# FINAL EXPRESS TERMS FOR PROPOSED BUILDING STANDARDS OF THE STATE FIRE MARSHAL REGARDING THE 2022 CALIFORNIA BUILDING CODE, CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2

# (SFM 04/21)

The State agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific (Government Code Section 11346.2(a)(1)).

If using assistive technology, please adjust your settings to recognize underline, strikeout, italic and ellipsis.

## LEGEND for EXPRESS TERMS (Based on model codes - Parts 2, 2.5, 3, 4, 5, 9, 10)

* Model Code language appears upright
* Existing California amendments appear in *italic*
* Amended model code or new California amendments appear *underlined & italic*
* Repealed model code language appears ~~upright and in strikeout~~
* Repealed California amendments appear in *~~italic and strikeout~~*
* Ellipsis ( ...) indicate existing text remains unchanged

The Office of the State Fire Marshal (SFM) proposes to adopt the 2021 edition of the International Building Code (IBC) into the 2022 edition of the California Building Code (CBC). SFM further proposes to:

Repeal the adoption by reference of the 2018 International Building Code and incorporate and adopt by reference in its place the 2021 International Building Code for application and effectiveness in the 2022 California Building Code.

Repeal certain amendments to the 2018 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 2021 International Building Code that address inadequacies of the 2021 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 2019 California Building Standards Code.

Codify non-substantive editorial and formatting amendments from the format based upon the 2018 International Building Code to the format of the 2021 International Building Code.

# FINAL EXPRESS TERMS

***CHAPTER 1***

***SCOPE AND ADMINISTRATION***

***DIVISION I***

***CALIFORNIA ADMINISTRATION***

# Item 1-1 Chapter 1, *SCOPE AND ADMINISTRATION, DIVISION I, CALIFORNIA ADMINISTRATION*, Section *1.1* through *1.1.12 GENERAL*

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

# Item 1-2 Chapter 1, *SCOPE AND ADMINISTRATION, DIVISION I, CALIFORNIA ADMINISTRATION*, Section *1.1.1 Title*

***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 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 ~~2018~~ 2021 International Building Code of the International Code Council (ICC) with necessary California amendments.*

# Item 1-3 Chapter 1, *SCOPE AND ADMINISTRATION, DIVISION I, CALIFORNIA ADMINISTRATION*, Section *1.11* through *1.11.11 OFFICE OF THE STATE FIRE MARSHAL*

[The SFM is proposing to carry forward existing California provisions contained in Sections 1.11 through 1.11.11 with amendments as shown below.]

# Item 1-4 Chapter 1, Scope and Administration, Division I, California Administration, Section 1.11.1 SFM-Office of the State Fire Marshal

[The SFM is proposing to add a definition of Specified State-Occupied.]

***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:***

***…***

***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 specified state-occupied building****.*

***Specified state-occupied buildings.*** *Any building, structure or area which meets the criteria of any of the following:*

*1. A building where the state has contracted into a build-to-suit lease.*

*2. A courthouse holding facility or trial court with a detention area.*

*3. A building used by the Department of Corrections and Rehabilitation CDCR) as a community correctional reentry center.*

*4. 100% state occupied.*

*5. State occupied areas in a state leased building that is a high-rise and is 75 percent of the net area floor space or more occupied by state entities.*

*6. State occupied areas in a building that contains 5,000 square feet or more space of state leased Group H or Group L occupancy.*

*7. A state leased building with facilities* *with the primary purpose of housing state records* *and/ or state artifacts of historical significance.*

*8. Properties leased by California State University (CSU) or University of California (UC).*

*9. State institutions and their real property.*

*10. CAL FIRE occupied areas in leased buildings.*

*11. State leased facilities where governing body’s fire protection services rely on an all-volunteer fire department.*

*Except as provided in items 1 through 9, buildings shall become the responsibility of the local jurisdiction.*

***Authority -*** *Health and Safety Code Sections 13108, 13145, 13146, 16022.5 and 17921.*

***Reference -*** *Health and Safety Code Sections 13108, 13143, 13145, 13146, 16022.5 and 17921.*

**…**

# Item 1-5 Chapter 1, Scope and Administration, Division I, California Administration, Section 1.11.4.4 Fire Clearance Preinspection

***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 may be charged for a preinspection of a facility with a capacity to serve 26 or more persons.~~*

# Item 1-6 Chapter 1, Scope and Administration, Division I, California Administration, Section 1.11.4.5 Care Facilities

***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 the preinspection of a facility. ~~with a capacity to serve 25 or less clients. A fee equal to, but~~*

*~~not exceeding, the actual cost of the preinspection may becharged for a preinspection of a facility with a capacity toserve 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.*

# Item 1-7 Chapter 1, Scope and Administration, Division I, California Administration, Section 1.11.6 Certificate of Occupancy

***1.11.6 Certificate of Occupancy.*** *A Certificate of Occupancy shall be issued as specified in Title 24, Part 2, California Building Code, Section 111.*

***Exception:*** *~~Group R, Division 3 and Group U occupancies.~~ Certificates of occupancy are not required for work exempt from permits in accordance with Section 105.2 of the California Building Code.*

# Item 1-8 Chapter 1, Scope and Administration, Division I, California Administration, Section 1.11.11 Adopting Agency Identification

***1.11.11 Adopting Agency Identification.*** *The provisions of this code applicable to buildings identified in this Section 1.11 will be identified in the Matrix Adoption Tables under the acronym SFM.*

***CHAPTER 1***

***ADMINISTRATION***

***DIVISION II***

**ADMINISTRATION**

# Item 1-9 Chapter 1, Administration, Division II, Administration

[The SFM proposes to only adopt Sections 105.2.1, 105.3 – 105.3.1, 105.4, 105.6 – 105.7, 106.1– 106.3, 107.1 – 107.3, 107.4, 108.1 – 108.3, 110.1 – 110.3, 110.3.4 – 110.3.7, 110.3.9 – 110.3.11, 110.4 – 110.6, 111.1– 111.4, 112, 114.1 – 114.2, 115 and 116 contained in the 2018 IBC Chapter 1.]

# Item 1-10 Chapter 1, Administration, Division II, Administration, Section 105.2 Work exempt from permit

[The SFM is proposing to modify section 105.2 based on proposed changes in Chapter 7A, Section 710A for accessory building and structures.]

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

**Building:**

1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided that the floor area ~~is~~ *does* not ~~greater than~~ *exceed* 120 square feet (11.*15* m2). *It is permissible that these structures still be regulated by Section 710A, despite exemption from permit.*

(2 through 13 text remain unchanged) …

# Item 1-11 Chapter 1, Administration, Division II, Administration, Section 110.3.12 Type IV-A, IV-B, and IV-C connection protection inspection

[The SFM is proposing to repeal and replace with model code language.]

***~~110.3.12 Type IV-A. IV-B. and IV-C connection protection Inspection~~****~~.~~**~~In buildings of Type IV-A, IV-B and IV-C Construction, where connection fire resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.1 inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.~~*

**[A] 110.3.5 Types IV-A, IV-B and IV-C connection protection inspection.**

In buildings of Types IV-A, IV-B and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.2, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 2**

**DEFINITIONS**

# Item 2-1 Chapter 2, Definitions

[The SFM proposes to adopt Chapter 2 and carry forward existing amendments.]

# Item 2-2 Chapter 2, Section 202 General Definitions, Capacitor Energy Storage System

[The SFM proposes to adopt model code language for Capacitor Energy Storage System.]

**CAPACITOR ENERGY STORAGE SYSTEM (Capacitor ESS).** A stationary, rechargeable energy storage system consisting of capacitors, chargers, controls and associated electrical equipment designed to provide electrical power to a building or facility. The system is typically used to provide standby or emergency power, an uninterruptable power supply, load shedding, load sharing or similar capabilities.

# Item 2-3 Chapter 2, Section 202 General Definitions, Child Care

[The SFM is proposing a definition for Child Care.]

*CHILD CARE* For the purposes of these regulations, means the care of children during any period of a 24-hour day where permanent sleeping accommodations are not provided. The time-period shall not be more than 24-hours. Note: “Child care” 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.

# Item 2-4 Chapter 2, Section 202 General Definitions, Day-Care

[The SFM proposes to amend the definition of Day-Care.]

***DAY-CARE.*** *For the purposes of these regulations, shall mean the care of persons during any period of a 24-hour day where permanent sleeping accommodations are not provided. The time-period shall not be more than 24-hours.*

***Note:*** *“Day-care” 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.*

# Item 2-5 Chapter 2, Section 202 General Definitions, Energy Storage System, Electrochemical

[The SFM proposes to repeal California amendments and replace with model code language.]

**ENERGY STORAGE SYSTEM, ELECTROCHEMICAL**. An energy storage system that stores energy and produces electricity using chemical reactions. It includes, among others, battery ESS and capacitor ESS.

***~~ENERGY STORAGE SYSTEM, ELECTROCHEMICAL.~~*** *~~An energy storage system that stores energy and produces electricity using chemical reactions. It includes, among~~*

*~~others, battery ESS and capacitor ESS.~~*

# Item 2-6 Chapter 2, Section 202 General Definitions, Inflatable Amusement Device

[The SFM proposes a new definition.]

***INFLATABLE AMUSEMENT DEVICE.*** *A device made of flexible fabric or other combustible materials that is inflated by one or more air-blowers providing internal air pressure to maintain its shape. Such a device is designed for recreational activities that allow occupants to bounce, climb, slide, negotiate an obstacle course or participate in interactive play.*

# Item 2-7 Chapter 2, Section 202 General Definitions, Large-Scale Fire Testing

[WITHDRAWN]

# Item 2-7.1 Chapter 2, Section 202 General Definitions, Mass Timber

[The SFM proposes to repeal and replace with model code language.]

*~~MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.~~*

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

# Item 2-7.2 Chapter 2, Section 202 General Definitions, Mechanical Access Enclosed Parking Garage

[The SFM proposes to repeal and replace with model code language.]

***~~MECHANICAL-ACCESS ENCLOSED PARKING GARAGE~~*** *~~An enclosed parking garage which employs parking machines, lifts, elevators or other mechanical devices for vehicle moving from and to street level and in which public occupancy in the garage is prohibited in all areas except the vehicle access bay.~~*

**MECHANICAL-ACCESS ENCLOSED PARKING GARAGE** An enclosed parking garage which employs parking machines, lifts, elevators, or other mechanical devices for vehicle moving from and to street level and in which public occupancy in the garage is prohibited in all areas except the vehicle access bay.

# Item 2-7.3 Chapter 2, Section 202 General Definitions, Noncombustible protection (for Mass Timber)

[The SFM proposes to repeal and replace with model code language.]

***~~NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER).~~*** *~~Noncombustible material, in accordance with Section 703.5, designed to increase the fire resistance rating and delay the combustion of mass timber.~~*

**NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER).** Noncombustible material, in accordance with Section 703.6, designed to increase the fire resistance rating and delay the combustion of mass timber.

# Item 2-8 Chapter 2, Section 202 General Definitions, Photovoltaic (PV) Panel System, Ground-Mounted

[The SFM proposes a new definition.]

***Photovoltaic (PV) Panel System, Ground-Mounted.*** *An independent photovoltaic (PV) panel system without useable space underneath, installed directly on the ground.*

# Item 2-9 Chapter 2, Section 202 General Definitions, Photovoltaic (PV) Support Structure Elevated

[The SFM proposes a new definition.]

***Photovoltaic (PV) Support Structure, Elevated.*** *An independent photovoltaic (PV) panel support structure designed with useable space underneath with minimum clear height of 7 feet 6 inches (2286 mm), intended for secondary use such as providing shade or parking of motor vehicles.*

# Item 2-9.1 Chapter 2, Section 202 General Definitions, Puzzle Room

[The SFM proposes to repeal and replace with model code language.]

***~~PUZZLE ROOM~~*** *~~A puzzle room is a type of special amusement area in which occupants are encouraged to solve a challenge to escape from a room or series of rooms.~~*

**PUZZLE ROOM** A puzzle room is a type of special amusement area in which occupants are encouraged to solve a challenge to escape from a room or series of rooms.

# Item 2-9.2 Chapter 2, Section 202 General Definitions, Special Amusement Area

[The SFM proposes to repeal and replace with select model code language, the additional California amendments with remain unchanged.]

**~~[BG]~~ SPECIAL AMUSEMENT *~~AREA~~*~~.~~AREA.** A special amusement *~~area~~* area is any temporary or permanent building or portion thereof that is occupied for amusement, entertainment or educational purposes and *~~is arranged in a manner that:~~* is arranged in a manner that:

1. *~~Makes the means of egress path that is not readily apparent due to visual and audio distractions, or~~*
2. Makes the means of egress path that is not readily apparent due to visual and audio distractions, *or*
3. *~~Intentionally confounds identification of the means of egress path, or~~*
4. Intentionally confounds identification of the means of egress path, *or*
5. *~~Otherwise makes the means of egress path not readily available because of the nature of the attraction or mode of conveyance through the special amusement area, building, structure or portion thereof.~~*
6. Otherwise makes the means of egress path not readily available because of the nature of the attraction or mode of conveyance through *the special amusement area,* building, structure, *or portion thereof.*

# Item 2-10 Chapter 2, Section 202 General Definitions, Toddler

[The SFM proposes a new definition.]

***Toddler.*** *Any child between 18 months to 36 months of age.*

# Item 2-11 Chapter 2, Section 202 General Definitions, Wall, Load-bearing

[The SFM proposes repeal and replace with model code language.]

WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any masonry or concrete *~~or mass timber~~* or mass timber wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 3**

**OCCUPANCY CLASSIFICATION AND USE**

# Item 3-1 Chapter 3, Occupancy Classification and Use

[The SFM proposes to adopt Chapter 3 and carry forward existing amendments.]

**SECTION 304**

**BUSINESS GROUP B**

# Item 3-2 Chapter 3, Occupancy Classification and Use, Section 304.1 Business Group B

[The SFM proposes to add the title of Group i-2.1 and delete model code language for higher education laboratories.]

**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:

…

Ambulatory care facilities *serving five or fewer patients*

*(see Section 308.3.3, Institutional Group I-2.1 for facilities serving more than five patients)*

…

Educational occupancies for students above the 12th grade~~, including higher education laboratories.~~

…

# Item 3-3 Chapter 3, Occupancy Classification and Use, Section 304.4 Higher education laboratories

[The SFM proposes to delete model code language for higher education laboratories.]

**~~304.4 Higher education laboratories.~~** ~~Higher education laboratories shall comply with Section 428 of the International Building Code.~~

**SECTION 305**

**EDUCATIONAL GROUP E**

# Item 3-4 Chapter 3, Occupancy Classification and Use, Section 305.2 Educational Group, Section 305.2 and 305.2.1 Group E child care facilities

[The SFM proposes to amend the definition for day care facilities.]

**305.2 Group E, ~~day~~ *child care* facilities.** This group includes buildings and structures, or portions thereof occupied by more than *six* children ~~2 years~~ *36 months* of age *and* *older* who receive educational, supervision or personal care services for ~~less~~ *fewer* than 24 hours per day.

***Exception: [SFM]*** *A ~~Day care~~ child care facility not otherwise classified as ~~an~~ a Group 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. A maximum of five* *infants and toddlers are allowed in a Group E child care.*

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

**SECTION 306**

**FACTORY GROUP F**

# Item 3-5 Chapter 3, Occupancy Classification and Use, Section 306 Factory Group F, Factory Industrial F-1 Moderate-hazard occupancy

[The SFM proposes to repeal California amendments and replace with model code language.]

**306.2 Moderate-hazard factory industrial, Group F-1.**

(other examples remain unchanged)

Energy storage systems (ESS) in dedicated-use buildings

*~~Energy storage systems (ESS) in dedicated-use buildings~~*

**SECTION 308**

**INSTITUTIONAL GROUP I**

# Item 3-6 Chapter 3, Occupancy Classification and Use, Section 308 Instituional Group I, Institional Group I-2.1

[The SFM proposes to modify the California amendment for Group I-2.1. The use of ambulatory health care facility is incorrect. Ambulatory health care facility would be classified as an occupancy Group B.]

***308.3.3 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.*

# Item 3-7 Chapter 3, Occupancy Classification and Use, Section 308 Institutional Group I, Section 308.5 Institutional Group I-4, day care facilities and Section 308.5.1 Classification as Group E

[The SFM proposes to amend the definition for Group 1-4. SFM is proposing to delete subsections of Group I-4 for classification as a Group E and any Special Provisions.]

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

Adult day care

Child ~~day~~ care *(not classified as a Group E)*

**~~308.5.1 Classification as Group E.~~** ~~A child day care facility that provides care for more than five but not more than 100 children~~ *~~under 2 years 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.~~

***~~Special provisions.~~*** *~~See Section 452.1.4 of the California Building Code for day care locations above or below the first story.~~*

**SECTION 310**

**RESIDENTIAL GROUP R**

# Item 3-8 Chapter 3, Occupancy Classification and Use, Section 310 Residential Group R, Section 310.3 Residential Group R-2

[The SFM proposes to amend the definition for Group R-2.]

**310.3 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

*Large family child care*

*Small family child care*

~~Congregate living facilities (nontransient) with more than 16 occupants~~

*Congregate residences* (nontransient) with more than 16 occupants

Boarding houses (nontransient)

Convents

Dormitories

Fraternities and sororities

Monasteries

Hotels (nontransient)

Live/work units

Motels (nontransient)

Vacation timeshare properties

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 4**

**SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE**

# Item 4-1 Chapter 4, Special Detailed Requirements Based On Occupancy And Use

[The SFM proposes to adopt Chapter 4 and carry forward existing amendments with modifications as shown below.]

**SECTION 401**

**GENERAL**

# Item 4-2 Chapter 4, Special Detailed Requirements Based on Use and Occupancy,Section 401.9 Evacuation of buildings.

[The proposal is to expand the needs to evacuate a building based on additional emergency situations.]

***401.9 Evacuation of buildings.*** *Upon notification of fire, conduct of any fire drill, upon activation of the fire alarm, other emergency conditions, or upon orders of the fire authority having jurisdiction, buildings or structures within the scope of these regulations shall be immediately evacuated or occupants shall be relocated in accordance with established plans.*

**SECTION 403**

**HIGH-RISE BUILDINGS**

# Item 4-3 Chapter 4, Special Detailed Requirements Based on Use and Occupancy,Section 403.4.8.1 Equipment room

[In accordance with California Building Code Section 308.3, conditions for Group I-2 are not used in California.]

[Related Sections in Part 2, California Building Code 308.3, 707, 711]

**[F] 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.

**SECTION 406**

**MOTOR-VEHICLE-RELATED OCCUPANCIES**

# Item 4-3.1 Chapter 4, Special Detailed Requirements Based on Use and Occupancy, Section 406.6.4- 406.4.4 Mechcanical-access garages

[The SFM proposes to repeal and replace with select model code language. The California amendments that were approved in the 2019 Intervening Code Cycle will remain unchanged.]

***~~406.6.4 Mechanical-access garages.~~*** *~~Mechanical-access enclosed parking garages shall be in accordance with Sections 406.6.4.1 through 406.6.4.4.~~*

***~~406.6.4.1 Separation.~~*** *~~Mechanical-access enclosed parking garages shall be separated from other occupancies and accessory uses by not less than 2-hour fire barriers constructed in accordance with Section 707 or by not less than 2- hour horizontal assemblies constructed in accordance with Section 711, or both. Refer to Table 508.4 for additional requirements.~~*

***~~406.6.4.2 Smoke removal.~~*** *~~A mechanical smoke removal system, in accordance with Section 910.4, shall be provided for all areas containing a mechanical-access enclosed parking garage.~~*

***~~406.6.4.3 Fire control equipment room.~~*** *~~The fire control equipment, consisting of the fire alarm control unit, mechanical ventilation controls and emergency shut down switch shall be provided in a room located where the equipment is able to be accessed by the fire service from a secured exterior door of a building. The room shall be a minimum of 50 square feet in size and shall be in a location that is approved by the fire code official.~~*

**406.6.4 Mechanical-access garages.** Mechanical-access enclosed parking garages shall be in accordance with Sections 406.6.4.1 through 406.6.4.4.

**406.6.4.1 Separation.** Mechanical-access enclosed parking garages shall be separated from other occupancies and accessory uses by not less than 2-hour fire barriers constructed in accordance with Section 707 or by not less than 2- hour horizontal assemblies constructed in accordance with Section 711, or both. *Refer to Table 508.4 for additional requirements.*

**406.6.4.2 Smoke removal.** A mechanical smoke removal system, in accordance with Section 910.4, shall be provided for all areas containing a mechanical-access enclosed parking garage.

**406.6.4.3 Fire control equipment room.** The fire control equipment, consisting of the fire alarm control unit, mechanical ventilation controls and emergency shut down switch shall be provided in a room located where the equipment is able to be accessed by the fire service from a secured exterior door of a building. The room shall be a minimum of 50 square feet in size and shall be in a location that is approved by the fire code official.

***Exception:*** *Fire control equipment room shall not be required when there is a fire command center provided in compliance with Section 911 of this code.*

***~~406.6.4.3.1 Emergency shut down disconnect.~~*** *~~The mechanical parking system shall be provided with a manually activated emergency shutdown disconnect for use by emergency personnel. The disconnect shall be clearly identified and shall be in a location approved by the fire code official.~~*

***~~406.6.4.4 Fire department access doors.~~*** *~~Access doors shall be provided in accordance with Section 3206.7 of the California Fire Code.~~*

**406.6.4.3.1 Emergency shut down disconnect.** The mechanical parking system shall be provided with a manually activated emergency shutdown disconnect for use by emergency personnel. The disconnect shall be clearly identified and shall be in a location approved by the fire code official.

**406.6.4.4 Fire department access doors.** Access doors shall be provided in accordance with Section 3206.7 of the California Fire Code.

**SECTION 407**

**GROUP I-2 *AND GROUP I-2.1***

# Item 4-4 Chapter 4, Special Detailed Requirements Based on Use and Occupancy,Section 407.2 Corridors continuity and separtation

[SFM proposes and editorial correction to a section pointer.]

[Related Sections in Part 2, California Building Code 407.2.6, 407.2.7, 407.3, 708]

**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 ~~407.2.6~~ *407.2.5*.

# Item 4-5 Chapter 4, Special Detailed Requirements Based on Use and Occupancy,Section 407.2.6 Nursing home cooking facilities

[Existing amendments to the California Building Code Section 407.2.6 prohibit the installation of cooking appliances exposed to a Group I-2 corridor.]

[Related Sections in Part 2, California Building Code 407.2, 407.2.7, 407.3, 422.7, 708]

**407.2.6 Nursing home cooking facilities.** In Group I-2 occupancies, rooms or spaces that contain a cooking facility with domestic cooking appliances shall be permitted *in fully sprinklered buildings* where all of the following criteria are met:

…

~~4. The~~ *~~corridor~~* ~~shall be a clearly identified space delineated by construction or~~ ~~floor pattern, material or color.~~

~~5~~ *4*. The space containing the domestic cooking facility shall be arranged so as not to obstruct access to the required *exit*.

~~6~~ *5*. The cooking appliance shall comply with Section 407.2.7.

# Item 4-6 Chapter 4, Special Detailed Requirements Based on Use and Occupancy,Section 407.2.7 Domestic cooking appliances

[The SFM proposed amendment is necessary to accommodate new requirements published in the 2021 edition of the International Building Code and reformatting of existing provisions previously published in the 2019 edition of the California Building Code (CBC). The adoption of Section 407.2.7 items 1, 2 and 6 assures that provisions previously adopted in the 2019 edition CBC remain in effect.]

[Related Sections in Part 2, California Building Code407.2, 407.2.6, 407.3, 422.7, 708]

**407.2.7 Domestic cooking appliances.** In Group I-2 occupancies, installation of cooking appliances used in domestic cooking facilities shall comply with all of the following:

* 1. The types of cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves.
  2. Domestic cooking hoods installed and constructed in accordance with ~~Section~~ ~~505 of~~ the ~~International~~ *California Mechanical Code* shall be provided over cooktops and ranges.

…

1. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906, and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance.

**Exceptions:**

* 1. Cooktops and ranges located within smoke compartments with no patient sleeping or patient care areas are not required to comply with *Items 3, 4 and 5 of* this section.
  2. Cooktops and ranges used for care recipient training or nutritional counseling are not required to comply with Item 3 of this section.

# Item 4-7 Chapter 4, Special Detailed Requirements Based on Use and Occupancy,Section 407.3.1.1 Door construction

[The SFM proposed amendment modifies the grammar in the new Section 407.3.1.1 charging statement to clearly indicate the intent is to regulate doors where they are not required to have a fire protection rating.]

[Related Sections in Part 2, California Building Code 407.3.1]

**407.3.1.1 Door construction.** *Corridor*~~D~~ *d*oors ~~in~~ *~~corridor~~s* not required to have a *fire protection rating* shall comply with the following:

1. Solid doors shall have close-fitting operational tolerances, head and jamb stops.
2. Dutch-style doors shall have an astragal, rabbet or bevel at the meeting edges of the upper and lower door sections. Both the upper and lower door sections shall have latching hardware. Dutch-style doors shall have hardware that connects the upper and lower sections to function as a single leaf.
3. ~~To provide makeup air for exhaust systems in accordance with Section 1020.7, Exception 1 doors are permitted to have louvers or to have a clearance between the bottom of the door and the floor surface that is 2/3 inch (19.1 mm) maximum.~~

# Item 4-8 Chapter 4, Special Detailed Requirements Based on Use and Occupancy,Section 407.3.1.2 Swing of corridor doors

[A new provision in the 2021 IBC requires renumbering of an existing SFM amendment.]

[Related Sections in Part 2, California Building Code 407.3.1]

***~~407.3.1.1~~ 407.3.1.2 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.*

***…***

# Item 4-9 Chapter 4, Special Detailed Requirements Based on Use and Occupancy,Section 407.4.4.5 Care suites containing sleeping room areas

[SFM proposed amendment to item 2 deletes a reference to CBC section 903.2.6.and requires fire sprinkler protection in addition to a smoke detection system when direct and constant visual supervision is not provided for a care suite.]

[Related Sections in Part 2, California Building Code 407.4.4, 903.2.6]

**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 arrangement of the *care suite* allows for direct and constant visual supervision into the sleeping rooms by care providers.
2. *In fully sprinklered buildings*, ~~A~~ *a*n automatic smoke detection system is provided in the sleeping rooms and installed in accordance with *Section* *907.2.6.2.2, Item 1 and* NFPA 72 *~~and Section 903.2.6~~*.

# Item 4-10 Chapter 4, Special Detailed Requirements Based on Use and Occupancy,Section 407.5 Smoke Barriers

[The SFM proposed amendment is editorial only. It corrects a code section reference error.]

[Related Sections in Part 2, California Building Code 407.5, 709, 1026.2]

**407.5 Smoke Barriers.** Smoke barriers shall be provided to subdivide every story used by persons receiving care, treatment or sleeping into not fewer than two smoke compartments. Smoke barriers shall be provided to subdivide other stories with an occupant load of 50 or more persons, *regardless of occupancy or use,* into not fewer than two smoke compartments. The smoke barrier shall be in accordance with

Section 709.

***Exceptions:***

***…***

*3.2.**Areas that do not contain a Group I-2 or I-2.1occupancy, 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~~ 1026.2.*

**SECTION 408**

**GROUP I-3**

# Item 4-11 Chapter 4, Special Detailed Requirements Based on Use and Occupancy,Section 408.8.4 Smoke-tight doors

[This is editorial. During review of 2018 IBC and 2021 IBC revisions, noticed inappropriate use of “closures”. Explanation: a closer is a device that provides closure of something that closes or shuts. Put another way, the closer closes the closure.]

**408.8.4 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~~ *closers* are not required on cell doors.

**SECTION 411**

**SPECIAL AMUSEMENT *~~AREAS~~* AREAS**

# Item 4-11.1 Chapter 4, Special Detailed Requirements Based on Use and Occupancy, Section 411.1-411.7 Special Amusement Areas

[The SFM propose to repeal and replace with select model code language. California amendments that approved during the Intervening Code Cycle that differ from the model code will remain unchanged.]

**411.1 General.** Special amusement *~~areas~~* areas having an occupant load of 50 or more shall comply with the requirements for the appropriate Group A occupancy and Sections 411.1 through *~~411.7~~* 411.7. Special amusement *~~areas~~* areas having an occupant load of less than 50 shall comply with the requirements for a Group B occupancy and Sections 411.1 through *~~411.7~~* 411.7.

**Exception:** Special amusement *~~areas~~* areas or portions thereof that are without walls or a roof and constructed to prevent the accumulation of smoke need not comply with this section.

**~~411.2~~ *~~Automatic sprinkler system~~*~~.~~** *~~Buildings containing special amusement areas shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where the special amusement area is temporary; less than 180 days; the sprinkler water supply shall be of an approved temporary means determined by the authority having jurisdiction.~~*

***~~Exception:~~*** *~~Automatic sprinklers are not required where the total floor area of a temporary; less than 180 days; special amusement area is less than 1,000 square feet (93 m~~~~2~~~~) and the exit access travel distance from any point in the special amusement area to an exit is less than 50 feet (15 240 mm).~~*

**411.2 Automatic sprinkler system.** Buildings containing special amusement areas shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where the special amusement area is temporary; *less than 180 days;* the sprinkler water supply shall be of an approved temporary means *determined by the authority having jurisdiction.*

**Exception:** Automatic sprinklers are not required where the total floor area of a temporary; *less than 180 days; special amusement area* is less than 1,000 square feet (93 m2) and the exit access travel distance from any point in the special amusement area to an exit is less than 50 feet (15 240 mm).

***~~411.3 Fire alarm system.~~*** *~~Buildings containing special amusement areas shall be equipped with an automatic smoke detection system in accordance with 907.2.11.~~*

**411.3 Fire alarm system.** Buildings containing special amusement areas shall be equipped with an automatic smoke detection system in accordance with 907.2.13.

**411.4 Emergency voice/alarm communications system.** [adopt model code language.]

***~~411.5 Puzzle room exiting.~~*** *~~Puzzle room exiting shall comply with one of the following:~~*

1. *~~Exiting in accordance with Chapter 10,~~*
2. *~~An alternative design approved by authority having jurisdiction.~~*

**411.5 Puzzle room exiting.** Puzzle room exiting shall comply with one of the following:

Exiting in accordance with Chapter 10,

An alternative design approved by the ~~building official~~ *authority having jurisdiction.*

1. Exits shall be open and readily available upon activation by the automatic fire alarm system, automatic sprinkler system, and a manual control at a constantly attended location.

**411.6 Exit marking.** Exit signs shall be installed at the required exit or exit access doorways *~~serving special~~* serving special amusement *~~areas~~* areas in accordance with this section and Section 1013. Approved directional exit markings shall be provided. Where mirrors, mazes or other designs are utilized that disguise the path of egress travel such that they are not apparent, approved and listed low-level exit signs that comply with Section 1013.5, and directional path markings listed in accordance with UL 1994, shall be provided and located not more than 8 inches (203 mm) above the walking surface and on or near the path of egress travel. Such markings shall become visible in an emergency. The directional exit marking shall be activated by the automatic *~~smoke~~* smoke detection system and the automatic sprinkler system in accordance with Section 907.2.12.

