shall be provided to release the door locks when operated by an individual in the elevator lobby. The locks shall be reset manually at the door. Mount palm button so that the center line is 48 inches above the finished floor.

Provide a sign stating:

"IN CASE OF EMERGENCY, PUSH PALM BUTTON,
DOOR WILL UNLOCK AND
SECURITY ALARM WILL SOUND."

The sign lettering shall be ¾-inch high letters by 1/8-inch width stroke on a contrasting background.

7. Loss of power to that part of the access control system which locks the doors shall automatically unlock the doors.

~~1008.1.11~~1010.1.11 ***Group E lockable doors from the inside.*** *New buildings that are included in public schools (kindergarten through 12th grade) state funded projects and receiving state funding pursuant to Leroy F. Green, School Facilities Act of 1998, California Education Code Sections 17070.10 through 17079, and that are submitted to the Division of the State Architect for plan review after July 1, 2011 in accordance with Education Code 17075.50, shall include locks that allow doors to classrooms and any room with an occupancy of five or more persons to be locked from the inside. The locks shall conform to the specification and requirements found in Section ~~1008.1.9~~ 1010.1.9.*

Exceptions:
1. Doors that are locked from the outside at all times such as, but not limited to, janitor's closet, electrical room, storage room, boiler room, elevator equipment room, and pupil restroom.
2. Reconstruction projects that utilize original plans in accordance with California Administrative Code, Section 4-314.
3. Existing relocatable buildings that are relocated within same site in accordance with California Administrative Code, Section 4-314.

~~1009.7.2~~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. 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 1029.13.2.

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 73/4 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 ¾ inch (19.1 mm) but not more than 11/4 inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).
~~6.~~4. ~~See Section *3404.1*~~*California Fire Code Chapter 11 and California Existing Building Code* ~~403.1 of the International Existing Building Code~~ for the replacement of existing stairways. ***[DSA-AC]*** *For applications listed in Section 1.9.1 regulated by the Division of the State Architect-Access Compliance, see Chapter 11B, Section 11B-202.*
~~7.~~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).
~~8.~~*6. [SFM] Stairways providing access to lifeguard towers not open to the public, 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).*

~~1009.8~~1011.6 Stairway landings. There shall be a floor or landing at the top and bottom of each stairway. The width of landings shall be not less than the width of stairways served. Every landing shall have a minimum width measured perpendicular to the direction of travel equal to the width of the stairway. Where the stairway has a straight run the depth need not exceed 48 inches (1219 mm). 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. [SFM] In Group R-3 occupancies a floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided a door does not swing over the stairs.

~~1009.15~~1011.11 Handrails. 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. Stairways within dwelling units and 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.
~~4.~~3. *[SFM]* In Group R-3 occupancies, ~~a change in elevation consisting of a single riser at an entrance or egress door does not require handrails~~ *a continuous run of treads or flight of stairs with less than four risers does not require 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.

~~1011.1~~1013.1 Where required. Exits and exit access doors shall be marked by an approved exit sign readily visible from any direction of egress travel. The path of egress travel to exits and within exits shall be marked by readily visible exit signs to clearly indicate the direction of egress travel in cases where the exit or the path of egress travel is not immediately visible to the occupants. Intervening means of egress doors within exits shall be marked by exit signs. Exit sign placement shall be such that no point in an exit access corridor or exit passageway is more than 100 feet (30 480 mm) or the listed viewing distance for the sign, whichever is less, from the nearest visible exit sign.

Exceptions:
1. Exit signs are not required in rooms or areas that require only one exit or exit access.
2. Main exterior exit doors or gates that are obviously and clearly identifiable as exits need not have exit signs where approved by the building official.
3. Exit signs are not required in occupancies in Group U and individual sleeping units or dwelling units in Group R-1, R-2, ~~or~~ R-3 *or R-3.1.*
4. Exit signs are not required *where inmates are housed, or held* in dayrooms, sleeping rooms or dormitories in occupancies in Group I-3.

5. In occupancies in Groups A-4 and A-5, exit signs are not required on the seating side of vomitories or openings into seating areas where exit signs are provided in the concourse that are readily apparent from the vomitories. Egress lighting is provided to identify each vomitory or opening within the seating area in an emergency.

~~1011.2~~1013.2 Floor-level exit signs in Group R-1. ~~Where exit signs are required in Group R-1 occupancies by Section 1013.1, additional low-level exit signs shall be provided in all areas serving guest rooms in Group R-1 occupancies and shall comply with Section 1013.5.~~

~~The bottom of the sign shall be not less than 10 inches (254 mm) nor more than 12 inches (305 mm) above the floor level. The sign shall be flush mounted to the door or wall. Where mounted on the wall, the edge of the sign shall be within 4 inches (102 mm) of the door frame on the latch side.~~*See Section ~~1011.7~~ 1013.7*

~~1011.4~~1013.4 Raised character and braille exit signs. ~~A sign stating EXIT in visual characters, raised charecters and Braille and complying with ICC A117.1 shall be provided adjacent to each door to an area of refuge, an exterior area for assisted rescue, an exit stairway or ramp, an exit passageway and the exit discharge.~~ *Tactile exit signs shall be required at the following locations:*

1. Each grade-level exterior exit door that is required to comply with Section ~~1011.1~~1013.1, shall be identified by a tactile exit sign with the word, "EXIT."
2. Each exit door that is required to comply with Section ~~1011.1~~1013.1, and that leads directly to a grade-level exterior exit by means of a stairway or ramp shall be identified by a tactile exit sign with the following words as appropriate:

2.1. "EXIT STAIR DOWN"
2.2. "EXIT RAMP DOWN"
2.3. "EXIT STAIR UP"
2.4. "EXIT RAMP UP"

3. Each exit door that is required to comply with Section ~~1011.1~~1013.1, and that leads directly to a grade-level exterior exit by means of an exit enclosure or an exit passageway shall be identified by a tactile exit sign with the words, "EXIT ROUTE."
4. Each exit access door from an interior room or area to a corridor or hallway that is required to comply with Section ~~1011.1~~1013.1, shall be identified by a tactile exit sign with the words "EXIT ROUTE."
5. Each exit door through a horizontal exit that is required to comply with Section ~~1011.1~~1013.1, shall be identified by a sign with the words, "TO EXIT."

Raised character and Braille exit signs shall comply with Chapter 11B.

~~1011.7~~1013.7 Floor-level exit signs. *Where exit signs are required by Chapter 10, additional approved low-level exit signs which are internally or externally illuminated photoluminescent or self-luminous, shall be provided in all interior corridors of Group A, E, I and R-2.1 occupancies and in all areas serving guest rooms of hotels in Group R, Division 1 occupancies.*

Exceptions:
1. Group A occupancies that are protected throughout by an approved supervised fire sprinkler system.
2. Group E Occupancies where direct exits have been provided from each classroom.
3. Group I and R-2.1 occupancies which are provided with smoke barriers constructed in accordance with Section 407.5.
4. Group I-3 occupancies.

The bottom of the sign shall not be less than 6 inches (152 mm) or more than 8 inches (203 mm) above the floor level and shall indicate the path of exit travel. For exit and exit-access doors, the sign shall be on the door or adjacent to the door with the closest edge of the sign or marker within 4 inches (102 mm) of the door frame.

Note: Pursuant to Health and Safety Code Section 13143, this California amendment applies to all newly constructed buildings or structures subject to this section for which a building permit is issued (or construction commenced, where no building permit is issued) on or after January 1, 1989.

~~1011.8~~1013.8 Path marking. *When exit signs are required by Chapter 10, in addition to approved floor-level exit signs, approved path marking shall be installed at floor level or no higher than 8 inches (203 mm) above the floor level in all interior rated exit corridors of unsprinklered Group A, R-1 and R-2 occupancies.*

Such marking shall be continuous except as interrupted by door-ways, corridors or other such architectural features in order to provide a visible delineation along the path of travel.

Note: *Pursuant to Health and Safety Code Section 13143, the California amendments of this section shall apply to all newly constructed buildings or structures subject to this section for which a building permit is issued (or construction commenced, where no building permit is issued) on or after January 1, 1989.*

~~**1012.8**~~**1014.8 Projections.** On ramps and on ramped aisles that are part of an accessible route, the clear width between handrails shall be 36 inches (914 mm) minimum. Projections into the required width of aisles, stairways and ramps at each side shall not exceed 4 1/2 inches (114 mm) at or below the handrail height. Projections into the required width shall not be limited above the minimum headroom height required in Section 1011.3. Projections due to intermediate handrails shall not constitute a reduction in the egress width. Where a pair of intermediate handrails are provided within the stairway width without a walking surface between the pair of intermediate handrails and the distance between the pair of intermediate handrails is greater than 6 inches (152 mm), the available egress width shall be reduced by the distance between the closest edges of each such intermediate pair of handrails that is greater than 6 inches (152 mm).

In Group I-2 occupancy ramps required for exit access shall not be less than 8 ft in width and handrails are permitted to protrude 31/2 inches from the wall on both sides. Ramps used as exits and stairways used for the movement of bed and litter patients, the clear width between handrails shall be 44 inches (1118 mm) minimum.

[Editorial Note: Remove 2013 CBC amendments to Table 1015.1. It has merged with another table and created 1006.2.1.]

~~**TABLE 1015.1**~~
~~**SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY**~~

~~**OCCUPANCY**~~	~~**MAXIMUM OCCUPANT LOAD**~~
~~A, B, E, F, M, U~~	~~49~~
~~H-1, H-2, H-3~~	~~3~~
~~H-4, H-5, I-1/ 2.1, I-3, I-4, R~~	~~10~~
~~S~~	~~29~~
~~*L*~~	~~*See Section 443.6.1*~~

~~*a. For holding cells, see 408.3.11.*~~

[Editorial Note: Remove 2013 CBC amendments to 1015.2 and 1015.2.2. 2015 IBC now addresses. See 1007.]

~~**1015.2** *Exit access doorways, contributing to the total number of exits or exit access doorways required by Sections 1015.1 and 1015.1.1, shall lead to separate exits.*~~

~~**1015.2.2**. *Additional required exit or exit access doorways shall be arranged a reasonable distance apart so that if one becomes, blocked, the others will be available.*~~

[Editorial Note: Remove 2013 CBC amendments to 1016.2.2. CA Amendments matches new model code language located at 1017.2.2.]

~~***1016.2.2 Group F-1 and S-1 increase.*** *The maximum exit access travel distance shall be 400 feet (122 m) in Group F-1 or S-1 occupancies where all of the following are met:*~~

~~*1. The portion of the building classified as Group F-1 or S-1 is limited to one story in height,*~~
~~*2. The minimum height from the finished floor to the bottom of the ceiling or roof slab or deck is 24 feet (7315 mm), and*~~
~~*3. The building is equipped throughout with an automatic fire sprinkler system in accordance with Section 903.3.1.1.*~~

~~**1013.3**~~**1015.3 Height.** Required guards shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.
2. On stairways and stepped aisles, from the line connecting the leading edges of the tread nosings.
3. On ramps and ramped aisles, from the ramp surface at the guard.

Exceptions:

~~1. For occupancies in Group R-3 not more than three stories above grade in height and within individual dwelling units in occupancies in Group R-2 not more than three stories above grade in height with separate means of egress, required~~

~~guards shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces or adjacent fixed seating.~~
~~2.~~*1.* For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
~~3.~~*2.* For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
~~4.~~*3.* The guard height in assembly seating areas shall comply with Section 1029.16.
~~5.~~*4.* Along alternating tread devices and ships ladders, guards where the top rail also serves as a handrail, shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread nosing.

~~1013.4~~1015.4 Opening limitations. Required guards shall not have openings that allow passage of a sphere 4 inches (102 mm) in diameter from the walking surface to the required guard height.

Exceptions:
1. From a height of 36 inches (914 mm) to 42 inches (1067 mm), guards shall not have openings that allow passage of a sphere 43/8 inches (111 mm) in diameter.
2. The triangular openings at the open sides of a stair, formed by the riser, tread and bottom rail shall not allow passage of a sphere 6 inches (152 mm) in diameter.
3. At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall not have openings that allow passage of a sphere 21 inches (533 mm)in diameter.
4. In areas that are not open to the public within occupancies in Group I-3, F, H or S, and for alternating tread devices and ships ladders, guards shall not have openings that allow passage of a sphere 21 inches (533 mm) in diameter.
5. In assembly seating areas, guards at the end of aisles in accordance with Section 1029.16.4 shall not have openings that allow passage of a sphere 4 inches (102 mm) in diameter up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, guards shall not have openings that allow passage of a sphere 8 inches (203 mm) in diameter.
6. Within individual dwelling units and sleeping units in Group R-2 and R-3 occupancies, guards on the open sides of stairs shall not have openings that allow passage of a sphere 43/8 (111 mm)inches in diameter.
7. In lifeguard towers not open to the public, guards shall not have openings which allow passage of a sphere 21 inches (533 mm) in diameter.

~~1014.2.2~~1016.2.2 Basement exits in Group I-2 occupancies*. For additional requirements for occupancies in Group I-2 or I-2.1, see Sections 407.*

TABLE ~~1016.2~~1017.2
EXIT ACCESS TRAVEL DISTANCE[a]

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200[e]	250[b]
~~I-1~~*R-2.1*	Not Permitted	250[~~b~~c]
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[d]
I-2, *I-2.1,* I-3[~~d~~f], I-4	Not Permitted	200[c]
L	*Not Permitted*	*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 *or I-2.1*.
Section 408.3.10: For increased limitation in Group I-3.
Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.
Section 411.4: For the distance limitation in special amusement buildings.
Section 412.7: 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 1006.3.2: For buildings with one exit.
~~*Section 1016.2.2: For increased limitation in Groups F-1 and S-1.*~~
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.
~~*d.*~~*f. Not permitted in nonsprinklered Group I-3 Occupancies.*

1019.3 Occupancies other than Groups I-2*, I-2.1,* ~~and~~ **I-3*, and R-2.1*.** In other than Group I-2*, I-2.1,* ~~and~~ I-3*, and R-2.1* 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 stories. Such interconnected stories shall not be open to other stories.
2. In Group R-1, R-2*, R-2.1,* ~~or~~ R-3 *or R-3.1* 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 open-air seating complying with the exit access travel distance requirements of Section 1029.7.
8. Exit access stairways and ramps serving the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, places of religious worship, auditoriums and sports facilities.
9. Fixed guideway transit stations, constructed in accordance with Section 443.

1019.4 Group I-2*, I-2.1,* ~~and~~ **I-3*, and R-2.1*occupancies**. In Group I-2*, I-2.1,* ~~and~~ I-3*, and R-2.1* occupancies, floor openings between stories containing exit access stairways or ramps are required to be enclosed with a shaft enclosure constructed in accordance with Section 713.

Exception: In Group I-3 occupancies, exit access stairways or ramps constructed in accordance with Section 408 are not required to be enclosed.

TABLE ~~1018.1~~ 1020.1
CORRIDOR FIRE-RESISTANCE RATING

OCCUPANCY	OCCUPANT LOAD SERVED BY	REQUIRED FIRE-RESISTANCE RATING (hours)

	CORRIDOR	Without sprinkler system	With sprinkler system[c]
H-1, H-2, H-3	All	Not Permitted	1
H-4, H-5 , *L*	Greater than 30	Not Permitted	1
A[d], B, F, M, S, U	Greater than 30	1	0
R-*1, R-2, R-3, R-3.1, R-4*	Greater than 10	~~Not Permitted~~*1*[d]	~~0.5~~*1*
I-2[a], *I-2.1*, I-4	~~All~~ *Greater than 6*	Not Permitted	*1*
~~I-1,~~ I-3, *R-2.1*	~~All~~ *Greater than 6*	Not Permitted	1[b]
E	*Greater than 10*	*1*	*1*

a. For requirements for occupancies in Group I-2 *and I-2.1*, see Sections 407.2 and 407.3.
b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Sections *408.1.2 and* 408.8.
c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.
d. Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for
occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3.
f. [SFM] See Section ~~1028~~1029.

TABLE ~~1018.2~~1020.2
MINIMUM CORRIDOR WIDTH

OCCUPANCY	WIDTH (minimum)
Any facilities not listed below	44 inches
Access to and utilization of mechanical, plumbing or electrical systems or equipment	24 inches
With an occupant load of less than 50	36 inches
Within a dwelling unit	36 inches
In Group E with a corridor having an occupant load of 100 or more	72 inches
In corridors and areas serving stretcher traffic in ambulatory care facilities	72 inches
Group I-2 in areas where required for bed movement	96 inches
Corridors in Group I-2 and I-3 occupancies serving any area caring for one or more nonambulatory persons.	96 inches

For SI: 1 inch = 25.4 mm.

~~1018.4~~1020.4 Dead ends. Where more than one exit or exit access doorway is required, the exit access shall be arranged such that there are no dead ends in corridors more than 20 feet (6096 mm) in length.

Exceptions:
1. In occupancies in Group I-3 of Condition 2, 3 or 4, the dead end in a corridor shall not exceed 50 feet (15 240 mm).
2. In occupancies in Groups B, E, F, ~~I-1,~~ M, R-1, R-2, *R-2.1,* R-4, 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.

~~1018.5~~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. Incidental air movement from pressurized rooms within health care facilities, provided that the corridor is not the primary source of supply or return to the room.
5. For health care facilities under the jurisdiction of the Office of Statewide Health Planning and Development (OSHPD), see the California Mechanical Code.

~~1018.5.1~~1020.5.1 Corridor ceiling. Use of the space between the corridor ceiling and the floor or roof structure above as a return air plenum is permitted for one or more of the following conditions:

1. The corridor is not required to be of fire-resistance-rated construction.
2. The corridor is separated from the plenum by fire-resistance-rated construction.
3. The air-handling system serving the corridor is shut down upon activation of the air-handling unit smoke detectors required by the ~~*International*~~*California Mechanical Code*.
4. The air-handling system serving the corridor is shut down upon detection of sprinkler water flow where the building is equipped throughout with an automatic sprinkler system.
5. The space between the corridor ceiling and the floor or roof structure above the corridor is used as a component of an approved engineered smoke control system.