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

**SECTION 414**

**HAZARDOUS MATERIALS**

# Item 4-11.2 Chapter 4, Special Detailed Requirements Based on Use and Occupancy, Section 414 Table 414.5.1 Explosion Requirements

[The SFM propose to repeal and replace with select model code language.]

**[F] TABLE 414.5.1**

**EXPLOSION CONTROL REQUIREMENTS a, h**

**![Table 414.5.1 Explosion Control Requirements

Energy storage Syage systems, repeal California amendments and replace with model code language](data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABgAAD/4REWRXhpZgAATU0AKgAAAAgABAE7AAIAAAAZAAAISodpAAQAAAABAAAIZJydAAEAAAAyAAAQ3OocAAcAAAgMAAAAPgAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAFN1amVza2ksIENyeXN0YWxAQ0FMRklSRQAAAAWQAwACAAAAFAAAELKQBAACAAAAFAAAEMaSkQACAAAAAzkyAACSkgACAAAAAzkyAADqHAAHAAAIDAAACKYAAAAAHOoAAAAIAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAyMDIxOjA1OjAzIDE1OjQzOjExADIwMjE6MDU6MDMgMTU6NDM6MTEAAABTAHUAagBlAHMAawBpACwAIABDAHIAeQBzAHQAYQBsAEAAQwBBAEwARgBJAFIARQAAAP/hCytodHRwOi8vbnMuYWRvYmUuY29tL3hhcC8xLjAvADw/eHBhY2tldCBiZWdpbj0n77u/JyBpZD0nVzVNME1wQ2VoaUh6cmVTek5UY3prYzlkJz8+DQo8eDp4bXBtZXRhIHhtbG5zOng9ImFkb2JlOm5zOm1ldGEvIj48cmRmOlJERiB4bWxuczpyZGY9Imh0dHA6Ly93d3cudzMub3JnLzE5OTkvMDIvMjItcmRmLXN5bnRheC1ucyMiPjxyZGY6RGVzY3JpcHRpb24gcmRmOmFib3V0PSJ1dWlkOmZhZjViZGQ1LWJhM2QtMTFkYS1hZDMxLWQzM2Q3NTE4MmYxYiIgeG1sbnM6ZGM9Imh0dHA6Ly9wdXJsLm9yZy9kYy9lbGVtZW50cy8xLjEvIi8+PHJkZjpEZXNjcmlwdGlvbiByZGY6YWJvdXQ9InV1aWQ6ZmFmNWJkZDUtYmEzZC0xMWRhLWFkMzEtZDMzZDc1MTgyZjFiIiB4bWxuczp4bXA9Imh0dHA6Ly9ucy5hZG9iZS5jb20veGFwLzEuMC8iPjx4bXA6Q3JlYXRlRGF0ZT4yMDIxLTA1LTAzVDE1OjQzOjExLjkyNDwveG1wOkNyZWF0ZURhdGU+PC9yZGY6RGVzY3JpcHRpb24+PHJkZjpEZXNjcmlwdGlvbiByZGY6YWJvdXQ9InV1aWQ6ZmFmNWJkZDUtYmEzZC0xMWRhLWFkMzEtZDMzZDc1MTgyZjFiIiB4bWxuczpkYz0iaHR0cDovL3B1cmwub3JnL2RjL2VsZW1lbnRzLzEuMS8iPjxkYzpjcmVhdG9yPjxyZGY6U2VxIHhtbG5zOnJkZj0iaHR0cDovL3d3dy53My5vcmcvMTk5OS8wMi8yMi1yZGYtc3ludGF4LW5zIyI+PHJkZjpsaT5TdWplc2tpLCBDcnlzdGFsQENBTEZJUkU8L3JkZjpsaT48L3JkZjpTZXE+DQoJCQk8L2RjOmNyZWF0b3I+PC9yZGY6RGVzY3JpcHRpb24+PC9yZGY6UkRGPjwveDp4bXBtZXRhPg0KICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICA8P3hwYWNrZXQgZW5kPSd3Jz8+/9sAQwAHBQUGBQQHBgUGCAcHCAoRCwoJCQoVDxAMERgVGhkYFRgXGx4nIRsdJR0XGCIuIiUoKSssKxogLzMvKjInKisq/9sAQwEHCAgKCQoUCwsUKhwYHCoqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioq/8AAEQgBfQK5AwEiAAIRAQMRAf/EAB8AAAEFAQEBAQEBAAAAAAAAAAABAgMEBQYHCAkKC//EALUQAAIBAwMCBAMFBQQEAAABfQECAwAEEQUSITFBBhNRYQcicRQygZGhCCNCscEVUtHwJDNicoIJChYXGBkaJSYnKCkqNDU2Nzg5OkNERUZHSElKU1RVVldYWVpjZGVmZ2hpanN0dXZ3eHl6g4SFhoeIiYqSk5SVlpeYmZqio6Slpqeoqaqys7S1tre4ubrCw8TFxsfIycrS09TV1tfY2drh4uPk5ebn6Onq8fLz9PX29/j5+v/EAB8BAAMBAQEBAQEBAQEAAAAAAAABAgMEBQYHCAkKC//EALURAAIBAgQEAwQHBQQEAAECdwABAgMRBAUhMQYSQVEHYXETIjKBCBRCkaGxwQkjM1LwFWJy0QoWJDThJfEXGBkaJicoKSo1Njc4OTpDREVGR0hJSlNUVVZXWFlaY2RlZmdoaWpzdHV2d3h5eoKDhIWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uLj5OXm5+jp6vLz9PX29/j5+v/aAAwDAQACEQMRAD8A9ovr7xHeeNLzSNDvtLsbez0+2uma80+S5eRppLhSAVnjAAEA7H7xqvqt34k0K0F1rfjPwpp1uzhBNd6RJEhYgkLua9AzgHj2q7Y/8lT13/sC6b/6Pvq4b9pGCO6+H+kW8wzHNr1sjgHGQVkBoA6qe/8AENroy6vc+NvCUOmMqut7JpMiwlWxtIc3u3ByMHPORUlnceJtR0tdS0/xj4VurBlZluoNHleIhSQx3i8xgEEHnjBrwDUNQuNW+G+j/DB5HN7pes3sV4R1NvaK0nPoCHwP+udbEfioeGv2NdKgimEV1q7XFhExz8qtcy+Y3HONgYfVhQB7Pplx4m1qyF5o/jHwrqFqWKie10eWVCR1G5bwjNZM/jKW2uJILn4n+AoZomKSRyWZVkYHBBBvsgg9q4L4BeItE0zx1r/g7w7qh1DRp0S+06Z0dDvCqJVw4BzyO3RM0z4x/DHwhpmu+F7qx0jyptb8RRQ6g32mZvOSRsuMF8Lkk/dxjtQB6npV54j161a60Pxp4T1K3RzG0tnpEkyKwAJUlb0jOCDj3FZUnjV4pGjl+KPgFHQlWVrTBUjqCPt1dZ4U8HaF4I0qTTfDFj9htJZjO8fnPJlyqqTl2J6KvGccV8leHLWxnfWGvPhNqnjNxqk4F/Z3d1EkY4/dERIVyPvZPPzj2oA+kpvEuoW2m22oXHxF8ERWV2WFvcvp7LHMVOG2Mb3DYPBx0p+la9quvXTWuh/EHwXqVwiGRorPTWmdVBALELek4yQM+4rxz4pWNlaeBvhnbW3g66t7VrqZz4bM8xmO9lZod5HmbmLHnGRngVU+Hmj2/iP4taPJ4Q8Ff8IbJ4fuWl1ZbjV5JpmQjGzypcOO6kgY+fnHFAHvVlceJtSluY9O8Y+FbuS0lMNwkGjyuYZB1RwLz5WHoeaZaXniO/1C5sLHxp4Tuby0OLm3h0iR5IT/ALai9yv41wnw51y38Mj4t61ef6mx1+7mYZ+8Qz4Ue5OB+NeYfDXxhpeg/Ebw3rq60bnUPEElxB4ig8uRVieWYmJ9zKFPLITgnG0+uaAPoz7R4m/tf+yv+Ex8K/2j5XnfY/7Hl87y8437PtmdueM4xVz7D43/AOhh8P8A/ghn/wDkyuJ/5u3/AO5Y/wDa1etUAc39h8b/APQw+H//AAQz/wDyZR9h8b/9DD4f/wDBDP8A/JldJRQBzf2Hxv8A9DD4f/8ABDP/APJlH2Hxv/0MPh//AMEM/wD8mV0lFAHN/YfG/wD0MPh//wAEM/8A8mUfYfG//Qw+H/8AwQz/APyZXSUUAc39h8b/APQw+H//AAQz/wDyZWb4jufG/h/wrqus/wBt+H7j+zrKa78n+xJ08zy0L7d32s4zjGcGu2rm/iP/AMks8V/9gW8/9EPQAfYfG/8A0MPh/wD8EM//AMmVnavqevaAkT69458IaYsxIja90qSEOR1xuvRnGRXa14F4S8E6H8VfiF451bx3HJqU2n6q+nWtobiSNbeJGIX7jA9vpnccZPAB6XLe+IoNFGsTeNfCcemFFkF6+kyCEqxADb/tu3BJGDnnNW4rbxnPCk0HiXw7JFIoZHTQpirA8ggi85FeV+LvBGl+BfgD46sNC1uXUbOS8jYWzSKy2LedFmLjJ3YIzk/3eByT7N4V/wCRO0b/AK8IP/Ra0AYWoXniPSZbaLVfGnhOyku38u3S50iSMzPx8qBr0bjyOB6irctt4zgheafxL4djijUs7voUwVQOSSTecCvn343+I9F8SfEbWrLUtYaxHh3TTHpflpI3nX+5XYAqDt4GzLYAIB7Zr0jXP7V+Mv7NsEnh6VTqd3FE08JcIJpInxJHk8DLKSM4H3cnBzQB0+k65q+vXDwaF4/8GalNGu947PTXmZVzjJC3pwMnrRq2uavoNwkGu+P/AAZps0i70jvNNeFmXOMgNejIyOteM+E4PC2gfELQW1/wL4g+H+qQ3ogtbyC6kmtLyU5VldpQcIfujyywIkOWwM1b8feBdR0z4la7rviD4e3XjzTdVmRrSayvZo5bbC42FIstgAAZK44XDckUAe3RW3jOeFJoPEvh2SKRQyOmhTFWB5BBF5yKf9h8b/8AQw+H/wDwQz//ACZXP/BG58OS/DpLfwhd6rPY2tzLG0Or7PtFs+clCEAUDncMZ+91zkD0SgDm/sPjf/oYfD//AIIZ/wD5Mo+w+N/+hh8P/wDghn/+TK6SigDm/sPjf/oYfD//AIIZ/wD5Mo+w+N/+hh8P/wDghn/+TK6SigDm/sPjf/oYfD//AIIZ/wD5Mo+w+N/+hh8P/wDghn/+TK6SigDm/sPjf/oYfD//AIIZ/wD5Mo+w+N/+hh8P/wDghn/+TK6SigDm/sPjf/oYfD//AIIZ/wD5Mo+w+N/+hh8P/wDghn/+TK6SigDm/sPjf/oYfD//AIIZ/wD5MrNgufG83iq+0b+2/D6/ZLK2u/O/sSf5/OedNu37XxjyM5zzu7Y57aubsf8Akqeu/wDYF03/ANH31AFLVLrxLodn9r1rxl4U0623BPOu9IkiTceg3NegZ4PFZlr4vuL67itbL4meBLi4mcJFDFZF3kYnAUKL7JJPYVhftOf8knhyu/8A4mkHyjv8r8VxfgLSdIl8faOP+FGazoLJcrImp3F/eslsy/MrEOgU8gcE45oA9isL7xDqn2n+zPGvhO8+yOUuPs+kySeSw6h8Xp2ng8H0qkfE98NLGpH4j+BxYNN5AujYN5RkxnZv+3Y3Y5xnOK8e+PEsXgv4hT/8I1rI04+K7Lytbt41LeWu8DzSB3Zdw454f+/W58btB0jw58GfB+laDbfbdOi1WDy44mObsNFISdy85fJOR/e4oA9K0rXtV166a10P4g+C9SuEQyNFZ6a0zqoIBYhb0nGSBn3FW7C48Tar5/8AZfjHwre/ZpTDP9n0eWTypB1Rtt4cMPQ814d4K8J32p/FLw3feG/hlqXge20ydp7+6vbq4dZo8AbR5yrz95cLnO/nABNej/Af/mef+xnuv6UAdde/8JZptlLeaj4r8M2lrCN0k8+iyoiD1LG8wKq6Rqmu+IFlOg+OfCGpiHAlNlpbzeXnON229OM4PX0NcV8S9Mg8cfHrwx4L1+5lTQ0099RNrHJs+1TBnGwn/dj7fMFL4Izmsvxn4H0L4U+OPBet+BFl0y4vdVjsLizFy8i3ETn5zh2LdwOuOVOAeoB6JquvaroN0trrnxB8F6bcOgkWK801oXZSSAwDXoOMgjPsatXt34k02G3l1Hxn4UtI7qRYoHn0iRBM7cqqk3vzE9gOteK+M/AV/pHxD1/VfE3w8vfHGn6veebZ3mn3kyy2qHPyFIsk7RgDcoHyjnmn6td+Hbr4ReAk8IX2pXenW/iyGILqhUzwN87GNtgC8BgRjPDDmgD2XVr7xFoNslxrnjXwnpsDvsSW80mSFWbBO0Fr0AnAJx7U/T7nxNq2ni+0rxj4VvbM5xcW2jySR8dfmW9I4rze18J6V8U/jv4yTxs0t5baCILex04TtGgRlO5vlIbqoPB6vz2FN07w/Y/Db49t4f8ACUssWk61oks91YPMZFhdA+1gSSf4eN2T8zc4OAAej2N94h1TTX1HTfGvhO8sU3b7q30mSSJdvLZcXuBjv6VNp8nirV7CO+0rxd4XvrSXPl3Fto0skb4JBwy3hBwQR9RXzj8MNbvvAXhNpdVkz4b8XWd3DHKeFtbyMOg3HoNwwO2cj+4a9y/Z8/5IT4e/7ef/AEploA1NX1PXtASJ9e8c+ENMWYkRte6VJCHI643XozjIq3aJ4vv7OK6sfFPhq5tplDxTQ6JM6SKehDC8wR7ivLPCXgnQ/ir8QvHOreO45NSm0/VX061tDcSRrbxIxC/cYHt9M7jjJ4XxXoUXwo+CPi6Hwd4gnuorjUFh2CVT/Z+5lV4wV5D7SASTnBXgHkgHfx+ItSm1c6VF8Q/BL6iJTCbNdPYzCQHBTZ9t3bgQcjGeKuXl34k069tbPUPGfhS1urxittBPpEiPORjhFN7ljyOnqK8+1n4A/D60+Ft3dQJKl7b6c1ymrm7YlmVN4Yru8vacYIAHHQg81wPitNc+Inhz4Tp9sZdavLa9WK5dyGaSJlCMW6gt5a5b1OaAPoCe58S2up2+nXPjLwrDfXQJt7WTR5FlmAGSVQ3uWxg9BWTL40kgmeKb4oeAY5I2Kuj2mCpHBBH27g15povjc+OfjP8ADi5vU8jV7KK8tNTtiNrRTrG4J29gevtyO1Wvir8LfB2l+NPBi2Oj+UNc1wRah/pUzeejMu4cududx+7igD0FvGkiRpI3xQ8Aqj52MbThsdcH7dzWhpGq654g87+wfHXg/U/I2+b9i0t5vL3Zxu23pxnBxn0NeHfFTwd4e8I/E/w7pGh+DLjXNOawllbRba6n8ydyz5YONzjGA2Bx8v1q98HbBNR8f3Hi3wh4aj8M6RpenzW15ZHVWupJp+SAyt86/wAPBAH7vg5oA9e1XXtV0G6W11z4g+C9NuHQSLFeaa0LspJAYBr0HGQRn2NW7258S6bph1HUfGXhW0sQFJup9HkSIBiAp3m9xzkY55zXlnwl+F3hX4i+C38W+NI5ta1jVLqZp5Hu5E8kq5XACMOoAPOeCMYFcpqHmaR8G/ib4Rt76S90rQdXto7CSVgzIr3HzJkccFcnGBuLHAzQB9EJaeNZI1ePxH4edGAKsuhTEEeo/wBMqrqdz4m0Sz+16z4x8K6fbbgvnXejyRJk9Bua9AzXSaP/AMgKw/69o/8A0EV5j+0mof4TBWGVbUrcEfiaAOnkvvEMWijWJfGvhJNMKBxfNpMgh2k4B8z7btwSQM571Tl8T30GnwX8/wAR/A8dncsywXL2DCOUrwwVjfYYjvjpXi17dzXPgK0+EoZxdWviW4tZctlmsoSZi/8A4/kf7lc9dqj/AAb+Giy6XJrCNqt6G0+JmV7oeav7sFQWBbpkDPNAH0Vp3ia/1i+Sy0n4jeCL67kyUgtrBpJGwMnCreknABNVf+E5/wCqp/D/AP8AAX/7urivhFpel/8ACwIZofg9qvhKaCCR49Tu7y7kRSRtKbZFCkkMao+N/hL4J0j4seBNG07RfJsNWkuVvYftczeaEVSvzFyVxk9CKAPUtO1zVtXuo7bSfH/gy+nkjMqRW2mvIzoCVLALekkAgjPqKtC48THVzpQ8Y+FTqKxecbMaPL5wjzjfs+2Z254zjFeM66yfCf492cPgXwld6vDDoWyPTLSWV3UPK7M+7bI2M/z7VJoXjbWdW+M3iLxHfeG7rw9qNn4QuHisbwMWJjZWVvmRTgn27UAeq6n4i1LRbw2ms/EPwTp9yFDGG709onAPQ7WvQcVc1S68S6HZ/a9a8ZeFNOttwTzrvSJIk3HoNzXoGeDxXmfww+DXg3xl8OLbxB4mjuNY1fVzLPcXrXkgaOQuwIAVsEgjJLbiWznjgcHq9xMfgPq2gy3b31jovi4WNlM7ZLQgNgZHGOpGP73pigD33S/EGp65eG10X4heCtRuQpcw2mnNK4UdTtW9JxyOfepdX1fW/D7RDXvHfg/TDNkxC90t4fMxjO3dejOMjp6ivMfi98MvC3w48IW/i3wTaSaPq2m30Lwut1LIJCW6EOx+vGOhzxUXxR8EaqvxLvvFWqeB5/HGiXttDHDa215LFNZOFA27YvmIyGP3SPmHIOcgHsFoni+/s4rqx8U+Grm2mUPFNDokzpIp6EMLzBHuKm+w+N/+hh8P/wDghn/+TK5L4FXHhkeGtTsfCjaxbi2vmN1pmrsDJYSMMFFwOEyp65OQc4Oa9RoA5v7D43/6GHw//wCCGf8A+TKPsPjf/oYfD/8A4IZ//kyukooA5v7D43/6GHw//wCCGf8A+TKPsPjf/oYfD/8A4IZ//kyukooA5axvvEdn40s9I1y+0u+t7zT7m6VrPT5LZ42hkt1AJaeQEETnsPuiuprm77/kqehf9gXUv/R9jXSUAc3Y/wDJU9d/7Aum/wDo++qv8RPA3/CfaJY6f/aH2D7JqEV75nkebv2BhtxuXGd3X26VYsf+Sp67/wBgXTf/AEffV0lAHm//AAp2yHxK1/xdHqOxtYsZLZbX7PkW8kiKjS7t3zZwTjA+8eaztG+BVtZ/8Ipba5q8Ws6X4bhuVWwm08CO5lmkdy7ZdhgbkG3B5TOecV6zRQB59q/wi0eXxT4f17wqlj4bu9HuTLILLT0C3cbYDRsFK44yN3OAx4rU8c+Bv+E0ufD8v9o/Yv7F1OLUMeR5nnbDnZ94bc+vP0rraKACvDIP2fPEenz3Z0P4pappVvdXD3DW9nbyRJuY8khZwCcADOOwr3OigDzJfhHfz23g8av4uudTuvDWotfNdXVuzvdgurBCWkJXAXGct9K1fEvw4/tbx/o/jDRNV/sbVbD93cstv5q3sP8Azzcbl7ZGeeCPQY7iigDyfUfgjLf6T4k00eJTDbeItc/tS6C2XIj3l/IB8z+8VO//AGfu1seLvgx4R8R+FLnSdN0bS9EuZQvk6haafGJISrA9tpIIBBGeQa9AooA8i8U/BbXPEXiOy12z8f3ekalBpsVhNcWloyPOVyWfcswIDE5289OprqPh14I1vwZHqC694yv/ABQboxmJr0P/AKPt3ZC7pH67h0x90da7WigAooooAKKKKACiiigArm/iP/ySzxX/ANgW8/8ARD10lc38R/8Aklniv/sC3n/oh6AOkryzxh8FDrXimfxD4S8V6l4T1G9GL5rIsUuMYwcK6EHjnkg9cA5J9TooA8rtPgXp1h8L9Z8K2urTG/1to5L7V54d7yOjhx8m4fLw2AWJ+YnJrN0f4JeL9J1Cxm/4W3rU9tZyxt9kaOYRuiEHyyPtGNpAxjHSvZqKAPPPCPwb8PaFptyviOz07xNqd5dyXVxqF9psZZmc5wA27aPbPUk96y4/gPpx8N674fn1eb+zL7Uhqemx28AjfTJsEfK24hxtIXGF4B7nI9XooA8e0b4EX6+IbDUPGfj/AFfxPbafMLm3srneqCZSCrEtK/HXgAZ9cZBk8QfAy8ufEt/qvg3x3q3hZNSlNxd2trvKPMSSWGyRMA5Jwc8k4IHA9dooA5b4feA7H4feGzplncz3s88puby8uD89xMwAZsdhxwMnHck5J6miigAooooAKKKKACiiigAooooAKKKKACubsf8Akqeu/wDYF03/ANH31dJXE3PhzQ/EHxT1f+3tG0/U/I0XT/K+22qTeXunvc7dwOM4GcegoAl+J/gE/EfwkmiLqf8AZhW6S4E4g837oYY27l/vdc9q4/SPgz4x07W7G9uvi7rl7BbXEc0lrIs22dVYEoc3BGCBjoevQ1c+J9t4J+HHhJNbX4daBqZa6S3EAsoYvvBjnd5bf3emO9cNa+N/D1rq1hF4v+AsHh/Try5W2N9PpqEI7A7Rta3QN05AOcAkA4wQD0jRfhBZRah4n1HxbfjxBqHiRTDPM1t5IhgIx5aDcxGMLg5yNiY6ZOZ/wpW+l8D6L4ZvPFpuYNF1VL+0mfT/AJxEobEB/ec8scN2HGMAY39W0L4T6DcJBrul+DNNmkXekd5b2sLMucZAYDIyOtSah4b+FmkyRR6po3g+yeaNpYlubW1jLooyzAMBkAckjoKAO2rxGX4BeIYdY1O80P4n6no8Oo3kt29tZ28kahnYnnbOAxAwM47V1f2P4MiMyG38C7BH5pbZZ42btu7Ppu+XPTPFV/D2j+Ctf8UazpkfgTwkLXTxE0F3bfY7hrhXGctEi7oh6buvagCHWfgqviDwdotjqvibUJfEWiM72viEbvOLGQuNwLkkD5cfOCCoIIyQYvCPwQ/sfxXB4i8X+K9R8WahZACxN5uCwHnn5ncsQTkcgA5OCcEbumaB8KdbupbXRtJ8G6hcQjdJFaW1rK6DOMkKCRzxTW0T4SprX9kNpngtdT3iP7Ebe087ceQuzG7PtigDmda+BN8/iC+1DwX4+1jwvbahK1xcWVtvZDMxJZgVkTA6cEEjnnGALx+Bthb+DdD0HTdWmhOm6wmr3F1ND5r3koBDZAZdueAOuAozk5Nb2o+GfhdpF1b2uraJ4Qsbi6OIIrm0tY3mOcYUMAW5IHHrXOeBx8PfFvhjU9c1DwN4Z0W206/ltJHntbdkAjCneXMahQd3Tt60AXPHnwbi8VeJV8SeHvEN94X11kEU95Z5PnIFxghWQhsBRndjC4IPUTeA/hBa+DrjUdU1HWbvX9f1GIwzaneA5CHsqlmPZcksfujGBxWtpng/4ba3Z/a9G8O+FdQttxXzrSxtpUyOo3KpGauf8K48Ef8AQm+H/wDwVwf/ABNAHL2vwYsB8GD4A1LUPtgRpJYL8W2wwylmZXCbj03YI3cjIyM11Hw+8I/8IJ4E0/w39t+3/YvN/wBI8ryt++VpPu7mxjfjqelH/CuPBH/Qm+H/APwVwf8AxNH/AArjwR/0Jvh//wAFcH/xNAHIeMPgoda8Uz+IfCXivUvCeo3oxfNZFilxjGDhXQg8c8kHrgHJOh4W+DXh/wAP+CdU8P3zy6s2tYOp3k/yvOw5BHXbtJLDkkEk5Nb/APwrjwR/0Jvh/wD8FcH/AMTR/wAK48Ef9Cb4f/8ABXB/8TQB5h/wzheSRjSrr4ja3L4ZWT5dJ2kARhtyrkyFMg4OfLxkZwK7zUfhnZ3HibwdqOmXS6fZ+FVkSGyWEuJVZVUDeWyuNvUhic1p/wDCuPBH/Qm+H/8AwVwf/E0f8K48Ef8AQm+H/wDwVwf/ABNAHOTfB2wHxotfiBp9/wDZHTc9xYi33LPK0bIXD7htyGBI2nJBPetvxl4G/wCEt1vwzqH9ofZP7B1Bb3y/I8zz8FTtzuG37vXn6VY/4Vx4I/6E3w//AOCuD/4mj/hXHgj/AKE3w/8A+CuD/wCJoAqan4D/ALR+K2i+NP7R8v8Asu0ktvsfkZ83eHG7fu4xv6bT0qsPhx9i+K58a6Fqv9ni6h8rU9OFvvjvT2fO4bW6HODyM9znU/4Vx4I/6E3w/wD+CuD/AOJrn/APgHwfefDbw1dXnhPQ57ibSbWSWWXTYWeRjCpLMSuSSTkk0Ac7qn7P88WtXl14F8c6r4Usr1vMnsLUOyGTJyQVkT5cEAKQcc84OBsS/BDSYPhDd+BdFvpLT7ZKk9xqM0QmkkkV1bJUFRjChQARgepyTwOq+MNEt/Fus6JoPwGsNdGk3TW8s9lZo/QkAsq2zbc4PBPY12fhKPwPq3h5NQ8ZfDrw/wCDLia8a1gs9Vs4I3nIVSCvmRITksRgA9KAK+g/Bjxdo+uabeXHxZ1q9tbK5ileydZRHMiMCYzmcjBAx0IwehrtfiR4G/4WF4UGi/2h/Z+LmO487yPN+5njbuXrnrmqk/h74VWt7dWdzo/g6G5sofPuoJLW1V4I+PndSMqvzLyeOR61HaaJ8Jb/AFKPT7HTPBdzeyoJI7aG3tHkdSm8MFAyQVIbPpz0oArN8IrI/FnUPG6X+17yzeAWn2fPlytGIzLv3f3QflwOp5rnLv8AZ/uJfA/hzQbLxfJZXGg3M9zFfxWRDs0jBgQBKChUjqCfwrU8N2ngjxB4/wDE3hn/AIV54ft/7BMQ+0/YoH8/eCfu+WNuMeprb0/w/wDCnVtRm0/S9I8HXt7AGMttbW1rJJGFIUllUEjBIBz3NAGH4R+FHivw74qstV1T4oaxrdpbljJYXIl8ubKFRndMw4JB6HpXT+JPA3/CQ+OvDHiP+0fs/wDYDzN9n8jf5/mAD724bcY9DmqV5ofwm0/VU0y/0vwZa6g5ULaTW9okrFvugIRk57cc1RvNB8H23xEsPDS/D/wq8F3aNcNdMtmkyEbvlFsV8xx8v3hwMn0NAGy3gPd8XU8cf2j93TfsH2LyOvzE79+736bfxoHgNf8AhbE/jSS/EiTaV/ZzWDW/GNwbcX3c9MY29+tVpvD3wqt9aXR7jSPB0WpuQFsntrVZmJGQBGRuOR04pb7w58K9Mu3tdS0bwfZ3CQ/aHhuLW1jdYs43lSMhcjr0oA4m9/Z2ura5vYvBvj/V/D2kXjs76ZGHeMFuCMrKm5cYX5gTgck1va58D9Ku/hbb+CfD+oSaVBDeLeNdyxefJK4BBLYKcnI5GMYAxXQab4N+G+s2S3mj+HPC1/asSFntbG3lQkcEBlUjirf/AArjwR/0Jvh//wAFcH/xNAHn+l/AS8k1uzu/G/j3VvFNnZSieGxug4QygjBbfI+RjIIABOeuODf8XfBW41jxXdeIPCXjPVPCt3qGDfrabis7KAFPyyIR3zknk8Y5z2P/AArjwR/0Jvh//wAFcH/xNH/CuPBH/Qm+H/8AwVwf/E0AUvhz8Orb4fabeL/aNzq2p6lN59/qF19+d+3GSQOSeSTljk9AOxrm/wDhXHgj/oTfD/8A4K4P/iaP+FceCP8AoTfD/wD4K4P/AImgDpKK5v8A4Vx4I/6E3w//AOCuD/4mj/hXHgj/AKE3w/8A+CuD/wCJoA6Siub/AOFceCP+hN8P/wDgrg/+Jo/4Vx4I/wChN8P/APgrg/8AiaAC+/5KnoX/AGBdS/8AR9jXSVxNt4c0Pw/8U9I/sHRtP0zz9F1DzfsVqkPmbZ7LG7aBnGTjPqa7agDm7H/kqeu/9gXTf/R99XSVzdj/AMlT13/sC6b/AOj76ukoAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAK5v4j/8ks8V/wDYFvP/AEQ9dJXN/Ef/AJJZ4r/7At5/6IegDpKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACubsf+Sp67/2BdN/9H31dJXN2P/JU9d/7Aum/+j76gDgv2nP+STw5bZ/xNIPmHb5X5rxnV9Y0+yfTb+y+KF/8QLqyv4Z4ND1GwvBFM4OAcu5GRk44yc45yRX13qmj6Zrln9k1rTrTUbbcH8m7gWVNw6HawIzyeazrHwP4T0y9ivNN8L6NZ3UJzHPb6fFG6HpkMFyKAPnj4i6hp2teLPiAtyPDuhT2NsqmbUojd399IIyFjtxIxSMHpujUMvyNz1FjTdMsvEGs/BWx1aCO8tZNOnMkMyh0fYpYKQeCMqBg19FXPhvQ73VV1O80bT7jUFTy1u5bVGlC4I2hyM4wSMZ7mm2/hnQbSSye00TToH08MLNorSNTbBs7hHgfJnJzjGcmgDyGLwloGo/tSXWm3mjWEunWPhxZYLJ7ZDChDooxHjbwHPauZ16O/TVPjdFoaMswtrRdkQ6Q/wDLUY9PK3/hX0auk6cmrvqqWFquoyReS94IVEzR5B2F8ZK5AOM44FJbaRptnqFzfWen2tveXmPtNxFAqyT46b2Ay2PegDxjwtP8JrfxJ4Hm0AK2u/2e6wppIB3P5S7vtIT5vMxvxu/293avHNc1DTdV8Cw65azeHNHnk1YmPS7OJp9QcFyxlnuZWaQYxxjCtnscAfYOmeFvD+iXkl3o2habp9zKpWSa0s44ncE5ILKASMgH8Kik8GeF5WvGl8N6Q7X7brstYxE3B3b8yfL853fNznnmgDxwnwn/AMNBeNh8Uhp+Psdv/Zh1fHk+RsG7y9/y7s7cbfmzvx/FXmdh5v8AwqnRfsH2T+xv+Exm8z+09/2T/VxeV5+3nZjdn8a+t9Q8OaJq01tLqujafeyWn/Hu9zapIYeh+QsDt6Dp6CiPw3ocWl3GmxaNp6WF05e4tVtUEUzHGWZMYYnA5I7CgDyH4K20yfEbxNcW2o+F5LR7aEXNn4YW4+yRTDGxlLII+V352sec8da9wqnpej6Zodn9k0XTrTTrbcX8m0gWJNx6naoAzwOauUAFFFFABRRRQAUUUUAFFFFABXN/Dj/klnhT/sC2f/ohK6Sub+HH/JLPCn/YFs//AEQlAHzPqdzZwfFjxx9s+JWoeCN2qNtWytriX7V8zct5LDG33/vHHeu31nVPCt/+zXqNrfeKrvxnLHdNBZ300Esc73rfNEqrKSx2hucE/LuA9K9nu/AnhC/vJbu+8K6Jc3MzF5ZptOhd3Y9SWK5J9zT7fwX4WtFgFr4a0iAW0/2mAR2ES+VLx+8XC/K3yr8w5+UelAHgHhZ4ovg/8TLPXluU8bJHK+rm9bMrpj92VPdBz0zyc5wy1m33/CFv8IfA3/CFjTj4z+3Wu37KB9s88Md/mY+fG/pu4+7t4xX0D438E2viTw5rcenWOnRa3qNi9ol/LCFfBHCtIFLbeBxz06Uvg3wPp3h3RNGN5pmmPrtjYQ2s2ow26mRikYQ4kKhyMDHOOKAPFdcOqDXPjd/YPmfbPItP9UPm8vP73H/bPfUWrjwS2ifDlPhibIeKG1C2wbHH2gJt/e/aCvzdcZ39t2PlzX0bbaRptnqFzfWen2tveXmPtNxFAqyT46b2Ay2Peq+n+GdB0nUZtQ0vRNOsr2cMJbm2tI45JAxDEMygE5IBOe4oA+bvFdl4f0nxJ4v1FL/wr4js5r159R0nXUks9ShkDlnitZMBzkHAYHHAGDznrPt39p/HnwNe6XbS2huPCLSW8FwxZ48pMVVi3JI45PXrXseoeE/Duragt/qugaXe3iABbi5s45JFA5GGYE8dqtSaRpsurRarLp9q+owxmKK8aBTNGhzlQ+MgcngHuaAPlqxbwGfgD4gPij7F/wAJubi4+0fawPt/2rzPl25+cL93dj5fv5711FhoP9u/HfwfaeOrJNQu4/CEMt1DeoJA0w8wHzFbhmBJznvzXu03hnQbjWl1i40TTpdTQgrevaRtMpAwCJCNwwOnNTtpGmtrC6s2n2p1FYvJW8MC+cE67A+N23k8ZxzQB5b8D7aHT/EfxE06xjWCzttfdYIIxhIxlhgDsMAD8BXr1VLLSdO06e6m0+wtbSW8k825kghVGnf+85A+Y8nk81boAKKKKACiiigAooooAKKKKAObvv8Akqehf9gXUv8A0fY10lc3ff8AJU9C/wCwLqX/AKPsa6SgDm7H/kqeu/8AYF03/wBH31dJXN2P/JU9d/7Aum/+j76ukoAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAK5v4j/wDJLPFf/YFvP/RD10lc38R/+SWeK/8AsC3n/oh6AOkooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAK5ux/wCSp67/ANgXTf8A0ffV0lc3Y/8AJU9d/wCwLpv/AKPvqAG+PfG1p4D8NnU7q2lvZ5pVtrOzhID3M7Z2ID2HHJwcDoCcA4nh/wCKFzcalrWn+NPDNz4YudHsxfTs1wt1D5BB581AAGODhec7WxyCKl+Lng7U/Fvhmzl8OmE6vo19HqVnDOcJO8ef3ZPbOeMkDIAJAORlxWHxC8er4gsPF+mWvhnQr/TTaQWf2hLuZZiD+9Dx4G3nkN/dUADJNAFSD45XKWtlrus+Cr/TPCN/cCGDWZLqN2AYkK8kAG5F4Jzk8dN2Rm3qHxb1f/hPtc8J+G/BM+uXmlRxyiSLUEiSRGVGJYuuFxvAAG4t7Vys/g74k+IvA2mfDbWNDsLDSrOSKG516O/WRZreJvl8uHG8NgLyw5I52547Hwj4R1fSPjb4w1y5svJ0jULe2jsp/NRvM2IikbQxYYweoFAGbJ8erR/A+h6zYaFLPqOs3bWUOnS3aQqkqEBg0zDAHzDBIGcjOKl8Q/EXxYPhh4kvk8IX+ga5pahWE8qPEiMD++ilK7JtoHKgenrXMaP8O/Fum/CGDR9Q8HaTrbLqc811pN9cKszxvtCvBcI+2JwN2SecHj0Nzwt8OfFg8FeNtLn0/wDsDTdUtDBo/h+bUzeLavsJZhJkhVZ2z6kk5HAJAE0X4v6/4d8B+C49Y8K3Oo3+tn7LaudUV5bsKkWyYkqcF2kIIYgrtySc12WjfEfVrnx/pvhLxB4WGj315pj6g4GorceSBK6BDtQBshA2Q3G7HUVxOmeDvG19/wAKzTVfC/8AZ6+FbporpjqEE26IJFtmwG4yVYbRuI2+4ro/HGgeLLD4vaR448J6HFr6Q6a2n3Fib1LZ1+Z2DBn4xlx69DwM5oAtt8ZNPs7fxndavp8ltbeFrtbXdFMJHu2Ziq7VIXaSQOMnuc8VHo/xR8SXury6Nqvw9vNO1WXTG1DToBfJNHcgZ+R5AoEJJwPm6FhnGRnjIvhL4t8ReG/iDaeIbe103UNb1GK+sXjnEkLsjMxGR8wXB25YA85xxiu68Lal8UdX8W2kviTQrHw9otvZlLuBrqO5e6mP/LSMxnKYIHDEjBP3jgqAeVaN8RPE998A9c1jxKNXkjS+Ro9XsNXW1nldpVDRJhG8pV4424IJAxXqmr/Ey6sNYsPDPhPw5c+J9cayS7uIPtiQLbxFeC8rDG4kjjAzuHPIB83j+HPjyD4K694DHhhS63y3FldpqMJW6HnKSApIKAKucsQTnGM12V74X8YeEPiB/wAJh4T0aDxAupabDZX+mPeJbSRPGigOsjfLj5AO55PHcAE198c7S1+G974li0SY6hpl6thqGkTz+U9vMThhvCnIBBwcDOOgPFXdI+K2oXHj3TPDviLwfdaFFrUMkumXU15HK0wUbgHjUfuyVzkbiQcDHORw2ufCfxff/CvxE81nBceJ/Emrx6jPY286KlugJIj3swUldzZIJ7cnqe78VeFNZ1L4s+A9ZsrPzNP0hLgXs3moPK3xgL8pOWyfQGgD0eiiigAooooAKKKKACub+HH/ACSzwp/2BbP/ANEJXSVzfw4/5JZ4U/7Atn/6ISgDkNA8YPe/EHx/4g1PULiLQPDEQsI7YOxjBj3PPIUHBfcmAcE4OPrxHxD+LHinWfhtbanZ+HNW8M2N9fRfYNVg1Abpk3NkOq7XjDAZHUN2JGCdzwh4bOo3Pxd8Ezy/Z7i8v5J45GX7qXKM0bY7gYGcfpmsPXfCnxU1r4W6b4Jm8J2aJo80S/bo9TiP2yOMsqFEJG3C7SSxBPoM4AB6B4g+LN9Za9q9h4W8I3XiGDQEDatdJdpAsHG4hFYEyEAHIGDkY964j4reOfEPiK78FW/guPVIdJ1z9/BPp+qLZz3r4AMO7B8spnktlSW/2ai8Y/B/Uv8AhPNf1K28EWni6DWH+0WlxLqzWf2CQ53CRA6mRdxzgHOB1BNdRf8Aw31ayv8A4YQ6Tptt9l8P3MsuofZJiIrfeUY7POcyMu7djkn2HSgCh4D8Rato3jXx9BqU2uazDotpZrBp5ne9n3eXghR0LserAAE5Jrd8L/GC81Tx/a+EfEvhf+wtQvIWkhVNUiu2UqnmbZUUAxEoCQG56cd65vXPht4w1HUvik+mwi0GvpbDT5TcIPtKocyR8Eldy5X5gAc88ZNU/CXw58SWPxG8H6y3gTT/AA9pmmwT2t5Ha30c0zM0LL50rZywYycAFmG1snGKAOgl+O15Lpes69o/gm81DwzpjvEmrLeInnOuBnyiu4ISfvDdgYJA5All+NepTazoekaF4Lk1TUNa0WHVIIU1FIghfJZGZkAAVVY7u5wMc158qeJvDXwZ8W+FtMj0XVfDlm0+zxDDqkbqEYqTEYkJbzTuxztAJ7jBPYfDrwlrQ8aeDfErWP8AxKY/BltatcGRPllI3bdud3QjnGOaANnxX8W9f8LxTSyeApmgsraOS+ubvU0tIElZNxihd0/0gjBHyckjAHTPNeOfih4lu/EHw9uPB+m3LaZrAN0lt9sjgbUJAVBgc87AmRkk7W399tV/Ffwz8Wah4+8XXX/CLad4hTXLYw6dq19fKq6WpQggRHJLjChWA+U4O7BarN34F8ZWfhT4ZXth4eF7qnhZ5Rd6a19FExDYwRISUx+7HQk/MOOuADd0fxza6X8QvH9xrc2qwW+j2tvPPFcaiJ7ePKA7YYdg2Ek4+8dx9KlsfjReJPpV34o8GXmheH9alEOn6rJdpLvZuY/MiABjDLk5JPTjIyRkTfDDXvEniL4jHVbQaZa+JLS1FnOZkkAljCtghTuwHUAkgZHSo7jwt8RPG2m+HvCPijQLLSNJ0e4ilvNVS+SX7csPyqI41+ZCwJPzf+O/dIBt3nxg1lvFfiPQfD3gWfWLjQXUyyJqKRI0eCSx3Lw3TCDcW+bpjnM8S/EqS98CeDfiVo8t1Y2UepCHU7Ayko0T5jlDAfK+1k+ViO+flJIrb8H+Edc0v4jfETVL+y8qz1lojYS+ajedtVweAxK/eH3gK871vwvrGg/s0aJ4M1i0+y6zqetpax24kWQgvM7g5QkHgDv3oA+kaKbGgjjVF6KABmnUAFFFFABRRRQBzd9/yVPQv+wLqX/o+xrpK5u+/wCSp6F/2BdS/wDR9jXSUAc3Y/8AJU9d/wCwLpv/AKPvq6Subsf+Sp67/wBgXTf/AEffV0lABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABXN/Ef8A5JZ4r/7At5/6Ieukrm/iP/ySzxX/ANgW8/8ARD0AdJRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAVzdj/AMlT13/sC6b/AOj76ukrm7H/AJKnrv8A2BdN/wDR99QB0lFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABXN/Dj/klnhT/sC2f/AKISukrm/hx/ySzwp/2BbP8A9EJQBpJ4e0uPxPJ4hjtdmqS2otJJ1kYB4g24ArnaSD/FjOOM44rSr5l8T3d74Km8afDTTEPmeJb+CTRU/hEd02JVHoo27Ks+NdGuZvijpXgWLw3J4o0bSNBia00caqNPR2B2GcsT8zAZGM56noGyAfSNIzBELMcBRkmvlLWl1i6+CnhzTdYugFg8Wpa2U1vqcV48MBjbavmxMRuQsQM4IAXgDArs5PBGi+H/AI+L4Y0iCdNJ8QeHpm1C1e7lcXDlpPmLM27PyjnPGTjGTQB6Ta/EzS9T8Ey+KNB0zWNZskuWt0hsLPzJ5sNt3rGSDt784OOoFdhG/mRI+1l3KDtYYI9j718hWWhada/snalrUFvs1C+1COK4m3sd6xzfINpOBjcegHvXf3XhbTPGH7SUul66k01gfDUUktvHO8QmwUwrlCCVBIbGeqj0oA9FvPgn8O7/AFt9WuvDNu93JKJnxNKsbNnPMYYJg9xjB5znNd0iLHGqRqERQAqqMAD0FfJr393pnwr1HwxFqVxZ6EPGz6VNN5nMFmQSybj0UkFj2J3Z6nPa/wDCLaD4P/aW8DaX4YkkjtRZ3cjWTXTzLAWgm+YbiSu7rjpxmgD36ivKPj5qd1a+H9B0z+0JdL0rWdXistUvon2GO3bO4bugBXcTnqFIPGRXMahotj8O/i1beH/AjS2+mapot5JqumC4eWOPbE5Sb52JViQoz6DA60Ae/UV4r+zt4I0SPwDo3i6W2aXWZFuIo7h5nYQx+c67FTO1RwTwM/Meea9qoAKzdQ8PaXqur6ZqeoWvn3elO8lm7SMFiZ12s20Haxx0LA46jFaVFABRRRQAUUUUAFFFFAHN33/JU9C/7Aupf+j7Gukrm77/AJKnoX/YF1L/ANH2NdJQBzdj/wAlT13/ALAum/8Ao++rpK5ux/5Knrv/AGBdN/8AR99XSUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFc38R/wDklniv/sC3n/oh66Sub+I//JLPFf8A2Bbz/wBEPQB0lFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABXN2P8AyVPXf+wLpv8A6Pvq6Subsf8Akqeu/wDYF03/ANH31AHSUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFc38OP+SWeFP+wLZ/8AohK6Sub+HH/JLPCn/YFs/wD0QlAFrUPCGhar4m07xDqGnpNqumKy2lwXYGMHOflBw3U4yDjORiq3iz4feF/HK248U6RHfG2J8p/MeN1z1G5CDj2ziuO1b4z3Ntf6xNofg+81jw/oNx9n1XVY7uOMxOrYk8uJhmQKOc5Ge+Bhjf8AEnxfsfC2q6LLqdg3/CNazZm5t9bjmJAITeEMWzOSNuPm53dODgA37j4deFLnw/peiSaPGunaTMlxZwRSPGI5FzhyVYFjySSxOSSTk81oTeF9HuPFlv4lms92r21ubaK581xtjJJK7c7T948kZ5rzy7+Nl7p3grQPEd/4PmWPXb8W9taRXu+YwkfLKB5YBZucJnnj5ua0dG+JupX3iW68LeLPC8/hjV3sHu7MfbUuknUA7sOgADDGcDPQ5IwAQC+Pgz4BW11K2Tw+qQao6vdxpdTKrlWLLgB/lAJPC4HbpW/B4R0O18VN4kgsturNaizNx5rn9yCCF2ltv8I5xn3ryT4e/FCbw/8AA/SNQ1ptQ8Q63qV/NaWNs05kmupN5CqXbJCjgZ5xkcGuu0z4uGG/1TS/HHh258N6tp+nyamLUXCXS3FsilmZJFwC3yt8vt16gAC+MvAAtPAWtWHgXw7pd9Pqt2bu9sdTllZLlm+8VbzF2PkKQQygY7HmuU8A/DbU4PiVpOuSeCbXwVpeiW0yx266kt7LeTSh1LGQEnAVv4unAGR93ovB/wAWdZ8UXmmTTeBL230TVWdLbVLS8S8VGBx++RFzEOxLHg+vJFDQfiFp2hav8StS1m41c2mi30asl1fi5UktIAlvGVXyskAbdx7cjGaAPUNZ0XTfEOkT6XrdlDe2Vwu2SGVcg+47gjqCOQeQQaw/Dfwy8H+EYbyPw9okNp9tjMU7+Y8kjoeq73YsF4HAIGRnrXN6T8Xr/wDtrRrTxn4Nu/DdprzBNMvXu0nWRyAVWRQAYicgAHnJ6YBIzJPjhrM7eJv7F8A3GoxeG7qWK8nGpJHGIkLfPymS3yE7FDYHegD0/wAPeHtL8K6Db6NoNt9l0+23eVD5jPt3MXPzMST8zE8nvWlWV4Y8QW3irwvp+uWKPHBfQLMqSY3Jnqpx3ByK1aACiiigAooooAKKKKACiiigDm77/kqehf8AYF1L/wBH2NdJXN33/JU9C/7Aupf+j7GukoA5ux/5Knrv/YF03/0ffV0lc3Y/8lT13/sC6b/6Pvq6SgAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigArm/iP/wAks8V/9gW8/wDRD10lc38R/wDklniv/sC3n/oh6AOkooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAK5ux/5Knrv/AGBdN/8AR99XSVzdj/yVPXf+wLpv/o++oA6SiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigArm/hx/ySzwp/wBgWz/9EJXSVzfw4/5JZ4U/7Atn/wCiEoA8R1j4K6ra+J9bSDwLp/iZNSvmubLV7nWJLZLNJHyUlhR1Z9vJyvPORn7o63xr8NNe8YR6D4Hghj0nwnpNkJZb+J1YS3SxlEREZ2k2Luz8x5BbnIUn0m38Wafd+OLzwtbJPJe2Nol1cyhR5UW84WMnOd5HzYxjHftUXjbxpp3gPw+NY1iG6mtzOkG21RWfc2cHDMoxx60AeIeOB41h8F+AdP8AEljb2viCx8RQ21rPLMskN1tGIpG2EsB0DZAPBOOcDtdP8OeMfFnxPj8W+KtBh8PQaVpstpZ2a3yXT3EkgYFiyYAXDHrg9OvJHouu+F9H8SyafJrVn9pbTbpbu0Pmunlyr0b5SM/Q5HtWX43+IOmeBBpqX9lqWo3WpzNDa2em24mmkIGSQpYZxkDg55HHXAB5Rovwp8Yad8M/Ctxb2kEPiXwxqU97Hp9xOhS5R2BKb1JUEhVxkgcnJFdNp/hjxp4q8fz+M/EmkafoE1lpklhpemXFwLxXdgcyStGQCh3sMAg+3GW6/wAKfEPTvF2ualpNpYalZXmmRQSXMd9CsZXzV3BcBidw6EEDB9a6ygD5+0P4e+LofHOlX2l+DLTwVNDdiTVdU0/WN9tfQhgWiW1DHYjYBC9BxnHa7P8ACLXdfj+J1lexpp667qEN1pVxJKrpL5bu3zBCWUHIHIyM5wcYr3SigDxp9A+IHxA1rwtb+M/D9poOm+H7qO9urhL5J2vpYx8ojVMlFJ6hjwG65GDP4W8DeItN8PfE+2vdP8ubXrq9k05fPjPnrIjhDkNhclh97GO9evVha94x0nw5rOiaVqDym91y4MFnFHHuyRjczHoANy9888A84AKPwv0XUPDvwx0PSdYt/s19a2+yaLer7TuJxlSQevY11dZGn+IP7Q8RalpH9karbfYAh+23NtstrncM/unz8+O/AxWvQAUUVh654s0/w9reiabqSTqdana2t7hVBiSUDKo5zkFui4B5HOKANyiiigAooooAKKKKAObvv+Sp6F/2BdS/9H2NdJXN33/JU9C/7Aupf+j7GukoA5ux/wCSp67/ANgXTf8A0ffV0lc3Y/8AJU9d/wCwLpv/AKPvq6SgAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigArm/iP8A8ks8V/8AYFvP/RD10lc38R/+SWeK/wDsC3n/AKIegDpKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACubsf+Sp67/2BdN/9H31dJXN2P8AyVPXf+wLpv8A6PvqAOkooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAK5v4cf8AJLPCn/YFs/8A0QldJXN/Dj/klnhT/sC2f/ohKAPKfDeq39po3xp8Q2bsuqw390kb4y0Swq4jP/AQTjPpXDeKfCPhvTvgD4e8TadezvrGr3MD3szXrv8AbZCXMishO0lG3DIGRg5JJJPu3hvwrqHh/wCKfiycWgl0DX4orxZi6ER3AyskRUncd2d2cbccZzxTD8C/huZJ3/4ReBWnkEjFbiYbSDn5cP8AIMnouB2xgUAeOeLINU8XfETx02oeHJNcOjt5Vncvr6aemjRhTtlVXIBzgOSeOOetWPEHhyHxLffCa48Y28d7qOrGSy1KaO+81bqKNlEZ8yJypyGJLKcktyeK9t8S/CzwX4w1ZNU8RaFDd3qqF84SyRlgOm7YwDY6fNnjjpWpfeD9B1G80a6utOQy6GxbTvLdo1tuAMBVIUjCqMEEDFAHg82p2fhXxH8Yp3a+gtoILK3j/s+YRzDcNiqsjBtvUAtgkDJHOKqeBNKufCfx28JQ2OmWeh2+sadNK2nWupyXUssYgdlNw7HYSXTcNgC/iK95l+H3hae41ye40iOZ9fRU1LzJHYThfu8FsKR1BXBBweoqhovwj8DeHdQsb7RdAjtLuwkeS3nSeUuC67W3MWJcYGAGyBk4AycgHg2naHpHiH4HeK/HuvalcHxXNLMk9ybt4zGcqFtymdpVhgbSDwQBjAxf0Lwtp3jH4k+CNK1xJJtObwPayT26TPGJwu7arFSDgNtbGeqitHxB8N/FOpanr6v8L9Cl1PVJXii8Q2mpeVBGj7QZfszux39SWUA5JIB53ew+Gvh9o+gHRr57cTazpmkxaWL0SOA0aKMjZnbycnOM89aAPBviBo2l65q/jG20TRVmh8KafHALzVtWZINPSOMgRW1vGAxdiDgyMyll5+9grqugWPimT4NXWvxSX8usQNaahLLO+6eNChRSQ2QRvfkYJzyele6av8KfA+veIn1zV/DttdahIu15HZwr8EZZAdrHB6kZ4HPAo1D4V+DNU8Maf4e1DRRPpmmMWtImuZt0Wc5AcPvIOehOOnoMAHj2o6lfeGfF3xjvPD26K6tLGzSBlyTEpVVLD3VSTn2zUeq6BpHgfwp4I8X+CNRuG8T6te26Tz/a3kbVRKN0quhYjG/aDxwcA/Ng17tpngjw7o+p6hqFhpqpc6lCkF2zyPIsyIu1VKsSuNvHA575rM0T4S+BvDviA63o/h23t7/LMshd3WMk5JRGYqh9NoGBwMCgDyjS/BGjeNviz8UIfEMc89vayRPFClw8aeYUfEhCkbmXBxnIG5uOax7zULqf9j7RNSnuXe80rUka0lc5ZDHM6IAT/dU4HoABX0Np/hHQ9L1fV9UsLLyrzWSpv5fNdvO2ggcFiF+8fugVxXin4ZxyaX4V8H+FtL+zeG4NW+3ai/2jcIo0y+z52LsXZsDGcY5wKAPTY2LxqzLtJAJU9qdRRQAUUUUAFFFFAHN33/JU9C/7Aupf+j7Gukrm77/kqehf9gXUv/R9jXSUAc3Y/wDJU9d/7Aum/wDo++rpK5ux/wCSp67/ANgXTf8A0ffV0lABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABXN/Ef/klniv/ALAt5/6Ieukrm/iP/wAks8V/9gW8/wDRD0AdJRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAVzdj/yVPXf+wLpv/o++rpK5ux/5Knrv/YF03/0ffUAdJRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAVzfw4/wCSWeFP+wLZ/wDohK6Sub+HH/JLPCn/AGBbP/0QlAHKXvx48P2l9rVpBofiO/l0O5lgv/sVgsqwrGWDSs2/Cp8rckg8HgVe1j40+GNJg0GaGLUtUj1+KSSwOn2wkaQrgeXtLBt5YhQMdeuOteZ+E/FmoeGtc+J8dp4S1bXUu9dvEhk0yETbZt0mElUfMqcj5gD1PFTeGvh9r/h3XfhPa6jptxKdP+3TX0kUZkitGkJdFd1yoPI74znGaAPRb/4x6Vp8djE3h/xJPqt5A1ydGt9PD3ltEGK75UDYQHGRznBGQKtxfFnw3cDwzLam6mtfEszW9pdLGojimGB5cuWBViTgAA5PtzXnfxJ8LatYfF248SCHxlJpeo2CQrL4PkxcRypgbJFx9wgZz6nvU3/Ctb//AIZ5mgstP1Kx1yG7OuWVtd3S3dzFMpBxuWNPmZQ3y4yGfnnigD0mX4kaDbeINf0u6aeBPD1ql1qF66KYIwwBVAQSxcj+ELzggc8VQ8LfFzQ/FGtW2lrp+saTPfQmfT21Wz8hL9AMloW3HcNvPbg8Vwum/D3X/EXwL8WS3to9r4o8V3TX8ltOPKddkoaOE7sbchDjOMeZzjmszwB4XvdW8a+HLi80z4gq2jx+dPP4jvhHbWsm0ApAjREyKSMcFDgDNAHZP+0L4aFjd3kOh+JLmCxuHgvJYNPVktsEAM779oViSBzn5TkDjNLX/jHe23xc8O6Po+naje6FeWguWa0sPMkvhJEWR4iTzGuVLEAEFWzkDFYnhPw3rVt8AviFYXGjX8V9eajePb2z2rrLOpjjClFIywJBxj0NMj07WvDXib4W+IZvDetX1vY6ALK7isbNpZYJDEVw6cbMGTndjoe4oA7jwz4/tor/AMd3XiHxDcS6doN+Y2+1WEcCWa7nGxGjZmmGQACwDHjjJqz4b+MegeItYsdNl07WdFm1KPzNOfVrLyY74Yz+6cMQ3BBHTORjJOK8yu/h14j8SaV8VbC1064t7i81xLuwF1GYUvFWSQkI7YBBB4PTOMkA5revbjXvir4n8GQr4N1fw7BoV7HqGoXWpW/kIjIAfLhJ5cFlxkAH7pIAoA3bn4/eHIDqwg0TxHe/2PcvBfG1sFkWAKSPMZ9+1UJVsZIPB4r0bSNWs9d0a01XTJfOs7yFZoXwRuVhkcHkfSvGPCXh7WLb4f8AxbguNIvobjULnUTaRvbOr3IaJwpjBGXBJ4xnOa9F+FNldad8KPD1pqFtNa3MNmqyQzxlHQ5PBU8g0AddRRRQAUUUUAFFFFABRRRQBzd9/wAlT0L/ALAupf8Ao+xrpK5u+/5KnoX/AGBdS/8AR9jXSUAc3Y/8lT13/sC6b/6Pvq6Subsf+Sp67/2BdN/9H31dJQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAVzfxH/wCSWeK/+wLef+iHrpK5v4j/APJLPFf/AGBbz/0Q9AHSUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFc3Y/8AJU9d/wCwLpv/AKPvq6Subsf+Sp67/wBgXTf/AEffUAdJRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAVzfw4/5JZ4U/wCwLZ/+iErpK5v4cf8AJLPCn/YFs/8A0QlAD/C/grTvCV9rl3p011LJrd+9/cCd1ISRySQmFGF575PvXQ185eKpPGOl+NNbvPF+teM9EtReLNpeq6Ov2nS7a2EmF+0QLjoAAQTk55U/xdXe+L5/B3xUs9V1LW5r7wv4j0JrmF2lbyFnhjDlokJIQOgBwOpf2oA9iqK6urextJbq9njt7eFC8s0rhEjUDJYseAAO5r5+WL4j6p8FbHXdNvdbu7jV9VfUdQgs70rdRWWSVjt2bO0YUEBBn5wNpGRSxTrq3wu8f6OfFnimWWzsTef2Vr0Bh1GzVULYklJPmRyADKgDCntuyQD3jSNXsde0e21TSZ/tFldJ5kMoUrvX1wQD+Yq7Xy+uqat4U+FPgHSdJ1TxJJD4nlae7Ont513FFGEBgtRx5YO7PHIIPUZBt3Hibxjpvw28c2xPjCz0+1itp9J1LXongvULTIsiGUfe68YPTPTpQB9K0V84y23ivT/FXgGzi8fa+58XWGNRMs4dYl8tGbyVIxG2DgPgsD82Tkg3dEufHk2j/Ezwj4X1y/1TUtIvYI9Oub+5VrgRyMwcCV+A2xODxg5K4OMAH0DRXiHwl1aaDxlHp+peIfF9rdXlgGfQfF0DSPLIuS0tvOcYReRjaC2CTnA2+30AFFFFABRRRQAUUUUAFFFFABRRRQBzd9/yVPQv+wLqX/o+xrpK5u+/5KnoX/YF1L/0fY10lAHN2P8AyVPXf+wLpv8A6Pvq6SuJudLu9S+Ker/Y9d1DSPL0XT932KO3bzcz3uN3nRP0xxjHU5zxiHxKy+D9LXUfEfxH8QWdo8ywrJ9jspMu2cDCWhPY9qAO8orhPEWPCdjBd6/8R/EFpBcXCW0T/Y7J90jZ2rhbQkZweTxWv/wi+r/9D34g/wC/Gn//ACLQB0lFc3/wi+r/APQ9+IP+/Gn/APyLR/wi+r/9D34g/wC/Gn//ACLQB0lFc3/wi+r/APQ9+IP+/Gn/APyLR/wi+r/9D34g/wC/Gn//ACLQB0lFcJfY03xJpug3vxH8QRanqgdrSD7HZHzQgy3zC02jAHcitG70O+0+zlu7/wCIetWttCpeWaaPTkRFHUlja4A+tAHVUV5NoHjjw14n1hNK0X4u61Neyf6uKSytIfMOQMKZLNQx56Aknn0rtf8AhF9X/wCh78Qf9+NP/wDkWgDpKK4nUYDpWpafp2ofEnW4b3UpTFaW5gsC8rBSxwBa5wAOWPAyBnJGdL/hF9X/AOh78Qf9+NP/APkWgDpKK5v/AIRfV/8Aoe/EH/fjT/8A5Fo/4RfV/wDoe/EH/fjT/wD5FoA6Siub/wCEX1f/AKHvxB/340//AORaP+EX1f8A6HvxB/340/8A+RaAOkorm/8AhF9X/wCh78Qf9+NP/wDkWj/hF9X/AOh78Qf9+NP/APkWgDpK5v4j/wDJLPFf/YFvP/RD0f8ACL6v/wBD34g/78af/wDItVtS8D3ur6Vd6bqHjbxBNaXkLwTx+VYLvR1KsMi2BGQTyDmgDraK5v8A4RfV/wDoe/EH/fjT/wD5Fo/4RfV/+h78Qf8AfjT/AP5FoA6Siub/AOEX1f8A6HvxB/340/8A+RaP+EX1f/oe/EH/AH40/wD+RaAOkorm/wDhF9X/AOh78Qf9+NP/APkWj/hF9X/6HvxB/wB+NP8A/kWgDpKK5v8A4RfV/wDoe/EH/fjT/wD5Fo/4RfV/+h78Qf8AfjT/AP5FoA6Siub/AOEX1f8A6HvxB/340/8A+RaP+EX1f/oe/EH/AH40/wD+RaAOkorm/wDhF9X/AOh78Qf9+NP/APkWj/hF9X/6HvxB/wB+NP8A/kWgDpKK5v8A4RfV/wDoe/EH/fjT/wD5Fo/4RfV/+h78Qf8AfjT/AP5FoA6Siub/AOEX1f8A6HvxB/340/8A+RaP+EX1f/oe/EH/AH40/wD+RaAOkorm/wDhF9X/AOh78Qf9+NP/APkWj/hF9X/6HvxB/wB+NP8A/kWgDpKK5v8A4RfV/wDoe/EH/fjT/wD5Fo/4RfV/+h78Qf8AfjT/AP5FoA6Subsf+Sp67/2BdN/9H31H/CL6v/0PfiD/AL8af/8AItVo/A97Fqs+pJ428QC7uIY4JZPKsPmSNnZBj7NgYMr8gZO7noMAHW0Vzf8Awi+r/wDQ9+IP+/Gn/wDyLR/wi+r/APQ9+IP+/Gn/APyLQB0lFc3/AMIvq/8A0PfiD/vxp/8A8i0f8Ivq/wD0PfiD/vxp/wD8i0AdJRXN/wDCL6v/AND34g/78af/APItH/CL6v8A9D34g/78af8A/ItAHSUVzf8Awi+r/wDQ9+IP+/Gn/wDyLR/wi+r/APQ9+IP+/Gn/APyLQB0lFc3/AMIvq/8A0PfiD/vxp/8A8i0f8Ivq/wD0PfiD/vxp/wD8i0AdJRXN/wDCL6v/AND34g/78af/APItH/CL6v8A9D34g/78af8A/ItAHSUVzf8Awi+r/wDQ9+IP+/Gn/wDyLR/