~~1018.6~~1020.6 Corridor continuity. Fire-resistance-rated corridors shall be continuous from the point of entry to an *exit*, and shall not be interrupted by intervening rooms. Where the path of egress travel within a fire-resistance-rated corridor to the exit includes travel along unenclosed exit access stairways or ramps, the fire resistance-rating shall be continuous for the length of the stairway or ramp and for the length of the connecting corridor on the adjacent floor leading to the exit.

Exceptions:
1. Foyers, lobbies or reception rooms constructed as required for *corridors* shall not be construed as intervening rooms.
2. Enclosed elevator lobbies as permitted by Item 1 of Section 1016.2 shall not be construed as intervening rooms.
~~2.~~3. [SFM] In fully sprinklered office buildings, corridors may lead through enclosed elevator lobbies if all areas of the building have access to at least one required exit without passing through the elevator lobby.

[Editorial Note: Remove 2013 CBC amendments to 1021.1. CA Amendments relocated to 1006.3 or covered with model code language in 1006.3.1.]
1021.1 ~~General.~~ ~~Each story and occupied roof shall have the minimum number of *independent* exits, or access to exits, as specified in this section *Table 1021.1. A single exit or access to a single exit shall be permitted in accordance with Section 1021.2.* The required number of exits, or exit access stairways or ramps providing access to exits, from any story shall be maintained until arrival at grade or a public way. Exits or access to exits from any story shall be configured in accordance with this section. Each story above the second story of a building shall have a minimum of one interior or exterior exit stairway, or interior or exterior exit ramp. At each story above the second story that requires a minimum of three or more exits, or access to exits, a minimum of 50 percent of the required exits shall be interior or exterior exit stairways, or interior or exterior exit ramps.~~

~~**Exceptions:**~~
~~1. Interior exit stairways and interior exit ramps are not required in open parking garages where the means of egress serves only the open parking garage.~~
~~2. Interior exit stairways and interior exit ramps are not required in outdoor facilities where all portions of the means of egress are essentially open to the outside.~~

[Editorial Note: Remove existing amendments to Table 1021.1. Model code Table has been removed and relocated and amendment no longer applies.]

~~**TABLE 1021.1**~~
~~***MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS PER STORY***~~

~~*Occupant Load per Story*~~	~~*Minimum Number of Exits or Access to Exits From Story*~~
~~*1-500*~~	~~*2*~~

~~*501-1,000*~~	~~*3*~~
~~*More than 1,000*~~	~~*4*~~

[Editorial Note: Remove 2013 CBC amendments to 1021.2. CA Amendments relocate to more appropriate section. See 1006.3.2.]

~~**1021.2 *Single* exits from stories.** *A single exit or access to a single exit shall be permitted* Two exits, or exit access stairways or ramps providing access to exits, from any story or occupied roof, shall be provided where one of the following conditions exists:~~

~~1. The occupant load, or number of dwelling units *and exit access travel distance does not* exceed one of the values in Table 1021.2(1) or 1021.2(2).~~
~~2. The exit access travel distance exceeds that specified in Table 1021.2(1) or 1021.2(2) as determined in accordance with the provisions of Section 1016.1.~~
~~3. Helistop landing areas located on buildings or structures shall be provided with two exits, or exit access stairways or ramps providing access to exits. s one of the values in Table 1021.2(1) or 1021.2(2).~~
~~**Exceptions:**~~
~~*12.* Rooms, areas and spaces complying with Section 1015.1 with exits that discharge directly to the exterior at the level of exit discharge, are permitted to have one exit *or access to a single exit.*~~
~~*23.* Group R-3 occupancy buildings shall be permitted to have one exit *where each individual story complies with Table 1021.2(1).*~~
~~*34.* Parking garages where vehicles are mechanically parked shall be permitted to have one exit *or access to a single exit.*~~
~~4. Air traffic control towers shall be provided with the minimum number of exits specified in Section 412.3.~~
~~5. Individual dwelling units in compliance with Section 1021.2.3.~~
~~*65.* Group R-3 and R-4 congregate residences shall be permitted to have one exit *where each individual story complies with Table 1021.2(1) or 1021.2(2).*~~

[Editorial Note: Remove section 1021.2.2. Model code was also removed from the 2012 IBC (section 1021.2.2)]

~~***1021.2.2 Exits from specific space.** Exits serving specific spaces or areas need not be accessed by the remainder of the story when all of the following are met:*~~

~~*1. The number of exits from the entire story complies with Section 1021.4.1 1021.1;*~~
~~*2. The access to exits from each individual space in the story complies with Section* 1015.1*; and*~~
~~*3. All spaces within each portion of a story shall have access to the minimum number of approved independent exits based on the occupant load of that portion of the story but not less than two exits.*~~

~~**1022.2**~~**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~~s~~:
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.
~~*2.*~~*3. Fixed guideway transit stations, constructed in accordance with Section* ~~*433*~~*443.*

~~**1022.9**~~**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 also state the story of, and the direction to, the exit discharge and the availability of roof access from the interior exit stairway and ramp for the fire department. The sign shall be located 5 feet (1524 mm) 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 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.~~

In addition to the stairway identification sign, raised characters and braille floor identification signs that comply with Chapter 11B shall be located at the landing of each floor level, placed adjacent to the door on the latch side, in all enclosed stairways in buildings two or more stories in height to identify the floor level. At the exit discharge level, the sign shall include a raised five pointed star located to the left of the identifying floor level. The outside diameter of the star shall be the same as the height of the raised characters.

~~1022.9.1~~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, *such as STAIR NO. 1 or WEST STAIR, shall be placed at the top of the sign and* shall be not less than 11/2 inches (38 mm) in height *block lettering with 1/4-inch (6 mm) strokes.*
3. The number designating the floor level shall be not less than 5 inches (127 mm) in height *with 3/4-inch (19 mm) strokes* and located in the center of the sign. *The mezzanine levels shall have the letter "M" preceding the floor level. Basement levels shall have the letter "B" preceding the floor number.*
4. Other lettering and numbers shall be not less than 1 inch (25 mm) in height.
5. The stairway's upper terminus, such as ROOF ACCESS or NO ROOF ACCESS, shall be placed under the stairway identification in 1-inch-high (25 mm) block lettering with 1/4-inch (6 mm) strokes.
6. The lower and upper terminus of the stairway shall be placed at the bottom of the sign in 1-inch-high (25 mm) block lettering with 1/4-inch (6 mm) strokes.
~~5.~~*7.* 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.
6.8. 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.

[Editorial Note: 2013 CBC amendments no longer necessary for Section 1023.11.]
~~1022.10~~1023.11 Smokeproof enclosures. Where required by Section 403.5.4 or 405.7.2, interior exit stairways and ramps shall be smokeproof enclosures in accordance with Section 909.20.

[Editorial Note: 2013 CBC amendments no longer necessary for Section 1023.11.1.]
~~1022.10.1~~1023.11.1 Termination and extension. A smokeproof enclosure shall terminate at an exit discharge or a public way. The smokeproof enclosure shall be permitted to be extended by an exit passageway in accordance with Section 1023.3. The exit passageway shall be without openings other than the fire door assembly required by Section 1023.3.1 and those necessary for egress from the exit passageway. The exit passageway shall be separated from the remainder of the building by 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both.

Exceptions:
1. Openings in the exit passageway serving a smokeproof enclosure are permitted where the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure, and openings are protected as required for access from other floors.
2. The fire barrier separating the smokeproof enclosure ~~or pressurized stairway~~ from the exit passageway is not required, provided the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure.
3. A smokeproof enclosure shall be permitted to egress through areas on the level of discharge or vestibules as permitted by Section 1027.

~~1022.10.2~~1023.11.2 Enclosure access. Access to the stairway or ramp within a smokeproof enclosure shall be by way of a vestibule or an open exterior balcony.

~~**Exception:** Access is not required by way of a vestibule or exterior balcony for stairways and ramps using the pressurization alternative complying with Section 909.20.5.~~

~~1023.2~~1024.2 Width. The required capacity of exit passageways shall be determined as specified in Section 1005.1 but the minimum width shall be not less than 44 inches (1118 mm), except that exit passageways serving an occupant load of less than 50 shall be not less than 36 inches (914 mm) in width. The minimum width or required capacity of exit passageways shall be unobstructed.

Exception: Encroachments complying with Section 1005.7

The clear width of exit passageways in a Group I-2 occupancy used for the movement of beds and litters shall be 44-inch (1118) minimum.

[Editorial Note: 2013 CBC amendments for Section 1026.4 relocated to 1026.4.2]
~~**1025.4**~~**1026.4 Refuge area**. The refuge area of a horizontal exit shall be a space occupied by the same tenant or a public area and each such refuge area shall be adequate to accommodate the original occupant load of the refuge area plus the occupant load anticipated from the adjoining compartment. The anticipated occupant load from the adjoining compartment shall be based on the capacity of the horizontal exit doors entering the refuge area.

~~**1027.1**~~**1028.1 General.** Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide a ~~*a*~~ direct path of egress travel ~~*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 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 on the level of discharge provided 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 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 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.

~~**1027.5**~~**1028.5 Access to a public way.** The exit discharge shall provide a direct and unobstructed access to a public way.

Exception: Where access to a public way cannot be provided, a safe dispersal area shall be provided where all of the following are met:

1. The area shall be of a size to accommodate not less than 5 square feet (0.46 m^2) for each person.
2. *For other than Group E buildings,* the area shall be located on the same lot not less than 50 feet (15 240 mm) away from the building requiring egress. *For Group E buildings, the area shall be located on the same lot at least 50 feet (15 240 mm) away from any building.*

3. The area shall be permanently maintained and identified as a safe dispersal area.
4. The area shall be provided with a safe and unobstructed path of travel from the building.

1029.1 General. A room or space used for assembly purposes that contains seats, tables, displays, equipment or other material shall comply with this section.

Exception: *Group A occupancies within Group I-3 facilities are exempt from egress requirements of 1028.*

~~1028.2~~1029.2 Assembly main exit. A building, room or space used for assembly purposes that has an occupant load of greater than 300 and is provided with a main exit, that main exit shall be of sufficient capacity to accommodate not less than one half of the occupant load, but such capacity shall be not less than the total required capacity of all means of egress leading to the exit. Where the building is classified as a Group A occupancy, the main exit shall front on not less than one street or an unoccupied space of not less than ~~10 feet (3048 mm)~~ *20 feet (6096 mm)* in width that adjoins a street or public way. In a building, room or space used for assembly purposes where there is not a well-defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the building provided that the total capacity of egress is not less than 100 percent of the required capacity *and ~~at least~~not less than one exit shall discharge on a street or an unoccupied space of not less than 20 feet (6096 mm)in ~~width~~capacity that adjoins a street or publicway. Smoke-protected seating shall comply with Section ~~1028.6.2~~1029.6.2*.

~~1028.3~~1029.3 Assembly other exits. In addition to having access to a main exit, each level in a building used for assembly purposes having an occupant load greater than 300 and provided with a main exit, shall be provided with additional means of egress that shall provide an egress capacity for not less than one-half of the total occupant load served by that level and shall comply with Section 1007.1. *~~At least~~Not less than one-half of the additional means of egress required by this section shall be directly to an exit, or through a lobby, that is not used to access the main exit, to an exit, or to a one hour rated corridor to an exit.* In a building used for assembly purposes where there is not a well-defined main exit or where multiple main exits are provided, exits for each level shall be permitted to be distributed around the perimeter of the building, provided that the total width of egress is not less than 100 percent of the required width *and ~~at least~~not less than one exit shall discharge on a street or an unoccupied space of not less than 20 feet (6096 mm) in ~~width~~capacity that adjoins a street or publicway.Smoke-protected seating shall_comply~~ing~~ with Section ~~1028.6.2~~1029.6.2*.

~~1028.3.1~~1029.3.1 Occupant loads 300 or less. *Group A occupancies or assembly occupancies accessory to Group E occupancies that have an occupant load of 100 or more and 300 or less, shall have ~~at least~~not less than one of the required means of egress directly to an exit, or through a lobby, that is not used to access the other required exit, to an exit, or to a one-hour rated corridor to an exit or continuous through a one-hour rated lobby to an exit. A~~t least~~Not less than one exit shall discharge on a street or an unoccupied space of not less than 20 feet (6096 mm) in ~~width~~capacity that adjoins a street or public way.*

~~1028.6.4~~1029.6.4 Public address system. *See section 907.2.1.3.*

~~1028.9.1~~1029.9.1 Minimum aisle width. The minimum clear width for aisles shall comply with one of the following:
1. Forty-eight inches (1219 mm) for stepped aisles having seating on each side.

Exception: Thirty-six inches (914 mm) where the stepped aisles serve less than 50 seats.

2. Thirty-six inches (914 mm) for stepped aisles having seating on only one side.

Exception: Twenty-three inches (584 mm) between an aisle stair handrail and seating where a stepped aisle does not serve more than five rows on one side.

3. Twenty-three inches (584 mm) between a stepped aisle handrail or guard and seating where the stepped aisle is subdivided by a mid-aisle handrail.
4. Forty-two inches (1067 mm) for level or ramped aisles having seating on both sides.

Exceptions:
1. Thirty-six inches (914 mm) where the aisle serves less than 50 seats.
2. Thirty inches (762 mm) where the aisle does not serve more than 14 seats.

5. Thirty-six inches (914 mm) for level or ramped aisles having seating on only one side.

Exception: For other than ramped aisles that serve as part of an accessible route, 30 inches (762 mm) where the ramped aisle does not serve more than 14 seats.

6. Libraries with open book stacks shall have main aisles not less than 44 inches (1118 mm) in width, and side, range and end aisles not less than 36 inches (914 mm) in width.

~~1029.1~~1030.1 General. In addition to the means of egress required by this chapter, provisions shall be made for emergency escape and rescue openings in Group R~~-2~~ occupancies ~~in accordance with Tables 1006.3.2(1) and 1006.3.2(2) and Group R-3 occupancies~~. Basements and sleeping rooms below the fourth story above grade plane shall have at least one exterior emergency escape and rescue opening in accordance with this section. Where basements contain one or more sleeping rooms, emergency escape and rescue openings 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. In Groups R-1 and R-2 occupancies constructed of Type I, Type IIA, Type IIIA or Type IV construction equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1
~~1.~~ *2.* Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue openings.
~~2.~~*3.* 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 exit balcony that opens to a public way.
~~3.~~*4.* Basements without habitable spaces and having not more than 200 square feet (18.6 m2) in floor area shall not be required to have emergency escape and rescue openings.

~~1029.4~~1030.4 Operational constraints. Emergency escape and rescue openings *and any exit doors* shall be *maintained free of any obstructions other than those allowed by this section and shall be* operational from the inside of the room ~~without the use of keys or tools~~. Bars, grilles, grates or similar devices are permitted to be placed over emergency escape and rescue openings provided the minimum net clear opening size complies with Section 1030.2 and such devices shall be releasable or removable from the inside without the use of a key, tool*, special knowledge or effort* or force greater than that which is required for normal operation of the emergency escape and rescue opening. Where such bars, grilles, grates or similar devices are installed *in existing buildings*, smoke alarms shall be installed in accordance with Section 907.2.11 regardless of the valuation of the alteration. *The release mechanism shall be maintained operable at all times.*

Such bars, grills, grates or any similar devices shall be equipped with an approved exterior release device for use by the fire department only when required by the authority having jurisdiction.

Where security bars (burglar bars) are installed on emergency egress and rescue windows or doors, on or after July 1, 2000, such devices shall comply with California Building Standards Code, Part 12, Chapter 12-3 and other applicable provisions of Part 2.

Exception: *Group R-1 occupancies provided with a monitored fire sprinkler system in accordance with Section 903.2.8 and designed in accordance with NFPA 13 may have openable windows permanently restricted to a maximum 4-inch (102 mm) open position.*

~~CHAPTER 11~~
~~ACCESSIBILITY~~

(Note: Chapter 11 will not be printed in the California Building Code.)

CHAPTER 12
INTERIOR ENVIRONMENT

1203.1 General. Buildings shall be provided with natural ventilation in accordance with Section 1203.4, or mechanical ventilation in accordance with the ~~*International*~~*California Mechanical Code*.

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 0.2 inch w.c. (50 Pa) in accordance with ~~Section 402.4.1.2 of~~ the ~~*International*~~*California Energy* ~~*Conservation Code*~~- Residential Provisions, the dwelling unit shall be ventilated by mechanical means in accordance with Section 403 of the ~~*International*~~*California Mechanical Code*. Ambulatory care facilities and Group I-2 occupancies shall be ventilated by mechanical means in accordance with Section 407 of the ~~*International*~~*California* Mechanical Code.

1203.2.1 Openings into attic. Exterior openings into the attic space of any building intended for human occupancy shall be protected to prevent the entry of birds, squirrels, rodents, snakes and other similar creatures. Openings for ventilation having a least dimension of not less than 1/16 inch (1.6 mm) and not more than 1/4 inch (6.4 mm) shall be permitted. Openings for ventilation 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 not less than 1/16 inch (1.6 mm) and not more than 1/4 inch (6.4 mm). Where combustion air is obtained from an attic area, it shall be in accordance with Chapter 7 of the ~~*International*~~*California Mechanical Code*.