wi+r/APQ9+IP+/Gn/APyLQB0lFc3/AMIvq/8A0PfiD/vxp/8A8i0f8Ivq/wD0PfiD/vxp/wD8i0AdJRXN/wDCL6v/AND34g/78af/APItH/CL6v8A9D34g/78af8A/ItAHSUVzf8Awi+r/wDQ9+IP+/Gn/wDyLR/wi+r/APQ9+IP+/Gn/APyLQB0lc38OP+SWeFP+wLZ/+iEo/wCEX1f/AKHvxB/340//AORarab4HvdI0q003T/G3iCG0s4Uggj8qwbYiKFUZNsScADknNAGLq3wQ8PanqF9NBquvaZZ6jL517pen3/lWly5OWLR7T97vgj2xXM/GPw5J4mh8O/D3w74W1IR29zAyamlvizs7cKyMPNyeQo5U+gxkkCvSf8AhF9X/wCh78Qf9+NP/wDkWj/hF9X/AOh78Qf9+NP/APkWgCLxL8PND8T6Dp+l3AuLL+yijadd2E3lT2ZQAAxtzjgAcgjoeoBFHQPhRoOiQayLi61TWrrW4Da3t9qt3507wlNvl7wBhce2enPAxp/8Ivq//Q9+IP8Avxp//wAi0f8ACL6v/wBD34g/78af/wDItAHOQ/BLQI/CcWgy6tr1xHaXSXWn3kt6PtGnuuMeQwUBBx0wRnnqARNH8GfDq+E9Z0Sa81W6k1xka/1S5uRLeTbGDIC7LjAxj7vT863f+EX1f/oe/EH/AH40/wD+RaP+EX1f/oe/EH/fjT//AJFoArXHw50i51jwvqT3F6JvDEJhs1DptkBQL+8+XJOFHQrVKb4Q+GLuTxQb9bq7TxPLHNdxyyKBE8ZYo0RVQVILnqT6dMg63/CL6v8A9D34g/78af8A/ItH/CL6v/0PfiD/AL8af/8AItAGV4a+FGk+HfEkWvXGr65r2o28RhtZtavvtBtlIIby/lGMgkd/bGTXc1zf/CL6v/0PfiD/AL8af/8AItH/AAi+r/8AQ9+IP+/Gn/8AyLQB0lFc3/wi+r/9D34g/wC/Gn//ACLR/wAIvq//AEPfiD/vxp//AMi0AdJRXN/8Ivq//Q9+IP8Avxp//wAi0f8ACL6v/wBD34g/78af/wDItAHSUVzf/CL6v/0PfiD/AL8af/8AItH/AAi+r/8AQ9+IP+/Gn/8AyLQB0lFc3/wi+r/9D34g/wC/Gn//ACLR/wAIvq//AEPfiD/vxp//AMi0AdJRXN/8Ivq//Q9+IP8Avxp//wAi0f8ACL6v/wBD34g/78af/wDItABff8lT0L/sC6l/6Psa6SuJttLu9N+KekfbNd1DV/M0XUNv22O3XysT2WdvkxJ1zznPQYxzntqAObsf+Sp67/2BdN/9H31cH+00WHwpgMYy/wDasG0Hudr13lj/AMlT13/sC6b/AOj76l8ceCNN8f6DHpGsT3UFvHcJcBrV1V9y5wMsrDHJ7UAeB/ErWvitqGlaPD8QfDOl6XpY1i3ZJ7SVWcy/NtXAmfjBbt261r/E7W9X1XxT4rXw5rXiy5k0G0DtDpE66fY6eFQs7TSliZ3zztCqxAYA8cez+M/BeneOdLtLDVprqGK1vI7xDbOqsXQEAHcp4+Y+/vXO6z8FfDet+I9R1aa81i1XVVA1CxtL4xW92QCA0igZJBOcZxkdOTkA4Dxdrzz/AAV8N+K9X8V+JLTXbyyW3tbPRr77ML6c5+d0VTnHUkY7AckUt5H4i8I/DTw5o3izxb4ofXNe1Ezy22lA3OoMgRf3EcryDywuFLEZ+ZyMFd2ewvvgJoF7Foa/294itn0K3+z2U1tdxxug3s4bIj4YbsZGOFX0zVq7+Cuk6hplrb6j4l8U3l3ZXRurPU59T33VsSFBVHK4CnYp6ZyMgigDynTvE/jDTvAfxO0vVNS1i1utGW0e2+16n9purRpHww+0oBuBAHTAHPqc7fiA+IvCPwn0XUYfF+tz6v4uksbO4ur278yPTxJGzu0KjGw8Y3ZzgEgg813cHwP8NW2n+ILOK+1gx+IYokv3kulkd3Rt3m7mQnezbmYnIyxwBxjo9b8B6J4h8CJ4T1aKSewigjhik3gSxlF2pIGAwHGM9MHkEEEigDye78M3Xhb9ob4f2c/iPVNcheG7eNtVlEs0TeU+758AlTxgHOMHnmt/9opwfCOg2t5K8Wk3WuW8epOpwPJwxO49hxn6gVtaN8GNE0fxXpfiN9Z1/UtT00OsU2o3wnLoylQjZX7qhmIC45Jzmuz13QdM8TaLcaTrtnHeWNwMSQvkZ5yCCMEEHkEEEUAef+K/BXwm0yLQLrV7fTdCVbyNrG5siLZp2AyA0iDJXoSxIxwdwzzwfxM1zWNU8S+LW8N634tuX0K3BMekzrp1hp6ohMhkkLEzvuOdoVWIDAHAGO18Nfs5+CPDXiCDV4zqOoS27b4Yb6ZGiRwQQ2FRSSMcZJHtWlrHwS8Nazr+qanLeazax6vzqFhaXxitrpwDh3UDJIJ3AZxntyQQDynWbK98ZeLfhPqGqa7q0F3rdgwmuLO4ELQuiAl4sLhGbPzY68cCm614u8U+IPFPiuWzn8eG60e9kstIg8PW2+yjMLED7UB98sQCcg8E9RhR65qHwb0PUNB8PaaNV1uzk8Oq6WF/Z3SxXKq2MgsEx2HQA8deTlmt/BXw9resXd//AGlrmnpqIT+0rOwvvKg1Arn5pl2nJIODgjueCSSAcbe614o8e+OPB/hPUdT1Twos2hjVNSWxZrS5ln+dCgJ5UArnafU5BIBGFP438U+CD8Uc69eaxcaXJZW1jNePvFv5hZd+z7gYDGcABmGSO1db8WfDtta6l4ZNj4S8RPa6dEYYNV8JT7byyUKQIhFsOUxj5iVxk88kND8Kfh9Fff8ACa3Ou+Hr6y0LxDJFFb2GrlhcyIm/dJJk7lYswYHOc5IPQ0AQahB4h+F+seC9Qh8Y6v4hXXL6Kw1Gy1K486OUyAfPCOsYBJIAJ/hBOMg1fAvh/XvH954ylvvHHiWzTT9YurWwhtNSeNEY5+91YqPkwoIAwfU13nhz4M+H/D2uWOqPqGs6vJpiFNOi1S986KxBGP3SBQBxwM5AwCOQDW34b8I6d4EtNbn0s313/aF3LqU0blXcyMMlIwAvHHAOfrQB43aeONe8TeD/AAd4Jj1S9tfE0+svp+rXEFyy3CQ2xzKxcHduKMpznna3vX0UBhQB29TmvGfhj4Ym1X4veKPiDd+Hr7Q7W52w2FtqUPlTFiq+bIUPTJXr0+dgM4NezUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAc3ff8lT0L/sC6l/6Psa6Subvv+Sp6F/2BdS/9H2NdJQBxNzql3pvxT1f7HoWoav5mi6fu+xSW6+Vie9xu86VOueMZ6HOOM6X/AAlGr/8AQieIP+/+n/8AyVRY/wDJU9d/7Aum/wDo++rA+OGt69oHwuvL3ww80M/mpHcXMC7pLeA53uvoegzxjOQQRkAG/wD8JRq//QieIP8Av/p//wAlUf8ACUav/wBCJ4g/7/6f/wDJVePfCm91CbxrZN4f+LieK7OQFb/TNZ8+CfbtJBgSQvvYYJJUgDbySDXSj4269er4gfQfh7c6lD4fupobyddSSNAiZwy5TczHaxKKDtG3k7qAO8/4SjV/+hE8Qf8Af/T/AP5Ko/4SjV/+hE8Qf9/9P/8Akqucv/jDazad4ePg7RbrX9T8QxNPZ2HnJblI0zvMkhyqkEMO4JU80xfjRptv4G1TWtY0q6sdS0m7+wXWkbleT7SThURxgMp5O70DEA8ZAOm/4SjV/wDoRPEH/f8A0/8A+SqP+Eo1f/oRPEH/AH/0/wD+Sq5rSfiPq+p6hq2g+KPB9/4cv4dLa/iaK8W4Ro8MP9ai4jbIOMg8g9CADkeDfH+pW3wf0G/0Tw/rviW+v5540jvL/wA5owsrbmnuzGqouOm5R2HYmgDvP+Eo1f8A6ETxB/3/ANP/APkqj/hKNX/6ETxB/wB/9P8A/kqvM9Y+LU3jD4M+M7rToZdD1fRvKR2stQWdV3yDa0c8WAcgMDj8zmvVfBVxNd+APD9xdSyTTzaZbPJLIxZnYxKSxJ5JJ5zQBW/4SjV/+hE8Qf8Af/T/AP5Ko/4SjV/+hE8Qf9/9P/8AkquJ+A+s6prHwZmvdW1K7vrsXFwBcXU7SyAADA3MSeK5vwP8WLzwz8FdBvdUS78Q6xq2oy2lsLu+CbyJMfPPJnaACMZ4+g5AB61/wlGr/wDQieIP+/8Ap/8A8lUf8JRq/wD0IniD/v8A6f8A/JVY9j8S57Xwzruq+N/C+o+Gn0RQ00TkTxzhvuiGUAJIxOFwOASMn0qeG/ipf3/iHStL8VeEbnw4NchMukzvdpcLcYXcVYKAY22kHB5ycHFAHR/8JRq//QieIP8Av/p//wAlUf8ACUav/wBCJ4g/7/6f/wDJVcRoXxt1HxHMt9o/gTUL3w4b37I2o2l2k88foz2qguo6E5OADnJ4B9boA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA5v/AISjV/8AoRPEH/f/AE//AOSqP+Eo1f8A6ETxB/3/ANP/APkqukooA4m21S71L4p6R9s0LUNI8vRdQ2/bZLdvNzPZZ2+TK/THOcdRjPOO2rm77/kqehf9gXUv/R9jXSUAc3Y/8lT13/sC6b/6Pvqj+IFr4vuPDiyfD7UILTVbeYSmK4jRkuowDmLLA7STjB46YyM5FG51600T4p6v9th1CXztF0/b9i024u8Ynvc7vJRtvXjOM846GtL/AITzSP8Anz8Qf+E5qH/xigDxzSvh74+8U/EDRNU8S+EPDvhGDS7wX015pSokt0QysUOyRyxJHVsYyxz2NXwTeeOIbX4gWfg/w7a61Bfa3eQeY96sD2kpyC7K+A6kFcAEHKnPUV7b/wAJ5pH/AD5+IP8AwnNQ/wDjFZGg6p4Q8M/bv7D0jxBa/wBoXTXdz/xINTfzJW+83zRHGfQYHtQB5trnwKv7DQfB/laRb+LDo1rJbahpf25rQTGR3l3Ry5XAV5G64JAHHJAtQ/BfUrn4YahFZ6HpnhvWpdRi1C0sIbua4UCHcI0mkeRwWId+UwvTPt6t/wAJ5pH/AD5+IP8AwnNQ/wDjFH/CeaR/z5+IP/Cc1D/4xQBy+l3PxP8AEWpaifEGg2WgaP8A2W8C2Ju47mW4uGDYdHQ/KOgIbjGMZySPO/8AhVfjOH4e+BbW78OR6wui3d3JqPh+TUY4RL5khaN94bYQB7kjdjBBbHtn/CeaR/z5+IP/AAnNQ/8AjFH/AAnmkf8APn4g/wDCc1D/AOMUAePWnwy8YReE/iVYN4bs7KXXvssunWthcRCAYcs0a5K7doIBJCgkHHGK9u8I2NxpfgnQ7C+j8q5tdOt4Zo9wba6xqrDI4OCDyKpf8J5pH/Pn4g/8JzUP/jFH/CeaR/z5+IP/AAnNQ/8AjFAHj1p4a+Mnw9tdW8NeC9J0zV9FuZ5ZLW9kkjWSISDHAaRPmAwcMrDPciugf4aa54f+DOjeGYtE0Txc1pM8moWNyzRNL5jk5tpiV8t1DkbiASMkYPyn0H/hPNI/58/EH/hOah/8Yo/4TzSP+fPxB/4Tmof/ABigDyjRPhP4n1Twb4x0S6tP+EW0jVI4V0nQ59SN8trLGyyF/MBO1HcHOOeTkfKuU+HvwqvrPxXpN7ffDzTfDg0yMPNfyavNeSXM4XAaKNJtqDdyQ4bg4Br1j/hPNI/58/EH/hOah/8AGKP+E80j/nz8Qf8AhOah/wDGKAPGtX+HPjS818zaV4I03Qtf+1gjxXo2rG2txHnlvsu4typIbjJOeuefodAyxqHbcwAywGMn1xXO/wDCeaR/z5+IP/Cc1D/4xR/wnmkf8+fiD/wnNQ/+MUAdJRXN/wDCeaR/z5+IP/Cc1D/4xR/wnmkf8+fiD/wnNQ/+MUAdJRXN/wDCeaR/z5+IP/Cc1D/4xR/wnmkf8+fiD/wnNQ/+MUAdJRXN/wDCeaR/z5+IP/Cc1D/4xUVz8RdBs7WW6vItcgt4UMkssvh6/VI1AyWYmHAAAySaAOporm/+E80j/nz8Qf8AhOah/wDGKP8AhPNI/wCfPxB/4Tmof/GKAOkorm/+E80j/nz8Qf8AhOah/wDGKP8AhPNI/wCfPxB/4Tmof/GKAOkorm/+E80j/nz8Qf8AhOah/wDGKP8AhPNI/wCfPxB/4Tmof/GKAOkorm/+E80j/nz8Qf8AhOah/wDGKP8AhPNI/wCfPxB/4Tmof/GKAOkorm/+E80j/nz8Qf8AhOah/wDGKP8AhPNI/wCfPxB/4Tmof/GKAOkorm/+E80j/nz8Qf8AhOah/wDGKP8AhPNI/wCfPxB/4Tmof/GKAOkorm/+E80j/nz8Qf8AhOah/wDGKP8AhPNI/wCfPxB/4Tmof/GKAOkorm/+E80j/nz8Qf8AhOah/wDGKP8AhPNI/wCfPxB/4Tmof/GKAOkorm/+E80j/nz8Qf8AhOah/wDGKP8AhPNI/wCfPxB/4Tmof/GKAOkorm/+E80j/nz8Qf8AhOah/wDGKP8AhPNI/wCfPxB/4Tmof/GKAOkorm/+E80j/nz8Qf8AhOah/wDGKiX4i6C11JarFrhuI0WR4h4ev96qxYKxHk5AJRgD32n0NAHU0Vzf/CeaR/z5+IP/AAnNQ/8AjFH/AAnmkf8APn4g/wDCc1D/AOMUAdJRXN/8J5pH/Pn4g/8ACc1D/wCMUf8ACeaR/wA+fiD/AMJzUP8A4xQB0lFc3/wnmkf8+fiD/wAJzUP/AIxR/wAJ5pH/AD5+IP8AwnNQ/wDjFAHSUVzf/CeaR/z5+IP/AAnNQ/8AjFH/AAnmkf8APn4g/wDCc1D/AOMUAdJRXN/8J5pH/Pn4g/8ACc1D/wCMUf8ACeaR/wA+fiD/AMJzUP8A4xQB0lFc3/wnmkf8+fiD/wAJzUP/AIxR/wAJ5pH/AD5+IP8AwnNQ/wDjFAHSUVzf/CeaR/z5+IP/AAnNQ/8AjFH/AAnmkf8APn4g/wDCc1D/AOMUAdJRXN/8J5pH/Pn4g/8ACc1D/wCMUf8ACeaR/wA+fiD/AMJzUP8A4xQB0lFc3/wnmkf8+fiD/wAJzUP/AIxR/wAJ5pH/AD5+IP8AwnNQ/wDjFAHSUVzf/CeaR/z5+IP/AAnNQ/8AjFH/AAnmkf8APn4g/wDCc1D/AOMUAdJRXN/8J5pH/Pn4g/8ACc1D/wCMVFbfEXQby1iurOLXJ7eZBJFLF4ev2SRSMhlIhwQQcgigDqaK5v8A4TzSP+fPxB/4Tmof/GKP+E80j/nz8Qf+E5qH/wAYoA6Siub/AOE80j/nz8Qf+E5qH/xij/hPNI/58/EH/hOah/8AGKAOkorm/wDhPNI/58/EH/hOah/8Yo/4TzSP+fPxB/4Tmof/ABigDpKK5v8A4TzSP+fPxB/4Tmof/GKP+E80j/nz8Qf+E5qH/wAYoA6Siub/AOE80j/nz8Qf+E5qH/xij/hPNI/58/EH/hOah/8AGKAOkorm/wDhPNI/58/EH/hOah/8Yo/4TzSP+fPxB/4Tmof/ABigDpKK5v8A4TzSP+fPxB/4Tmof/GKP+E80j/nz8Qf+E5qH/wAYoA6Siub/AOE80j/nz8Qf+E5qH/xij/hPNI/58/EH/hOah/8AGKAOkorm/wDhPNI/58/EH/hOah/8Yo/4TzSP+fPxB/4Tmof/ABigDpKK5v8A4TzSP+fPxB/4Tmof/GKP+E80j/nz8Qf+E5qH/wAYoAL7/kqehf8AYF1L/wBH2NdJXE22vWmt/FPSPsUOoReTouobvtum3FpnM9ljb5yLu6c4zjjPUV21AHN2P/JU9d/7Aum/+j76ukrm7H/kqeu/9gXTf/R99Wl4h1n/AIR/QbjU/wCzdQ1PyNv+iabB508m5gvypkZxnJ56AmgDSorNvtZ+xa9pemf2bqFx/aPm/wCl28G+C18td3758/JuzheDk8UWOs/bde1TTP7N1C3/ALO8r/S7iDZBdeYu79y+fn24w3AweKANKiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAK5v4j/wDJLPFf/YFvP/RD10lc38R/+SWeK/8AsC3n/oh6AOkooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAK5ux/wCSp67/ANgXTf8A0ffV0lc3Y/8AJU9d/wCwLpv/AKPvqAOkooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAK5v4cf8ks8Kf9gWz/8ARCV0lc38OP8AklnhT/sC2f8A6ISgDpKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKAObvv+Sp6F/wBgXUv/AEfY10lc3ff8lT0L/sC6l/6Psa6SgDm7H/kqeu/9gXTf/R99XSVzdj/yVPXf+wLpv/o++rpKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACub+I//ACSzxX/2Bbz/ANEPXSVzfxH/AOSWeK/+wLef+iHoA6SiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigArm7H/kqeu/8AYF03/wBH31dJXN2P/JU9d/7Aum/+j76gDpKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACub+HH/JLPCn/AGBbP/0QldJXN/Dj/klnhT/sC2f/AKISgDpKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKAObvv+Sp6F/2BdS/9H2NdJXN33/JU9C/7Aupf+j7GukoA5ux/5Knrv/YF03/0ffV0lcTcwa5N8U9X/sHUdPssaLp/m/bbB7nf+/vcbds0e3HOc5zkdMc35bbxnBC80/iXw7HFGpZ3fQpgqgckkm84FAHT0V5t/wAJz/1VP4f/APgL/wDd1dFFbeM54Umg8S+HZIpFDI6aFMVYHkEEXnIoA6eiub+w+N/+hh8P/wDghn/+TKPsPjf/AKGHw/8A+CGf/wCTKAOkorm/sPjf/oYfD/8A4IZ//kyj7D43/wChh8P/APghn/8AkygDpKK5v7D43/6GHw//AOCGf/5Mo+w+N/8AoYfD/wD4IZ//AJMoA6SiuXmg8ZW6qZ/E3hyIO4RS+hzDcxOABm86k8AVJ9h8b/8AQw+H/wDwQz//ACZQB0lFc39h8b/9DD4f/wDBDP8A/JlH2Hxv/wBDD4f/APBDP/8AJlAHSUVzf2Hxv/0MPh//AMEM/wD8mUfYfG//AEMPh/8A8EM//wAmUAdJRXN/YfG//Qw+H/8AwQz/APyZR9h8b/8AQw+H/wDwQz//ACZQB0lFc39h8b/9DD4f/wDBDP8A/JlH2Hxv/wBDD4f/APBDP/8AJlAHSVzfxH/5JZ4r/wCwLef+iHo+w+N/+hh8P/8Aghn/APkyuf8AH1n4xX4beJWvNd0OW3Gk3Rlji0WZHZfJbIVjdMFJHQkHHoelAHolFc39h8b/APQw+H//AAQz/wDyZR9h8b/9DD4f/wDBDP8A/JlAHSUVzf2Hxv8A9DD4f/8ABDP/APJlH2Hxv/0MPh//AMEM/wD8mUAdJRXN/YfG/wD0MPh//wAEM/8A8mUfYfG//Qw+H/8AwQz/APyZQB0lFc39h8b/APQw+H//AAQz/wDyZR9h8b/9DD4f/wDBDP8A/JlAHSUVzf2Hxv8A9DD4f/8ABDP/APJlH2Hxv/0MPh//AMEM/wD8mUAdJRXN/YfG/wD0MPh//wAEM/8A8mUfYfG//Qw+H/8AwQz/APyZQB0lFc39h8b/APQw+H//AAQz/wDyZR9h8b/9DD4f/wDBDP8A/JlAHSUVzf2Hxv8A9DD4f/8ABDP/APJlH2Hxv/0MPh//AMEM/wD8mUAdJRXN/YfG/wD0MPh//wAEM/8A8mUfYfG//Qw+H/8AwQz/APyZQB0lFc39h8b/APQw+H//AAQz/wDyZR9h8b/9DD4f/wDBDP8A/JlAHSVzdj/yVPXf+wLpv/o++o+w+N/+hh8P/wDghn/+TK5+zs/GP/CydZVdd0MXA0mwLyHRZijL515tAX7VkEENk5OcjgYJIB6JRXMS23jOCF5p/Evh2OKNSzu+hTBVA5JJN5wKjth4tvLGO9tPFXhme1lQSRzxaLK0brjO4MLzBGO9AHV0VylmPFuo2cV3p/irwzdW0y7o5oNFldHHqGF5ginzweMraFprnxN4chiX7zyaHMqj6k3lAHUUVzf2Hxv/ANDD4f8A/BDP/wDJlH2Hxv8A9DD4f/8ABDP/APJlAHSUVzf2Hxv/ANDD4f8A/BDP/wDJlH2Hxv8A9DD4f/8ABDP/APJlAHSUVzf2Hxv/ANDD4f8A/BDP/wDJlV1/4SxtQewXxX4ZN4kYle3Giy+YqEkBiv2zIBIIz04NAHWUVzf2Hxv/ANDD4f8A/BDP/wDJlH2Hxv8A9DD4f/8ABDP/APJlAHSUVyc//CWW1xb29z4r8MwzXTFII5NFlVpmALEKDeZYgAnA7CmyS+KYdSh06bxf4XjvZ0Z4bZtGlEkijqVX7ZkgdyKAOuorlJR4tguoLWbxV4ZjuLnd5EL6LKHl2jLbR9sycDk46VP9h8b/APQw+H//AAQz/wDyZQB0lFcusHjJ5nhTxN4caWMAug0OYsoOcEj7ZxnB/KpPsPjf/oYfD/8A4IZ//kygDpKK5v7D43/6GHw//wCCGf8A+TKPsPjf/oYfD/8A4IZ//kygDpK5v4cf8ks8Kf8AYFs//RCUfYfG/wD0MPh//wAEM/8A8mVz/gGz8Yt8NvDTWeu6HFbnSbUxRy6LM7qvkrgMwulDEDqQBn0HSgD0SiuG1bWdY0CWOPXfHvg3TJJVLRpeaY8JcDqQGvRkU/SNV1zxB539g+OvB+p+Rt837FpbzeXuzjdtvTjODjPoaAO2orm/sPjf/oYfD/8A4IZ//kyj7D43/wChh8P/APghn/8AkygDpKK5v7D43/6GHw//AOCGf/5Mqvdf8JZYrE194r8M2wmlWGIzaLKm+RjhUGbzlieAByaAOsorm/sPjf8A6GHw/wD+CGf/AOTKPsPjf/oYfD//AIIZ/wD5MoA6SiuWuYvGNnay3V54o8NwW8KGSWWXQ5lSNQMlmJvMAADJJqC7ufE1hpR1O/8AGPhW208KrG7m0eRIgGICneb3GCSAOecigDsKK8+sfFV5qd5Haab8SfA13cynEcNvYmR3PoFF9k1u/YfG/wD0MPh//wAEM/8A8mUAdJRXN/YfG/8A0MPh/wD8EM//AMmUfYfG/wD0MPh//wAEM/8A8mUAdJRXN/YfG/8A0MPh/wD8EM//AMmVBZjxbqNnFd6f4q8M3VtMu6OaDRZXRx6hheYIoA6uiub+w+N/+hh8P/8Aghn/APkyj7D43/6GHw//AOCGf/5MoA6SiuUgHi26mnitvFXhmaS2fy50j0WVjE2A21gLz5Tgg4PYip/sPjf/AKGHw/8A+CGf/wCTKAC+/wCSp6F/2BdS/wDR9jXSVxNtBrkPxT0j+3tR0+9zouoeV9isHttn7+yzu3TSbs8YxjGD1zx21AHN2P8AyVPXf+wLpv8A6Pvqw/jV4ktNB+F2sQSXtvBfalbNa2kEs6xvNvKxuVBIztD5J6AdcVuWP/JU9d/7Aum/+j76oPiF4PvvGmi2Nnput/2NNZ38V8s5tBcBmjyVUozAEbirc5Hy4xQB41ovinwwsmn2N/8ADLwFFADHDNey+I9KlZF4DSEAZYgZOOprd1T4i3ur+JvEdr4d+I/h3w3oempCllLItvPJO6x7nESswBQlsE/NyihQPmrtdL8IfEO11a1uNT+KBv7OKZXntRoFvF56A5KbwSVyOMjkZ4qyfh9KPAOv+HU1jZc67cXU9xfC26ee5LAJu7Idn3vf2oA8w1H46Pf6doGnr4w0/wAN3E2mR3ep6pFYG/KzNwIEiUMqnjc27puAHIIqxH8bZ5vAQisvE2lXWuR65FYRX0uy0W7tsq5uHikGYlK7kY7cA5x2r0HXfh7qUmsxar4I8UyeF7o2kdlc4sY7uOeKPPl/I5AVlyRn0OPretfApt77w5PNrV7f/wBiSXE7tfMZpLmWWMpuLE4QKGbCgY5GMYoA84fx3q17q8vh+0+LPh20S2X7Xc+IJIbXa7SE7LWCIvtZVCks5ZmyVGR3Zo3xdvfIhn1zxfopePxQlhNFBNAEkslj8tplz8wjaX95u7Dvtp/xE1/TNE+JOoG18W614W1S5toYrqxg0n7T/bKAHyzbPghH5aPeejDp8pyy4sjpnwh8P/DRGuR4z1MQXscaoxe2Y3PnPPI/QBCGzzkkAe9AHXaP8UtC1PxnrE9x4x0a00OyVbO0t5b2BDdTD5pJ8sd20ZCLg7Thjzwa5r4hfFRF8XWFjoXxG0zQtHktSx1GxtodULz7sGOVQxMYC7Sp24JLZPHHr2g6LZ+HNAstH01NlrZxCKME5Jx1JPck5JPqTXGa78Ndautf1S+8L+NbnQLTWtrajZixjuBI4QIWjdiDGSoHTPPPoAAcHrviZ9Z8YeDm1D4k+G7Q6VazXt9JYSQz25nRgg2s7DLyRyEBSPl2sRnqG3PxR8QXGhT+M7Xx94bs1TNxb+EG8h5JYAeEkl3eYJSuTtUdcDjJA9J0/wCG/wDZPifT7zTdZlj0e10dNIm0qW3ST7TGm/aTKeV5kycDkjrjisa0+Dt95Npous+Nb/UvCVjKr2+iNaxxkqjZjjlnX5pEH90gDhcY2igDJ1H4lS6/45v9P0P4g6F4d0WCytW+2zS20zNKxZnWIOcMSu1WJJC7fu5bI5nVPjTdxapLqdl8R9MmdbxUi8N2+juYHi8wJg3kiqc7CXLcLkHHGK9q07whDa2/iSK9uWul8QXcs05VPLKI8SxCMcnOFXrx16Vx1t8ItfZNFtdY+IF1qGl6Jd2s9nYf2bFEhjgYERyFWzIdqgBj0OTg5oAx9U+JV94i1rVZ/DnxC8NeG9N0iVobWC7eCZ9XdQCxYswKRE/KrJkkFj6Vgy/HK4uNA0Gwn8Y2Gi31/BNfahqwsvtrWamVvJtkhjUrv24B34woyfmIzU8W6jBc6p4l8OeEvFOu2V/rF3MsvhEaXiWW5c4aQXGCEhbAkYA8puyRu49W1L4bX6PpV34O8TyeG9RsdNj0uSZbKO6jnt0wVUxvgBgejdQCR3oAi+EPjpvGGnaraza1Br0ulXKxrqcVsbY3UbpuV2hIBQg716AHZxnrXolZPhrRJdA0ZLS61W+1e5Z2lnvL2Us8jscnC9EQdAi4AA7nJOtQAUUUUAFc38R/+SWeK/8AsC3n/oh66Sub+I//ACSzxX/2Bbz/ANEPQB0lFVNV1Sz0TSLrU9Um8iztImmnl2ltiKMk4UEn8BXA/wDDQfwx/wChm/8AJC5/+N0Aek0VQ0PW7DxHottq2jyvNZXSl4ZHheIuuSM7XAbHHGRyORwav0AFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAVzdj/yVPXf+wLpv/o++rpK5ux/5Knrv/YF03/0ffUAYvxn8Q2mifDLVbWW/tba+1O3a0tYp51jaTeyxuVyckKJMkjoOtcHB480DwX4I8ZeF9P8RafeRWNrJNoMkV6knmRzK2IQVJy0cm75eu0r9a9c8U+Gf+En/sdHvDbw6dqkOoSRiPd9o8rJWMnIwNxVs8/dxjms3x38Prfxvc6NPJeNZyaddpJKVi3/AGmAOjtAeRgFo4znnG3oc0Aeb2fjB5xb+FvDHxE8PeE9J8PWNvbNqM0lvdSX83lruEayOF8tehYc7hgZGcZeveN5/HGg+EtPuvHOh6Nfw6vMupTRmGWFjbktDckOwwpMYwp+VzIOwAr0vW/hxrNx4i1LUfCnjW88O2+sFW1G1is45vMcIE3xOxBiYqOo5yAewqeH4aDSdQ8KSeGdZl0yz8PRSwPbvbpObyOVkeTLnGxmZMswHfjbQBR8cfFTQdJ+Hup3Hh7xdo15rMdtstfIvYJHaViFDBMkHBO48YABzxXC678WL/Sri302X4l6KkmqKLifULKxW9i0hUAHkxiIN5zu2ctJgBVJCrkY9o8TeHf+Eji0yJ7ryIrLUoL6RfL3ecIm3BOox8wU556YxzWT4u8E6jrWtWuueF/EkvhzWIIGtJLlbRLpJoC27Y0b4GQwyG7Zb14APNNM+ObweFdSsY/Euk69rEd9Da6bql3F9gjnSYZMs0RwVWLDgsBgjZ3JJ0NE+Id3o3jfT9J8QfEzw/r2ktBNeT6lG1tByFCC3YKSPvEOpBDH5gQQK7C/+G1zf+D4NOm8U6lJrdvfJqcesz/vDHdDPzLCTtSLDMBEuFAOOeSed8IeF7rVfGvj+HXdZutVn+w2+ivqbIkbEtAXl8tFG2MAyLhQOoySSSSAU4/i2k3wkgvG8X6XF4l1O7RIl+0W++xjlucDenQCOI5JYduT3qlrvxUt4bvxRqHh/XdE+2y6pYaZpr+dbBjCuxpZGkIJMWZJBvbcq8kY5rrNC+FWq2WpeHrrxB4zuNaj8PyH7JafYUt4VQQmNBtU/eXOd7bjgADHJOnpnw5+wzaPJcap9oaw1e81e4/0bZ9pmnEgH8R27BL7529qAPM9c+K93puppoL/ABT0pDKGvZ9ds9JF2kO44S0hjj3AhcEl3Ythl5yCDasPjdLe+FY9KtPE2jS65Nqb6fFrd4otYhbCPebx4XxtbB2hThS44yOD6H4n8C6vqHiQ694Q8Vy+GtQnt1trwixju47hEJKHY5G1huYZ9Dj6xav8Nrm80TSI9M8Vanaa5pE7z2+s3OLqRmcYkDI5AKkHAUYAwOOoIByHhHUL7XPjPpen6j4t0vxbFomlXN9DqdgsSFnmdIijpGxUMozyOzjPJq38SPD934h+MGiR6TdtZ6rZ6LcXmnzhsBZ0mj2hvVWBKkejGt7w/wCF/wDhXup6t4i8Q65qniO+1n7PDJNHpckzxlFcnbHArFUJJwMALhRkk8tuNV0i4+INj4n/AOKgX7Jp8tl9m/4RfUDv3urbt3lcY24xjv1oAyl8YW/iLxR4I1eWJrW4tf7Tj1CzPL2s8cA8yM/QjI9QQe9J/wAJB4yHw1/4WL/bMRQ241A6F9lj8gW2clBLjzPM2c7t2N38OKJ7Hw4/xUt/GtsPEUDCF47ux/4RfUGjuXMZjEmfK+VtpweDkAdO9D+yrQ6H/wAIu+t+JT4T3ADTx4RvhceTu3eR9o8r/V9vu7scbqAN/wAF2l43xd8ZXjazdS27fZH+zPDCFYPEWQEhd3yD5Rg8j724816TXA6DLan4kXmo6VcarFb6tDGk9ld+G7uBA8KEKwndFVBt/hI5OADziu+oAKKKKACub+HH/JLPCn/YFs//AEQldJXN/Dj/AJJZ4U/7Atn/AOiEoA8V8Y+OtEvvi9qeoJovhzxhp1lpsFnD9u1mzhhViWlZ4/OyJD820lOmMH0qvovj7RNIW++IVhp3hbw2yaWbGy0CwvI3uLqWSVCJpkiC4VcdNu/AbOOM+7+F/C//AAjtxrlxJefbJ9X1OS+ZzFs8tWCqkXU5CqoGeM+grDuvhjDdW/iazOqyw2WtXseo20cMW17C7XDNKr7vm3OqtjA78nNAHnfhf4zx2firT01j4jWHiKxvxIt3EdJawXTiIy6skjKvmLuGz5ueVOM5qDUfir4kk8L3fi2x8c+HYGulZLTwuGtzNbJIdkcrSFixlTKuykbcBunQeqeHvBet213Nc+MvGV74kdoWgjgW3Wyt1RvvFoozh27Bm6A8DvXA3vgTU9C8QeBvDF54qvNa0xdX8+yspbeOJbe3to2k2uV5lIPljJwB0C84oA6XTvijos/xEv7W48Z6Mui2OmwIrSXluq3V07MXdXzztVVBAOAW9a5rTvihYaxJ4QOteJdGaO61G91C7+0vbf6HBHv+zRnIyj/PHg8Pw3J5rptb+FeranqniJ9P8bXemaZr4L3FjDZIWEvlKgbzsh9nyjKDGRkZwTWlP8ON2/7JqgtxH4aOgWY+yhvs4PWb7wyeE+Xj7vXmgDyyP4y61a+DbbxJe+MdFa6u5Xt4NE2RyPEJJGKXFyYsyKsaA/Iq5OEySzEVf8M/Gy10jWLiHV/H9t4usGsJrkTvpX9myW8sYBWIAgCTzASABk5X8/Udd8Cxar4Q0vSLHUJdMu9GaGXTb+GMMbeWJdqsUPDKQSCpOCDiqmm/D+/m0rVrbxt4r1DxHLqlq1k7BFtYYYiDnZAmUD88ucngAYGcgHknirxnrmp+BpZ7/wCIXhm5HiAR2lxoFs8GdMjmYAusofc7KMBtw2jc5z8or0743Ilv8FtUjijJSOSyVY17gXUOAM1TsPhLrR1TQLnxJ47vNbt9AuUms7SSxSJMKhVd5DZdwdpEjZPDcfMTU/j/AFzQ/FHgm80m5k1zTYZXhkkvJfDl7tiEcqSZO6NRzs29c/N0NJtJXZUYym+WKuzE8daqni21i8FQ+ELzRNW1Yq1ne6qtvDHCUYM0kbxysWkUDIVefXir2u+MtWm8daroNpfa1p9ro0UCNPpWhNfvczSR+YS7eW6ooVk+XAJJPNHjbxN4a8X+HX0+5TXdNureVbuC+XSJi+nMhJjuSAPuHBxg5IPbINZk+vQWuvT65pGr6tpWp3ltFHrJm8NTSwSLGpVLox5BTIBAIZuCoK9Kj2sO51fUcT/I/wCv6/Luatn4v8Wa7a+GNFZJdC1XVJLz7XezWJR1httv7yOGUfKZN6EbgQuW4OKpap4n8YaBH47tLvXFu5NGh019PuRaRIwWaRw5dQuCxAweMcZAGaguNV0kaZpDLq3iePXNElluBq19pE07Kku7e8qYA8hwMKqkEAJjHfCtb+yv9W8cWviq516aLWbSy8y/TSXjNt5fnESeUAxSMfuyucltw65NHtYdw+o4n+R/1/X5dz13XdYvrL4geFNNtp9lpqH2z7THsU+Z5cQZOSMjBPYj3rgfDOs+ItR0P4b6XpWqRaTHq+l3kt5Ja2MA2+V5RUxps2KcsRgLjDHgkDENrrcTeMdG8ReJ9b1m9uNFinRoV8NS28ccMqFfPYAsQG2g5BOcKAq55d4f1DQvD3/CJ+dca03/AAjFjc202/Qp13RTbMTtjOxP3XGNxO4dO57WHcPqOJ/kf9f1+XcuXnjLXLzxFq+mwarrlnDosiWcc2m+HTffa5hGrPJMyxsqglh8ibTjnIyKuaT4r8VeMLzQ9FzN4WvpNLfUdTdrMecCsxhVEjmBCBirPllJ24x1zWTea7a2ev6pqnhjVta0I6oRLqcFx4cluUi2qVW6X7uzcF6/MDwSvNE+r6XaNpV7pOq+JLPWNKtXtri/1LRp7szWrHd5lwPlJQsu5SrAjIGMHFHtYdw+o4n+R/1/X5dzp/hml7FrvjePVJo57pNZVXljTYJMW0IDbexIwSOgJNegV5r8Lpra01LWrY3+q6jqOp3Z1Gd77S2tDGpVUDc/KVYrlQOcEccZPpVWpKSujnqUp0pcs1ZnN33/ACVPQv8AsC6l/wCj7Gukrm77/kqehf8AYF1L/wBH2NdJTMzm7H/kqeu/9gXTf/R99XQzTRW1vJPcSJFDEpeSSRgqooGSST0AHeuesf8Akqeu/wDYF03/ANH31c18btRMPg6DSJ4LZbLW7lbOS/ub028dnJkSRO/7qQGMshDZwMcHgkgA7O08WeHb/T7m/sdf0u5s7QZubiG8jeOEdfnYHC/jV651Cysvs/2y7gt/tUqwwebKq+bIwJCLk/MxAOAOeDXz94etbjWbLxTo+keH/Bt5qC6KbW61bw5fyW9q8cqnavlpCyPMGQtnjqAMDIqfT/GHiLxB4fj8fXHh+zvdH8NaY0UUK6lJE0kzRJ586fuDkqp2dgpEmGbrQB7dZeJ9B1HVJdM0/W9Ou7+Hd5tpBdxvLHtOG3IDkYPByODWV4b+IWg+KH1t9PvrT7Lo8xjluPtUZDIFDGbg8R9QGJwdreleIeDha6Hrmiada6d4G8RzL59zYX2l6g8V1ZxxRsxN5NFB8w2NswyDc3UemaYZD8PfDAsLHwdYaZrGpvPfXs9632eWQB54rW78uNNgTdgJuYZQZwKAPpvS9d0jXLV7rRNUstRt42KPLaXCSorYBwSpIBwQce9Q23ijQLy7gtbTXNNnuLmHz4IYruNnlj5+dVByV4PI44NeA2F/rWh2/i7xBoa+CZIbfSPsVxH4Xa5htxK5zFID5TRyyLvI2qwPzYJFWLr4cS2uoeDPCb+EtBa9RZLu6uV1aUy3cUUYR0ml+zBlRmkUBRuGBtGBzQB7zYeI9E1XT577S9Z0+9s7fPnXFtdJJHFgZO5lJAwOee1O0nxBo2vxySaFq1jqaRELI1ncpMEJ6AlScV876rmytvGFudB0PRdI1zV7bRGktdRMNrY3FvHvDt/o21oy5IYlVB5UjGWrpvhlc3g8S6hFoPh3wTfapY2ccdzqug6jLa2csbnKoUSB0aXKElsDAOBjkUAewLqfmeKJNKjb/UWa3My+Vn/WOyxnfu4/1UnG054ORgg6VYHh7RLq11XVNb1YRx6jqvkrJbwXMk8UCRKVRUZwvB3Mxwi8ueuNx36ACiiigAooooAKKKKACiiigArm/iP/AMks8V/9gW8/9EPXSVzfxH/5JZ4r/wCwLef+iHoA6SiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigArm7H/AJKnrv8A2BdN/wDR99XSVzdj/wAlT13/ALAum/8Ao++oA3L3ULLTYVl1G7gtI2barzyqgJwTjJPXAJ+gNUZPFfh2HSI9Vl17S006U7Y7xryMQuc4wHztPPHWub+KdpBfWvhe2u41lhk8SWYeNhkMMtwR3HtXPeIbS6b45RW8OpaZpKjRAdN/tHThcRO3nMZxGPMQK/3CepI9hQB6g+q6dHpX9pyX9qun7PM+1tMoi2f3t+cY981Vh8U+H7i2kuLfXdMlgig+0ySpeRsqQ5I8wkHAXKsN3TIPpXjtpY6bYzaGLjXrXWfDreLZ2uzBYm2s7e4MDeXGqszKU87ByCV3N607ximkv4k+JI8Pi3Zj4QU3YtQCPODS5zjvsCZoA9tlv7OB7ZJ7uCNrttluryAGZtpbCZ+8cAnA7AmsfTfF1jN4fi1PXLjT9J8yS4UK+oxSJiKR1JEgO0/Km4j+HJB5Brkdf13TL7xP8NLWyvoLmWW8a4UQyBv3YtJBu4PQlhj8fSuc8OWdvfW/w2gvIkmiOvay5RxkEq12ynHsyg/hQB65deKvD1jZW15e69plta3YzbzzXkaJMPVGJw34VavdX03TdO/tDUdQtbSywD9pnmVI8Hp8xOOa8nlsrub40eKoRq+j6U0dnaCzj1TTBcBrTyvm8o+am1RKX3DHXFUfDVnplnrXgiO71m31nw8DqR0+6e1NvbC6Mi7UVHJ4VfNEZyRgHbQB6lofiqDXfEWs6daRxvBpq2zR3cUwkW4E0ZcEYGABj1Oa3684+HbaS3xJ+IH9gNCbVbm0DfZyPLEnlN5mMcfezn3zXo9ABRRRQAUUUUAFFFFABRRRQAUUUUAFc38OP+SWeFP+wLZ/+iErpK5v4cf8ks8Kf9gWz/8ARCUAdJRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQBzd9/yVPQv+wLqX/o+xrpK5u+/5KnoX/YF1L/0fY10lAHN2P8AyVPXf+wLpv8A6Pvq3b2xtNSspbPUbWG7tZhtkgnjDo49Cp4NYVj/AMlT13/sC6b/AOj76ub+OYtD4BtBqSeZZ/2xZfaE2F90fmjcNo5PGeByaAN3XPD+q6d4aGl/DGDQ9CeaYieR7YokMbKQ0kaRgAyg7SN3BxzWx4b0Cy8LeGbDRNMXba2MIiTPVvVj7k5J9ya888NWvwhl8S2K+HtDEOprLvtpDpF3DtdRnO94wo6dzUs3jjxpJoPibXrKz0VbDw7fX0LQTLL5t3FbyNkqwbEZ2LjJDZYHgDFAHe6V4X0DQWlbQ9D03TWmULKbO0jhMgHQNtAyOe9C+GNATQ30ZND01dLkbc9iLSMQMchsmPG0nIB6dQK4TXviukXiM6RYaroWh+TZQXU1zrrMd5lBZY0RXXOFALNu43AYNMtvijqmuaH4fl8PW+mtfajrE2k3Jd3lt0aOORvNjZSCyfKrj1U4yD8wAPQY/D2iw6ONIh0iwj01WDCyW2QQght4OzG3O4bunXnrVo2NodQF+bWE3ixGEXPljzBGSGKbuu3IBx0yBXEQ+IfGOqa7qGjaN/YZn0SOJdQuriGXy7ieRN4jiUPlAFK5Zi2C2MHFU/DfxE1vULDwjf63Y2dtba5d3lhdrEGzbXEckghAYsQQwiZTxy2CMA4oA7xtD0l9OuLB9Lsms7p2kntjboY5mY7mZlxhiTySepp2l6Ppmh2f2TRdOtNOttxfybSBYk3HqdqgDPA5rJ8M+IbnxBrHiDakI0zTr0WNrIoO+WREHnEnOCA7bRgD7p69uW174h6tb+M9V0PTrrQdOmsFjNtaawXSTVCyBv3T71VRk7AcNyDkCgD0JEvF1KVnljezZBsTbh43HXnuCPxBHfPFmvMZdS1+H4yreXlzZ2enReHBdz2jxvI0MfmAyLuWTaXDA/OBjaAMHrSt488V2ng638c31hpY8PTLHcvYRiT7XDauRiXzM7GYKwYoEHGQDQNu56bRXD6f4j8U6t4u8QWllb6YNN0O8EJVo3M90DAkgRW3hUYFvvEEEMOBgk5U/jvxLompaEPEEvhwjVb+Cym0m0lb7XZtMdoO8yFZNpI3YQe3rQI9Norzq48YeLNTt/EGq+FbTSW0zRZ57ZIbzzDNevCP3hV1YLGNwIGQ2cdQDWXcfF2UweH7RtR0HRb6/wBDt9Vu7vVS/kIZVGI4ow6sxzuPL8ADqTQB6zRXJfDzxqnjXRruYtavc6fdvZzyWUheCYgBhJGTztYMDg8g5HOM11tABRRRQAVzfxH/AOSWeK/+wLef+iHrpK5v4j/8ks8V/wDYFvP/AEQ9AHSUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFc3Y/wDJU9d/7Aum/wDo++rpK5ux/wCSp67/ANgXTf8A0ffUAW/EGl6lqf2T+zbjSYvs8vnf8TLTGu8SDGx0xLHsYfNzyeeMY5x9U8L+I9ctRba1f+FNRgB3CK78NSSqD64a7IrsaKAOPPhvxMdK/sw6l4V+wbNn2T/hG5fK2/3dn2vGPbFY2m+AfFGkeLptR0zUfC1naPpkdisNvoUqRjbLI5AhFwAPv/e3nPTaMZPpNFAHC2fgfVtOlWTT5PBlq6S+crQeFXQrJgjeCLr72GYZ64J9asQ+F/Edv9m+z3/hOL7I7yW+zw1Ivku+d7Ji7+UtubJHXcc9a7KigDi9V8Ja/rqxrrd34R1ERHMYu/DEkuw+o3XZxUl34Z8S3+m/2dfaj4VubHAH2Wbw1I8WB0Gw3eOK7CigDm/DPh2/0K5lMz6AttJEqGPStFayYleEy3nuCoG4AY79R0PSUUUAFFFFABRRRQAUUUUAFFFFABRRRQAVzfw4/wCSWeFP+wLZ/wDohK6Sub+HH/JLPCn/AGBbP/0QlAHSUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAc3ff8lT0L/sC6l/6Psa6Subvv8Akqehf9gXUv8A0fY10lAHN2P/ACVPXf8AsC6b/wCj76sX4ufZ5/DdjatrmiaTeLqEF5b/ANs3oto5vJdXYA4JPUdBxkVtWP8AyVPXf+wLpv8A6Pvq3L6/s9Ms3u9Su4LO2j5ea4kEaL9WPAoA80svibfm/txqPiL4bJaGVfPaDxEzSCPPzFQUALYzgEgZ71Wi1Lwynw/8YaGfHHhX7Vrk+pyWzjV4tiC5LmPec5BG4ZwD7Zr0qDxHod1ZwXdtrOnzW1zMLeCaO6RkllPSNWBwzH0HNWpb+zgu47We7gjuJUaSOF5AHdFxuYA8kDIye2RQB5LFrWl+HtebV/C/jfwbcPe6fbWt/Z3+srGhkhUqssbruI4JBUrzwcirDa7pV7J4Xudb+I/hW+vNL1OW9u3XUIYkCNFKixxKCchd6jLHJAJJzxXodt4t8OXtvdz2ev6XcQ2SlrqSK9jZYAOpcg4UfWqHhbx7onijwdH4ihvbW2tduZxLcofsp/uyHOFbGDg+tAHDS+LdH03xtrmo+DvGnhB01QQm9h1PUPKWGZY9olidciUFdu5QRyv3gSa5rT/E/hxf2bzb3fifSzrdjLcahap9pjE7XCXkk0REW7cC3y8ejV7DdL4K8T2Ka1eroGr2tr9y/mEM8cOD2kOQvPvS3Gp+C9QmZ7u+0G6k0RvMZpZoXNgcgbsk/ujnAzxQBz/gjxV4L8N+CtN0y48Z+Hnuo4t9041SD553JeVvvd3ZjWB4q8Q6frVxqVp/wlnw81nSbxQLZNXv4lewOzDbQobzBn5hkqQeM9MeojxBozaN/a66vYnTcZ+2i5TycZx9/O39am03VdP1izF3pF9bX9sxIE1rMsqEjtuUkUAeSWc/hjS9W0cQeOvC2o6dDoA0O/8AterxpKyAg+YmCwJPI2kjAxyapNdWl34Ng8DX/wAQvBf/AAj0Sx2zX8Wqr9rmtUIxH5edisVUKXDHjOFr12x1f7X4m1bTN2fsCQNjyduPMDH7287vu/3Vx/tZ41aAPK7fWfDEcfjZB8QPDlq/iGZ3tLiDVoi9vm2SIMfmGGDKSMH05rkILXRksNBtbfxH8NtKXR9RtLuV7DUk8zUBC6k73IBQkAtj58tj5hya+g6KAPCrvxRp2kaT4rtfCfjXwm+lX811cj7VdkXNrI6kyrFEOJlLZKEEDLcbhTvDusaXpGn+Gtd0Hxl4VTUF8O2mm6lpmp6skSMY0BVg6lijqSwI2kHPY817BdeGtCvtUTU73RdOuL+PGy7mtEeVcdMORkfnWnQBy3gTWf7X066Nz4p0jxBfCYySrpMsbxWaN9yIbTuI+U4Z+Sc+ldTRRQAUUUUAFc38R/8Aklniv/sC3n/oh66Sub+I/wDySzxX/wBgW8/9EPQB0lFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABXN2P/ACVPXf8AsC6b/wCj76ukrm7H/kqeu/8AYF03/wBH31AHSUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFc38OP+SWeFP8AsC2f/ohK6Sub+HH/ACSzwp/2BbP/ANEJQB0lFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFAHN33/JU9C/7Aupf+j7Gukrm77/kqehf9gXUv/R9jXSUAc3Y/8lT13/sC6b/6PvqzPidaWd7YaKlzrcGj3iapHJp8l3b+dby3AR8RyL0wQWwSRyBjngrc6pd6b8U9X+x6FqGr+Zoun7vsUluvlYnvcbvOlTrnjGehzjjNbxLqPibWrNLSz8FXItmz9oh1Wzsb1Jem3Ci/jAxz13ZyOmOQDlotPuvEVj430JtP0qHxHbJa366hosrm3muEy0HyN/q5AYwCBnIbvTre/wBN+IejeK/F+s3U2n6IdGTS4Z4o2ZrdWjE1y4ABJw7qpwOfKIqws/xL0DR2t/CPgzTIGDBktRpNraQnJGSTHqTYOP8AZOfbrTPDNr8QvDPhqHR7TQy8K72kMuk2jGR3Ys5YjVFByWP8I47CgCTQJJrD4g+HLHWofDutG7sriHT9V0cNDIkIQO3nQglCh2qAQcAkYAzzytkDL8O/hSkV7ZWViZ3W5nurYXFulz5TCESpvXJ3bgMnhsHtXWaXa+MtEmlm0XwZp+nyzf617Tw9ZRNJ35K6qM/jRHbeM4bO6tIvBunpbXjmS5hXw9ZBJ3PVnX+1cMT6mgDA8W6clnovxCm/4SfT9Rv20SJb2y0zTGto0IcmOR28x1Mm3cMZB24PTFdjrXhrRrb4t+BLeDTbZIYLDUFSNYgFxGINgI77dxIz0PPWsyC08Y2uky6VbeC9Oh06bPm2cfh6yWGTPXcg1XB/EVdkvfiJNeQXcvhyF7m3VlhmbRLUvEGxuCt/auQDtGcdcD0oA5+TT9PlTWrVtXt9Dnh8cu+mG4tvNtnn+yxkRunCgHc5HI+bkc8Hq/hzeyf8JZ4m07UNP0qLVIvs013e6NK5trksrBMo3+rkCryOc5Bz0rMmTxxcWt1bT+EbKWC8k865ifQLMrO+ANzg6rhmwoGTzwPSnaY/jzRbT7Lo3hW10+3zu8m00G0iTPrtXVQKAPQLHRPsXibVtX+0b/7SSBPK2Y8vygw655zu9BjHetWuF0jxB43t7ib+3fCuoX0bgGP7JDZW3ln0w19JuB65yMfy1v8AhKNX/wChE8Qf9/8AT/8A5KoG1bqdJRXN/wDCUav/ANCJ4g/7/wCn/wDyVR/wlGr/APQieIP+/wDp/wD8lUCOkorm/wDhKNX/AOhE8Qf9/wDT/wD5Ko/4SjV/+hE8Qf8Af/T/AP5KoA6Siub/AOEo1f8A6ETxB/3/ANP/APkqj/hKNX/6ETxB/wB/9P8A/kqgDpKK5v8A4SjV/wDoRPEH/f8A0/8A+SqP+Eo1f/oRPEH/AH/0/wD+SqAOkrm/iP8A8ks8V/8AYFvP/RD0f8JRq/8A0IniD/v/AKf/APJVc/4+8R6pP8NvEsUvgvXLZJNJulaaWaxKRgwsCzbbktgdTgE+gNAHolFc3/wlGr/9CJ4g/wC/+n//ACVR/wAJRq//AEIniD/v/p//AMlUAdJRXN/8JRq//QieIP8Av/p//wAlUf8ACUav/wBCJ4g/7/6f/wDJVAHSUVzf/CUav/0IniD/AL/6f/8AJVH/AAlGr/8AQieIP+/+n/8AyVQB0lFc3/wlGr/9CJ4g/wC/+n//ACVR/wAJRq//AEIniD/v/p//AMlUAdJRXN/8JRq//QieIP8Av/p//wAlUf8ACUav/wBCJ4g/7/6f/wDJVAHSUVzf/CUav/0IniD/AL/6f/8AJVH/AAlGr/8AQieIP+/+n/8AyVQB0lFc3/wlGr/9CJ4g/wC/+n//ACVR/wAJRq//AEIniD/v/p//AMlUAdJRXN/8JRq//QieIP8Av/p//wAlUf8ACUav/wBCJ4g/7/6f/wDJVAHSUVzf/CUav/0IniD/AL/6f/8AJVH/AAlGr/8AQieIP+/+n/8AyVQB0lFc3/wlGr/9CJ4g/wC/+n//ACVR/wAJRq//AEIniD/v/p//AMlUAdJXN2P/ACVPXf8AsC6b/wCj76j/AISjV/8AoRPEH/f/AE//AOSq5+z8R6oPiTrMo8F64ztpNgphE1jvQCa8IY/6TtwdxAwSflOQOMgHolFc3/wlGr/9CJ4g/wC/+n//ACVR/wAJRq//AEIniD/v/p//AMlUAdJRXN/8JRq//QieIP8Av/p//wAlUf8ACUav/wBCJ4g/7/6f/wDJVAHSUVzf/CUav/0IniD/AL/6f/8AJVH/AAlGr/8AQieIP+/+n/8AyVQB0lFc3/wlGr/9CJ4g/wC/+n//ACVR/wAJRq//AEIniD/v/p//AMlUAdJRXN/8JRq//QieIP8Av/p//wAlUf8ACUav/wBCJ4g/7/6f/wDJVAHSUVzf/CUav/0IniD/AL/6f/8AJVH/AAlGr/8AQieIP+/+n/8AyVQB0lFc3/wlGr/9CJ4g/wC/+n//ACVR/wAJRq//AEIniD/v/p//AMlUAdJRXN/8JRq//QieIP8Av/p//wAlUf8ACUav/wBCJ4g/7/6f/wDJVAHSUVzf/CUav/0IniD/AL/6f/8AJVH/AAlGr/8AQieIP+/+n/8AyVQB0lFc3/wlGr/9CJ4g/wC/+n//ACVR/wAJRq//AEIniD/v/p//AMlUAdJXN/Dj/klnhT/sC2f/AKISj/hKNX/6ETxB/wB/9P8A/kquf8A+I9Ug+G3hqKLwXrlykek2qrNFNYhJAIVAZd1yGweoyAfUCgD0Siub/wCEo1f/AKETxB/3/wBP/wDkqj/hKNX/AOhE8Qf9/wDT/wD5KoA6Siub/wCEo1f/AKETxB/3/wBP/wDkqj/hKNX/AOhE8Qf9/wDT/wD5KoA6Siub/wCEo1f/AKETxB/3/wBP/wDkqj/hKNX/AOhE8Qf9/wDT/wD5KoA6Siub/wCEo1f/AKETxB/3/wBP/wDkqj/hKNX/AOhE8Qf9/wDT/wD5KoA6Siub/wCEo1f/AKETxB/3/wBP/wDkqj/hKNX/AOhE8Qf9/wDT/wD5KoA6Siub/wCEo1f/AKETxB/3/wBP/wDkqj/hKNX/AOhE8Qf9/wDT/wD5KoA6Siub/wCEo1f/AKETxB/3/wBP/wDkqj/hKNX/AOhE8Qf9/wDT/wD5KoA6Siub/wCEo1f/AKETxB/3/wBP/wDkqj/hKNX/AOhE8Qf9/wDT/wD5KoA6Siub/wCEo1f/AKETxB/3/wBP/wDkqj/hKNX/AOhE8Qf9/wDT/wD5KoA6Siub/wCEo1f/AKETxB/3/wBP/wDkqj/hKNX/AOhE8Qf9/wDT/wD5KoAL7/kqehf9gXUv/R9jXSVxNtql3qXxT0j7ZoWoaR5ei6ht+2yW7ebmeyzt8mV+mOc46jGecdtQBzdj/wAlT13/ALAum/8Ao++rpK5ux/5Knrv/AGBdN/8AR99Wl4hvtU07Qbi60HSP7Z1CPb5Vj9pW383LAH943C4UlueuMd6ANKis2+vtUg17S7Wy0j7Xp9z5v22++0qn2LauY/3Z5k3t8vH3cZNFjfapPr2qWt7pH2TT7byvsV99pV/tu5cyfuxzHsb5efvZyKANKiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAK5v4j/wDJLPFf/YFvP/RD10lc38R/+SWeK/8AsC3n/oh6AOkooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAK5ux/wCSp67/ANgXTf8A0ffV0lc3Y/8AJU9d/wCwLpv/AKPvqAOkooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAK5v4cf8ks8Kf9gWz/8ARCV0lc38OP8AklnhT/sC2f8A6ISgDpKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKAObvv+Sp6F/wBgXUv/AEfY10lc3ff8lT0L/sC6l/6Psa6SgDm7H/kqeu/9gXTf/R99XSVkar4T8Oa9dLda5oGl6lcIgjWW8so5nVQSQoLAnGSTj3NUv+FceCP+hN8P/wDgrg/+JoA6Siub/wCFceCP+hN8P/8Agrg/+Jo/4Vx4I/6E3w//AOCuD/4mgDpKK5v/AIVx4I/6E3w//wCCuD/4mj/hXHgj/oTfD/8A4K4P/iaAOkorm/8AhXHgj/oTfD//AIK4P/iaP+FceCP+hN8P/wDgrg/+JoA6Siub/wCFceCP+hN8P/8Agrg/+Jo/4Vx4I/6E3w//AOCuD/4mgDpKK5v/AIVx4I/6E3w//wCCuD/4mj/hXHgj/oTfD/8A4K4P/iaAOkorm/8AhXHgj/oTfD//AIK4P/iaP+FceCP+hN8P/wDgrg/+JoA6Siub/wCFceCP+hN8P/8Agrg/+Jo/4Vx4I/6E3w//AOCuD/4mgDpKK5v/AIVx4I/6E3w//wCCuD/4mj/hXHgj/oTfD/8A4K4P/iaAOkorm/8AhXHgj/oTfD//AIK4P/iaP+FceCP+hN8P/wDgrg/+JoA6Sub+I/8AySzxX/2Bbz/0Q9H/AArjwR/0Jvh//wAFcH/xNH/CuPBH/Qm+H/8AwVwf/E0AdJRXN/8ACuPBH/Qm+H//AAVwf/E0f8K48Ef9Cb4f/wDBXB/8TQB0lFc3/wAK48Ef9Cb4f/8ABXB/8TR/wrjwR/0Jvh//AMFcH/xNAHSUVzf/AArjwR/0Jvh//wAFcH/xNH/CuPBH/Qm+H/8AwVwf/E0AdJRXN/8ACuPBH/Qm+H//AAVwf/E0f8K48Ef9Cb4f/wDBXB/8TQB0lFc3/wAK48Ef9Cb4f/8ABXB/8TR/wrjwR/0Jvh//AMFcH/xNAHSUVzf/AArjwR/0Jvh//wAFcH/xNH/CuPBH/Qm+H/8AwVwf/E0AdJRXN/8ACuPBH/Qm+H//AAVwf/E0f8K48Ef9Cb4f/wDBXB/8TQB0lFc3/wAK48Ef9Cb4f/8ABXB/8TR/wrjwR/0Jvh//AMFcH/xNAHSUVzf/AArjwR/0Jvh//wAFcH/xNH/CuPBH/Qm+H/8AwVwf/E0AdJRXN/8ACuPBH/Qm+H//AAVwf/E0f8K48Ef9Cb4f/wDBXB/8TQB0lc3Y/wDJU9d/7Aum/wDo++o/4Vx4I/6E3w//AOCuD/4mj/hXHgj/AKE3w/8A+CuD/wCJoA6Siub/AOFceCP+hN8P/wDgrg/+Jo/4Vx4I/wChN8P/APgrg/8AiaAOkorm/wDhXHgj/oTfD/8A4K4P/iaP+FceCP8AoTfD/wD4K4P/AImgDpKK5v8A4Vx4I/6E3w//AOCuD/4mj/hXHgj/AKE3w/8A+CuD/wCJoA6Siub/AOFceCP+hN8P/wDgrg/+Jo/4Vx4I/wChN8P/APgrg/8AiaAOkorm/wDhXHgj/oTfD/8A4K4P/iaP+FceCP8AoTfD/wD4K4P/AImgDpKK5v8A4Vx4I/6E3w//AOCuD/4mj/hXHgj/AKE3w/8A+CuD/wCJoA6Siub/AOFceCP+hN8P/wDgrg/+Jo/4Vx4I/wChN8P/APgrg/8AiaAOkorm/wDhXHgj/oTfD/8A4K4P/iaP+FceCP8AoTfD/wD4K4P/AImgDpKK5v8A4Vx4I/6E3w//AOCuD/4mj/hXHgj/AKE3w/8A+CuD/wCJoA6Siub/AOFceCP+hN8P/wDgrg/+Jo/4Vx4I/wChN8P/APgrg/8AiaAOkrm/hx/ySzwp/wBgWz/9EJR/wrjwR/0Jvh//AMFcH/xNH/CuPBH/AEJvh/8A8FcH/wATQB0lFc3/AMK48Ef9Cb4f/wDBXB/8TR/wrjwR/wBCb4f/APBXB/8AE0AdJRXN/wDCuPBH/Qm+H/8AwVwf/E0f8K48Ef8AQm+H/wDwVwf/ABNAHSUVzf8AwrjwR/0Jvh//AMFcH/xNH/CuPBH/AEJvh/8A8FcH/wATQB0lFc3/AMK48Ef9Cb4f/wDBXB/8TR/wrjwR/wBCb4f/APBXB/8AE0AdJRXN/wDCuPBH/Qm+H/8AwVwf/E0f8K48Ef8AQm+H/wDwVwf/ABNAHSUVzf8AwrjwR/0Jvh//AMFcH/xNH/CuPBH/AEJvh/8A8FcH/wATQB0lFc3/AMK48Ef9Cb4f/wDBXB/8TR/wrjwR/wBCb4f/APBXB/8AE0AdJRXN/wDCuPBH/Qm+H/8AwVwf/E0f8K48Ef8AQm+H/wDwVwf/ABNAHSUVzf8AwrjwR/0Jvh//AMFcH/xNH/CuPBH/AEJvh/8A8FcH/wATQB0lFc3/AMK48Ef9Cb4f/wDBXB/8TR/wrjwR/wBCb4f/APBXB/8AE0AF9/yVPQv+wLqX/o+xrpKyNK8J+HNBumutD0DS9NuHQxtLZ2UcLspIJUlQDjIBx7CtegD/2Q==)**