1203.4.2 Exceptions. The following are exceptions to Sections 1203.4 and 1203.4.1:

1. Where warranted by climatic conditions, ventilation openings to the outdoors are not required if ventilation openings to the interior are provided.
2. The total area of ventilation openings is permitted to be reduced to 1/1,500 of the under-floor area where the ground surface is covered with a Class I vapor retarder material and the required openings are placed so as to provide cross ventilation of the space. The installation of operable louvers shall not be prohibited.
3. Ventilation openings are not required where continuously operated mechanical ventilation is provided at a rate of 1.0 cubic foot per minute (cfm) for each 50 square feet (1.02 L/s for each 10 m2) of crawlspace floor area and the ground surface is covered with a Class I vapor retarder.
4. Ventilation openings are not required where the ground surface is covered with a Class I vapor retarder, the perimeter walls are insulated and the space is conditioned in accordance with the ~~*International*~~*California Energy* ~~Conservation~~ *Code*.
5. For buildings in flood hazard areas as established in Section 1612.3, the openings for under-floor ventilation shall be deemed as meeting the flood opening requirements of ASCE 24 provided that the ventilation openings are designed and installed in accordance with ASCE 24.

1203.5.2 Contaminants exhausted. Contaminant sources in naturally ventilated spaces shall be removed in accordance with the ~~*International*~~*California Mechanical Code* and the ~~*International*~~*California Fire Code*.

1203.5.2.1 Bathrooms. Rooms containing bathtubs, showers, spas and similar bathing fixtures shall be mechanically ventilated in accordance with the ~~*International*~~*California Mechanical Code*.

1203.6 Other ventilation and exhaust systems. Ventilation and exhaust systems for occupancies and operations involving flammable or combustible hazards or other contaminant sources as covered in the ~~*International*~~*California Mechanical Code* or the ~~*International*~~*California Fire Code* shall be provided as required by both codes.

1205.4.1 Controls. The control for activation of the required stairway lighting shall be in accordance with *the* ~~NFPA 70~~*California Electrical Code*.

1206.3.3 Court drainage. The bottom of every *court* shall be properly graded and drained to a public sewer or other approved disposal system complying with the ~~*International*~~*California Plumbing Code*.

1209.3 Mechanical appliances. Access to mechanical appliances installed in under-floor areas, in attic spaces and on roofs or elevated structures shall be in accordance with the ~~*International*~~*California Mechanical Code*.

CHAPTER 15
ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

1503.4 Roof drainage. Design and installation of roof drainage systems shall comply with Section 1503 of this code and Sections 1106 and 1108, as applicable, of the ~~*International*~~*California Plumbing Code*.

TABLE 1505.1[a, b]
MINIMUM ROOF COVERING CLASSIFICATION
FOR TYPES OF CONSTRUCTION

IA	IB	IIA	IIB	IIIA	IIIB	IV	VA	VB
B	B	B	C[c]	B	C[c]	B	B	C[c]

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929m2.
a. Unless otherwise required in accordance with *Chapter 7A*. the *International Wildland-Urban Interface Code* or due to the location of the building within a fire district in accordance with Appendix D.
b. Nonclassified roof coverings shall be permitted on buildings of Group R-3 and Group U occupancies, where there is a minimum fire-separation distance of 6 feet measured from the leading edge of the roof.
c. Buildings that are not more than two stories above grade plan and having not more than 6,000 square feet of projected roof area and where there is a minimum 10-foot fire-separation distance from the leading edge of the roof to a lot line on all sides of the building, except for street fronts or public ways, shall be permitted to have roofs of No. 1 cedar or redwood shakes and No. 1 shingles construed in accordance with Section 1505.7.

1505.1.1 Roof coverings within very high fire hazard severity zones. *The entire roof covering of every existing structure where more than 50 percent of the total roof area is replaced within any one-year period, the entire roof covering of every new structure, and any roof covering applied in the alteration, repair or replacement of the roof of every existing structure, shall be a fire-retardant roof covering that is at least Class A.*

Exception: *The requirements shall not apply in any jurisdiction that adopts the model ordinance approved by the State Fire Marshal pursuant to Section 51189 of the Government Code or an ordinance that substantially conforms to the model ordinance and transmits a copy to the State Fire Marshal.*

1505.1.2 Roof coverings within state responsibility areas. *The entire roof covering of every existing structure where more than 50 percent of the total roof area is replaced within any one-year period, the entire roof covering of every new structure and any roof covering applied in the alteration, repair or replacement of the roof of every existing structure shall be a fire-retardant roof covering that is at least Class B.*

Exception: *Areas designated as moderate fire hazard severity zones.*

1505.1.3 Roof coverings within all other areas. *The entire roof covering of every existing structure where more than 50 percent of the total roof area is replaced within any one-year period, the entire roof covering of every new structure, and any roof covering applied in the alteration, repair or replacement of the roof of every existing structure, shall be a fire-retardant roof covering that is at least Class C.*

1505.1.4 Roofing requirements in a Wildland-Urban Interface Fire Area. *Roofing requirements for structures located in a Wildland-Urban Interface Fire Area shall also comply with Section 705A.*

1505.6 Fire-retardant-treated wood shingles and shakes. Fire-retardant-treated wood shakes and shingles shall be treated by impregnation with chemicals by the fullcell vacuum-pressure process, in accordance with AWPA C1. Each bundle shall be marked to identify the manufactured unit and the manufacturer, and shall also be labeled to identify the classification of the material in accordance with the testing required in Section 1505.1, the treating company and the quality control agency. *are wood shakes and shingles complying with UBC Standard 15-3 or 15-4 which are impregnated by the full-cell vacuum-pressure process with fire-retardant chemicals, and which have been qualified by UBC Standard 15-2 for use on Class A, B or C roofs.*

Fire-retardant-treated wood shakes and shingles shall comply with ICC-ES EG107 and with the weathering requirements contained in Health and Safety Code Section 13132.7(j). Each bundle shall bear labels from an ICC accredited quality control agency identifying their roof-covering classification and indicating their compliance with ICC-ES EG107 and with the weathering requirements contained in Health and Safety Code Section 13132.7(j).

Health and Safety Code Section 13132.7(j). No wood roof covering materials shall be sold or applied in this state unless both of the following conditions are met:

(1) The materials have been approved and listed by the State Fire Marshal as complying with the requirements of this section.
(2) The materials have passed at least five years of the 10-year natural weathering test. The 10-year natural weathering test required by this subdivision shall be conducted in accordance with standard 15-2 of the 1994 edition of the Uniform Building Code at a testing facility recognized by the State Fire Marshal.

1512.1 Solar photovoltaic panels and modules. Photovoltaic panels and modules installed upon a roof or as an integral part of a roof assembly shall comply with the requirements of this code *(see Section 3111)* and the ~~*International*~~*California Fire Code*.

CHAPTER 21
MASONRY

2113.9.2 Spark arrestors. ***[SFM]*** *All chimneys attached to any appliance or fireplace that burns solid fuel shall be equipped with an approved spark* ~~*arrester*~~*arrestor*, ~~Where a spark arrestor is installed on a masonry chimney~~ the spark arrestor shall meet all of the following requirements:

1. The net free area of the *spark* arrestor shall be not less than four times the net free area of the outlet of the chimney ~~flue it serves~~.
2. The *spark* arrestor screen shall have heat and corrosion resistance equivalent to *12 gage wire,* 19-gage galvanized steel or 24-gage stainless steel.
3. Openings shall not permit the passage of spheres having a diameter larger than 1/2 inch (12.7 mm) nor block the passage of spheres having a diameter less than 3/8 inch (9.5 mm).
~~*1. The net free area of the spark arrester shall not be less than four times the net free area of the outlet of the chimney.*~~
~~*2. The spark arrester screen shall have heat and corrosion resistance equivalent to 12 gage wire, 19 gage galvanized wire or 24 gage stainless steel.*~~
~~*3. Openings shall not permit the passage of spheres having a diameter larger than 1/2 inch (12.7 mm) and shall not block the passage of spheres having a diameter of less than 3/8 inch (9.5 mm).*~~
4. The spark arrestor shall be accessible for cleaning and the screen or chimney cap shall be removable to allow for cleaning of the chimney flue.

2113.11.1.2 Gas appliances. Flue lining systems for gas appliances shall be in accordance with the ~~*International Fuel Gas*~~*California Mechanical Code*.

2113.15 Flue area (appliance). Chimney flues shall not be smaller in area than the area of the connector from the appliance. Chimney flues connected to more than one appliance shall be not less than the area of the largest connector plus 50 percent of the areas of additional chimney connectors.

Exceptions:
1. Chimney flues serving oil-fired appliances sized in accordance with NFPA 31.
2. Chimney flues serving gas-fired appliances sized in accordance with the ~~*International Fuel Gas*~~*California Mechanical Code*.

CHAPTER 21*A*
MASONRY

2113*A*.9.2 Spark arrestors. ***[SFM]*** *All chimneys attached to any appliance or fireplace that burns solid fuel shall be equipped with an approved spark* ~~*arrester*~~*arrestor*, ~~Where a spark arrestor is installed on a masonry chimney~~ the spark arrestor shall meet all of the following requirements:

1. The net free area of the *spark* arrestor shall be not less than four times the net free area of the outlet of the chimney ~~flue it serves~~.
2. The *spark* arrestor screen shall have heat and corrosion resistance equivalent to *12 gage wire,* 19-gage galvanized steel or 24-gage stainless steel.
3. Openings shall not permit the passage of spheres having a diameter larger than 1/2 inch (12.7 mm) nor block the passage of spheres having a diameter less than 3/8 inch (9.5 mm).
~~*1. The net free area of the spark arrester shall not be less than four times the net free area of the outlet of the chimney.*~~

~~*2. The spark arrester screen shall have heat and corrosion resistance equivalent to 12 gage wire, 19 gage galvanized wire or 24 gage stainless steel.*~~
~~*3. Openings shall not permit the passage of spheres having a diameter larger than 1/2 inch (12.7 mm) and shall not block the passage of spheres having a diameter of less than 3/8 inch (9.5 mm).*~~
4. The spark arrestor shall be accessible for cleaning and the screen or chimney cap shall be removable to allow for cleaning of the chimney flue.

CHAPTER 26
PLASTIC

2603.4.1.12 Interior signs. Foam plastic used for interior signs in *covered mall buildings* in accordance with Section 402.6.4 shall be permitted without a thermal barrier. Foam plastic signs that are not affixed to interior building surfaces shall comply with Chapter 8 of the ~~*International*~~*California Fire Code*.

CHAPTER 27
ELECTRICAL

2701.1 Scope. This chapter governs the electrical components, equipment and systems used in buildings and structures covered by this code. Electrical components, equipment and systems shall be designed and constructed in accordance with the provisions of the ~~NFPA 70~~*California Electrical Code*.

2702.1 Installation. Emergency power systems and standby power systems required by this code shall comply with Sections 2702.1.1 through 2702.1.7. ~~*International California Fire Code.*~~

2702.1.2 Electrical. Emergency power systems and standby power systems required by this code or the ~~*International*~~*California* Fire Code shall be installed in accordance with the ~~*International*~~*California* Fire Code, ~~NFPA 70~~*California Electrical Code*, NFPA 110 and NFPA 111.

2702.2.3 Emergency responder radio coverage systems. Standby power shall be provided for emergency responder radio coverage systems required in Section 915 and the ~~*International*~~*California* Fire Code. The standby power supply shall be capable of operating the emergency responder radio coverage system for a duration of not less than 24 hours.

2702.2.8 Hazardous materials. Emergency or standby power shall be provided in occupancies with hazardous materials where required by the ~~*International*~~*California* Fire Code.

2702.2.9 High-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access*. Emergency and standby power shall be provided in high-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access* as reqruied in section403.4.88. .

2702.2.12 Membrane structures. Standby power shall be provided for auxiliary inflation systems in permant membrane structures are required in Section 3102.8.2. Standby power shall be provided for a duration of not less than 4 hours. Auxiliary inflation systems in temporary air supported and air-inflated membrane structures shall be provided in accordance with Section 3103.10.4 of the ~~*International*~~*California* Fire Code.

2702.2.13 Pyrophoric materials. Emergency power shall be provided for occupancies with silane gas in accordance with the ~~*International*~~*California Fire Code*.

2702.2.17 Group L-Occupancy. *Emergency power shall be provided in Group L occupancies in accordance with this chapter and Section* ~~*443.4.6.1*~~*453.4.6.1.*

[Editorial Note: 2013 CBC amendments for Section 2702.2.11 and 2702.2.12 is being removed. These sections are no longer within the model code.]
~~**2702.2.11 Highly toxic and toxic materials.** Emergency power shall be provided for occupancies with highly toxic or toxic materials in accordance with the *International California Fire Code.*~~

~~**2702.2.12 Organic peroxides.** Standby power shall be provided for occupancies with silane gas in accordance with the *International California Fire Code.*~~

2702.4 Maintenance. Emergency and standby power systems shall be maintained and tested in accordance with the ~~*International*~~*California Fire Code*.

CHAPTER 28
MECHANICAL SYSTEMS

2801.1 Scope. Mechanical appliances, equipment and systems shall be constructed, installed and maintained in accordance with the *InternationalCalifornia Mechanical Code* ~~and the International Fuel Gas Code~~. Masonry chimneys, fireplaces and barbecues shall comply with the ~~International~~*California Mechanical Code* and Chapter 21 of this code.

2802 Spark ~~Arrester~~arrestor. [SFM] *All chimneys attached to any appliance or fireplace that burns solid fuel shall be equipped with an approved spark ~~arrester~~arrestor, the spark arrestor shall meet all of the following requirements:*

1. The net free area of the spark ~~arrester~~arrestor shall be not ~~be~~ less than four times the net free area of the outlet of the chimney.
2. The spark ~~arrester~~arrestor screen shall have heat and corrosion resistance equivalent to 12-gage wire, 19-gage steel galvanized wire or 24-gage stainless steel.
3. Openings shall not permit the passage of spheres having a diameter larger than 1/2 inch (12.7 mm) nor~~and shall not~~ block the passage of spheres having a diameter ~~of~~ less than 3/8 inch (9.5 mm).
4. The spark arrestor shall be accessible for cleaning and the screen or chimney cap shall be removable to allow for cleaning of the chimney flue.

CHAPTER 30
ELEVATORS AND CONVEYING SYSTEMS

3001.2 Referenced standards. Except as otherwise provided for in this code, the design, construction, installation, *alteration*, repair and maintenance of elevators and conveying systems and their components shall conform to ~~ASME A17.1/CSA B44, ASME A17.7/CSA B44.7~~*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*, ASME A90.1, ASME B20.1, ALI ALCTV, and ASCE 24 for construction in flood hazard areas established in Section 1612.3.

3001.4 Change in use. A change in use of an elevator from freight to passenger, passenger to freight, or from one freight class to another freight class shall comply with ~~Section 8.7 of ASME A17.1/CSA B44~~*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*.

3001.5 Elevators utilized to transport hazardous materials*. Elevators utilized to transport hazardous materials shall also comply with the California Fire Code Section 2703.10.4.*

The following California sections replace the corresponding model code section for applications specified in section 1.11 for the Office of the State Fire Marshal.

***3002.4a General* Stretcher Requirements.** *All buildings and structures with one or more passenger service elevators shall be provided with not less than one medical emergency service elevator to all landings meeting the provisions of Section 3002.4a.*

Exceptions:
1. Elevators in structures used only by maintenance and operating personnel.
2. Elevators in jails and penal institutions.
3. Elevators in buildings or structures where each landing is at ground level or is accessible at grade level or by a ramp.
4. Elevator(s) in two-story buildings or structures equipped with stairs of a configuration that will accommodate the carrying of the gurney or stretcher as permitted by the local jurisdictional authority.
5. Elevators in buildings or structures less than four stories in height for which the local jurisdictional authority has granted an exception in the form of a written document.

3002.4.1a Gurney size. *The medical emergency service elevator shall accommodate the loading and transport of an ambulance gurney or stretcher [maximum size 24 inches by 84 inches (610 mm by 2134 mm) with not less than 5-inch (127 mm) radius corners] in the horizontal position.*

3002.4.2a Hoistway doors. *The hoistway landing openings shall be provided with power-operated doors.*

3002.4.3a Elevator entrance openings and car size. *The elevator car shall be of such a size and arrangement to accommodate a 24-inch by 84-inch (610 mm by 2134 mm) ambulance gurney or stretcher with not less than 5-inch (127 mm) radius corners, in the horizontal, open position, shall be provided with a minimum clear distance between walls or between walls and door excluding return panels not less than 80 inches by 54 inches (2032 mm by 1372 mm), and a minimum distance from wall to return panel not less than 51 inches (1295 mm) with a 42-inch (1067 mm) side slide door.*

Exception: *The elevator car dimensions and/or the clear entrance opening dimensions may be altered where it can be demonstrated to the local jurisdictional authority's satisfaction that the proposed configuration will handle the designated gurney or stretcher with equivalent ease. Documentation from the local authority shall be provided to the Occupational Safety and Health Standards Board.*

3002.4.4a Elevator recall. *The elevator(s) designated the medical emergency elevator shall be equipped with a key switch to recall the elevator nonstop to the main floor. For the purpose of this section, elevators in compliance with Section 3003.2 shall be acceptable.*

3002.4.5a Designation. *Medical emergency elevators shall be identified by the international symbol (Star of Life) for emergency medical services.*

3002.4.6a Symbol size. *The symbol shall not be less than 3 inches (76 mm) in size.*

3002.4.7a Symbol location. *A symbol shall be permanently attached to each side of the hoistway door frame on the portion of the frame at right angles to the hallway or landing area. Each symbol shall be not less than 78 inches (1981 mm) and not more than 84 inches (2134 mm) above the floor level at the threshold.*

3002.5 Emergency doors. ~~Where an elevator is installed in a single blind hoistway or on the outside of a building, there shall be installed in the blind portion of the hoistway or blank face of the building, an emergency door in accordance with ASME A17.1/CSA B44.~~*Emergency doors in blind hoistways as described in ASME A17.1~~-2004~~, section 2.11.1.2, and access panels as described in ASME A17.1~~-2004~~, section 2.11.1.4, are prohibited in accordance with California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders.*

~~3002.9~~3002.10 Photoelectric Tube Bypass Switch.