**…**

*~~i. Where explosion control is required in Section 1206 of the California Fire Code.~~*

i. Where explosion control is required in Section 1207 of the *California* Fire Code.

…

**SECTION 422**

**AMBULATORY CARE FACIILITIES**

# Item 4-12 Chapter 4, Special Detailed Requirements Based on Use and Occupancy,Section 422.6 Electrical systems

[California Electrical Code Article 517 contains numerous and comprehensive State of California amendments that are applicable to ambulatory care facilities.]

[Related Sections in Part 2, California Building Code 407.11]

**~~[F]~~ 422.6 Electrical systems.** In *ambulatory care facilities*, 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~~ *California Electrical Code Article 517*.

# Item 4-13 Chapter 4, Special Detailed Requirements Based on Use and Occupancy,Section 422.7 Domestic cooking

[In Section 422.7 item 2, the SFM proposed amendment replaces the reference to the International Mechanical Code Section 505 with a reference to the California Mechanical Code. The California Mechanical Code is the mechanical code adopted by the California Building Standards Commission. There is no corresponding Section 505 in the California Mechanical Code.]

[Related Sections in Part 2, California Building Code 407.2.6, 407.2.7]

**422.7 Domestic cooking.** Installation of cooking appliances used in domestic cooking facilities shall comply with all of the following:

* + - 1. The types of cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves.

1. Domestic cooking hoods installed and constructed in accordance with ~~Section 505 o~~f the ~~International~~ *California* Mechanical Code shall be provided over cooktops or ranges.

…

# Item 4-13.1 Chapter 4, Special Detailed Requirements Based on Use and Occupancy, Section 428

[The SFM would like to maintain the non-adoption and not to print Section 428 in its entirety for Higher Education laboratories. It has been found to conflict with California’s Group L Occupancies.]

**~~SECTION 428~~**

**~~HIGHER EDUCATION LABORATORIES~~**

***SECTION 436***

***GROUP I-4 [SFM]***

# Item 4-14 Chapter 4, Special Detailed Requirements Based on Use and Occupancy,Section 436.1 Group I-4 special provisions

[The SFM proposes to amend Section 436.1.]

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 adult 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 1020 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~~2. Group I-4 child care center or adult day care ~~facilities~~ may be located above the first story in buildings of ~~Type I construction and in~~ Type I-A, Type I-B, Type II-A, ~~and~~ Ill-A, IV-A, IV-B and IV-C construction, subject to the limitation of Section 503 when:*

*~~3~~2.1. Group I-4 child care ~~facilities~~ centers 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~~2.2. The entire story in which the Group I-4 child care center or adult day care ~~facility~~ is located is equipped with an approved manual fire alarm and automatic smoke-detection system. (See the California 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~~2.3. Group I-4 child care center or adult day 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 center or adult day care and other occupancies shall be constructed as smoke barriers. Door openings in the smoke barrier shall be tightfitting, 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~~2.4. 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~~2.5. Where two or more exits, or exit access are required at least one shall not share a common path of travel. The egress system shall comply with the requirements of Section 709 for smoke barriers.*

*~~3~~2.6. The building is equipped with an automatic sprinkler system throughout.*

# Item 4-15 Chapter 4, Special Detailed Requirements Based on Use and Occupancy, Section 436.1.1 Egress

[The SFM proposes to amend Section 436.1.1.]

*436.1.1 Egress. Rooms used for group I-4 child care or adult day care on the first floor shall have one exit door directly to the exterior.*

*Exception: One-hour rated corridors with a minimum width of 60 inches.*

***SECTION 441***

***PET KENNELS AND***

***PET BOARDING FACILITIES [SFM]***

# Item 4-15.1 Chapter 4, Special Detailed Requirements Based on Use and Occupancy, Section 441.1 Health and Safety Code Section References

[The SFM proposes to correct the Health and Safety Code Section reference. Errata.]

***441.1*** *These regulations shall apply to every building or fire area in which a pet boarding facility operates, as defined in Health and Safety Code Section 122388, or a pet dealer, as defined in Health and Safety Code Section 122125, maintains a kennel.*

# Item 4-16 Chapter 4, Special Detailed Requirements Based on Use and Occupancy, Section 452 School Facilities for Kindergarten through 12th grade and Group E Child Care

[The SFM proposes to amend Section 452 Title.]

***SECTION 452***

***SCHOOL FACILITIES FOR KINDERGARTEN***

***THROUGH 12TH GRADE AND GROUP E ~~DAY~~ CHILD CARE***

# Item 4-17 Chapter 4, Special Detailed Requirements Based on Use and Occupancy, Section 452.1.4 Special Provisions

[The SFM proposes to amend Section 452.1.4.]

452.1.4 Special provisions*. Rooms used by kindergarten, first-, or second-grade pupils, and Group E ~~day~~ child care, shall not be located above or below the first story.*

***Exceptions:***

1. *Kindergarten, first-, or second-grade pupils, or ~~day~~ Group E child 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 Group E ~~day~~- child 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 1020 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~~ Ill-A, IV-A, IV-B and IV-C construction, subject to the limitation of Section 503 when:*
   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*
   2. *The entire story in which the day-care facility is located is equipped with an approved manual fire alarm and automatic 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. *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*
   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*
   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. The egress system shall comply with the requirements of Section 709 for smoke barriers.*
   6. *The building is equipped with an automatic sprinkler system throughout.*

**SECTION 455**

**LARGE FAMILY DAY-CARE HOMES [SFM]**

# Item 4-18 Chapter 4, Special Detailed Requirements Based on Use and Occupancy, Section 455.2 Large Family Day-Care Homes HSC 1597.46 and 455.6 Compliance

[The SFM proposes to amend Section 455 to comply with changes made to Health and Safety Code Law by Senate Bill 234, Chaptered with the Secretary of State on Sep. 5, 2019.]

 …

***455.2.*** *For purposes of clarification, Health and Safety Code Section 1597.45 and 1597.46 is repeated.*

* + 1. *~~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 daycare 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.~~*

* + 1. *~~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.~~*
    2. *~~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.~~*
    3. *~~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.~~*

*1597.45.*

1. *The use of a home as a small or large family daycare home shall be considered a residential use of property and a use by right for the purposes of all local ordinances, including, but not limited to, zoning ordinances.*
2. *A local jurisdiction shall not impose a business license, fee, or tax for the privilege of operating a small or large family daycare home.*
3. *Use of a home as a small or large family daycare 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 codes.*
4. *A small or large family daycare home shall not be subject to the provisions of Division 13 (commencing with Section 21000) of the Public Resources Code.*
5. *The provisions of this chapter do not preclude a city, county, or other local public entity from placing restrictions on building heights, setback, or lot dimensions of a family daycare home, as long as those restrictions are identical to those applied to all other residences with the same zoning designation as the family daycare home. This chapter does not preclude a local ordinance that deals with health and safety, building standards, environmental impact standards, or any other matter within the jurisdiction of a local public entity, as long as the local ordinance is identical to those applied to all other residences with the same zoning designation as the family daycare home. This chapter also does not prohibit or restrict the abatement of nuisances by a city, county, or city and county. However, the ordinance or nuisance abatement shall not distinguish family daycare homes from other homes with the same zoning designation, except as otherwise provided in this chapter.*
6. *For purposes of this chapter, “small family daycare home or large family daycare home” includes a detached single-family dwelling, a townhouse, a dwelling unit within a dwelling, or a dwelling unit within a covered multifamily dwelling in which the underlying zoning allows for residential uses. A small family daycare home or large family daycare home is where the family daycare provider resides and includes a dwelling or dwelling unit that is rented, leased, or owned.*

*(Amended by Stats. 2019, Ch. 244, Sec. 9. (SB 234) Effective January 1, 2020.)*

*1597.46.*

1. *A large family daycare home shall abide by all standards, in addition to the requirements of the State Uniform Building Standards Code, that are specifically designed to promote fire and life safety in large family daycare homes. The State Fire Marshal shall adopt separate building standards specifically relating to the subject of fire and life safety in family daycare homes, which shall be published in Title 24 of the California Code of Regulations. These standards shall apply uniformly throughout the state and shall include, but not be limited to, all of the following:*
   * + 1. *The requirement that a large family daycare home contain a fire extinguisher or smoke detector device, or both, that meets child care standards established by the State Fire Marshal.*
       2. *Specification as to the number of required exits from the home.*
       3. *Specification as to the floor or floors on which child care may be provided and the number of required exits on each floor.*
2. *A large family daycare home for children shall have one or more carbon monoxide detectors in the facility that meet the standards established in Chapter 8 (commencing with Section 13260) of Part 2 of Division 12. The department shall account for the presence of these detectors during inspections.*
3. *Enforcement of this section shall be in accordance with Sections 13145 and 13146. A city, county, city and county, or district shall not adopt or enforce a building ordinance or local rule or regulation relating to the subject of fire and life safety in large family daycare homes that 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 all residences with the same zoning designation in which child care is provided.*

*(Repealed and added by Stats. 2019, Ch. 244, Sec. 12. (SB 234) Effective January 1, 2020.)*

***455.6 Compliance.*** *Every large-family day-care home shall comply with the provisions for Group R-3 occupancies ~~and, if appropriate, Section 436.1~~. For the purposes of Section*

*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.~~*

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 5**

**GENERAL BUILDING HEIGHTS AND AREAS**

# Item 5-1 Chapter 5, General Building Heights And Areas

[The SFM proposes to adopt Chapter 5 and carry forward existing amendments.]

**SECTION 504**

**BUILDING HEIGHT AND NUMBER OF STORIES**

# Item 5-2 Chapter 5, General Building Heights And Areas, Table 504.3 Allowable Building Height in Feet Above Grade Plane

[The SFM proposes to maintain all California amendments including the California amendments for Type IV A, IV-B, IV-C and HT. Do not print the model code language for Type IV-A, IV-B, IV-C and HT.]

**TABLE 504.3**

**ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE a*, i***

[Maintain California amendments for Table 504.3]

…

# Item 5-3 Chapter 5, General Building Heights And Areas, Table 504.3 Footnote f.

[This SFM proposed amendment corrects an error that references an IFC section not adopted by the State of California.]

[Related Sections in Part 2, California Building Code Table 504.4, Table 506.2, 903.2.6]

**Table 504.3 Footnotes:**

…

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~~ *~~California Fire Code~~*.

…

# Item 5-4 Chapter 5, General Building Heights And Areas, Table 504.4 Allowable Number of Stories Above Grade Plane

[The SFM proposes to maintain all California amendments including the California amendments for Type IV A, IV-B, IV-C and HT. Do not print the model code language for Type IV-A, IV-B, IV-C and HT.]

**TABLE 504.4**

**ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE a, b*, n***

[Maintain California amendments for Table 504.4]

…

# Item 5-5 Chapter 5, General Building Heights And Areas, Table 504.4 Footnote f.

[This SFM proposed amendment corrects an error that references an International Fire Code section not adopted by the State of California.]

[Related Sections in Part 2, California Building Code Table 504.3, Table 506.2, 903.2.6]

**Table 504.4 Footnotes**:

…

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~~ *~~California Fire Code~~*.

…

# Item 5-6 Chapter 5, General Building Heights And Areas, Table 504.4 Footnote p.

[The SFM proposes to add a footnote to Table 504.4 for Group I-4.]

**TABLE 504.4**

**ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE a, b, n**

Table 504.4 Allowable Number of Stories Above Grade Plane

I-4 occupancies, add a footnote "p"

….

*p. See section 436.1 for additional regulations for child care centers and adult day care.*

**SECTION 506**

**BUILDING AREA**

# Item 5-7 Chapter 5, General Building Heights And Areas, Table 506.2 Allowable Area Factor

[The SFM proposes to maintain all California amendments including the California amendments for Type IV A, IV-B, IV-C and HT. Do not print the model code language for Type IV-A, IV-B, IV-C and HT.]

**TABLE 506.2**

**ALLOWABLE AREA FACTOR**

**(*At* = NS, S1, S13R, S13D or SM, as applicable) IN SQUARE FEET a, b*, j***

[Maintain California amendments for Table 505.2]

…

# Item 5-8 Chapter 5, General Building Heights and Areas, Table 506.2 Footnote f.

[This SFM proposed amendment corrects an error that references an IFC section not adopted by the State of California.]

[Related Sections in Part 2, California Building Code Table 504.3, Table 504.4, 903.2.6]

**Table 506.2 Footnotes:**

**…**

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~~ *~~California Fire Code~~*.

…

**SECTION 508**

**MIXED USE AND OCCUPANCY**

# Item 5-9 Chapter 5, General Building Heights and Areas, Section 508.2.4 Separation of occupancies

[The proposed SFM amendment revises CBC Section 508.2.4 Exception 3 to permit covered exterior entrances required elsewhere in the California Building Code to be considered as accessory occupancies to Group I-2 occupancies.]

[Related Sections in Part 2, California Building Code 311.3, 406.5.2, Table 508.4, 903.2.21(New), 11B-206.4.10, 1224.33.2.1]

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

**Exceptions:**

**…**

1. *Group I-2 and I-2.1 shall be separated from all other occupancies in accordance with Section 508.4. ~~No~~ ~~separation is required between Group B, E, R-2 sleeping units and S-2 occupancies accessory to Group I-2 and I 2.1.~~*

***Exception:*** *No separation is required between Group B, E and R-2 sleeping units accessory to Group I-2 and I-2.1 and covered exterior entrances required by Section 11B-206.4.10 or Section 1224.33.2.1 accessory to Group I-2.*

1. *Group I-3 and vehicle sally-ports shall be separated from all other occupancies in accordance with Section 508.4. ~~No separation is required between Group B, E, R-2 sleeping units and S-2 occupancies accessory to Group I-3 of Type I Construction.~~*

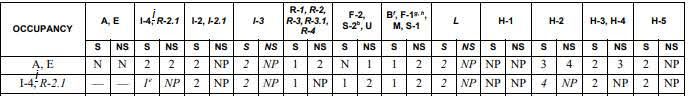
***Exception:*** *No separation is required between Group B, E, R-2 sleeping units and S-2 occupancies accessory to Group I-3 of Type I Construction.*

# Item 5-10 Chapter 5, General Building Heights and Areas, Table 508.4 Footnote i.

[The SFM proposes repeal and replace with model code language for a code reference section in footnote c. The SFM proposes to add a footnote i. to Table 508.4 for Group I-4.]

**TABLE 508.4**

**REQUIRED SEPARATION OF OCCUPANCIES (HOURS)h**

**

*…*

c. See Section 406.3.2 *~~and 406.6.4~~* and 406.6.4*.*

*i. [SFM] Group E child care separation with I-4 child care can be reduced to 1 hour with the installation of automatic fire sprinklers in accordance with Section 903.3.1.1.*

# Item 5-11 Chapter 5, General Building Heights and Areas, Table 508.4 Footnote j.

[The proposed SFM amendment reduces the fire-resistive separation criteria for covered vehicle entrances required by other provisions of the California Building Code associated with Group I-2 occupancies from 2-hour to 1-hour fire-resistance-rated construction.]

[Related Sections in Part 2, California Building Code 311.3, 406.5.2, 508.2.4, 903.2.21(New), 11B-206.4.10, 1224.33.2.1]

**TABLE 508.4**

**REQUIRED SEPARATION OF OCCUPANCIES (HOURS)*h***

| **OCCUPANCY** |
| --- |
| I-2*j*, *I-2.1* |

*j. When not considered an accessory use in accordance with 508.2.4, the required separation between Group I-2 and required covers for accessible entrances and emergency vehicle entrances when in accordance with Section 406.5.2 and* *protected by an automatic sprinkler system shall be reduced by 1 hour but not to less than 1 hour. See Section 903.2.21.*

# Item 5-12 Chapter 5, General Building Heights And Areas, Section 508.4.4.1 Construction

[The SFM proposes to repeal and replace with model code language.]

**508.4.4.1 Construction.** Required separations shall be fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both, to completely separate adjacent occupancies. *~~Mass timber elements serving as fire barriers or horizontal assemblies to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the building with an approved thermal barrier consisting of a minimum of 1/2-inch (12.7 mm) gypsum board or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.~~* Mass timber elements serving as fire barriers or horizontal assemblies to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the building with an approved thermal barrier consisting of a minimum of 1/2-inch (12.7 mm) gypsum board or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

**SECTION 509**

**INCIDENTAL USES**

# Item 5-13 Chapter 5, General Building Heights and Areas, Table 509.1 Incidental Uses

[The SFM proposed amendment corrects references to footnote “a” in IBC Table 509.1 and the 2019 CBC Table 509 midcycle amendments. In four locations, the table is corrected to add footnote “a” where it has been omitted.]

[Related Sections in Part 2, California Building Code 508, 509, 707, 711, 714, 716, 717]

**~~[F]~~ TABLE 509.1**

**INCIDENTAL USES**

| **ROOM OR AREA** | **SEPARATION AND/OR PROTECTION** |
| --- | --- |
| In Group I-2 *and I-2.1* occupancies, laboratories not classified as Group H | 1 hour ~~and provide automatic sprinkler system~~ *a* |
| Laundry rooms over 100 square feet | 1 hour and provide automatic sprinkler system *~~a~~* |
| In Group I-2 *and I-2.1* laundry rooms over 100 square feet | 1 hour *a* |
| Group I-3 cells and Group I-2 *and I-2.1* patient rooms equipped with padded surfaces | 1 hour *a* |
| In Group I-2 *and I-2.1* physical plant maintenance shops | 1 hour *a* |
| In ambulatory care facilities or Group I-2 *and I-2.1* occupancies, storage rooms greater than 100 square feet | 1 hour *a* |

# Item 5-14 Chapter 5, General Building Heights and Areas, Section 509.4.1.1 Type IV-B and IV-C construction

[The SFM proposed to repeal and replace model code language.]

*~~509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, mass timber elements serving as fire barriers or a horizontal assembly in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an approved thermal barrier consisting of a minimum of ½ inch (12.7 mm) gypsum board or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.~~*

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, mass timber elements serving as fire barriers or a horizontal assembly in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an approved thermal barrier consisting of a minimum of ½ inch (12.7 mm) gypsum board or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 6**

**TYPES OF CONSTRUCTION**

# Item 6-1 Chapter 6, Types Of Construction

[The SFM proposes to adopt Chapter 6 and carry forward existing amendments.]

**SECTION 601**

**GENERAL**

# Item 6-2 Chapter 6, Types Of Construction, Table 601 Fire-resistance rating requirements for building elements (Hours)

[The SFM proposes to maintain all California amendments including the California amendments for Type IV A, IV-B, IV-C and HT except for the footnotes. Do not print the model code language for Type IV-A, IV-B, IV-C and HT in the table, repeal and replace the footnotes as shown for footnote c and g.]

**TABLE 601**

**FIRE-RESISTANCE RATING REQUIREMENTS**

**FOR BUILDING ELEMENTS (HOURS)**

[Maintain California amendments for Table 601]

…

For SI: 1 foot = 304.8 mm.

(Footnotes a. and b. remain unchanged)

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed *~~for roof construction including primary structural frame members~~* for roof construction including primary structural frame members where a 1-hour or less fire-resistance rating is required.

(Footnotes d., e., and f. remain unchanged)

1. *~~Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a fire resistance rating of not less than 1 hour.~~*
2. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a fire resistance rating of not less than 1 hour.

**SECTION 602**

**CONSTRUCTION CLASSIFICATION**

# Item 6-3 Chapter 6, Types Of Construction, Table 602 Fire-resistance rating requirements for Exterior Walls Based on Fire Separation Distance

[The SFM proposes to maintain all California amendments including the California amendments for Type IV A, IV-B, IV-C and HT. Do not print the model code language for Type IV-A, IV-B, IV-C and HT.]

**TABLE 602**

**FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE a, d, g**

[Maintain California amendments for Table 602]

…

# Item 6-4 Chapter 6, Types Of Construction, Sections 602.4 through 602.4.4.4 Type IV

[The SFM proposes to repeal and replace with model code language.]

602.4 Type IV. Type IV construction is that type of construction in which *~~the building elements are mass timber or noncombustible materials and have fire resistance ratings in accordance with Table 601. Mass timber elements shall meet the fire resistance rating requirements of this section based on either the fire resistance rating of the noncombustible protection, the mass timber, or a combination of both and shall be determined in accordance with Section 703.2 or 703.3. The minimum dimensions and permitted materials for building elements shall comply with the provisions of this section and Section 2304.11. Mass timber elements of Types IV A, IV B and IV C construction shall be protected with noncombustible protection applied directly to the mass timber in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the noncombustible protection shall be determined in accordance with Section 703.8 and comply with 722.7.~~* the building elements are mass timber or noncombustible materials and have fire resistance ratings in accordance with Table 601. Mass timber elements shall meet the fire resistance rating requirements of this section based on either the fire resistance rating of the noncombustible protection, the mass timber, or a combination of both and shall be determined in accordance with Section 703.2 or 703.3. The minimum dimensions and permitted materials for building elements shall comply with the provisions of this section and Section 2304.11. Mass timber elements of Types IV A, IV B and IV C construction shall be protected with noncombustible protection applied directly to the mass timber in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the noncombustible protection shall be determined in accordance with Section 703.8 and comply with 722.7.

*~~Cross-laminated timber shall be labeled as conforming to PRG 320-18 as referenced in Section 2303.1.4.~~*

Cross-laminated timber shall be labeled as conforming to PRG 320-18 as referenced in Section 2303.1.4.

*~~Exterior load-bearing walls and non-load-bearing walls shall be mass timber construction or shall be of noncombustible construction.~~*

***~~Exception:~~*** *~~Exterior load-bearing walls and non-load-bearing walls of Type IV-HT Construction in accordance with Section 602.4.4.~~*

Exterior load-bearing walls and non-load-bearing walls shall be mass timber construction or shall be of noncombustible construction.

**Exception:** Exterior load-bearing walls and non-load-bearing walls of Type IV-HT Construction in accordance with Section 602.4.4.

*~~The interior building elements, including non-load-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.~~*

***~~Exception:~~*** *~~Interior building elements and non-load-bearing walls and partitions of Type IV-HT Construction in accordance with Section 602.4.4.~~*

The interior building elements, including non-load-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

**Exception:** Interior building elements and non-load-bearing walls and partitions of Type IV-HT Construction in accordance with Section 602.4.4.

*~~Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4.~~*

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4.

*~~Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces but shall comply with Section 718.~~*

Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces but shall comply with Section 718.

*~~In buildings of Type IV-A, B, and C, construction with an occupied floor located more than 75 feet above the lowest level of building access, up to and including 12 stories or 180 feet above grade plane, mass timber interior exit and elevator hoist-way enclosures shall be protected in accordance with Section 602.4.1.2. In buildings, greater than 12 stories or 180 feet above grade plane, interior exit and elevator hoist-way enclosures shall be constructed of non-combustible materials.~~*

In buildings of Type IV-A, B, and C, construction with an occupied floor located more than 75 feet above the lowest level of building access, up to and including 12 stories or 180 feet above grade plane, mass timber interior exit and elevator hoist-way enclosures shall be protected in accordance with Section 602.4.1.2. In buildings, greater than 12 stories or 180 feet above grade plane, interior exit, and elevator hoist-way enclosures shall be constructed of non-combustible materials.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 7**

**FIRE AND SMOKE PROTECTION FEATURES**

# Item 7-1 Chapter 7, Fire And Smoke Protection Features

[The SFM proposes to adopt Chapter 7, carry forward existing amendments and propose modifications as shown below.]

**SECTION 703**

**FIRE-RESISTANCE RATINGS AND FIRE TESTS**

# Item 7-2 Chapter 7, Fire And Smoke Protection Features, Sections 703.9 and 703.7

[SFM proposed repeal and replace with model code language.]

***~~703.8 Determination of noncombustible protection time contribution.~~*** *~~The time, in minutes, contributed to the fire resistance rating by the noncombustible protection of mass timber building elements, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E 119 or UL 263. The test assemblies shall be identical in construction, loading, and materials, other than the noncombustible protection. The two test assemblies shall be tested to the same criteria of structural failure.~~*

*~~1. Test Assembly 1 shall be without protection.~~*

*~~2. Test Assembly 2 shall include the representative noncombustible protection. The protection shall be fully defined in terms of configuration details, attachment details, joint sealing details, accessories and all other relevant details.~~*

*~~The noncombustible protection time contribution shall be determined by subtracting the fire resistance time, in minutes, of Test Assembly 1 from the fire resistance time, in minutes, of Test Assembly 2.~~*

*~~703.9 Sealing of adjacent mass timber elements. In buildings of Type IVA, IVB, and IVC construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:~~*

*~~1. At abutting edges and intersections of mass timber building elements required to be fire resistance-rated~~*

*~~2. At abutting intersections of mass timber building elements and building elements of other materials where both are required to be fire resistance-rated.~~*

*~~Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.~~*

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

**703.6 Determination of noncombustible protection time contribution.** The time, in minutes, contributed to the fire resistance rating by the noncombustible protection of mass timber building elements, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E 119 or UL 263. The test assemblies shall be identical in construction, loading, and materials, other than the noncombustible protection. The two test assemblies shall be tested to the same criteria of structural failure.

* 1. Test Assembly 1 shall be without protection.
  2. Test Assembly 2 shall include the representative noncombustible protection. The protection shall be fully defined in terms of configuration details, attachment details, joint sealing details, accessories and all other relevant details.

The noncombustible protection time contribution shall be determined by subtracting the fire resistance time, in minutes, of Test Assembly 1 from the fire resistance time, in minutes, of Test Assembly 2.

703.7 Sealing of adjacent mass timber elements. In buildings of Type IVA, IVB, and IVC construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of mass timber building elements required to be fire resistance-rated
2. At abutting intersections of mass timber building elements and building elements of other materials where both are required to be fire resistance-rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

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

**SECTION 704**

**FIRE-RESISTANCE RATING OF**

**STRUCTURAL MEMBERS**

# Item 7-3 Chapter 7, Fire And Smoke Protection Features, Section 704.6.1 Secondary attachments to Structrual members

[SFM proposed repeal and replace and amend to 704.6.1 to further clarify the attachments to primary and secondary structural members that are to be protected.]

***~~704.6.1 Secondary attachments to structural members.~~*** *~~Where primary and secondary structural steel members~~**~~require fire protection, secondary attachments to those~~**~~structural members shall be protected with the same fire resistive~~*

*~~material and thickness as required for the structural member. The protection shall extend away from the structural member a distance of not less than 12 inches, or~~*

*~~shall be applied to the entire length when the attachment is less than 12 inches long. When an attachment is hollow and the ends are open, the fire-resistive material and thickness shall be applied to both exterior and interior of the hollow steel attachment.~~*

**704.6.1 Secondary attachments to structural members** Where primary and secondary structural steel members require fire protection, ~~secondary steel attachments to those structural members~~ *any additional structural steel members having direct connection to the primary structural frame or secondary structural members* shall be protected with the same fire-resistive material and thickness as required for the structural member. The protection shall extend away from the structural member a distance of not less than 12 inches (305 mm) or shall be applied to the entire length where the attachment is less than 12 inches (305 mm) long. Where an attachment is hollow and the ends are open, the fire-resistive material and thickness shall be applied to both exterior and interior of the hollow steel attachment.

**SECTION 707**

**FIRE BARRIERS**

# Item 7-4 Chapter 7, Fire And Smoke Protection Features, Section 707.4 Exterior Walls

[SFM proposed repeal and replace with model code language.]

**707.4 Exterior walls.** Where exterior walls serve as a part of a required fire-resistance rated shaft or stairway or ramp enclosure, or separation, such walls shall comply with the requirements of Section 705 for exterior walls and the fire-resistance-rated enclosure or separation requirements shall not apply.

**Exception*~~s~~*s:**

1. Exterior walls required to be fire-resistance rated in accordance with Section 1021 for exterior egress balconies, Section 1023.7 for interior exit stairways and ramps and Section 1027.6 for exterior exit stairways and ramp.

*~~2. Exterior walls required to be fire-resistance rated in accordance with Section 1206 of the International Fire Code for enclosure of energy storage systems.~~*

2. Exterior walls required to be fire-resistance rated in accordance with Section 1206 of the International Fire Code for enclosure of energy storage systems.

**SECTION 708**

**FIRE PARTITIONS**

# Item 7-5 Chapter 7, Fire And Smoke Protection Features, Section 708.1 General

[SFM proposed amendment adds corridor walls in Group I-2 and I-2.1 as required by CBC Section 407.3 to item 3 of the list of locations where corridor wall assemblies are to be constructed in accordance with the requirements for fire partitions.]

[Related Sections in Part 2, California Building Code 407.3]

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

1. Separation walls as required by Section 420.2 for Group R occupancies.
2. Walls separating tenant spaces in covered and open mall buildings as required by Section 402.4.2.1.
3. *Corridor* walls as required by Section 1020.3 *and in Group I-2 and I-2.1 as required by Section 407.3*.

…

*~~6.~~ 9. Walls separating enclosed tenant spaces in high-rise buildings and in buildings of Types I, IIA, IIA, 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.*

**SECTION 709**

**SMOKE BARRIERS**

# Item 7-6 Chapter 7, Fire And Smoke Protection Features, Section 709.3 Fire-resistance rating

[SFM proposed to delete the exception for I-3 buildings.]

**709.3 Fire-resistance rating.** A 1-hour fire-resistance rating is required for smoke barriers.

**~~Exception:~~** ~~Smoke barriers constructed of minimum 0.10-inch-thick (2.5 mm) steel in Group I-3 buildings.~~

**SECTION 716**

**OPENING PROTECTIVES**

# Item 7-7 Chapter 7, Fire And Smoke Protection Features, Table 716.1(2), Table 716.1 (3), and Section 716.2.5.4.1

[The SFM is proposing to repeal all California amendments to Table 716.1(2) Opening Fire Protection assemblies, rating and markings, Table 716.1(3), and Section 716.2.5.4.1.]

**TABLE 716.1(2)**

**OPENING FIRE PROTECTION ASSEMBLIES, RATINGS AND MARKINGS**

[Print only model code language in Table]

…

*~~f. Fire-protection-rated glazing is not permitted for fire barriers required by Section 1206 of the California Fire Code to enclose energy storage systems. Fire-resistance-rated glazing assemblies tested to ASTM E119 or UL 263, as specified in Section 716.1.2.3 shall be permitted.~~*

h. Fire-protection-rated glazing is not permitted for fire barriers required by Section 1207 of the California Fire Code to enclose energy storage systems. Fire-resistance-rated glazing assemblies tested to ASTM E119 or UL 263, as specified in Section 716.1.2.3 shall be permitted.

**TABLE 716.1(3)**

**FIRE WINDOW ASSEMBLY FIRE PROTECTION RATINGS**

[Print only model code language in Table]

…

*~~c. Fire-protection-rated glazing is not permitted for fire barriers required by Section 1206 of the California Fire Code to enclose energy storage systems. Fire-resistance-rated glazing assemblies tested to ASTM E119 or UL 263, as specified in Section 716.1.2.3 shall be permitted.~~*

c. Fire-protection-rated glazing is not permitted for fire barriers required by Section 1207 of the California Fire Code to enclose energy storage systems. Fire-resistance-rated glazing assemblies tested to ASTM E119 or UL 263, as specified in Section 716.1.2.3 shall be permitted.

***~~716.3.2.1.1.1 Energy storage system separation.~~*** *~~Fire-protection-rated glazing is not permitted for use in fire window assemblies in fire barriers required by Section 1206 of the California Fire Code to enclose energy storage systems.~~*

**716.2.5.4.1 Energy storage system separation.**

Fire-protection-rated glazing shall not be permitted in fire door frames with transom lights and sidelights in fire barriers required by Section 1207 of the California Fire Code to enclose energy storage systems.

# Item 7-8 Chapter 7, Fire And Smoke Protection Features. 716.2.6 Fire door hardware and closers

[This is editorial. During review of 2018 IBC and 2021 IBC revisions, noticed inappropriate use of “closures”. Explanation: a closer is a device that provides closure of something that closes or shuts. Put another way, the closer closes the closure.]

**716.2.6 Fire door hardware and ~~closures~~ *closers*.** Fire door hardware and ~~closures~~ *closers* shall be installed on fire door assemblies in accordance with the requirements of this section.

**SECTION 717**

**DUCTS AND AIR TRANSFER OPENINGS**

# Item 7-9 Chapter 7, Fire And Smoke Protection Features, 717.5.2 Fire Barriers

[SFM proposed amendment adds a reference to the California Mechanical Code Section 603 for the enforcement of the CBC flexible duct provisions contained in Section 717.5.2 Exceptions 3.1 and 3.2. SFM proposed amendment reformats text so as not to indent the paragraph and corrects section numbers referenced in the paragraph.]

[Related Sections in Part 2, California Building Code 707, 708, 711, 714, 716, 717, 1020.1, 1023.5, 1024]

**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 listed fire dampers installed in accordance with their listing. Ducts and air transfer openings shall not penetrate enclosures for interior exit stairways and ramps and exit passageways, except as permitted by Sections 1023.5 and 1024.6, respectively.

**Exceptions:**

**…**

1. Such walls are penetrated by fully ducted HVAC systems, have a required *fire-resistance rating* of 1 hour or less, are in areas of other than Group H and are in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2. For the purposes of this exception, a fully ducted HVAC system shall be a duct system for conveying supply, return or exhaust air as part of the structure’s HVAC system. Such a duct system shall be constructed of sheet steel not less than No. 26 gage thickness and shall be continuous from the air-handling appliance or equipment to the air outlet and inlet terminals. Nonmetal flexible air connectors shall be permitted ~~in~~ *at* the following locations *in* *accordance with Section 603 of the California Mechanical Code:*

3.1. At the duct connection to the air handling unit or equipment located within the mechanical room. ~~in accordance with Section 603.9 of the~~ *~~International Mechanical Code.~~*

3.2. From an overhead metal duct to a ceiling diffuser within the same room. ~~in accordance with Section 603.6.2 of the~~ *~~International Mechanical Code.~~*

***[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~~ 1023.5 and ~~1023.6~~, 1024.6 respectively.*

***Exceptions:***

**…**

# Item 7-10 Chapter 7, Fire And Smoke Protection Features, Section 717.5.4.1 Corridors

[The CBC Section 717.5.4.1 charging statement specifies that the provisions of 714.5.4.1 are not applicable to Group I occupancies.]

[Related Sections in Part 2, California Building Code 407.3.1, Table 716.1(2), 716.2.2.1]

**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,* duct and air transfer openings that penetrate corridors shall be protected with dampers as follows:

…

1. 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 716.2.2.1. *~~or doors that provide an effective barrier to limit the transfer of smoke in accordance with Section 407.3.1.~~*

**SECTION 718**

**CONCEALED SPACES**

# Item 7-11 Chapter 7, Fire And Smoke Protection Features, Section 718.2.1 Floreblocking materials

[The SFM proposes to repeal and replace with model code language.]

**718.2.1 Fireblocking materials.** Fireblocking shall consist of the following materials:

1. (existing code language remain unchanged)

…

*~~9. Mass timber complying with Section 2304.11.~~*

9. Mass timber complying with Section 2304.11.

**SECTION 722**

**CALCULATED FIRE RESISTANCE**

# Item 7-12 Chapter 7, Fire And Smoke Protection Features, Sections 722.7, 722.7.1, Table 722.7.1(1), Table 722.7.1(2), 722.7.2, 722.7.2.1, 722.7.2.2 (Tall Wood proposals)

[The SFM proposes to repeal and replace with model code language.]

***~~722.7 Fire resistance rating of mass timber.~~*** *~~The required fire resistance of mass timber elements in Section 602.4 shall be determined in accordance with Section 703.2 or Section 703.3. The fire resistance rating of building elements shall be as required in Tables 601 and 602 and as specified elsewhere in this code. The fire resistance rating of the mass timber elements shall consist of the fire resistance of the unprotected element added to the protection time of the noncombustible protection.~~*

***~~722.7.1 Minimum required protection~~****~~. Where required by Sections 602.4.1 through 602.4.3, noncombustible protection shall be provided for mass timber building elements in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the noncombustible protection of mass timber building elements, components, or assemblies, shall be established in accordance with Section 703.8. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement when installed and fastened in accordance with Section 722.7.2.~~*

***~~TABLE 722.7.1(1)~~***

***~~PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL~~***

| *~~Required Fire Resistance Rating of Building Element per Tables 601 and 602 (hours)~~* | *~~Minimum Protection Required from noncombustible Protection (minutes)~~* |
| --- | --- |
| *~~1 hr.~~* | *~~40~~* |
| *~~2 hr.~~* | *~~80~~* |
| *~~3 hr. or more~~* | *~~120~~* |

***~~TABLE 722.7.1(2)~~***

***~~PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL~~***

| *~~Noncombustible Protection~~* | *~~Protection Contribution (minutes)~~* |
| --- | --- |
| *~~1/2-inch Type X Gypsum Board~~* | *~~25~~* |
| *~~5/8-inch Type X Gypsum Board~~* | *~~40~~* |

***~~722.7.2 Installation of gypsum board noncombustible protection~~****~~. Gypsum board complying with Table 722.7.1(2) shall be installed in accordance with this section.~~*

***~~722.7.2.1 Interior surfaces.~~*** *~~Layers of Type X gypsum board serving as noncombustible protection for interior surfaces of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:~~*

1. *~~Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the mass timber at least 1 inch when driven flush with the paper surface of the gypsum board.~~*

***~~Exception:~~*** *~~The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with1 inch #6 Type S drywall screws to furring channels in accordance with ASTM C645.~~*

1. *~~Screws for attaching the base layer shall be 12 inches on center in both directions.~~*
2. *~~Screws for each layer after the base layer shall be 12 inches on center in both directions and offset from the screws of the previous layers by 4 inches in both directions.~~*
3. *~~All panel edges of any layer shall be offset 18 inches from those of the previous layer.~~*
4. *~~All panel edges shall be attached with screws sized and offset as in items 1 through 4 above and placed at least 1 inch but not more than 2 inches from the panel edge.~~*
5. *~~All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.~~*
6. *~~All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an exterior wall or a wall with a greater fire resistance rating shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.~~*
7. *~~Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.~~*
8. *~~Panel edges protecting mass timber elements adjacent to unprotected mass timber elements in accordance with Section 602.4.2.2 shall be covered with 1 1/4-inch metal corner bead and finished with joint compound.~~*

***~~722.7.2.2 Exterior surfaces.~~*** *~~Layers of Type X gypsum board serving as noncombustible protection for the outside of the exterior heavy timber walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches on center each way and 6 inches on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1inch but not more than 2 inches from the panel edge. Fasteners shall comply with one of the following:~~*

1. *~~Galvanized nails of minimum 12 Gage with a 7/16-inch head of sufficient length to penetrate the mass timber a minimum of 1 inch.~~*
2. *~~Screws which comply with ASTM C1002 (Type S, Type W, or Type G) of sufficient length to penetrate the mass timber a minimum of 1 inch.~~*

**722.7 Fire resistance rating of mass timber.** The required fire resistance of mass timber elements in Section 602.4 shall be determined in accordance with Section 703.2 or Section 703.3. The fire resistance rating of building elements shall be as required in Tables 601 and 602 and as specified elsewhere in this code. The fire resistance rating of the mass timber elements shall consist of the fire resistance of the unprotected element added to the protection time of the noncombustible protection.

**722.7.1 Minimum required protection**. Where required by Sections 602.4.1 through 602.4.3, noncombustible protection shall be provided for mass timber building elements in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the noncombustible protection of mass timber building elements, components, or assemblies, shall be established in accordance with Section 703.8. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement when installed and fastened in accordance with Section 722.7.2.

**TABLE 722.7.1(1)**

**PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

| Required Fire Resistance Rating of Building Element per Tables 601 and 602 (hours) | Minimum Protection Required from noncombustible Protection (minutes) |
| --- | --- |
| 1 hr. | 40 |
| 2 hr. | 80 |
| 3 hr. or more | 120 |

**TABLE 722.7.1(2)**

**PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL**

| Noncombustible Protection | Protection Contribution (minutes) |
| --- | --- |
| 1/2-inch Type X Gypsum Board | 25 |
| 5/8-inch Type X Gypsum Board | 40 |

**722.7.2 Installation of gypsum board noncombustible protection**. Gypsum board complying with Table 722.7.1(2) shall be installed in accordance with this section.

**722.7.2.1 Interior surfaces.** Layers of Type X gypsum board serving as noncombustible protection for interior surfaces of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the mass timber at least 1 inch when driven flush with the paper surface of the gypsum board.

**Exception:** The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with1 inch #6 Type S drywall screws to furring channels in accordance with ASTM C645.

1. Screws for attaching the base layer shall be 12 inches on center in both directions.
2. Screws for each layer after the base layer shall be 12 inches on center in both directions and offset from the screws of the previous layers by 4 inches in both directions.
3. All panel edges of any layer shall be offset 18 inches from those of the previous layer.
4. All panel edges shall be attached with screws sized and offset as in items 1 through 4 above and placed at least 1 inch but not more than 2 inches from the panel edge.
5. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first, and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.
6. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an exterior wall or a wall with a greater fire resistance rating shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.
7. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.
8. Panel edges protecting mass timber elements adjacent to unprotected mass timber elements in accordance with Section 602.4.2.2 shall be covered with 1 1/4-inch metal corner bead and finished with joint compound.

**722.7.2.2 Exterior surfaces.** Layers of Type X gypsum board serving as noncombustible protection for the outside of the exterior heavy timber walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches on center each way and 6 inches on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1inch but not more than 2 inches from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 Gage with a 7/16-inch head of sufficient length to penetrate the mass timber a minimum of 1 inch.
2. Screws which comply with ASTM C1002 (Type S, Type W, or Type G) of sufficient length to penetrate the mass timber a minimum of 1 inch.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 7A**

***MATERIALS AND CONSTRUCTION METHODS***

***FOR EXTERIOR WILDFIRE EXPOSURE***

# Item 7A-1 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure*

[The SFM proposes to adopt Chapter 7A and carry forward existing amendments with modifications as shown below.]

***SECTION 701A***

***SCOPE, PURPOSE AND APPLICATION***

# Item 7A-2 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 701A.1 Scope*

[The SFM proposes to add the acronym WUI for Wildland-Urban Interface.]

***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 (WUI) Fire Area as defined in Section 702A.*

# Item 7A-3 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 701A.3 Application*

[The SFM proposes to restate the application as it applies to accessory buildings and structures.]

***701A.3 Application.*** *New buildings located in any Fire Hazard Severity Zone, or any Wildland-Urban Interface (WUI) Fire Area designated by the enforcing agency constructed after the application date shall comply with the provisions of this chapter. This shall include all new buildings with residential, commercial, educational, institutional, or similar occupancy type use, which shall be referred to in this chapter as “applicable building[s]” (see definition in Section 702A), as well as new buildings and structures accessory to those applicable buildings (see Exceptions 1 and 4).*

***Exceptions:***

1. *Group U occupancy accessory buildings of any size located at least 50 feet from an applicable building on the same lot.*
2. *Group U occupancy agricultural buildings, as defined in Section 202 of this code of any size located at least 50 feet from an applicable building.*
3. *Group C occupancy special buildings conforming to the limitations specified in Section 450.4.1.*
4. *New accessory buildings and miscellaneous structures specified in Section 710A shall comply only with the requirements of that section.*
5. *Additions to and remodels of buildings originally constructed prior to July 1, 2008.*
6. *~~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.~~*
7. *~~Buildings of an accessory character classified as Group U occupancy of any size located least 50 feet from an applicable building.~~*
8. *~~Buildings classified as a Group U Agricultural Building, as defined in Section 202 of this code (see also Appendix C – Group U Agricultural Buildings), when located at least 50 feet from an applicable building.~~*
9. *~~Additions to and remodels of buildings originally constructed prior to the applicable application date.~~*
10. *~~Group C, special buildings conforming to the limitations specified in Section 450.4.1.~~*

*~~For the purposes of this section and 710A, applicable building includes all buildings that have residential, commercial, educational, institutional, or similar occupancy type use.~~*

***701A.3.1 Application date and where required.*** *(text remains unchanged) …*

# Item 7A-4 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 701A.3.2 Application to accessory buildings and miscellaneous structures*

[The SFM proposes to delete the Section 701A.3.2 as it was added to the main Application Section 701A.3 as shown above.]

***~~701A.3.2~~******~~Application to accessory buildings and miscellaneous structures.~~*** *~~New accessory buildings and miscellaneous structures specified in section 710A shall comply only with the requirements of that section.~~*

***SECTION 702A***

***DEFINITIONS***

*For the purposes of this chapter, certain terms are defined below:*

# Item 7A-5 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 702A Definitions*

[The SFM proposes to define an applicable building as it pertains to the 7A regulations.]

***APPLICABLE BUILDING.*** *A building that has residential, commercial, educational, institutional, or similar occupancy type use.*

# Item 7A-6 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 702A Definitions*

[The SFM proposes to update the title of the director for the California Department of Forestry and Fire Protection which is currently known as CAL FIRE.]

***~~CDF~~ DIRECTOR.*** *~~means the~~ Director of the California Department of Forestry and Fire Protection (CAL FIRE).*

# Item 7A-7 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 702A Definitions*

[The SFM proposes to add a definition of an exterior wall assembly.]

***EXTERIOR WALL ASSEMBLY.*** *A system or assembly of exterior wall components, including exterior wall covering materials, that provides protection of the building structural members, including framing and sheathing materials, and conditioned interior space, from the detrimental effects of the exterior environment.*

# Item 7A-8 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 702A Definitions*

[The SFM proposes to add a definition of an exterior wall covering.]

***EXTERIOR WALL COVERING.*** *A material or assembly of materials applied on the exterior side of exterior walls for the purpose of providing a weather-resisting barrier, insulation or for aesthetics, including but not limited to, veneers, siding, exterior insulation and finish systems, architectural trim, and embellishments such as cornices, soffits, facias, gutters, and leaders.*

# Item 7A-9 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 702A Definitions*

[The SFM proposes to modify the definition of a fire protection plan, which will correlate to changes proposed in the California Fire Code Chapter 49.]

***FIRE PROTECTION PLAN~~.~~*** *~~is a~~ A document prepared for a specific project or development proposed for a Wildland-Urban Interface (WUI) 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 in accordance with Section 101.14 or the Department of Housing and Community Development in accordance with Section 101.15 shall apply.~~*

# Item 7A-10 Chapter 7A, Materials And Construction Methods For Exterior Wildfire Exposure, Section 702A Definitions

[The SFM proposes to make an editorial correction.]

***FIRE HAZARD SEVERITY ZONES.*** *~~are~~ ~~g~~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* *Responsibility Areas Moderate, High and Very High Fire Hazard Severity Zones designated pursuant to California Government Code, Sections 51175 through 51189. See California Fire Code 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.”*

# Item 7A-11 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 702A Definitions*

[The SFM proposes to add the definition of a Fire-Resistant Vegetation, which will correlate to changes proposed in the California Fire Code Chapter 49.]

***FIRE-RESISTANT VEGETATION.*** *Plants, shrubs, trees, and other vegetation which exhibit properties, such as high moisture content, little accumulation of dead vegetation, and low sap or resin content, that make them less likely to ignite or contribute heat or spread flame in a fire than native vegetation typically found in the region.*

*[Note: The following sources contain examples of types of vegetation that can be considered as fire resistant vegetation. (Fire resistant Plants for Home Landscapes, A Pacific Northwest Extension publication; Home Landscaping for Fire, University of California Division of Agriculture and Natural Resources; Sunset Western Garden Book)]*

# Item 7A-12 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 702A Definitions*

[The SFM proposes to modify the definition of Ignition-resistant material and send the code user to the appropriate standard.]

***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~~ complies with the requirements in Section 704A.2 ~~703A and SFM Standard 12-7A-5, Ignition-Resistant Material~~.*

# Item 7A-13 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 702A Definitions*

[The SFM proposes to make editorial corrections and add an acronym.]

***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.~~*

***LOCAL REPONSIBILITY AREA (LRA).*** *Areas of the state in which the financial responsibility of preventing and suppressing fires is the primary responsibility of a city, county, city and county, or district.*

# Item 7A-14 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 702A Definitions*

[The SFM proposes to make editorial corrections and add an acronym.]

***STATE RESPONSIBILITY AREA (SRA).*** *~~means~~ ~~l~~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.*

# Item 7A-15 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 702A Definitions*

[The SFM proposes to make editorial corrections.]

***WILDFIRE.*** *~~is~~ ~~a~~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.*

# Item 7A-16 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 702A Definitions*

[The SFM proposes to make editorial corrections.]

***WILDFIRE EXPOSURE.*** *~~is~~ ~~o~~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.*

# Item 7A-17 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 702A Definitions*

[The SFM proposes to add an acronym.]

***WILDLAND-URBAN INTERFACE ~~FIRE AREA~~ (WUI).*** *~~is a~~ 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***

# Item 7A-18 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 703A Standards of Quality*

[The SFM proposes to delete a SFM standard and add updated equivalent standards.]

***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 an 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 2.2lb (1kg) burning "Class A" size 12"x12"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.~~*

***ASTM D2898*** *Standard Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing.*

***ASTM D3909/D3909M*** *Standard Specification for Asphalt Roll Roofing (Glass Felt) Surfaced with Mineral Granules.*

***ASTM E84*** *Standard Test Method for Surface Burning Characteristics of Building Materials.*

***ASTM E119,*** *Standard Test Methods for Fire Tests of Building Construction and Materials*

***ASTM E2632/E2632M*** *Standard Test Method for Evaluating the Under-Deck Fire Test Response of Deck Materials.*

***ASTM E2707*** *Standard Test Method for Determining Fire Penetration of Exterior Wall Assemblies Using a Direct Flame Impingement Exposure.*

***ASTM E2726/E2726M*** *Standard Test Method for Evaluating the Fire-Test-Response of Deck Structures to Burning Brands.*

***ASTM E2768*** *Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test)*

***ASTM E2886/E2886M*** *Standard Test Method for Evaluating the Ability of Exterior Vents to Resist the Entry of Embers and Direct Flame Impingement.*

***ASTM E2957*** *Standard Test Method for Resistance to Wildfire Penetration of Eaves, Soffits and Other Projections.*

***NFPA 257*** *Standard on Fire Test for Window and Glass Block Assemblies.*

***UL 263*** *Standard for Fire Tests of Building Construction and Materials*

***UL 723*** *Standard for Test for Surface Burning Characteristics of Building Materials.*

***SECTION 704A***

***IGNITION-RESISTANT CONSTRUCTION***

# Item 7A-19 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 704A Ignition-Resistant Construction*

[The SFM proposes to provide the code user to correct Section pointers.]

***704A.2 Ignition-resistant materials****. Ignition-resistant materials shall comply with one of the following:*

* 1. *The requirements in Section 704A.3, or ~~when tested in accordance with the test procedures set forth in ASTM E84 or UL 723,~~*
  2. *~~The test procedures and requirements set forth in SFM Standard 12-7A-5 “Ignition-Resistant Material”,~~ One of the alternative methods in Section 704A.4.*

*~~or~~*

*~~One of the alternative methods in Section 704A.4.~~*

# Item 7A-20 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 704A Ignition-Resistant Construction*

[The SFM proposes to make editorial changes, add testing standards.]

***704A.3 Conditions of acceptance for ignition-resistant materials ~~material tested in accordance with ASTM E84 or UL 723~~.*** *~~A~~ The material shall comply with the conditions of acceptance in Items 1 and 2 below or with the conditions of acceptance of ASTM E2768 ~~when the test is continued for an additional 20-minute period, meaning for a total test period of an “extended” 30-minute test period~~.*

1. *The material shall exhibit a listed flame spread index not exceeding 25 when tested in accordance with ASTM E84 or UL 723 ~~and shall show no evidence of progressive combustion following the extended 30-minute test period~~.*
2. *Additionally, the ASTM E84 or UL 723 test shall be continued for an additional 20-minute period, and the ~~The~~ material shall exhibit a flame front that does not progress more than 101/2 feet (3200 mm) beyond the centerline of the burner at any time during the ~~extended 30-minute~~ test period.*

# Item 7A-21 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 704A Ignition-Resistant Construction*

[The SFM proposes to add testing standard for wood structural panels.]

***704A.3.1 Fire Testing of Wood Structural Panels*** *Wood structural panels shall be tested with a ripped or cut longitudinal gap of 1/8" (3.2 mm).*

***SECTION 706A***

***VENTS***

# Item 7A-22 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 706A Vents*

[The SFM proposes to modify and rewrite the General section to align with additional vent changes below.]

***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.~~ Where provided, ventilation openings for enclosed attics, gable ends, ridge ends, under eaves and cornices, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, underfloor ventilation, foundations and crawl spaces, or any other opening intended to permit ventilation, either in a horizontal or vertical plane, shall be in accordance with Section 1202 and Sections 706A.1 through 706A.2 to resist building ignition from the intrusion of burning embers and flame through the ventilation openings.*

# Item 7A-23 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 706A Vents*

[The SFM proposes to make editorial corrections and expand the requirement for protection from embers to all ventilation openings.]

***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 ~~Wildland~~ Wildfire Flame and Ember Resistant ~~(WUI)~~ vents approved and listed by the California State Fire Marshal, or WUI vents tested ~~listed~~ to ASTM E2886 and listed, by complying with all the following requirements:*

1. *There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.*
2. *There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.*
3. *The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).*

# Item 7A-24 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 706A Vents*

[The SFM proposes to delete language that was incorporated into the main Section 706A.2 and add a compliance path for the use of off ridge and ridge venting.]

***~~706A.2.1~~*** *~~The requirements of 706.A.2 shall apply to gable ends, ridge ends, crawl spaces, foundations, and all other ventilation vents that mount on a vertical wall.~~*

***706A.2.1 Off ridge and ridge vents.*** *Vents that are installed on a sloped roof, such as dormer vents, shall comply with all the following:*

* 1. *Vents shall be covered with a mesh where the dimensions of the mesh therein shall be a minimum of 1/16-inch (1.6 mm) and shall not exceed 1/8-inch (3.2 mm) in diameter.*
  2. *The mesh material shall be noncombustible.*
  3. *The mesh material shall be corrosion resistant.*

# Item 7A-25 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 706A Vents*

[The SFM proposes to delete the subsection that is no longer needed.]

***~~706A.3~~******~~Ventilation openings on the underside of eaves and cornices.~~*** *~~Vents shall not be installed on the underside of eaves and cornices unless the vents are Wildland Flame and Ember Resistant (WUI) vents approved and listed by the California State Fire Marshal, or WUI vents listed to ASTM E2886, by complying with all the following requirements:~~*

1. *~~There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.~~*
2. *~~There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.~~*
3. *~~The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).~~*

***~~Exceptions:~~***

1. *~~The enforcing agency shall be permitted to accept or approve special eave and cornice vents that resist the intrusion of flame and burning embers.~~*
2. *~~Vents shall be permitted to be installed on the underside of eaves and cornices in accordance with all of the following conditions:~~*
   1. *~~The attic space being ventilated is fully protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 and,~~*
   2. *~~The exterior wall covering and exposed underside of the eave are of noncombustible materials, or ignition-resistant materials, as determined in accordance with SFM Standard 12-7A-5 Ignition-Resistant Material and the requirements of Section 704A.3, and the vent is located more than 12 feet (3.66 m) from the ground or walking surface of a deck, porch, patio or similar surface.~~*

***SECTION 707A***

***EXTERIOR COVERING***

# Item 7A-26 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 707A Exterior Covering*

[The SFM proposes to add clarifying definitions, delete outdated language, clearly state that the exceptions are for the entire Section 707A.2, and delete exceptions.]

***707A.2 General.*** *The following exterior covering materials and/or assemblies shall comply with this section:*

1. *Exterior wall coverings. ~~covering material~~*
2. *Exterior wall assemblies. ~~Assembly~~*

*(3 through 7 text remains unchanged)*

*…*

***Exceptions to 707A.2:***

1. *Exterior wall architectural trim, embellishments, fascia, 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. *3. Deck walking surfaces shall comply with Section 709A.4 only.*

# Item 7A-27 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 707A Exterior Covering*

[The SFM proposes to add clarifying definitions, delete, and move the exceptions to subsections shown below.]