~~3002.9.1~~3002.10.1 *Elevators equipped with photoelectric tube devices which control the closing of automatic, power-operated car or hoistway doors, or both, shall have a switch in the car which, when actuated, will render the photoelectric tube device ineffective.*

~~3002.9.2~~3002.10.2 *The switch shall be constant-pressure type, requiring not less than 10 pounds (44.5N) or more than 15 pounds (66.7 N) pressure to actuate.*

~~3002.9.3~~3002.10.3 *The switch shall be located not less than 6 feet (1829 mm) or more than 6 feet 6 inches (1981 mm) above the car floor and shall be located in or adjacent to the operating panel.*

~~3002.9.4~~3002.10.4 *The switch shall be clearly labeled* TO BE USED IN CASE OF FIRE ONLY*.*

~~3002.9.5~~3002.10.5 *Switches shall be kept in working order or be removed when existing installations are arranged to comply with Section ~~3002.9.5~~3002.10.5, Exception 1 or 2.*

Exceptions
1. Elevators installed and maintained in compliance with Section 3003.
2. Where alternate means acceptable to the fire authority having jurisdiction are provided that will ensure the doors can close under adverse smoke conditions.

3003.2 Fire-fighters' emergency operation. Elevators shall be provided with Phase I emergency recall operation and Phase II emergency in-car operation in accordance with ~~ASME A17.1/CSA B44~~*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*.

3003.2.1 Floor numbers. *Elevator hoistways shall have a floor number not less than 4 inches (102 mm) in height, placed on the walls and/or doors of the hoistway at intervals such that a person in a stalled elevator, upon opening the car door, can determine the floor position.*

3003.2.1.1 Fire signs. *All automatic elevators shall have not less than one sign at each landing printed on a contrasting background in letters not less than 1/2 inch (12.7 mm) high to read: IN CASE OF FIRE USE STAIRWAY FOR EXIT. DO NOT USE ELEVATOR.*

3003.2.1.2 Call and Car Operation Buttons. *Automatic passenger elevators shall have call and car operation buttons within 60 inches (1524 mm) of the floor. Emergency telephones shall also be within 60 inches (1524 mm) of the floor.*

3003.3 Standardized fire service elevator keys. All elevators shall be equipped to operate with a standardized fire service elevator key in accordance with the *~~International~~California Fire Code*.

[Editorial Note: 2013 CBC amendments for 2013 Section 3004.1 and 3004.3.1 is being removed. These sections are no longer within the code.]
~~**3004.1 Vents required.** Hoistways of elevators and dumbwaiters penetrating more than three stories shall be provided with a means for venting smoke and hot gases to the outer air in case of fire.~~

~~**Exceptions:**~~
~~1. In occupancies of other than Groups R-1, R-2, I-1*R-2.1*, I-2 and similar occupancies with overnight sleeping units, venting of hoistways is not required where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~
~~2. Sidewalk elevator hoistways are not required to be vented.~~
~~3. Elevators contained within and serving open parking garages only.~~
~~4. Elevators within individual residential dwelling units.~~

~~**3004.3.1 Reduced vent area.** Where mechanical ventilation conforming to the *InternationalCalifornia Mechanical Code* is provided, a reduction in the required vent area is allowed provided that all of the following conditions are met:~~

~~1. The occupancy is not in Group R-1, R-2, I-1*R-2.1* or I-2 or of a similar occupancy with overnight sleeping quarters.~~
~~2. The vents required by Section 3004.2 do not have outside exposure.~~
~~3. The hoistway does not extend to the top of the building.~~
~~4. The hoistway and machine room exhaust fan is automatically reactivated by thermostatic means.~~
~~5. Equivalent venting of the hoistway is accomplished.~~

~~3006.4.1~~3005.4.1 Automatic sprinkler system. *Automatic sprinklers shall not be required to be installed in the elevator hoistway, elevator machine room, elevator machinery space, elevator control space, ~~or~~and elevator control room where all the following are met:*

1. Approved smoke detectors shall be installed in the elevator hoistway, elevator machine room, elevator machinery spaces, elevator control spaces, ~~or~~and elevator control rooms and connected to the building fire alarm system in accordance with Section 907.
2. Activation of any smoke detector located in the elevator hoistway, elevator machine room, elevator machinery space, elevator control space, ~~or~~and elevator control room shall cause the actuation of the building fire alarm notification appliances in accordance with 907.
3. Activation of any smoke detector located in the elevator hoistway, elevator machine room, elevator machinery space, elevator control space, ~~or~~and elevator control room shall cause all elevators having any equipment located in that elevator hoistway, elevator machine room, elevator machinery space, elevator control space, ~~or~~and elevator control room to recall nonstop to the appropriate designated floor in accordance with CCR Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders.
4. The elevator machine room, elevator machinery space, elevator control space, ~~or~~and elevator control room shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both. The fire-resistance rating shall not be 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. The exceptions to Section ~~3006.4~~3005.4 shall not apply.
5. The building fire alarm system shall be monitored by an approved supervising station in accordance with 907.

6. An approved sign shall be permanently displayed in the elevator machine room, elevator machinery space, elevator control space, ~~or~~and elevator control room in a conspicuous location with a minimum of 1½ inch letters on a contrasting background, stating:

NO COMBUSTIBLE STORAGE
PERMITTED IN THIS ROOM
By Order of the Fire Marshal [or name of fire authority]

***3005.5* Shunt trip.** Where elevator hoistways, elevator machine rooms, control rooms and control spaces containing elevator control equipment are protected with automatic sprinklers, a means installed in accordance with Section *21.4* of NFPA 72 shall be provided to disconnect automatically the main line power supply to the affected elevator prior to the application of water. This means shall not be self-resetting. The activation of automatic sprinklers outside the hoistway, machine room, machinery space, control room or control space shall not disconnect the main line power supply

3006.1 General. Elevator hoistway openings and enclosed elevator lobbies shall be provided in accordance with the following:

1. Where hoistway opening protection is required by Section 3006.2, such protection shall be in accordance with Section 3006.3.
2. Where enclosed elevator lobbies are required for underground buildings, such lobbies shall comply with Section 405.4.3.
3. Where an area of refuge is required and an enclosed elevator lobby is provided to serve as an area of refuge, the enclosed elevator lobby shall comply with Section 1009.6.
4. Where fire service access elevators are provided, enclosed elevator lobbies shall comply with Section 3007.6. 5. Where occupant evacuation elevators are provided, enclosed elevator lobbies shall comply with Section 3008.6.

3006.2 Hoistway opening protection required. Elevator hoistway door openings shall be protected in accordance with Section 3006.3 where an elevator hoistway connects more than ~~three stories~~ *two stories in Group A, E, H, I, L, R-1, R-2 and R-2.1 occupancies*, *high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, and more than three stories for all other occupancies*, is required to be enclosed within a shaft enclosure in accordance with Section 712.1.1 and any of the following conditions apply:

1. The building is not protected throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
~~2. The building contains a Group I-1 Condition 2 occupancy.~~
~~3. The building contains a Group I-2 occupancy.~~
~~4. The building contains a Group I-3 occupancy.~~
~~5. The building is a high rise and the elevator hoistway is more than 75 feet (22 860 mm) in height. The height of the hoistway shall be measured from the lowest floor to the highest floor of the floors served by the hoistway.~~
2. *Group A occupancies;*
3. *Group E occupancies;*
4. Group H occupancies;
5. Group I occupancies;
6. Group L occupancies;
7. Group R-1, R-2 and R-2.1 occupancies; and
8. High-rise buildings.

See Section 403.6 for additional requirements for high-rise buildings.

Exceptions:
1. Protection of elevator hoistway door openings is not required where the elevator serves only open parking garages in accordance with Section 406.5.
2. Protection of elevator hoistway door openings is not required at the level(s) of exit discharge, provided the level(s) of exit discharge is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Enclosed elevator lobbies and protection of elevator hoistway door openings are not required on levels where the elevator hoistway opens to the exterior.

3006.3 Hoistway opening protection. Where Section 3006.2 requires protection of the elevator hoistway door opening, the protection shall be provided by one of the following:

1. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway shaft enclosure doors from each floor by fire partitions in accordance with Section 708. In addition, doors protecting openings in the elevator lobby enclosure walls shall comply with Section 716.5.3 as required for corridor walls. Penetrations of the enclosed elevator lobby by ducts and air transfer openings shall be protected as required for corridors in accordance with Section 717.5.4.1.

2. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway shaft enclosure doors from each floor by smoke partitions in accordance with Section 710 where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. In addition, doors protecting openings in the smoke partitions shall comply with Sections 710.5.2.2, 710.5.2.3 and 716.5.9. Penetrations of the enclosed elevator lobby by ducts and air transfer openings shall be protected as required for corridors in accordance with Section 717.5.4.1.

3. Additional doors shall be provided at each elevator hoistway door opening in accordance with Section 3002.6. Such door shall comply with the smoke and draft control door assembly requirements in Section 716.5.3.1 when tested in accordance with UL 1784 without an artificial bottom seal.

4. ~~The~~ *[SFM] When approved, in other than Group I-2 occupancies* elevator hoistway shall be pressurized in accordance with Section 909.21.

5. [SFM] Enclosed elevator lobbies are not required where the hoistway door has a fire-protection rating as required by Section 708.7 and the hoistway door opening is also protected by a listed and labeled smoke containment system complying with ICC ES AC 77.

3007.1 General. Where required by Section 403.6.1, every floor of the building shall be served by fire service access elevators complyuing 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~~*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*.

[Editorial Note: 2013 CBC amendments for 2013 Section 3007.2 is being removed. This section is no longer within the code.]
~~**3007.2 Phase I Emergency recall operation.** Actuation of any building fire alarm-initiating device shall initiate Phase I emergency recall operation on all fire service access elevators in accordance with the requirements in ASME A17.1/CSA B44*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*. All other elevators shall remain in normal service unless Phase I emergency recall operation is manually initiated by a separate, required three-position, key-operated "Fire Recall" switch or automatically initiated by the associated elevator lobby, hoistway or elevator machine room smoke detectors. In addition, if the building also contains occupant evacuation elevators in accordance with Section 3008, an independent, three-position, key-operated "Fire Recall" switch conforming to the applicable requirements in ASME A17.1/CSA B44*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders* shall be provided at the designated level for each fire service access elevator.~~

3007.6.1 Access to ~~interior exit stairway or ramp~~*smokeproof enclosure*. The fire service access elevator lobby shall have direct access ~~stairway~~ *from the enclosed elevator lobby to* a~~n enclosure for an interior exit stairway or ramp~~ *smokeproof enclosure complying with Section 909.20*.

Exception: Access to ~~an interior exit stairway or ramp~~*a smokeproof enclosure* shall be permitted to be through a protected path of travel that has a level of fire protection not less than the elevator lobby enclosure. The protected path shall be separated from the enclosed elevator lobby through an opening protected by a smoke and draft control assembly in accordance Section 716.5.3.
~~***Exception:*** *Access to a smokeproof enclosure shall be permitted to be through a protected path of travel that has a level of fire protection not less than the elevator lobby enclosure. The protected path shall be separated from the enclosed elevator lobby through an opening protected by a smoke and draft control assembly in accordance Section 716.5.3.*~~

3007.6.4 Lobby size. Regardless of the number of fire service access elevators served by the same elevator lobby, the ~~*Regardless of the number of fire service access elevators served by the same elevator lobby, the*~~ enclosed fire service access elevator lobby shall be a less than 150 square feet (14 m2) in an area with dimension of not less than 8 feet (2440 mm).

3008.1.2 Fire safety and evacuation plan. The building shall have an *approved* fire safety and evacuation plan in accordance with the applicable requirements of Section 404 of the ~~International~~*California Fire Code*. The fire safety and evacuation plan shall incorporate specific procedures for the occupants using evacuation elevators.

[Editorial Note: 2013 CBC amendments for 2013 Section 3008.2 and 3008.2.1 is being removed. This section is no longer within the code.]
~~**3008.2 Phase I Emergency recall operation**. An independent, three-position, key-operated "Fire Recall" switch complying with ASME A17.1/CSA B44*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders* shall be provided at the designated level for each occupant evacuation elevator.~~

~~**3008.2.1 Operation.** The occupant evacuation elevators shall be used for occupant self-evacuation only in the normal elevator operating mode prior to Phase I Emergency Recall Operation in accordance with the requirements in ASME A17.1/CSA B44*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders* and the building's fire safety and evacuation plan.~~

3008.2.1 Prohibited locations. Automatic sprinklers shall not be installed in elevator machine rooms, machinery spaces, control rooms, control spaces and elevator hoistways of occupant evacuation elevators *in accordance with this Section and 3006.4.1*.

[Editorial Note: 2013 CBC amendments for 2013 Section 3008.7.6 is being removed. This section is no longer within the code.]
~~**3008.7.6 Lobby status indicator.** Each occupant evacuation elevator lobby shall be equipped with a status indicator arranged to display all of the following information:~~

~~1. An illuminated green light and the message, "Elevators available for occupant evacuation" when the elevators are operating in normal service and the fire alarm system is indicating an alarm in the building.~~
~~2. An illuminated red light and the message, "Elevators out of service, use exit stairs" when the elevators are in Phase I emergency recall operation *or Phase II firefighters' emergency operation* in accordance with the requirements in ASME A17.1/CSA B44*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*.~~
~~3. No illuminated light or message when the elevators are operating in normal service.~~

~~**3008.8.1 Elevator recall.** The fire command center or an alternative location *approved* by the fire department shall be provided with the means to manually initiate a Phase I Emergency Recall of the occupant evacuation elevators in accordance with ASME A17.1/CSA B44*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*.~~

CHAPTER 31
SPECIAL CONSTRUCTION

3102.1 General. The provisions of Sections 3102.1 through 3102.8 shall apply to air-supported, air-inflated, membrane-covered cable, membrane-covered frame and tensile membrane structures, collectively known as membrane structures, erected for a period of 180 days or longer. Those erected for a shorter period of time shall comply with the ~~*International*~~*California Fire Code*. Membrane structures covering water storage facilities, water clarifiers, water treatment plants, sewage treatment plants, greenhouses and similar facilities not used for human occupancy, are required to meet only the requirements of Sections 3102.3.1 and 3102.7. Membrane structures erected on a building, balcony, deck or other structure for any period of time shall comply with this section.

3102.3.1 Membrane and interior liner material. Membranes and interior liners shall be either noncombustible as set forth in Section 703.5 or ~~meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 and the manufacturer's test protocol.~~ *shall be flame resistant in accordance with ~~appropriate standards~~the provisions set forth in CCR, Title 19, Division 1, Chapter 8. Tops and sidewalls shall be made either from fabric which has been flame resistant treated with an approved exterior chemical process by an approved application concern, or from inherently flame resistant fabric approved and listed by the State Fire Marshal (see CCR, Title 19, Division 1, Chapter 8).*

Exception: Plastic less than 20 mil (0.5 mm)in thickness 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 .

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 and other membrane structures erected for a period of less than 180 days shall comply with the ~~*International*~~*California Fire Code*. Those erected for a longer period of time shall comply with applicable sections of this code.

3105.4 Awnings and canopy materials. ~~Awnings and canopies shall be provided with an approved covering that meets the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 or has a flame spread index not greater than 25 when tested in accordance with ASTM E 84 or UL 723~~. *All fabrics and all interior decorative fabrics or materials shall be flame resistant in accordance with the provisions* ~~*appropriate standards*~~ *set forth in CCR, Title 19, Division 1, Chapter 8. Tops and sidewalls shall be made either from fabric which has been flame resistant treated with an approved exterior chemical process by an approved application concern, or from inherently flame resistant fabric approved and listed by the State Fire Marshal (see CCR, Title 19, Division 1, Chapter 8).*

Exception: The fire propagation performance and flame spread index requirements shall not apply to awnings installed on detached one- and two-family dwellings.

3111.1 General. Photovoltaic panels/modules shall comply with the requirements of this code, ~~and~~ the ~~*International*~~*California Fire Code and the California Electrical Code*.

~~***3111.1 Solar photovoltaic power systems.*** *Solar photovoltaic power systems shall be installed in accordance with Sections 3111.1 through 3111.3 and the California Electrical Code.*~~

3111.1.1 Rooftop-mounted photovoltaic panels and modules. Photovoltaic panels and modules installed on a roof or as an integral part of a roof assembly shall *also* comply with the requirements of Chapter 15 and the ~~*International*~~*California Fire Code*.

3111.2 Access and pathways. *Roof access, pathways, and spacing requirements shall be provided in accordance with Sections 3111.2.1 through 3111.2.3.3.*

Exceptions:
1. Detached, nonhabitable Group U structures including, but not limited to, parking shade structures, carports, solar trellises and similar structures.
2. Roof access, pathways, and spacing requirements need not be provided where the fire chief has determined rooftop operations will not be employed.

3111.2.1 Roof access points. *Roof access points shall be located in areas that do not require the placement of ground ladders over openings such as windows or doors, and located at strong points of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires, or signs.*

3111.2.2 Solar photovoltaic systems for Group R-3 buildings. *Solar photovoltaic systems for Group R-3 buildings* shall be provided in accordance with Sections 3111.2.2.1 through 3111.2.2.4.

Exception: These requirements shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.

3111.2.2.1 Size of solar photovoltaic array. *Each photovoltaic array shall be limited to 150 feet (45 720 mm) by 150 feet (45 720 mm). Multiple arrays shall be separated by a 3-foot-wide (914 mm) clear access pathway.*

3111.2.2.2 Hip roof layouts. Panels *and* modules installed on *Group R-3* buildings with hip roof layouts shall be located in a manner that provides a 3-foot-wide (914 mm) clear access pathway from the eave to the ridge on each roof slope where panels *and* modules are located. The access pathway shall be located at a structurally strong location on the building capable of supporting the live load of fire fighters accessing the roof.

Exception: *These requirements shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.*

3111.2.2.3 Single ridge roofs. Panels *and* modules installed on *Group R-3* buildings with a single ridge shall be located

in a manner that provides two, 3-foot-wide (914 mm) access pathways from the eave to the ridge on each roof slope where panels *and* modules are located.

Exception: This requirement shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.

***3111.2.2.4 Roofs with hips and valleys*.** Panels *and* modules installed on *Group R-3 buildings* with roof hips and valleys shall be located no closer than 18 inches (457 mm) to a hip or a valley where Panels *and* modules are to be placed on both sides of a hip or valley. Where panels are to be located on only one side of a hip or valley that is of equal length, the panels shall be permitted to be placed directly adjacent to the hip or valley.

Exception: These requirements shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.

***3111.2.2.5 Allowance for* smoke ventilation operation.** Panels *and* modules installed on *Group R-3 buildings* shall be located no *less* than 3 feet (914 mm) from the ridge in order to allow for fire department smoke ventilation operations.

Exception: *Panels and modules shall be permitted to be located up to the roof ridge where an alternative ventilation method approved by the fire chief has been provided or where the fire chief has determined vertical ventilation techniques will not be employed.*

3111.2.3 **Other than Group R-3 buildings.** Access to systems for *buildings* other than *those containing Group R-3 occupancies* shall be provided in accordance with Sections *3111.2.3.1* through *3111.2.3.*3.

Exception: Where it is determined by the *fire code official* that the roof configuration is similar to that of a *Group R-3 occupancy*, the residential access and ventilation requirements in Sections *3111.2.2.1* through *3111.2.2.5* shall be permitted to be used.

3111.2.3.1 **Access.** There shall be a minimum 6-foot-wide (1829 mm) clear perimeter around the edges of the roof.

Exception: Where either axis of the building is 250 feet (76 200 mm) or less, *the clear perimeter around the edges of the roof* shall be a minimum 4-foot-wide (1290 mm).

3111.2.3.2 Pathways. *The solar installation shall be designed to provide designated pathways. The pathways shall meet the following requirements:*
1. The pathway shall be over areas capable of supporting the live load of fire fighters accessing the roof.
2. The centerline axis pathways shall be provided in both axes of the roof. Centerline axis pathways shall run where the roof structure is capable of supporting the live load of fire fighters accessing the roof.
3. Shall be a straight line not less than 4 feet (1290 mm) clear to skylights or ventilation hatches.
4. Shall be a straight line not less than 4 feet (1290 mm) clear to roof standpipes.
5. Shall provide not less than 4 feet (1290 mm) clear around roof access hatch with at least one not less than 4 feet (1290 mm) clear pathway to parapet or roof edge.

3111.2.3.3 Smoke ventilation. *The solar installation shall be designed to meet the following requirements:*
1. Arrays shall be no greater than 150 feet (45 720 mm) by 150 feet (45 720 mm) in distance in either axis in order to create opportunities for fire department smoke ventilation operations.
2. Smoke ventilation options between array sections shall be one of the following:
2.1. A pathway 8 feet (2438 mm) or greater in width.
2.2. A 4-foot (1290 mm) or greater in width pathway and bordering roof skylights or smoke and heat vents.
2.3. A 4-foot (1290 mm) or greater in width pathway and bordering 4-foot by 8-foot (1290 mm by 2438 mm) "venting cutouts" every 20 feet (6096 mm) on alternating sides of the pathway.

3111.3 **Ground-mounted photovoltaic arrays.** Ground-mounted photovoltaic arrays shall comply with this section *and the California Electrical Code*. Setback requirements shall not apply to ground-mounted, free-standing photovoltaic arrays. A clear, brush-free area of 10 feet (3048 mm) shall be required for ground mounted photovoltaic arrays.

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

3309.2 Fire hazards. The provisions of this code and the ~~*International*~~*California Fire Code* shall be strictly observed to safeguard against all fire hazards attendant upon construction operations.

CHAPTER 34
RESERVED

[Editor's Note: 2013 CBC Chapter 34 was relocated to California Fire Code Chapter 11 and California Existing Building Code]

~~**3401.3 Compliance.** Alterations, repairs, additions and changes of occupancy to existing structures shall comply with the provisions for alterations, repairs, additions and changes of occupancy in the *International California Fire Code, International Fuel Gas Code, International California Mechanical Code, International California Plumbing Code, International Property Maintenance Code, International Private Sewage Disposal Code*, *International California Residential Code* and NFPA 70*California Electrical Code*.~~

~~***3401.6**3401.7* **Existing Group R-3 Occupancies. [SFM]** *See the California Residential Code for existing Group R-3 occupancies or Chapter 46 of the California Fire Code for all other existing Group R occupancies.*~~

~~**3411.8.2 Elevators.** Altered elements of existing elevators shall comply with ASME A17.1*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders* 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.~~

~~**SECTION 3413**~~
~~**EXISTING GROUP R-1 AND GROUP R-2 OCCUPANCIES [SFM]**~~

~~***3413.1 Scope.*** *The provisions of this section are intended to maintain or increase the current degree of public safety, health and general welfare in existing buildings classified as Group R Occupancies.*~~

~~***3413.1.1 Application.*** *In accordance with Health and Safety Code Section 13143.2, the provisions of Sections 3413.2 through 3413.12 shall only apply to multiple-story structures existing on January 1, 1975, let for human habitation, including, and limited to, apartment houses, hotels, and motels wherein rooms used for sleeping are let above the ground floor.*~~

~~***3413.2 Number of exits.*** *Every apartment and every other sleeping room shall have access to not less than two exits when the occupant load is 10 or more (exits need not be directly from the apartment or sleeping room). A fire escape as specified herein may be used as one required exit.*~~

~~*Subject to approval of the authority having jurisdiction, a ladder device as specified herein may be used in lieu of a fire escape when the construction feature or the location of the building on the property cause the installation of a fire escape to be impractical.*~~

~~***3413.3 Stair construction.*** *All stairs shall have a minimum run of 9 inches (229 mm) and a maximum rise of 8 inches (203 mm) and a minimum width exclusive of handrails of 30 inches (762 mm). Every stairway shall have at least one handrail. A landing having a minimum horizontal dimension of 30 inches (762 mm) shall be provided at each point of access to the stairway.*~~

~~***3413.4 Interior stairways.*** *Every interior stairway shall be enclosed with walls of not less than one-hour fire-resistive construction. Where existing partitions form part of a stairwell enclosure, wood lath and plaster in good condition will be acceptable in lieu of one-hour fire-resistive construction. Doors to such enclosures shall be protected by a self-closing door equivalent to a solid wood door with a thickness of not less than 13/4 inches (44.5 mm).*~~

~~*Enclosures shall include all landings between flights and any corridors, passageways or public rooms necessary for continuous exit to the exterior of the buildings. The stairway need not be enclosed in a continuous shaft if cut off at each story by the fire-resistive construction required by this subsection for stairwell enclosures. Enclosures shall not be required if an automatic sprinkler system is provided for all portions of the building except bedrooms, apartments and rooms accessory thereto. Interior stairs and vertical openings need not be enclosed in two-story buildings.*~~

~~***3413.5 Exterior stairways.*** *Exterior stairways shall be noncombustible or of wood of not less than 2-inch (51 mm) nominal thickness with solid treads and risers.*~~

~~***3413.6 Fire escapes, exit ladder devices.*** *Fire escapes may be used as one means of egress if the pitch does not exceed 60 degrees, the width is not less than 18 inches (457 mm), the treads are not less than 4 inches (102 mm) wide, and they extend to the ground or are provided with counterbalanced stairs reaching to the ground. Access shall be by an opening having a minimum dimension of 29 inches (737 mm) when open. The sill shall not be more than 30 inches (762 mm) above the floor and landing.*~~

~~*A ladder device, when used in lieu of a fire escape, shall conform to Section 3413.6.1 and the following:*~~

~~*Serves an occupant load of nine people or less or a single dwelling unit or hotel room.*~~
~~*The building does not exceed three stories in height.*~~
~~*The access is adjacent to an opening as specified for emergency egress or rescue or from a balcony.*~~
~~*The device does not pass in front of any building opening below the unit being served.*~~
~~*The availability of activating the ladder device is accessible only to the opening or balcony served.*~~
~~*The device as installed will not cause a person using it to be within 12 feet (3658 mm) of exposed energized high-voltage conductors.*~~

~~***3413.6.1 Exit ladder devices.***~~

~~***3413.6.1.1 Scope.*** *This standard for exit ladder devices is applicable where such devices are permitted by the building official for installation on existing apartment houses and hotels in conformance with the California Building Code.*~~

~~***3413.6.1.2 Instructions.*** *Installation shall be in accordance with the manufacturer's instructions. Instructions shall be illustrated and shall include directions and information adequate for attaining proper and safe installation of the product. Where exit ladder devices are intended for mounting on different support surfaces, specific installation instructions shall be provided for each surface.*~~

~~***3413.6.1.3 General design.*** *All load-bearing surfaces and supporting hardware shall be of noncombustible materials. Exit ladder devices shall have a minimum width of 12 inches (305 mm) when in the position intended for use. The design load shall not be less than 400 pounds (1780N) for 16-foot (4877 mm) length and 600 pounds (2699N) for 25-foot (7620 mm) length.*~~

~~***3413.6.1.4 Performance.***~~

~~***3413.6.1.4.1*** *Exit ladder devices shall be capable of withstanding an applied load of four times the design load when installed in the manner intended for use. Test loads shall be applied for a period of one hour.*~~

~~***3413.6.1.4.2*** *Exit ladder devices of the retractable type shall, in addition to the static load requirements of Section 413.6.1.4.1, be capable of withstanding the following tests:*~~

~~*1. Rung strength*~~
~~*2. Rung-to-side-rail shear strength*~~
~~*3. Release mechanism*~~
~~*4. Low temperature*~~

~~***3413.6.1.5 Rung-strength test.*** *Rungs of retractable exit ladder devices shall be capable of withstanding a load of 1,000 pounds (4448N) when applied to a 31/2-inch-wide (89 mm) block resting at the center of the rung. The test load shall be applied for a period of one hour. The ladder shall remain operational following this test.*~~

~~***3413.6.1.6 Rung-to-side-rail shear test.*** *Rungs of retractable exit ladder devices shall be capable of withstanding 1,000 (4448N) when applied to a 31/2-inch-wide (89 mm) block resting on the center rung as near the side rail as possible. The test load shall be applied for a period of one hour. Upon removal of the test load the fasteners attaching the rung to the side rail shall show no evidence of failure. The ladder shall remain operational following the test.*~~

~~***3413.6.1.7 Release mechanism test.*** *The release mechanism of retractable exit ladder devices shall operate with an average applied force of not more than 5 pounds (22.2N) for hand-operated releasing mechanisms and an average*~~

~~*applied force of not more than 25 pounds (111N) for foot-pedal types of releasing mechanisms. For these tests, a force gauge shall be applied to the release mechanism, and the average of three consecutive readings shall be computed.*~~

~~***3413.6.1.8 Low temperature operation test.*** *Representative samples of the exit ladder devices shall be subjected to a temperature of -40ºC in an environmental chamber for a period of 24 hours. The release mechanism shall be operated immediately upon removal from the chamber. The ladder device shall function as intended without any restriction of operation.*~~

~~***3413.7 Doors and openings.*** *Exit doors and openings shall meet the requirements of Sections 1008.1.2, 1008.8.1.8, 1008.1.9 and 708.6. Doors shall not reduce the required width of stairway more than 6 inches (152 mm) when open. Transoms and openings other than doors from corridors to rooms shall be fixed closed and shall be covered with a minimum of 3/4-inch (19 mm) plywood or 1/2-inch (13 mm) gypsum wallboard or equivalent material.*~~

~~***Exceptions:***~~
~~*1. Existing solid-bonded wood-core doors 13/8 inches thick (34.9 mm), or their equivalent may be continued in use.*~~
~~*2. Where the existing frame will not accommodate a door complying with Section 708.6, a 13/8-inch-thick (35 mm) solid-bonded wood-core door may be used.*~~

~~***3413.8 Exit signs.*** *Every exit doorway or change of direction of a corridor shall be marked with a well-lighted exit sign having letters at least 5 inches (127 mm) high.*~~

~~***3413.9 Enclosure of vertical openings.*** *Elevators, shafts, ducts and other vertical openings shall be enclosed as required for stairways in Section 3413.5 or by wired glass set in metal frames. Doors shall be noncombustible or as regulated in Section 3413.5.*~~

~~***3413.10 Separation of occupancies.*** *Occupancy separations shall be provided as specified in Section 508. Lobbies and public dining rooms, not including cocktail lounges, shall not require a separation if the kitchen is so separated from the dining room. Every room containing a boiler or central heating plant shall be separated from the rest of the building by not less than a one-hour fire-resistive occupancy separation.*~~

~~***Exception:*** *A separation shall not be required for such rooms with equipment serving only one dwelling unit.*~~

~~***3413.11 Equivalent protection.*** *In lieu of the separation of occupancies required by Section 3413.10, equivalent protection may be permitted when approved by the enforcement agency.*~~

~~***Exception:*** *The provisions of Sections 3413.3 through 3413.11 above shall not apply to any existing apartment house, hotel or motel having floors (as measured from the top of the floor surface) used for human occupancy located more than 75 feet (22 860 mm) above the lowest floor level having building access which is subject to the provisions of Section 33414, California Building Code, relating to existing high-rise buildings.*~~

~~***Note:*** *In accordance with Health and Safety Code Section 17920.7, the provisions of Sections 3413.3 through 3413.11 above shall apply only to multiple-story structures existing on January 1, 1975, let for human habitation including, and limited to, apartments, houses, hotels and motels wherein rooms used for sleeping are let above the ground floor.*~~

~~***3413.12 Fire alarms.***~~

~~***3413.12.1 General.*** *Every apartment house three or more stories in height or containing more than 15 apartments, every hotel three or more stories in height or containing 20 or more guest rooms, shall have installed therein an automatic or manually operated fire alarm system. Such fire alarm systems shall be so designed that all occupants of the building may be warned simultaneously and shall be in accordance with the California Fire Code. See Section 3414.14 for special requirements in buildings over 75 feet (22 860 mm) in height.*~~

~~***Exception:*** *A fire alarm system need not be installed provided such apartment house or hotel is separated by an unpierced wall of not less than four-hour fire resistance in buildings of Type IA, Type IIB, Type III or Type IV construction and two-hour fire resistance in buildings of all other types of construction provided:*~~

~~*1. Areas do not exceed the number of apartments or guest rooms stipulated.*~~
~~*2. The fire-resistive wall conforms to the requirements of Section 706.6.*~~
~~*3. The wall complies with all other applicable provisions of the California Building Code.*~~

~~*4. The wall extends to all outer edges of horizontal projecting elements, such as balconies, roof overhangs, canopies, marquees or architectural projections.*~~
~~*5. No openings are permitted for air ducts or similar penetrations, except that openings for pipes, conduits and electrical outlets of copper, sheet steel or ferrous material shall be permitted through such wall and need not be protected, provided they do not unduly impair the required fire resistance of the assembly.*~~
~~*6. Tolerances around such penetrations shall be filled with approved noncombustible materials..*~~

~~***3413.12.2 Installation.*** *The installation of all fire alarm equipment shall be in accordance with the California Fire Code.*~~

~~***3413.13 Existing Group R Occupancy high-rise buildings.***~~

~~***3413.13.1 General.*** *Regardless of other provisions of these regulations relating to existing high-rise buildings, requirements relative to existing Group R-1 or Group R-2 Occupancies shall not be less restrictive than those established pursuant to Health and Safety Code Section 13143.2.*~~

~~***3413.13.2 Corridor openings.*** *Openings in corridor walls and ceilings shall be protected by not less than 13/4-inch (44.5 mm) solid-bonded wood-core doors, 1/4-inch-thick (6-mm) wired glass conforming to Section 715.1, by approved fire dampers or by equivalent protection in lieu of any of these items. Transoms shall be fixed closed with material having a fire-resistive rating equal to 1/2-inch (12.7 mm) Type X gypsum wallboard or equivalent material installed on both sides of the opening.*~~

~~***3413.13.3 Fire alarm systems.*** *Notwithstanding the provisions of Section 403, every existing high-rise building used for the housing of a Group R-1 or Group R-2 Occupancies shall have installed therein a fire alarm system conforming to this subsection.*~~

~~***3413.13.3.1 General.*** *Every apartment house and every hotel shall have installed therein an automatic or manually operated fire alarm system. Such fire alarm systems shall be so designed that all occupants of the building may be warned simultaneously.*~~

~~***3413.13.3.2 Installation.*** *The installation of all fire alarm equipment shall be in accordance with the California Fire Code.*~~

~~***3413.13.3.3 Fire-extinguishing systems.*** *Automatic fire-extinguishing systems installed in any structure subject to these regulations shall have an approved flow indicator electrically interconnected to the required fire alarm system.*~~

~~**SECTION 3414**~~
~~**EXISTING HIGH-RISE BUILDINGS [SFM]**~~

~~***3414.1 Scope and definition.*** *The provisions of Sections 3414.1 through 3414.27 shall apply to every existing high-rise building of any type of construction or occupancy having floors (as measured from the top of the floor surface) used for human occupancy located more than 75 feet (22 860 mm) above the lowest floor level having building access.*~~

~~***Exceptions:***~~
~~*1. Hospitals, as defined in Section 1250 of the Health and Safety Code.*~~
~~*2. The following structures, while classified as high-rise buildings, shall not be subject to the provisions of Sections 3414.1 through 3414.27, but shall conform to all applicable provisions of these regulations.*~~
~~*2.1 Building used exclusively as open parking garages.*~~
~~*2.2 Buildings where all floors above the 75 foot (22 860 mm) level are used exclusively as open parking garages.*~~
~~*2.3 Floors of buildings used exclusively as open parking garages and located above all other floors used for human occupancy.*~~
~~*2.4 Buildings such as power plants, look-out towers, steeples, grain houses, and similar structures, when so determined by the enforcing agency.*~~
~~*2.5 Buildings used exclusively for jails and prisons. For the purposes of this section, "building access" shall mean an exterior door opening conforming to all of the following:*~~

~~*1. Suitable and available for fire department use.*~~
~~*2. Located not more than 2 feet (610 mm) above the adjacent ground level.*~~
~~*3. Leading to a space, room or area having foot traffic communication capabilities with the remainder of the building.*~~

~~*4. Designed to permit penetration through the use of fire department forcible-entry tools and equipment unless other approved arrangements have been made with the fire authority having jurisdiction.*~~

~~*"Existing high-rise structure" means a high-rise structure, the construction of which is commenced or completed prior to July 1, 1974.*~~

~~*For the purpose of this section, construction shall be deemed to have commenced when plans and specifications are more than 50 percent complete and have been presented to the local jurisdiction prior to July 1, 1974. Actual construction of such buildings shall commence on or before January 1, 1976, unless all provisions for new buildings have been met.*~~

~~***Note:*** *it is the intent of this section that, in determining the level form which the highest occupied floor is to be measured, the enforcing agency should exercise reasonable judgment, including consideration of overall accessibility to the building by fire department personnel and vehicular equipment. When a building is situated on sloping terrain and there is building access on more than one level, the enforcing agency may select the level which provides the most logical and adequate fire department access.*~~

~~***3414.2 Compliance data.*** *Except as may be otherwise specified, existing high-rise building shall conform to the applicable requirements of these regulations by April 26, 1979.*~~

~~***Exception:*** *The period of compliance may be extended upon showing of good cause for such extension if a systematic and progressive plan of correction is submitted to, and approved by, the enforcing agency. Such extension shall not exceed two years from the date of approval of such plan. Any plan of correction submitted pursuant to this exception shall be submitted and approved on or before April 26, 1979.*~~

~~***3414.3 Continued use.*** *Existing high-rise building may have their use continued if they conform, or are made to conform, to the intent of the provisions of Sections 3414.5 through 3414.27 to provide for the safety of the occupants of the high-rise buildings and person involved in fire-suppression activities.*~~

~~***3414.4 Alternate protection.*** *Alternate means of egress, fire walls or fire barriers, smoke barriers, automatic fire detection or fire-extinguishing systems, or other fire-protection devices, equipment or installations may be approved by the enforcing agency to provide reasonable and adequate life safety as intended by Sections 3414.5 through 3414.27 for existing high-rise buildings.*~~

~~***3414.5 Basic provisions.*** *The provisions outlined in Sections 3414.1 through 3414.27 are applicable to every existing highrise building.*~~

~~***3414.6 Minimum construction.*** *Existing wood lath and plaster, existing 1/2-inch (12.7 mm) gypsum wallboard, existing installations of 1/2-inch thick (12.7 mm) wired glass which are or are rendered inoperative and fixed in a closed position, or other existing materials having similar fire-resistive capabilities shall be acceptable. All such assemblies shall be in good repair, free of any condition which would diminish their original fire-resistive characteristics.*~~

~~*Where 13/4-inch (44.5-mm) solid-bonded wood-core doors are specified in these regulations for existing high-rise buildings, new or existing 13/8-inch (34.9 mm) doors shall be acceptable where existing framing will not accommodate a 13/4-inch (44.5 mm) door.*~~

~~***Note:*** *It is the intent of this provisions that existing wood frames may have their use continued.*~~

~~***3414.7 New construction.*** *All new construction shall be composed of materials and assemblies of materials conforming to the fire-resistive provisions of these regulations. In no case shall enclosure walls be required to be of more than one-hour fire-resistive construction.*~~

~~***Exception:*** *When approved by the enforcing agency, materials specified in Section 3414.6 may be used for new construction when necessary to maintain continuity of design and measurement of existing construction.*~~

~~***3414.8 Exits.*** *Every floor from an existing high-rise building shall have access to two separate means of egress, one of which, when approved by the enforcing agency, may be an existing exterior fire escape. New installations of smoke-proof enclosures shall not be required.*~~

~~***Note:*** *In determining the adequacy of exits and their design, Chapter 10 may be used as a guide. It is the intent of this section that every existing high-rise building need not mandatorily conform or be made to conform with the requirements for new high-rise buildings. Reasonable judgment in the application of requirements must be exercised by the enforcing agency.*~~

~~***3414.9 Fire escapes.*** *An existing fire escape in good structural condition may be acceptable as one of the required means of egress from each floor. Access to such fire escapes may be by any one of the following:*~~

~~*Through a room between the corridor and the fire escape if the door to the room is operable from the corridor side without the use of any key, special knowledge or effort.*~~
~~*By a door operable to a fire escape from the interior without the use of any key, special knowledge or effort.*~~
~~*By a window operable from the interior. Such window shall have a minimum dimension of 29 inches (737 mm) when open.*~~
~~*The sill shall not be more than 30 inches (762 mm) above the floor and landing.*~~

~~***3414.10 Protection of exterior openings.*** *When an existing fire escape is accepted as one of the require means of egress, openings onto the fire escape landing and openings within 5 feet (1524 mm) horizontally of the landings shall be protected in a manner acceptable to the enforcing agency.*~~

~~***3414.11 Locking of stairway doors.*** *When exit doors from corridors to exit stairways are locked to prohibit access from the stairway side, the locking mechanisms shall be retracted to the unlocked position upon failure of electrical power and a telephone or other two-way communication system connected to an approved emergency service that operates continuously shall be provided at not less than every fifth floor in each required stairway. In lieu thereof, master keys which will unlock all such doors from the stairway side shall be provided in such numbers and locations as approved by the enforcing agency.*~~

~~***3414.12 Enclosures.*** *Interior vertical shafts, including but not limited to, elevators, stairway and utility, shall be enclosed with construction as set forth in Section 3414.6.*~~

~~***3414.13 Opening protection.*** *Doors in other than elevators, which shall be of a type acceptable to the enforcing agency, shall be approved one-hour, fire-rated, tight-fitting or gasketed doors or equivalent protection, and shall be of the normally closed type, self-closing or a type which will close automatically in accordance with Section 715.*~~

~~***Exception:*** *In lieu of stairway enclosures, smoke barriers may be provided in such a manner that fire and smoke will not spread to other floors or otherwise impair exit facilities. In these instances, smoke barriers shall not be less than one-hour fire resistive with openings protected by not less than approved one-third-hour, fire-rated, tight-fitting or gasketed doors. Such doors shall be of the self-closing type or of a type which will close automatically in the manner specified in Section 715.*~~

~~*Doors crossing corridors shall be provided with wired-glass vision panels set in approved steel frames. Doors for elevators shall not be of the open-grille type.*~~

~~***3414.14 Fire alarm system.*** *Every existing high-rise building shall be provided with an approved fire alarm system. In department stores, retail sales stores and similar occupancies where the general public is admitted, such systems shall be of a type capable of alerting staff and employees. In office buildings and all other high-rise buildings, such systems shall be of a type capable of alerting all occupants simultaneously.*~~

~~***Exceptions:***~~
~~*1. In areas of public assemblage, the type and location of audible appliances shall be as determined by the enforcing agency.*~~
~~*2. When acceptable to the enforcing agency, the occupant voice notification system required by Section 3414.17~~<u>~~3414.20~~</u>~~ may be used in lieu of the fire alarm system required by Section 3414.14.*~~

~~***3414.15 Existing systems.*** *Existing fire systems, when acceptable to the enforcing agency, shall be deemed as conforming to the provisions of these regulations. For requirements for existing Group R-1 Occupancies, see Section 3412.13.*~~

~~***3414.16 Annunciation.*** *When a new fire alarm system is installed, it shall be connected to an annunciator panel installed in a location approved by the enforcing agency. For purposes of annunciation, zoning shall be in accordance with Section 907.6.3.4907.6.4.4.*~~

~~***3414.17 Monitoring.*** *Shall be in accordance with Section 907.6.5907.6.6.*~~

~~***3414.18 Systems interconnection.*** *When an automatic fire detection system or automatic extinguishing system is installed, activation of such system shall cause the sounding of the fire alarm notification appliances at locations designated by the enforcing agency.*~~

~~***3414.19 Manual fire alarm boxes.*** *A manual fire alarm box shall be provided in the locations designated by the enforcing agency. Such locations shall be where boxes are readily accessible and visible and in normal paths of daily travel by occupants of the building.*~~

~~***3414.20 Emergency voice/alarm communication system.*** *An approved emergency voice/alarm system shall be provided in every existing high-rise building which exceeds 150 feet (45 720 mm) in height measured in the manner set forth in Section 3412.1. Such system shall provide communication from a location available to and designated by the enforcing agency to not less than all public areas. The emergency voice/alarm system may be combined with a fire alarm system provide the combined system has been approved and listed by the State Fire Marshal. The sounding of a fire alarm signal in any given area or floor shall not prohibit voice communication to other areas of floors. Combination systems shall be designed to permit voice transmission to override the fire alarm signal, but the fire alarm signal shall not terminate in less than three minutes.*~~

~~***3414.21 Fire department system.*** *When it is determined by test that portable fire department communication equipment is ineffective, a communication system acceptable to the enforcing agency shall be installed within the building to permit emergency communication between fire-suppression personnel.*~~

~~***3414.22 Interior wall and ceiling finish.*** *Interior wall and ceiling finish of exitways shall conform to the provisions of Chapter 8. Where the materials used in such finishes do not conform to the provisions of Chapter 8, such finishes may be surfaced with an approved fire-retardant coating.*~~

~~***3414.23 Ventilation.*** *Natural or mechanical ventilation for the removal of products of combustion shall be provided in every story of an existing high-rise building. Such ventilation shall be any one or combination of the following: Panels or windows in the exterior wall which can be opened. Such venting facilities shall be provided at the rate of at least 20 square feet (1.86m2) of opening per 50 lineal feet (15 240 lineal mm) of exterior wall in each story, distributed around the perimeter at not more than 50-foot (15 240 mm) intervals on at least two sides of the building. Approved fixed tempered glass may be used in lieu of openable panels or windows. When only selected panels or windows are of tempered glass, they shall be clearly identified as required by the enforcing agency. Any other design which will produce equivalent results.*~~

~~***3414.24 Smoke control systems.*** *Existing air-circulation systems shall be provided with an override switch in a location approved by the enforcing agency which will allow for the manual control of shutdown of the systems.*~~

~~***Exception:*** *Systems which serve only a single floor, or portion thereof, without any penetration by ducts or other means into adjacent floors.*~~

~~***3414.25 Elevator recall smoke detection.*** *Smoke detectors for emergency operation of elevators shall be provided as required by Section 3003.*~~

~~***3414.26 Exit signs and illumination.*** *Exits and stairways shall be provided with exit signs and illumination as required by Sections 1011.1 and 1011.2.*~~

~~***3414.27 Automatic sprinkler system–Existing high-rise buildings.*** *Regardless of any other provisions of these regulations, every existing high-rise building of Type II-B, Type III-B or Type V-B construction shall be provided with an approved automatic sprinkler system conforming to NFPA 13.*~~

~~**SECTION 3415**~~
~~**EXISTING GROUP I OCCUPANCIES [SFM]**~~

3415.1 General. *Existing buildings housing existing protective social-care homes or facilities established prior to March 4, 1972 may have their use continued if they conform, or are made to conform, to the following provisions:*

3415.2 Use of floors. *The use of floor levels in buildings of Type III, IV or V nonfire-rated construction may be as follows: Nonambulatory - first floor only; Ambulatory - not higher than the third floor level, provided walls and partitions are constructed of materials equal in fireresistive quality to that of wood lath and plaster in good repair and all walls are firestopped at each floor level.*

3415.3 Enclosure of exits and vertical openings. *Except for two-story structures housing ambulatory guests, all interior stairs shall be enclosed in accordance with Chapter 10. In lieu of stairway enclosures, floor separations or smoke barriers may be provided in such a manner that fire and smoke will not spread rapidly to floors above or otherwise impair exit facilities. In these instances, floor separations or smoke barriers shall have a fire resistance equal to not less than 1/2-inch (13 mm) gypsum wall board on each side of wood studs with openings protected by not less than a 13/4-inch (44.5 mm) solid bonded wood-core door of the self-closing type. All other vertical openings shall be enclosed in accordance with the provisions of Section 3414.6 and 3414.13.*

3415.4 Exit access. *Each floor or portion thereof of buildings used for the housing of existing protective social-care homes or facilities shall have access to not less than two exits in such a manner as to furnish egress from the building or structure in the event of an emergency substantially equivalent to the provisions of Chapter 10.*

3415.5 Corridor openings. *Openings from rooms to interior corridors shall be protected by not less than 13/4-inch (44.5 mm) solid-bonded wood-core doors. Transoms and other similar openings shall be sealed with materials equivalent to existing corridor wall construction.*

3415.6 Interior finishes. *Interior wall and ceiling finishes shall conform to the requirements for a Group R-1 Occupancy as specified in Chapter 8.*

3415.7 Automatic fire sprinklers. *Automatic sprinkler systems shall be installed in existing protective social-care occupancies in accordance with the provisions of Section 903.2.6.*

3415.8 Fire alarm systems. *Automatic fire alarm systems shall be installed in existing protective social-care homes or facilities in accordance with the provisions of Section 907.2.6.*

Exception: *When an approved automatic sprinkler system conforming to Section 903.2.6 is installed, a separate fire alarm system as specified in this section need not be provided.*

SECTION 3416
EXISTING GROUP L OCCUPANCIES [SFM]

3416 Existing Group L Occupancies.

3416.1 Repairs general. *Additions, alterations or repairs may be made to any building or structure without requiring the existing building or structure to comply with all the requirements of this code section, provided the addition, alteration, or repair conforms to the requirements of this section.*

3416.2 Unsafe condition. *Additions, repairs or alterations shall not be made to an existing building or structure that will cause the existing building or structure to be in violation of any of the provisions of this code, nor shall such additions or alterations cause the existing building or structure to become unsafe, or to be in violation of any of the provisions of this code. An unsafe condition shall be deemed to have been created if an addition or alteration will cause the existing building or structure to become structurally unsafe or overloaded; will not provide adequate egress in compliance with the provisions of this code or will obstruct existing exits; will create a fire hazard; will reduce required fire resistance or will otherwise create conditions dangerous to human life.*

3416.3 Changes in use or occupancy. *Any buildings that have alternations or additions, which involves a change in use or occupancy, shall not exceed the height, number of stories and area permitted for new buildings*

3416.4 Buildings not in compliance with code. *Additions or alterations shall not be made to an existing building or structure when such existing building or structure is not in full compliance with the provisions of this code except when*

~~*such addition or alteration will result in the existing building or structure being no more hazardous, based on life safety, fire safety and sanitation, than before such additions or alterations are undertaken.*~~

~~***3416.5 Maintenance of structural and fire resistive integrity.*** *Alterations or repairs to an existing building or structure that are nonstructural and do not adversely affect any structural member of any part of the building or structure having required fire resistance may be made with the same materials of which the building or structure is constructed. The installation or replacement of glass shall be as required for new installations.*~~

~~***3416.6 Continuation of existing use.*** *Buildings in existence at the time of the adoption of this code may have their existing use or occupancy continued if such use or occupancy was legal at the time of the adoption of this code, provided such continued use is not dangerous to life.*~~

~~***3416.7 Maximum allowable quantities.*** *Laboratory suites approved prior to January 1, 2008 shall not exceed the maximum allowable quantities listed in Tables 3416.1 and 3416.2.*~~

~~***TABLE 3416.7(1) EXEMPT AMOUNTS OF HAZARDOUS MATERIALS, LIQUIDS AND CHEMICALS PRESENTING A PHYSICAL HAZARD BASIC QUANTITIES PER LABORATORY SUITE[1]***~~
~~***When two units are given, values within parentheses are in cubic feet (Cu. Ft.) or pounds (Lbs.)***~~

~~CONDITION~~		~~STORAGE~~			~~USE CLOSED SYSTEMS~~			~~USE OPEN SYSTEMS~~		
~~MATERIAL~~	~~CLASS~~	~~Solid Lbs. (Cu. Ft.)~~	~~Liquid Gallons (Lbs.)~~	~~Gas Cu. Ft.~~	~~Solid Lbs. (Cu. Ft.)~~	~~Liquid Gallons (Lbs.)~~	~~Gas Cu. Ft.~~	~~Solid Lbs. (Cu. Ft.)~~	~~Liquid Gallons (Lbs.)~~	~~Gas Cu. Ft.~~
~~1.1 Combustible liquid~~	~~II~~	~~—~~	~~120[2]~~	~~—~~	~~—~~	~~120~~	~~—~~	~~—~~	~~30~~	~~—~~
	~~III-A~~	~~—~~	~~330[2]~~	~~—~~	~~—~~	~~330~~	~~—~~	~~—~~	~~80~~	~~—~~
	~~III-B~~	~~—~~	~~13,200[2]~~	~~—~~	~~—~~	~~13,200~~	~~—~~	~~—~~	~~3,300~~	~~—~~
~~1.2 Combustible dust lbs./1000 cu. ft.~~		~~1~~	~~—~~	~~—~~	~~1~~	~~—~~	~~—~~	~~1~~	~~—~~	~~—~~
~~1.3 Combustible fiber (loose) (baled)~~		~~(100)~~ ~~(1,000)~~	~~—~~ ~~—~~	~~—~~ ~~—~~	~~(100)~~ ~~(1,000)~~	~~—~~ ~~—~~	~~—~~ ~~—~~	~~(20)~~ ~~(200)~~	~~—~~ ~~—~~	~~—~~ ~~—~~
~~1.4 Cryogenic, flammable or oxidizing~~			~~45~~	~~—~~	~~—~~	~~45~~	~~—~~	~~—~~	~~10~~	~~—~~
~~2.1 Explosives~~		~~12~~	~~(1)[2]~~	~~—~~	~~1/4~~	~~(1/4)~~	~~—~~	~~1/4~~	~~(1/4)~~	~~—~~
~~3.1 Flammable solid~~		~~125[2]~~	~~—~~	~~—~~	~~25~~	~~—~~	~~—~~	~~25~~	~~—~~	~~—~~
~~3.2. Flammable gas (gaseous) (liquefied)~~		~~—~~ ~~—~~	~~—~~ ~~15[2]~~	~~750[2]~~ ~~—~~	~~—~~ ~~—~~	~~—~~ ~~15[2]~~	~~750[2]~~ ~~—~~	~~—~~ ~~—~~	~~—~~ ~~—~~	~~—~~ ~~—~~
~~3.3 Flammable liquid Combination I-A, I-B, I-C~~	~~I-A~~	~~—~~	~~30[2]~~	~~—~~	~~—~~	~~30~~	~~—~~	~~—~~	~~10~~	~~—~~
	~~I-B~~	~~—~~	~~60[2]~~	~~—~~	~~—~~	~~60~~	~~—~~	~~—~~	~~15~~	~~—~~
	~~I-C~~	~~—~~	~~90[2]~~	~~—~~	~~—~~	~~90~~	~~—~~	~~—~~	~~20~~	~~—~~
		~~—~~	~~120[2]~~	~~—~~	~~—~~	~~120~~	~~—~~	~~—~~	~~30~~	~~—~~
~~4.1 Organic peroxide, unclassified detonatable~~		~~1[2]~~	~~(1)[2]~~	~~—~~	~~1/4~~	~~(1/4)~~	~~—~~	~~1/4~~	~~(1/4)~~	~~—~~
~~4.2 Organic peroxide~~	~~I~~ ~~II~~ ~~III~~ ~~IV~~ ~~V~~	~~5[2]~~ ~~50[2]~~ ~~125[2]~~ ~~500~~ ~~N.L.~~	~~(5)[2]~~ ~~(50)[2]~~ ~~(125)[2]~~ ~~(500)~~ ~~N.L.~~	~~—~~ ~~—~~ ~~—~~ ~~—~~ ~~—~~	~~(1)~~ ~~50~~ ~~125~~ ~~500~~ ~~N.L.~~	~~(1)~~ ~~(50)~~ ~~(125)~~ ~~(500)~~ ~~N.L.~~	~~—~~ ~~—~~ ~~—~~ ~~—~~ ~~—~~	~~1~~ ~~10~~ ~~25~~ ~~100~~ ~~N.L.~~	~~1~~ ~~(10)~~ ~~(25)~~ ~~(100)~~ ~~N.L.~~	~~—~~ ~~—~~ ~~—~~ ~~—~~ ~~—~~
~~4.3 Oxidizer~~	~~4~~ ~~3~~ ~~2~~ ~~1~~	~~1[2]~~ ~~10[2]~~ ~~250[2]~~	~~(1)[2]~~ ~~(10)[2]~~ ~~(250)[2]~~	~~—~~ ~~—~~ ~~—~~ ~~—~~	~~1/4[2]~~ ~~2~~ ~~50~~ ~~1,000~~	~~(1/4)~~ ~~(2)~~ ~~(250)~~ ~~(1,000)~~	~~—~~ ~~—~~ ~~—~~ ~~—~~	~~¼~~ ~~2~~ ~~50~~ ~~200~~	~~(1/4)~~ ~~(2)~~ ~~(50)~~ ~~(200)~~	~~—~~ ~~—~~ ~~—~~ ~~—~~

		~~1,000~~[2]	~~(1,000)~~[2]							
~~4.4 Oxidizer.Gas~~ ~~(gaseous)~~ ~~(liquefied)~~		— —	— ~~15~~[2]	~~1,500~~[2] —	— —	— ~~15~~[2]	~~1,500~~[2] —	— —	— —	— —
~~5.1 Pyrophoric~~		~~4~~[2]	~~(4)~~[2]	~~50~~[2]	~~1~~	~~(1)~~	~~10~~[2]	~~0~~	~~0~~	~~0~~
~~6.1 Unstable (reactive)~~	~~4~~ ~~3~~ ~~2~~ ~~1~~	~~1~~[2] ~~5~~[2] ~~50~~[2] ~~125~~[2]	~~(1)~~[2] ~~(5)~~[2] ~~(50)~~[2] ~~(125)~~[2]	~~10~~[2] ~~50~~[2] ~~250~~[2] ~~750~~[2]	~~1/4~~ ~~1~~ ~~50~~ ~~125~~	~~(1/4)~~ ~~(1)~~ ~~(50)~~ ~~(125)~~	~~2~~[2] ~~10~~[2] ~~250~~[2] ~~750~~[2]	~~1/4~~ ~~1~~ ~~10~~ ~~25~~	~~(1/4)~~ ~~(1)~~ ~~(10)~~ ~~(25)~~	~~0~~ ~~0~~ ~~0~~ ~~0~~
~~7.1 Water (reactive)~~	~~3~~ ~~2~~ ~~1~~	~~5~~[2] ~~50~~[2] ~~125~~[2]	~~(5)~~[2] ~~(50)~~[2] ~~(125)~~[2]	— — —	~~5~~ ~~50~~ ~~125~~	~~(5)~~ ~~(50)~~ ~~(125)~~[2]	— — —	~~1~~ ~~10~~ ~~25~~	~~(1)~~ ~~(10)~~ ~~(25)~~	— — —

~~[1] A laboratory suite is a space up to 10,000 square feet (929 m2) bounded by not less than a one-hour fire-resistive occupancy separation within which the exempt amounts of hazardous materials may be stored, dispensed, handled or used. Up through the third floor and down through the first basement floor, the quantity in this table shall apply. Fourth, fifth and sixth floors and the second and third basement floor level quantity shall be reduced to 75 percent of this table. The seventh through 10th floor and below the third basement floor level quantity shall be reduced to 50 percent of this table.~~

~~[2] Quantities may be increased 100 percent when stored in approved exhausted gas cabinets, exhausted enclosures or fume hoods.~~

~~TABLE 3416.7(2) EXEMPT AMOUNTS OF HAZARDOUS MATERIALS, LIQUIDS AND CHEMICALS PRESENTING A HEALTH HAZARD MAXIMUM QUANTITIES ER LABORATORY SUITE~~[1]
~~When two units are given, values within parentheses are in pounds (Lbs.)~~

~~MATERIAL~~	~~STORAGE~~			~~USE CLOSED SYSTEMS~~			~~USE OPEN SYSTEMS~~	
	~~Solid Lbs.~~	~~Liquid Gallons (Lbs.)~~	~~Gas Cu. Ft.~~	~~Solid Lbs.~~	~~Liquid Gallons (Lbs.)~~	~~Gas Cu. Ft.~~	~~Solid Lbs.~~	~~Liquid Gallons (Lbs.)~~
~~1. Corrosives~~	~~5,000~~	~~500~~	~~650~~[2]	~~5,000~~	~~500~~	~~650~~	~~1,000~~	~~100~~
~~2a. Highly toxics~~[2]	~~40~~	~~10~~	~~65~~	~~5~~	~~1~~	~~65~~	~~2~~	~~1/4~~
~~2b. Toxics~~	~~500~~	~~50~~	~~650~~[2]	~~500~~	~~50~~	~~650~~	~~5~~	~~1/2~~
~~3. Irritants~~	~~5,000~~	~~500~~	~~650~~	~~5,000~~	~~500~~	~~650~~	~~1,000~~	~~100~~
~~4. Sensitizers~~	~~5,000~~	~~500~~	~~650~~	~~5,000~~	~~500~~	~~650~~	~~1,000~~	~~100~~
~~5. Other health hazards~~	~~5,000~~	~~500~~	~~650~~	~~5,000~~	~~500~~	~~650~~	~~1,000~~	~~100~~

~~[1] A laboratory suite is a space up to 10,000 square feet (929 m2) bounded by not less than a one-hour fire-resistive occupancy separation within which the exempt amounts of hazardous materials may be stored, dispensed, handled or used. Up through the third floor and down through the first basement floor, the quantity in this table shall apply. Fourth, fifth and sixth floors and the second and third basement floor level quantity shall be reduced to 75 percent of this table. The seventh through 10th floor and below the third basement floor level quantity shall be reduced to 50 percent of this table.~~

~~[2] Permitted only when stored or used in approved exhausted gas cabinets, exhausted enclosures or fume hoods. Quantities of high toxics in use in open systems need not be reduced above the third floor or below the first basement floor level. Individual container size shall be limited to 2 pounds (0.91 kg) for solids and 1/4 gallon (0.95 L) for liquids.~~

CHAPTER 35
REFERENCED STANDARDS

This chapter lists the standards that are referenced in various sections of this document. The standards are listed herein by the promulgating agency of the standard, the standard identification, the effective date and title, and the section or

sections of this document that reference the standard. The application of the referenced standards shall be as specified in Sections *1.1.5, 1.1.7 and* 102.4.

ASME American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016-5990

Standard reference number	Title	Referenced in code section number
A17.1/CSA B44 *California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*	Safety Code for Elevators and Escalators	1607.9.1
BPE – 2009	*Bio-processing Equipment Standard*	

ASTM ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Standard reference number	Title	Referenced in code section number
E648–04	*Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source*	*804.4.1, 804.4.2*
E662–09	*Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials*	*804.4.1, 804.4.2*

FM Factory Mutual
Standards Laboratories Department
1151 Boston-Providence Turnpike
Norwood, MA 02062

Standard reference number	Title	Referenced in code section number
3260–00	*Radiant Energy-Sensing Fire Detectors for Automatic Fire Alarm Signaling.*	
3011–99	*Approval Standard for Central Station Service for Fire Alarm and Protective Equipment Supervision*	
4430–80	*Acceptance Criteria for Smoke and Heat Vents*	*910.3.1*

ICC International Code Council, Inc.
500 New Jersey Ave, NW 6th Floor
Washington, DC 20001

Standard reference number	Title	Referenced in code section number
ICC ES AC 331	*Acceptance Criteria for Smoke and Heat Vents*	*910.3.1*

ICC ES AC77	*Acceptance Criteria for Smoke Containment Systems Used with Fire-resistance-rated Elevator Hoistway Doors and Frames*	*707.14.1*
~~ICC/ANSI A117.1—09~~	~~Accessible and Usable Buildings and Facilities~~	~~406.2.2, 907.5.2.3.4, 1007.9, 1010.1, 1010.6.5, 1010.9, 1011.3, 1022.8, 1101.2, 1102.1, 1104.4, 1106.7, 1107.2, 1108.2.2, 1108.2.3, 1108.4.1.1, 1108.4.1.2, 1108.4.1.4, 1108.4.1.5, 1109.1, 1109.2, 1109.2.1.1, 1109.2.2, 1109.2.3, 1109.3, 1109.4, 1109.8, 1109.13, 2902.4, 3001.3, 3008.13.1, 3008.13.2, 3411.6, 3411.8.2, 3411.8.3, E101.2, E104.2, E104.2.1, E104.3, E104.3.4, E105.1, E105.2.1, E105.2.2, E105.3, E105.4, E105.6, E106.2, E106.3, E106.4, E106.4.9, E106.5, E107.2, E107.3, E108.3, E108.4, E109.2.1, E109.2.2.1, E109.2.2.2, E109.2.2.3, E109.2.3, E109.2.5, E109.2.6, E109.2.8, E110.2, E110.4~~
~~IECC—15~~	~~International Energy Conservation Code®~~	~~101.4.6, 1203.3.2, 1301.1.1~~
~~IFC—15~~	~~International Fire Code®~~	~~101.4.5, 102.6, 201.3, 307.1, Table 307.1(1), Table 307.1(2), 307.1.1, 307.2, 403.4.4, 404.2, 406.5.1, 406.6.1, 410.3.6, 411.1, 412.1, 412.6.1, 413.1, 414.1.1, 414.1.2, 414.1.2.1, 414.2, 414.2.5, Table 414.2.5(1), Table 414.2.5(2), 414.3, 414.5, 414.5.1, Table 414.5.1, 414.5.2, 414.5.4, 414.5.5, 414.6, 415.1, 415.2, 415.3, 415.3.1, Table 415.3.1, Table 415.3.2, 415.6, 415.6.1, 415.6.1.4, 415.6.2, 415.6.2.3, 415.6.2.5, 415.6.2.7, 415.6.2.8, 415.6.2.9, 415.6.3, 415.6.4, 415.7, 415.8.1, 415.8.2.7, 415.8.5.1, 415.8.7.2, 415.8.9.3, 415.8.10.1, 416.1, 421.1, 421.7, 507.3, 707.1, 901.2, 901.3, 901.5, 901.6.2, 903.2.7.1,Table 903.2.11.6, 903.2.12 903.5, 904.2.1, 905.1, 905.3.6, 906.1, 907.1.8, 907.2.5, 907.2.13.2, 907.2.15, 907.2.16, 907.6.5, 907.8, 909.20, 910.2.2, 1001.3, 1203.4.2, 1203.5, 2702.1, 2702.2.9, 2702.2.11, 2702.2.12, 2702.2.13, 2702.3, 3102.1, 3103.1, 3309.2, 3401.3, 3412.3.2, 3412.6.8.1, 3412.6.14, 3412.6.14.1~~
~~IFGC—15~~	~~International Fuel Gas Code®~~	~~101.4.1, 201.3, Table 307.1(1), 415.6.3, 2113.11.1.2, 2113.15, 2801.1, 3401.3, A101.2~~
~~IMC—15~~	~~International Mechanical Code®~~	~~101.4.2, 201.3, 307.1, Table 307.1(1), 406.4.2, 406.6.3, 406.6.5, 409.3, 412.6.6, 414.1.2, 414.3, 415.6.1.4, 415.6.2, 415.6.2.8, 415.6.3, 415.6.4, 415.8.11.1, 416.3, 421.5, 603.1, 603.1.1, 603.1.2, 708.2, 716.2.2, 716.5.4, 716.6.1, 716.6.2, 716.6.3, 717.5, 719.1, 719.7, 903.2.11.4, 904.2.1, 904.11, 908.6, 909.1, 909.10.2, 1015.5, 1018.5.1, 1203.1, 1203.2.1, 1203.4.2, 1203.4.2.1, 1203.5, 1209.3, 2304.5, 2801.1, 3004.3.1, 3401.3, 3412.6.7.1, 3412.6.8, 3412.6.8.1, A101.2~~
~~IPC—15~~	~~International Plumbing Code®~~	~~101.4.3, 201.3, 415.6.4, 717.5, 903.3.5, 912.5, 1206.3.3, 1503.4, 1805.4.3, 2901.1, Table 2902.1, 3305.1, 3401.3, A101.2~~
~~IPMC—15~~	~~International Property Maintenance Code®~~	~~101.4.4, 102.6, 103.3, 3401.3, 3412.3.2~~
~~IPSDC—15~~	~~International Private Sewage Disposal Code®~~	~~101.4.3, 2901.1, 3401.3~~
~~IRC—15~~	~~International Residential Code®~~	~~101.2, 308.2, 308.5, 310.1, 2308.1, 3401.3~~
~~IWUIC—15~~	~~International Wildland-Urban Interface Code™~~	~~Table 1505.1~~

NFPA National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02269-9101

Standard reference number	Title	Referenced in code section number

~~10—13~~ ~~Portable Fire Extinguishers~~
11—10 Low- Medium- and High~~*Medium- and High-*~~Expansion Foam
13—13~~*13*~~ nstallation of Sprinkler Systems *as amended** 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 2.2 and add publications as follows:

2.2 NFPA Publications.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, 2013 California* edition.

Revise Section 8.15.1.2.15 as follows:

8.15.1.2.15 Exterior columns under 10 ft^2 (0.93m2) 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, shall not require sprinkler protection.

Revise Section 8.15.5.7 as follows:

8.15.5.7 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 8.15.7.1 as follows:*

8.15.7.1* Unless the requirements of 8.15.7.2 or 8.15.7.3 are met, sprinklers shall be installed under exterior roofs, canopies, porte-cochere, balconies, decks, or similar projections exceeding 4 ft (1.2 m) in width.

Revise Section 8.15.7.2 as follows:*

8.15.7.2* Sprinklers shall be permitted to be omitted where the canopies, roofs, 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*.

Delete Section A.8.15.7.2 of Annex

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^3 (4.5 m^3) 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(4)(d)].*
(3) Concealed spaces over isolated small roofs, or canopies not exceeding 55 ft^2 (5.1

Delete language to section 8.15.7.4 and reserve section number.

8.15.7.4 *Reserved.*

Revise Annex Section A.8.15.7.5 as follows:

A. 8.15.7.5 The presence of planters, newspaper machines and *similar items*, should not be considered storage .

Add new Sections 8.15.7.6 as follows:

8.15.7.6 Sprinklers may be omitted for 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.

Add new Sections 8.16.1.1.1.4 and 8.16.1.1.1.5 as follows:

8.16.1.1.1.4 Where a system includes floor control valves, a hydraulic design information sign containing information for the floor shall be provided at each floor control valve. A hydraulic design information sign shall be provided for each area calculated. 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.

8.16.1.1.1.5 Control valves, check valves, drain valves, antifreeze valves shall be readily accessible for inspection, testing, and maintenance. Valves located more than 7 feet above the finished floor shall be provided with a means of opening and closing the valve from the floor level.

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, as follows:

8.16.1.7 Sectional Valves.

8.16.1.7.1 *P*rivate 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 Sectional control valves are not required when the fire service main system serves less than six fire appurtenances.

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

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

8.16.1.7.2 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.

Add new Section 9.1.3.9.1.1 as follows:
9.1.3.9.1.1 Powder-driven studs used for attaching hangers to the building structure are prohibited in Seismic design Categories C, D, E and F

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 then Schedule 40.*

Replace Section 9.3.5.12.4 as follows:
Lag screws or power-driven fasteners shall not be used to attach braces to the building structure.

Add language to the beginning of Section 9.3.5.12.6 as follows:
9.3.5.12.6 *Fastening methods other than those identified in 9.3.5.9* 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 as follows:*
9.3.5.12.7.2* Concrete anchors other than those shown in Figure 9.3.5.12.1 *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 9.3.6.1(3) as follows:

9.3.6.1(3) No. 12, 440 lb (200 Kg) wire installed at least 45 degrees from the vertical plane and anchored on both sides of the pipe. Powder-driven fasteners for attaching restraint is allowed to be used provided that the restraint component does not support the dead load.*

Revise Section 10.6.4 as follows:

10.6.4 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 10.6.2

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)(i) as follows:

11.2.3.1.4(4)(i) Exterior columns under 10 ft^2 (0.93m2) 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.

Revise Section 11.2.3.2.3.1 as follows:

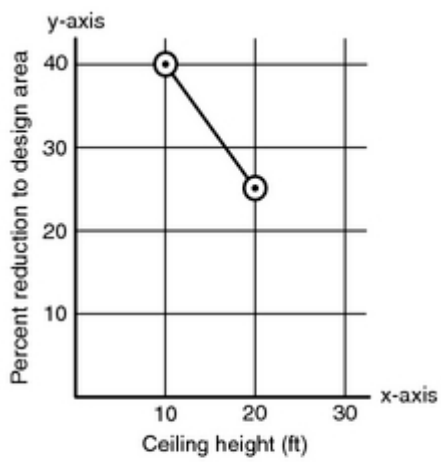
11.2.3.2.3.1 Where listed quick-response sprinklers, excluding extended coverage quick-response sprinklers, are used throughout a system or portion of a system having the same hydraulic design basis, the system area of operation shall be permitted to be reduced without revising the density as indicated in Figure 11.2.3.2.3.1 when all of the following conditions are satisfied:

(1) Wet pipe system

(2) Light hazard occupancy

(3) 20 ft (6.1 m) maximum ceiling height

(4) There are no unprotected ceiling pockets as allowed by 8.6.7 and 8.8.7 exceeding 32 ft^2 (3 m^2)



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

For ceiling height ≥ 10 ft and ≤ 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.

Revise Section 11.2.3.2.3.2 as follows:

11.2.3.2.3.2 The number of sprinklers in the design area shall never be less than *seven.*

Revise Section 12.1.1.2 as follows:
12.1.1.2 Early suppression fast-response (ESFR) sprinklers shall not be used in buildings with automatic heat or smoke vents unless the vents use a standard-response operating mechanism *with a minimum temperature rating of 360ºF (182ºC) or 100ºF (56ºC) above the operating temperature of the sprinklers, whichever is higher*.

Add Section 25.1(5)
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 ~~24.2~~25.2)*
(3) Complete and sign the appropriate contractor's material and test certificate(s) *(see Figure ~~24.1~~25.1)*
(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 Section 25.5.1 as follows:
25.5.1 "*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(3) and Add Sections 25.5.2(7) to (14) as follows:
25.5.2 The sign shall include the following information:
(3) Required flow and pressure of the system at the base of the riser
(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 *California Edition* NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*.

13D—13~~13~~ 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 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.

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.

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 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 Section ~~8.4~~*8.4.1* as follows:
8.4.1 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—13~~13~~ 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:*

Revise Section 2.2 and add publications as follows:
2.2 NFPA Publications.
NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, 2013 California* edition.

Add new Sections 6.6.9 as follows:
6.6.9 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.

Revise Section 11.4 as follows:
11.4 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 and Title 19, California Code of Regulations, Chapter 5.
(3) Once the system is accepted by the authority having jurisdiction a label as prescribed by Title 19, California Code of Regulations, Chapter 5, shall be affixed to each system riser.

14—13~~13~~ Installation of Standpipe and Hose System, *as amended**……..……905.2, 905.3.4, 905.4.2, 905.8

**NFPA 14, Amended Sections as follows:*

Replace Section 6.3.7.1

6.3.7.1 System water supply valves, isolation control valves, and other valves in fire mains shall be supervised in an approved manner in the open position by one of the following methods:
(1) Where a building has a fire alarm system or a sprinkler monitoring system installed, the valve shall be supervised by:
(a) a central station, proprietary, or remote supervising station, or
(b) a local signaling service that initiates an audible signal at a constantly attended location.
(2) Where a building does not have a fire alarm system or a sprinkler monitoring system installed, the valve shall be supervised by:
(a) Locking the valves in the open position, or
(b) Sealing of valves and a approved weekly recorded inspection where valves are located within fenced enclosures under the control of the owner.

20—13 ~~13~~ Installation of Stationary Pumps for Fire……913.1, 913.2.1, 913.5, 913.6
22—13 ~~13~~ *Water Tanks for Private Fire Protection*
24—13 ~~13~~ *Installation of Private Fire Service Mains and Their Appurtenances*, *as amended** ……..

**NFPA 24, Amended Sections as follows:*

Amend Section 4.2.1
Section 4.2.1. Installation work shall be done by fully experienced and responsible *contractors. Contractors shall be appropriately licensed in the State of California to install private fire service mains and their appurtenances.*

Revise Section 4.2.2 as follows:
4.2.2 *Installation or modification of private fire service mains shall not begin until plans are approved and appropriate permits secured from* the authority having jurisdiction.

Add Section 4.2.2.1 as follows:
4.2.2.1 *As approved by the authority having jurisdiction, emergency repair of existing system may start immediately, with plans being submitted to the authority having jurisdiction within 96 hours from the start of the repair work.*

Revise Section 5.9.1.2 as follows:
Section 5.9.1.2 Fire department connections shall be properly supported *and protected from mechanical damage.*

Revise Section 5.9.5.1 as follows:
5.9.5.1 Fire department connections shall be on the street side of buildings and *as approved by the authority having jurisdiction.*

Revise Section 6.5.1 as follows:
6.5.1 *P*rivate fire service main systems shall have sectional control~~ling~~ 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.

Add Section 6.5.2.1 – ~~6.5.2.3~~ 6.5.2.4
6.5.2.1 Sectional control valves are not required when the fire service main system serves less than six fire appurtenances.

6.5.2.2 Sectional control valves shall be indicating valves in accordance with NFPA 13 Section 6.7.1.3.

6.5.2.3 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.

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

Revise Section 6.6.2 as follows:
6.6.2 A sectional valve shall be provided at the following locations:
(1) On each bank where a main crosses *a body of* water
(2) Outside the building foundation(s) where a main or a section of a main runs under a building

Revise Section 10.6.5 as follows:
10.6.5 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 10.6.2
2. Alternate designs may be utilized where designed by a registered professional engineer and approved by the enforcing agency.

Revise Section 10.9.1 as follows:
10.9.1 Backfill shall be well tamped in layers or puddle under and around pipes to prevent settlement or lateral movement. Backfill shall consist of clean fill sand or pea gravel to a minimum 6" below and to a minimum of 12" above the pipe *and shall contain no ashes, cinders, refuse, organic matter, or other corrosive materials. Other backfill materials and methods are permitted where designed by a registered professional engineer and approved by the enforcing agency.*

25—*13* CA — *California NFPA 25 Edition (Based on the 2013Edition)*
Inspection, Testing and Maintenance of Water-based Fire Protection Systems . . . . . .507.5.3, Table 901.6.1, 904.7.1, 912.6, 913.5, I101.1

31—11 ~~*11*~~ — Installation of Oil-burning Equipment
32—11 — Dry Cleaning Plants. *as amended** 2*101.1.1, 21*07.1, 2107.3

**NFPA 32, Amended Sections as follows:*

Delete the following publications from Section 2.2:

2.2 NFPA Publications.
NFPA 10, *Standard for Portable Fire Extinguishers,* 2010 edition.
NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems,* 2011 edition.
NFPA 70, *National Electrical Code®,* 2011 edition.
NFPA *101®*, *Life Safety Code®,* 2009 edition.
NFPA 5000®, *Building Construction and Safety Code®,* 2009 edition.

Revise 4.4.1.1 to read as follows:

4.4.1.1 General building and structure design and construction shall be in accordance with *California Building Code*.

Delete language to section 4.4.1.2 and 4.4.1.3 and reserve section numbers.

4.4.1.2 Reserved

4.4.1.3 Reserved

Revise 4.4.4 to read as follows:

4.4.4 Means of Egress. Means of egress shall conform with the provisions of *the California Building Code*.

Revise 4.6.2 to read as follows:

4.6.2 Automatic Sprinkler Systems. Where required by this standard, automatic sprinkler systems shall be installed in accordance with NFPA 13, *Standard for the Installation of Sprinkler Systems*, and periodically inspected, tested, and

maintained in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5*.

Revise 4.6.4 to read as follows:

4.6.4 Portable Fire Extinguishers. Suitable numbers and types of portable fire extinguishers shall be installed and maintained throughout the drycleaning plant in accordance *California Code of Regulations, Title 19, Division 1, Chapter 3*.

Revise 7.3.2 to read as follows:

7.3.2 Electrical Installations. Electrical equipment and wiring in a Type II drycleaning room shall comply with the provisions of *California Electrical Code*, for use in Class I, Division 2 hazardous locations.

37—~~10~~15 *Installation and Use of Stationary Combustion Engines and Gas Turbines*
52—13 *~~13~~* Vehicular Gaseous Fuel System Code
54—~~12~~15 *National Fuel Gas Code*
61—13 *~~13~~* Prevention of Fires and Dust Explosions in Agricultural and Food Product
72—13 *~~13~~* 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:*

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.*

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.

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.

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.

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.

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.*

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.*

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.*

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.

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 40ºF (4ºC) or exceed 100ºF (38ºC).
(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) Installation near bathrooms. Smoke alarms shall be installed not less than a 3-foot (0.91 m) horizontal distance from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by other sections of the code.
(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.

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

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.

Exception to 29.5.2.1.1 not adopted by the SFM

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

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

80—13 ~~*13*~~ Fire Doors and Other Opening Protectives

[Editors Note: Repeal CA amendment adopting NFPA 92. The model code now adopts it.]

92—15 Standard for Smoke Control Systems
~~*92—12*~~ ~~*Standard for Smoke Control Systems*~~

99—15~~*12*~~ Health Care Facilities Code
101-15~~*12*~~ Life Safety Code …….....…… 1028.6.2
105—13 ~~*13*~~ Installation of Smoke Door Assemblies and Other Opening Protectives
110—13 ~~*13*~~ Emergency and Standby Power Systems
111—13 ~~*13*~~ Stored Electrical Energy Emergency and Standby Power Systems
120—15 Fire Prevention and Control in Coal Mines ~~*Fire Prevention and Control in Coal Mines*~~
211—13~~*13*~~ Chimneys, Fireplaces, Vents and Solid Fuel-burning Appliances
259—13 ~~*13*~~ Test Method for Potential Heat of Building Materials
275—13 ~~*13*~~ Standard Method of Fire Tests for the Evaluation of Thermal Barriers Used Over Foam Plastic Insulation
285—12 ~~*12*~~ Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Nonload-Bearing Wall Assemblies Containing Combustible Components
288—12 Standard Method of Fire Tests of Horizontal~~*Horizontal*~~ Fire Door Assemblies Installed in Horizontal~~*Horizontal*~~ Fire-resistance-rated Assemblies~~*Assemblies*~~
289—13 ~~*13*~~ Standard Method of Fire Test for Individual Fuel Packages
409—11 ~~*11*~~ Aircraft Hangars
502 – 14 *Standard for Road Tunnels, Bridges, and Other Limited Access Highways*
654—13 ~~*13*~~ Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids
720—15 ~~*12*~~ Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment
1124—~~06~~ *13* Manufacture, Transportation, Storage and Retail Sales of Fireworks and Pyrotechnic Articles
2001 — 15~~*12*~~ Clean Agent Fire Extinguishing Systems *as amended**. . . . . .Table 901.6.1, 904.10

**NFPA 2001, Amended Sections as follows:*

<u>Add Section 4.3.5.1.1 and 4.3.5.2.1 to read as follows:</u>

4.3.5.1.1 Alarms signals from the fire extinguishing system shall not interfere with the building fire alarm signal.

4.3.5.2.1. The lens on visual appliances shall be "red" in color.
Exception: Other lens colors are permitted where approved by the enforcing agency.

SFM

State of California
Department of Forestry and Fire Protection
Office of the State Fire Marshal
P.O. Box 944246
Sacramento, CA 94246-2460

Standard reference number	Title	Referenced in code section number
SFM 12-3	*Releasing Systems for Security Bars in Dwellings*	
SFM 12-7-3	*Fire-testing Furnaces*	
SFM 12-7A-1	*Exterior Wall Siding and Sheathing*	
SFM 12-7A-2	*Exterior Window*	
SFM 12-7A-3	*Under Eave*	
SFM 12-7A-4	*Decking*	
SFM 12-7A-4A	*Decking Alternate Method A*	
SFM 12-7A-5	*Ignition Resistant Building Material*	
SFM 12-8-100	*Room Fire Tests for Wall and Ceiling Materials*	
SFM 12-10-1	*Power Operated Exit Doors*	
SFM 12-10-2	*Single Point Latching or Locking Devices*	
SFM 12-10-3	*Emergency Exit and Panic Hardware*	

(The Office of the State Fire Marshal standards referred to above are found in the California Code of Regulations, Title 24, Part 12.)

UBC

International Code Council, Inc.
500 New Jersey Avenue, NW 6th Floor
Washington, DC 20001

Standard reference number	Title	Referenced in code section number
UBC Standard 15-2	*Test Standard for determining the Fire Retardancy of Roof-covering Materials……..…..*	*1505.6*
UBC Standard 15-3	*Wood Shakes……..……..……..……..……*	*1505.6*
UBC Standard 15-4	*Wood Shingles……*	*1505.6*

UL

Underwriters Laboratories, Inc.
333 Pfingsten Road
Northbrook, IL 60062-2096

Standard Reference number	Title	Referenced in code section number
13-96	*Power-limited Circuit Cables*	
38-99	*Manually Actuated Signaling Boxes—with Revisions through February 2, 2005 as amended.**	

**Amend Section 14.1.5 as follows:*
14.1.5 A signaling box having a glass panel, disc, rod or similar part that must be broken to operate it for a signal or for access to its actuating means shall satisfactorily complete five part-breaking operations using the means provided with the box, without jamming of the mechanism or other interference by broken particles. It shall be practicable to remove and replace the broken parts. A signaling box shall not have a glass panel, disc, rod or similar part requiring a striking action by grasping a tool to operate it for a signal. The force required to activate controls shall be no greater than 5 pounds (22 N) of force.
**Add Appendix B chapter to UL 38 (1999) as follows:*
Appendix B,

14.1.5 Operation. Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist.

193-04	*Alarm Valves for Fire-Protection Service*
199-95	*Automatic Sprinklers for Fire Protection Service—with Revisions through August 19, 2005*
217-06	Single and Multiple Station Smoke Alarms……907.2.11
228-97	*Door Closers/Holders, with or without Integral Smoke Detectors—with Revisions through January 26, 2006*
260-04	*Dry Pipe and Deluge Valves for Fire Protection Service*
262-04	*Gate Valves for Fire Protection Service*
268A-98	*Smoke Detectors for Duct Application—with Revisions through October 22, 2003*
312-04	*Check Valves for Fire-Protection Service*
346-05	*Waterflow Indicators for Fire Protective Signaling Systems*
464-03	*Audible Signal Appliances—with Revisions through October 10, 2003*
497B-04	*Protectors for Data Communication and Fire Alarm Circuits*
521-99	*Heat Detectors for Fire Protective Signaling Systems—with Revisions through July 20, 2005*
539-00	*Single- and Multiple-Station Heat Detectors—with Revisions through August 15, 2005*
632-00	*Electrically Actuated Transmitters*
753-04	*Alarm Accessories for Automatic Water Supply Valves for Fire Protection Service*
813-96	*Commercial Audio Equipment—with Revisions through December 7, 1999*
864-03	*Control Units for Fire Protective Signaling Systems, as amended*—with Revisions through February 2010 . . . . . 909.12*

**Amend No. 55.1 as follows:*
RETARD-RESET-RESTART PERIOD – MAXIMUM 30 SECONDS —No alarm obtained from control unit. Maximum permissible time is 30 seconds.
**Amend Section 55.2.2 as follows:*
Where an alarm verification feature is provided, the maximum retard-reset-restart period before an alarm signal can be confirmed and indicated at the control unit, including any control unit reset time and the power-up time for the detector to become operational
for alarm, shall not exceed 30 seconds. (The balance of the section text is to remain unchanged).
*Add Section 55.2.9 as follows:
Smoke detectors connected to an alarm verification feature shall not be used as releasing devices.
Exception: Smoke detectors which operate their releasing function immediately upon alarm actuation independent of alarm verification feature.
**Amend Section 89.1.10 as follows:*
The existing text of this section is to remain as printed with one editorial amendment as follows:
THE TOTAL DELAY (CONTROL UNIT PLUS SMOKE DETECTORS) SHALL NOT EXCEED 30 SECONDS.
(The balance of the section text is to remain unchanged).

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 17921, 18949.2, Government Code Section 51189
References: Health and Safety Code Sections 13143, 18949.2, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204