***707A.3 Exterior wall coverings ~~walls~~.*** *The exterior wall covering ~~or wall assembly~~ shall comply with one or more of the following requirements, except as permitted for exterior wall assemblies complying with 707A.4:*

1. *Noncombustible material*
2. *Ignition-resistant material* *the ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section 704A.2.*
3. *Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2.*
4. *~~Sawn lumber or glue laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). Sawn or glue-laminated planks splined, tongue-and groove, or set close together and well spiked.~~*
5. *~~Log wall construction assembly.~~*
6. *~~Wall assemblies that have been tested in accordance with the test procedures for a 10-minute direct flame contact exposure test set forth in ASTM E2707 with the conditions of acceptance shown in Section 707A.3.1.~~*
7. *~~Wall assemblies that meet the performance criteria in accordance with the test procedures for a 10-minutedirect 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.~~*

# Item 7A-28 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 707A Exterior Covering*

[The SFM proposes to delete the subsection and move it to an added section shown below.]

***~~707A.3.1~~*** *~~Conditions of acceptance when tested in accordance with ASTM E2707. The ASTM E2707 test shall be conducted on a minimum of three test specimens and the conditions of acceptance in Items 1 and 2 below shall be met. If any one of the three tests does not meet the conditions of acceptance, three additional tests shall be run. All of the additional tests shall meet the conditions of acceptance.~~*

* 1. *~~Absence of flame penetration through the wall assembly at any time.~~*
  2. *~~Absence of evidence of glowing combustion on the interior surface of the assembly at the end of the 70-min test.~~*

# Item 7A-29 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 707A Exterior Covering*

[The SFM proposes to renumber the section based on reorganizing.]

***707A.3.1 ~~707A.3.2~~ 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.*

# Item 7A-30 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 707A Exterior Covering*

[The SFM proposes to add a section for exterior wall assemblies.]

***707A.4 Exterior wall assemblies****. Exterior wall assemblies of buildings or structures shall be constructed using one or more of the following methods, unless they are covered by an exterior wall covering complying with 707A.3:*

1. *Assembly of sawn lumber or glue laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). Sawn or glue-laminated planks splined, tongue-and-grove, or set close together and well spiked.*
2. *Log wall construction assembly*
3. *Assembly that has been tested in accordance with the test procedures for a 10-minute direct flame contact exposure test set forth in ASTM E2707 with the conditions of acceptance shown in Section 707A.4.1.*
4. *Assembly that meets 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.*
5. *Assembly suitable for exterior fire exposure with a 1-hour fire resistance rating, rated from the exterior side, as tested in accordance with ASTM E119 or UL 263.*
6. *Assembly suitable for exterior fire exposure containing one layer of 5/8-inch Type X gypsum sheathing applied behind the exterior wall covering or cladding on the exterior side of the framing.*
7. *Assembly suitable for exterior fire exposure containing any of the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual as complying with a 1-hour fire resistance rating, as tested in accordance with ASTM E119 or UL 263.*

# Item 7A-31 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 707A Exterior Covering*

[The SFM proposes to add a subsection for exterior wall assemblies.]

***707A.4.1 Conditions of acceptance when tested in accordance with ASTM E2707.*** *The ASTM E2707 test shall be conducted on a minimum of three test specimens and the conditions of acceptance in 1 and 2 below shall be met. If any one of the three tests do not meet the conditions of acceptance, three additional tests shall be run. All the additional tests shall meet the conditions of acceptance.*

* 1. *Absence of flame penetration through the wall assembly at any time.*
  2. *Absence of evidence of glowing combustion on the interior surface of the assembly at the end of the 70-min test.*

# Item 7A-32 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 707A Exterior Covering*

[The SFM proposes to renumber based on reorganization, add criteria for compliance, clarify the exceptions apply to the entire section, delete exceptions that no longer apply.]

***707A.5~~4~~ Open roof eaves.*** *The exposed roof deck on the underside of unenclosed roof eaves shall consist of one or more of the following:*

1. *Noncombustible material*
2. *Ignition-resistant material the ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section 704A.2.*
3. *Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2.*
4. *~~One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside exterior of the roof deck~~*
5. *Materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side, as tested in accordance with ASTM E119 or UL 263.*
6. *~~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~~*
7. *One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the roof deck.*
8. *The exterior portion of a 1-hour fire resistance rated exterior assembly, as tested in accordance with ASTM E119 or UL 263, 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.*

***Exception~~s~~ to 707A.5:*** *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*

# Item 7A-33 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 707A Exterior Covering*

[The SFM proposes to renumber based on reorganization, add criteria for compliance, clarify the exceptions apply to the entire section, delete exceptions that no longer apply.]

***707A.6~~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 or more of the following:*

* 1. *Noncombustible material*
  2. *Ignition-resistant material. The ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section 704A.2.*
  3. *Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2.*
  4. *~~One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the rafter tails or soffit~~*

1. *Materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side, as tested in accordance with ASTM E119 or UL 263.*
2. *~~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~~*
3. *One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering or cladding on the underside of the rafter tails or soffit.*
4. *The exterior portion of a 1-hour fire resistive exterior 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. *~~5~~. Boxed-in roof eave soffit assemblies with a horizontal underside that meet the performance criteria in Section 707A.11 ~~707A.10~~ when tested in accordance with the test procedures set forth in ASTM E2957.*
6. *~~6~~. Boxed-in roof eave soffit assemblies with a horizontal underside that meet the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.*

***Exception~~s~~ to 707A.6:*** *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*

# Item 7A-34 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 707A Exterior Covering*

[The SFM proposes to renumber based on reorganization, add criteria for compliance, clarify the exceptions apply to the entire section, delete exceptions that no longer apply.]

***707A.7~~6~~******Exterior porch ceilings.*** *The exposed underside of exterior porch ceilings shall be protected by one or more of the following:*

* 1. *Noncombustible material*
  2. *Ignition-resistant material.* *The ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section 704A.2.*

1. *Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2.*
   1. *~~One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering on the underside of the ceiling.~~*
2. *Materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side, as tested in accordance with ASTM E119 or UL 263.*
3. *~~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~~*
4. *One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering on the underside of the ceiling*
5. *The exterior portion of a 1-hour fire resistance rated exterior assembly, as tested in accordance with ASTM E119, 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*
6. *~~5~~. Porch ceiling assemblies with a horizontal underside that meet the performance criteria in Section 707A.11 ~~707A.10~~ when tested in accordance with the test procedures set forth in ASTM E2957.*
7. *~~6~~. Porch ceiling assemblies with a horizontal underside that meet the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3*

***Exception to 707A.7:*** *Architectural trim boards do not require protection.*

# Item 7A-35 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 707A Exterior Covering*

[The SFM proposes to renumber based on reorganization, add criteria for compliance, clarify the exceptions apply to the entire section, delete exceptions that no longer apply.]

***707A.8 ~~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 or more of the following:*

1. *Noncombustible material*
2. *Ignition-resistant material.* *The ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section 704A.2.*
3. *Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2.*
4. *~~One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering on the underside of the ceiling.~~*
5. *Materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side, as tested in accordance with ASTM E119 or UL 263.*
6. *~~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~~*
7. *One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering on the underside of the ceiling*
8. *The exterior portion of a 1-hour fire resistance rated exterior assembly, as tested in accordance with ASTM E119, 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*
9. *~~5~~. Porch ceiling assemblies with a horizontal underside that meet the performance criteria in Section 707A.11 ~~707A.10~~ when tested in accordance with the test procedures set forth in ASTM E2957.*
10. *~~6~~. Porch ceiling assemblies with a horizontal underside that meet the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3*

***Exception to 707A.8****: Architectural trim boards do not require protection.*

# Item 7A-36 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 707A Exterior Covering*

[The SFM proposes to renumber based on reorganization, add criteria for compliance, clarify the exceptions apply to the entire section, delete exceptions that no longer apply.]

***707A.9 ~~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 be protected by ~~consist of~~ one or more of the following:*

* + - 1. *Noncombustible material*
      2. *Ignition-resistant material. The ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section 704A.2.*
      3. *Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2.*
      4. *~~One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection~~*
      5. *Materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side, as tested in accordance with ASTM E119 or UL 263.*

1. *~~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~~.*
2. *One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection.*
3. *~~The underside of a floor assembly that meets the performance criteria in accordance with the test procedures set forth in either of the following:~~*
   1. *~~SFM Standard 12-7A-3; or~~*
   2. *~~ASTM E2957~~*
4. *The exterior portion of a 1-hour fire resistance rated exterior assembly, as tested in accordance with ASTM E119 or UL 263, 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 Section 707A.11 when tested in accordance with the test procedures set forth in ASTM E2957.*
6. *The underside of a floor assembly that meets the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.*

***Exception to 707A.9:*** *Structural columns and beams do not require protection when constructed with sawn lumber or glue laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). Sawn or glue-laminated planks shall be splined, tongue-and-grove, or set close together and well spiked.*

# Item 7A-37 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 707A Exterior Covering*

[The SFM proposes to renumber based on reorganization, add criteria for compliance, clarify the exceptions apply to the entire section.]

***707A.10 ~~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 be protected by one or more ~~consist of one~~ of the following:*

*1. Noncombustible material*

*2. Ignition-resistant material.* *The ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section 704A.2.*

*3. Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2.*

*~~3. One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection~~*

*4. Materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side, as tested in accordance with ASTM E119 or UL 263.*

*~~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. One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the appendage projection.*

*~~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~~*

*6. The exterior portion of a 1-hour fire resistance rated exterior assembly, as tested in accordance with ASTM E119 or UL 263, applied to the underside of the appendage, including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual.*

*7. The underside of an appendage assembly that meets the performance criteria in Section 707A.11 when tested in accordance with the test procedures set forth in ASTM E2957.*

*8. The underside of an appendage assembly that meets the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.*

***Exception to 707A.10:*** *Structural columns and beams do not require protection when constructed with sawn lumber or glue-laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). Sawn or glue-laminated planks shall be splined, tongue-and-grove, or set close together and well spiked.*

# Item 7A-38 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 707A Exterior Covering*

[The SFM proposes to renumber based on reorganization.]

***707A.11~~0~~ Conditions of acceptance when tested in accordance with ASTM E2957.*** *(text remains unchanged) …*

***SECTION 709A***

***DECKING***

# Item 7A-39 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 709A Decking*

[The SFM proposes to add correct section pointers.]

***709A.3 Decking Surfaces.*** *The walking surface material of decks, porches, balconies, and stairs shall be constructed with one of the following materials:*

1. *Material that complies with the performance requirements of Section 709A.4 when tested in accordance with both ASTM E2632 and ASTM E2726.*
2. *Ignition-resistant material that complies with the performance requirements of 704A.3 ~~when tested in accordance with ASTM E84 or UL 723~~.*
3. *Material that complies with the performance requirements of both SFM Standard 12-7A-4 and Section 704A.3 ~~SFM Standard 12-7A-5~~.*

*(4 through 7 text remains unchanged)*

# Item 7A-40 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 709A Decking*

[The SFM proposes to make an editorial correction.]

***709A.4 Requirements for type of ~~ignition-resistant~~ material in Section 709A.3, item (1)****. The material shall be tested in accordance with both ASTM E2632 and ASTM E2726 and shall comply with the conditions of acceptance in 709A.4.1 and 709A4.2. The material shall also be tested in accordance with ASTM E84 or UL 723 and comply with the performance requirements of Section 704A.3.*

# Item 7A-41 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 710A Accesory Buildings and Miscellaneous Structures*

[The SFM proposes to add to the Title of Section 710A for comprehensibility an intent of the section requirements.]

***SECTION 710A***

***ACCESSORY BUILDINGS AND MISCELLANEOUS STRUCTURES***

# Item 7A-42 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 710A Accesory Buildings and Miscellaneous Structures*

[The SFM proposes to modify the General section to clearly state the intent of the requirements of Section 710A.]

***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.~~ Group U occupancy accessory buildings and miscellaneous structures that have the potential to pose a significant exterior fire exposure hazard during wildfires shall be constructed to conform to the ignition-resistance requirements of this section.*

# Item 7A-43 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 710A Accesory Buildings and Miscellaneous Structures*

[The SFM proposes to modify the Applicability section to clearly state the intent of the requirements of Section 710A.]

***710A.2 Applicability.*** *~~T~~Unless otherwise addressed by the exceptions of Section 701A.3, the provisions of this section shall apply to buildings accessory to an applicable building on the same lot ~~the buildings covered by Section 701A.3 Exception 1~~. This section shall also apply to ~~specified~~ attached and detached miscellaneous structures that require a building permit, including but not limited to trellises, arbors, patio covers, gazebos, and similar structures.*

***Exceptions****:*

1. *Decks shall comply with the requirements of Section 709A.*
2. *Awnings and canopies shall comply with the requirements of Section 3105.*
3. *Exterior wall architectural trim, embellishments, and fascia.*

# Item 7A-44 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 710A Accesory Buildings and Miscellaneous Structures*

[The SFM proposes to modify the Where required section to clearly state the intent of the requirements of Section 710A.]

***710A.3 Where required****.* *~~No requirements shall apply to accessory buildings or miscellaneous structures when located at least 50 feet from an applicable building. Applicable accessory buildings and attached miscellaneous structures, or detached miscellaneous structures that are installed at a distance of less than 3 feet from an applicable building, shall comply with this section. When required by the enforcing agency, detached miscellaneous structures that are installed at a distance of more than 3 feet but less than 50 feet from an applicable building shall comply with the requirements of this section.~~Miscellaneous structures that require a permit, and accessory buildings of any size, when separated from an applicable building on the same lot by a distance of less than 3 feet shall comply with Section 710A.3.1. Accessory buildings that are greater than 120 square feet, when separated from an applicable building on the same lot by a distance of 3 feet or more but less than 50 feet shall comply with Section 710A.3.2.*

*When required by the enforcing agency, miscellaneous structures that require a permit, and accessory buildings that are 120 square feet or less, when separated from an applicable building on the same lot by a distance of 3 feet or more but less than 50 feet shall comply with either Section 710A.3.4 or Section 710A.3.3, respectively.*

*No requirements shall apply to accessory buildings or miscellaneous structures when located 50 feet or more from an applicable building on the same lot.*

# Item 7A-45 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 710A Accesory Buildings and Miscellaneous Structures*

[The SFM proposes to delete a section that is no longer needed based on reorganization and intent of the entire 710A section.]

***~~710A.3.1 Accessory building requirements.~~*** *~~Applicable accessory buildings that are less than 120 square feet in floor area, and are located more than 30 feet but less than 50 feet from an applicable building shall be constructed of noncombustible materials or of ignition resistant materials as described in Section 704A.2.~~*

# Item 7A-46 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 710A Accesory Buildings and Miscellaneous Structures*

[The SFM proposes to renumber and reorganize the requirements for accessory buildings at different distances from an applicable building.]

***710A.3.1~~2~~ ~~Attached miscellaneous structure requirements~~Structures and accessory buildings within 3 feet.*** *~~Applicable miscellaneous~~ Miscellaneous structures that require a permit, and accessory buildings, ~~that are~~ attached to~~,~~ or ~~installed at~~ separated from an applicable building on the same lot by a distance of less than 3 feet ~~from an applicable building~~ shall be constructed of noncombustible materials or of ignition-resistant materials as described in Section 704A.2.*

# Item 7A-47 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 710A Accesory Buildings and Miscellaneous Structures*

[The SFM proposes to add sections based on a reorganization of the section and the requirements for accessory buildings at different distances from an applicable building.]

***710A.3.2 Accessory buildings greater than 120 square feet, located 3 or more feet but less than 50 feet.*** *Accessory buildings that are greater than 120 square feet in size and separated from an applicable building on the same lot by a distance of 3 feet or more, but less than 50 feet shall be constructed of noncombustible materials or of ignition-resistant materials as described in Section 704A.2.*

# Item 7A-48 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 710A Accesory Buildings and Miscellaneous Structures*

[The SFM proposes to add sections based on a reorganization of the section and the requirements for accessory buildings at different distances from an applicable building.]

***710A.3.3 Accessory buildings 120 square feet or less, located 3 or more feet but less than 50 feet.*** *When required by the enforcing agency, accessory buildings 120 square feet or less and separated from an applicable building on the same lot by a distance of 3 feet or more but less than 50 feet shall be constructed of noncombustible materials or of ignition-resistant materials as described in Section 704A.2.*

# Item 7A-49 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 710A Accesory Buildings and Miscellaneous Structures*

[The SFM proposes to add sections based on a reorganization of the section and the requirements for accessory buildings at different distances from an applicable building.]

***710A.3.~~3~~4 ~~Detached m~~Miscellaneous structures located 3 or more feet but less than 50 feet ~~structure requirements~~.*** *When required by the enforcing agency, ~~applicable detached~~ miscellaneous structures that require a permit and are ~~installed at~~ separated from an applicable building on the same lot by a distance of ~~more than~~ 3 feet or more but less than 50 feet ~~from an applicable building~~ shall be constructed of noncombustible materials or of ignition**-resistant materials as described in Section 704A.2.*

# Item 7A-50 Chapter 7A, *Materials And Construction Methods For Exterior Wildfire Exposure, Section 710A Accesory Buildings and Miscellaneous Structures*

[The SFM proposes to add requirements of roof construction for accessory buildings.]

***710A.4 Roof construction.*** *Roofs of accessory buildings required to be constructed entirely of noncombustible materials or of ignition-resistant materials 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. Roof assemblies in Fire Hazard Severity Zones shall comply with a Class A rating when tested in accordance with ASTM E108 or UL790.*

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 8**

**INTERIOR FINISHES**

# Item 8-1 Chapter 8, Interior Finishes

[The SFM proposes to adopt Chapter 8 and carry forward existing without amendments.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 9**

**FIRE PROTECTION AND LIFE SAFETY SYSTEMS**

# Item 9-1 Chapter 9, Fire Protection and Life Safety Systems

[The SFM proposes to adopt Chapter 9 and carry forward existing amendments. Proposed modifications are shown below.]

**SECTION 901**

**GENERAL**

# Item 9-2 Chapter 9, Fire Protection And Life Safety Systems, Section 901.5 Installation acceptance testings

[The SFM proposes make an editorial change.]

**901.5 *Administration of* *i*~~I~~nstallation acceptance testing.** Fire protection and life safety systems and appurtenances thereto shall be subject to

acceptance tests as contained in the installation standards and as approved by the fire code official. The fire code official shall be notified before any

required acceptance testing.

# Item 9-3 Chapter 9, Fire Protection And Life Safety Systems, Table 901.6.1 Fire Protection System Maintenance

[The SFM proposes to make an editorial change.]

**TABLE 901.6.1**

**FIRE PROTECTION SYSTEM**

***INSPECTION, TESTING AND* MAINTENANCE STANDARDS**

# Item 9-4 Chapter 9, Fire Protection And Life Safety Systems, Section 901.7 Systems out of service

[The SFM proposes to add the reference to the California NFPA 25 Edition.]

**901.7 Systems out of service.** Where a required fire protection system is out of service, the fire department and the fire code official shall be notified immediately and, where required by the fire code official, the building shall be either evacuated or an approved fire watch shallbe provided for all occupants left unprotected by the shutdown until the fire protection system has been returned to service.

Where utilized, fire watches shall be provided with not less than one approved means for notification of the fire department and their only duty shall be to perform constant patrols of the protected premises and keep watch for fires.

**Exception:** Facilities with an approved notification and impairment management program. The notification and impairment program for water-based fire protection systems shall comply with *California* NFPA 25.

**SECTION 903**

**AUTOMATIC SPRINKLER SYSTEMS**

# Item 9-5 Chapter 9, Fire Protection And Life Safety Systems, 903.1.1 Alternative protection

[The SFM proposes to add the word system to make clear the intent of the automatic sprinkler system.]

**903.1.1 Alternative protection.** Alternative automatic fire-extinguishing systems complying with Section 904 shall be permitted instead of automatic sprinkler *system* protection where recognized by the applicable standard and approved by the fire code official.

# Item 9-6 Chapter 9, Fire Protection And Life Safety Systems, Section 903.2 Where required

[SFM proposed amendment to CBC Section 903.2 includes additional sections of the CBC identifying CFC sections inadvertently omitted.]

**[F] 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 *and Sections 903.2.14 through 903.2.21*.

# Item 9-7 Chapter 9, Fire Protection And Life Safety Systems, Table 903.2.11.6 Additional Required Fire Suppression Systems

[SFM proposed errata to reference the correct section in the California Fire Code for Energy Storage Systems.]

**TABLE 903.2.11.6**

**ADDITIONAL REQUIRED FIRE SUPPRESSION SYSTEMS**

|  |  |
| --- | --- |
| **SECTION** | **SUBJECT** |
| *California Fire Code Section ~~1206~~ 1207* | *Stationary and mobile energy storage systems* |

# Item 9-8 Chapter 9, Fire Protection And Life Safety Systems, Section 903.3.1.1 NFPA 13 sprinkler systems, Sections 903.3.1.1.1, 903.3.1.1.3

[SFM proposed amendment adds a reference to CFC Section 3005.4.1 for specific sprinkler system provisions for passenger elevators and relocates sprinkler exemptions for solar photovoltaic panel structures to a new Subsection 903.3.1.1.3.]

**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 except as provided in Sections 903.3.1.1.1 ~~and~~ *through* 903.3.1.1.~~2~~ *3*.

**903.3.1.1.1 Exempt locations.** 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.

**…**

*6. Elevator hoistways, machine rooms, machinery spaces, control spaces, and control rooms in accordance with Section 3005.4.1 of the California Building Code.*

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.~~*

**903.3.1.1.2 Bathrooms.**

**…**

***903.3.1.1.3* *Solar photovoltaic power systems.*** *Automatic sprinklers shall not be required in the following areas.*

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.*

# Item 9-9 Chapter 9, Fire Protection And Life Safety Systems, Section 903.2.10.2 Mechanical access enclosed parking garages

[The SFM proposes to repeal a California amendment and replace with model code language.]

***~~903.2.10.2 Mechanical-access enclosed parking garages.~~*** *~~An approved automatic sprinkler system shall be provided throughout buildings used for the storage of motor vehicles in a mechanical-access enclosed parking garage. The portion of the building that contains the mechanical-access enclosed parking garage shall be protected with a specially engineered automatic sprinkler system.~~*

**903.2.10.2 Mechanical-access enclosed parking garages.** An approved automatic sprinkler system shall be provided throughout buildings used for the storage of motor vehicles in a mechanical-access enclosed parking garage. The portion of the building that contains the mechanical-access enclosed parking garage shall be protected with a specially engineered automatic sprinkler system.

# Item 9-10 Chapter 9, Fire Protection And Life Safety Systems, Section 903.2.21 Required exterior entrance covers

[The SFM proposes a new section for sprinkler protection of exterior entrance covers.]

[Associated Sections in Part 2, California Building Code 508.2.4, Table 508.4]

***903.2.21 Required exterior entrance covers.*** *An automatic sprinkler system shall be provided throughout covered exterior entrances required by California Building Code Section 11B-206.4.10 or Section 1224.33.2.1.*

# Item 9-11 Chapter 9, Fire Protection And Life Safety Systems, Section 903.3.1.1.1 Exempt locations, 903.3.1.1.3 Solar photovoltaic power systems

[The SFM proposes repeal California amendment and move items 6 and 7 to a new section number. Section 903.3.1.1.1 requires the substitution of smoke detection when sprinklers are not provided. Solar photovoltaic panel structures are installed outdoors. Substituting smoke detectors is not appropriate at such locations.]

**903.3.1.1.1 Exempt locations.**

**…**

*6.Elevator hoistways, machine rooms, machinery spaces, control spaces, and control rooms in accordance with Section 3005.4.1 of the California Building Code.*

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.~~*

***903.3.1.1.3* *Solar photovoltaic power systems.*** *Automatic sprinklers shall not be required in the following areas.*

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.*

# Item 9-12 Chapter 9, Fire Protection And Life Safety Systems, Section 903.5 Testing and maintenance

[The SFM proposes add the word automatic to sprinkler systems to make clear the intent.]

**903.5 Testing and maintenance.** *Automatic* Sprinkler systems shall be tested and maintained in accordance with Section 901.

**SECTION 906**

**PORTABLE FIRE EXTINGUISHERS**

# Item 9-13 Chapter 9, Fire Protection And Life Safety Systems, Section 906.1 Where Required

[The SFM proposes to carry forward existing amendments and delete new model code language.]

[Related Sections in Part 2, California Building Code 308.2, 308.3]

**906.1 Where required.**

Portable fire extinguishers shall be installed in all of the following locations:

1. In new and existing Group A, B, E, F, H, I, M, R-1, R-2, R-4, and S occupancies.

**Exception:**

~~1.~~ 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. In Group E occupancies, portable fire extinguishers shall be required only in locations specified in Items 2 through 6 where each classroom is provided with a portable fire extinguisher having a minimum rating of 2- A:20-B:C.~~

~~3. In storage areas of Group S occupancies where forklift, powered industrial truck or powered cart operators are the primary occupants, fixed extinguishers, as specified in NFPA 10, shall not be required where in accordance with all of the following:~~

~~3.1. Use of vehicle-mounted extinguishers shall be approved by the fire code official.~~

~~3.2. Each vehicle shall be equipped with a 10-pound, 40A:80B:C extinguisher affixed to the vehicle using a mounting bracket approved by the extinguisher manufacturer or the fire code official for vehicular use.~~

~~3.3. Not less than two spare extinguishers of equal or greater rating shall be available on-site to replace a discharged extinguisher.~~

~~3.4. Vehicle operators shall be trained in the proper operation, use and inspection of extinguishers.~~

~~3.5. Inspections of vehicle-mounted extinguishers shall be performed daily.~~

2. Within 30 feet (9144 mm) distance of travel from commercial cooking equipment and from domestic cooking equipment in Group ~~I-1;~~ I-2, ~~Condition 1; and~~ R-2 college dormitory occupancies.

…

(Items 3-5 remain unchanged from model code)

6. Special-hazard areas, including but not limited to laboratories, computer rooms and generator rooms, where required by the fire code official.

**~~Exception:~~** ~~Portable fire extinguishers are not required at normally unmanned Group U occupancy buildings or structures where a portable fire extinguisher suitable to the hazard of the location is provided on the vehicle of visiting personnel.~~

…

(Items 7-9 amendments carry forward unchanged)

**SECTION 907**

**FIRE ALARM AND DETECTION SYSTEMS**

# Item 9-14 Chapter 9, Fire Protection And Life Safety Systems, Section 907.2 Where Required- new buildings and structures

[The SFM proposes to carry forward existing amendments and correcting a reference number.]

[Related Sections in Part 2, California Building Code 907.1, 907.2.24, 907.2.25, 907.2.26, 907.2.27, 907.2.28, 907.2.29]

**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~~ *907.2.29* and provide occupant notification in accordance with Section 907.5, unless other requirements are provided by another section of this code.

# Item 9-15 Chapter 9, Fire Protection And Life Safety Systems, Section 907.2.3 Group E

[The SFM proposes to carry forward existing amendments and delete new model code language.]

**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~~ child care purposes in* *accordance with this section*. Where automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system. *One additional manual fire alarm box shall be* *located at the administration office or location approved* *by the AHJ.*

**Exceptions:**

* 1. *For public school state funded construction projects see Section 907.2.29.*
  2. *For public schools see Section 907.2.3.7.*
  3. *For private schools see Section 907.2.3.8.*

~~3. Manual fire alarm boxes shall not be required in Group E occupancies where all of the following apply:~~

~~3.1. Interior corridors are protected by smoke detectors.~~

~~3.2. Auditoriums, cafeterias, gymnasiums and similar areas are protected by heat detectors or other approved detection devices.~~

~~3.3. Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.~~

~~3.4. Manual activation is provided from a normally occupied location.~~

# Item 9-16 Chapter 9, Fire Protection And Life Safety Systems, Sections 907.2.6.4 Group I-4

[The SFM proposes to add smoke detection requirements for Group I-4 occupancies.]

***907.2.6.4 Group I-4.***  *An automatic smoke detection system shall be installed throughout the Group I-4 including contiguous day rooms, group activity spaces, and other common spaces normally occupied by the clients. Group I-4 facilities located above the first story shall comply with the provisions of Section 436.1.*

# Item 9-17 Chapter 9, Fire Protection And Life Safety Systems, Sections 907.2.6.5 Large Family Day-Care

[The SFM proposes to renumber Section 907.2.6.4 to follow the addition of I-4 requirements.]

***~~907.2.6.~~4 907.2.6.5 Large family day-care*.** …

# Item 9-18 Chapter 9, Fire Protection And Life Safety Systems, Sections 907.2.11.2.1 through 907.2.11.2.5

[The SFM proposes to carry forward existing amendments and renumber based on changes to the model code.]

***~~907.2.10.2.1~~ 907.2.11.2.1 Licensed Group R-2.1 occupancies.*** *…*

***~~907.2.10.2.1.1~~ 907.2.11.2.1.1 Smoke alarms.*** *Single- and multiple-station smoke alarms shall be installed in accordance with Section 907.2.~~10~~11.*

***~~907.2.10.2.2~~ 907.2.11.2.2 Group I-4 occupancies.*** *…*

***~~907.2.10.2.3~~ 907.2.11.2.3 Group R-3.1.*** *…*

***~~907.2.10.2.4~~ 907.2.11.2.4 Smoke alarms.*** *…*

***~~907.2.10.2.5~~ 907.2.11.2.5 Existing Group R occupancies.*** *…*

# Item 9-19 Chapter 9, Fire Protection And Life Safety Systems, Sections 907.2.11.3 and 907.1.11.4

[The SFM proposes to carry forward existing amendments and amend the reference Section number based on changes to the model code.]

**907.2.11.3 Installation near cooking appliances.** *See Section ~~907.2.10.8~~ 907.2.11.8.*

**907.2.11.4 Installation near bathrooms.** *See Section ~~907.2.10.8~~ 907.2.11.8.*

# Item 9-20 Chapter 9, Fire Protection And Life Safety Systems, Section 907.2.11.8 Specific Location Requirements

[The SFM proposes to modify existing amendments and amend the reference Section number based on changes to both the NFPA 72 standards and the model code.]

***~~907.2.10.8~~ 907.2.11.8 Specific location requirements.***

*Extract from NFPA 72 Section ~~29.8.3.4~~ 29.11.3.4 Specific Location Requirements\*.*

*This extract has been provided by NFPA ~~as amended by~~ for the Office of the State Fire Marshal ~~and adopted~~ adoption by reference as follows:*

***~~29.8.3.4~~ 29.11.3.4 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 and smoke detectors shall not be installed within an area of exclusion determined by a 10 ft. (3.0m) radial distance along a horizontal flow path from a stationary or fixed cooking appliance, unless listed for installation in close proximity to cooking appliances. Smoke alarms and smoke detectors installed between 10 ft. (3.0m) and 20 ft. (6.1m) along a horizontal flow path from a stationary or fixed appliance shall be equipped with an alarm-silencing means or use photoelectric detection. ~~be installed a minimum of 20 feet horizontal distance from a permanently installed cooking appliance.~~*

***~~Exceptions:~~***

*~~1. 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.~~*

*~~2. 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-foot distances would prohibit the placement of a smoke alarm or smoke detector required by other sections of the code.~~*

*~~3. Smoke alarms listed for use in close proximity to a permanently installed cooking appliance.~~*

* + - 1. *Smoke alarms or smoke detectors that use photoelectric detection shall be permitted for installation at a radial distance greater than 6 ft. (1.8m) from any stationary or fixed cooking appliance when both of the following conditions are met:*

*(a) The kitchen or cooking area and adjacent spaces have no clear partitions or headers.*

*(b) The 10 ft. (3.0m) area of exclusion would prohibit the placement of a smoke alarm or smoke detector required by other sections of this code.  
 ~~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.~~*

* + - 1. *Effective January 1, 2022, smoke alarms and smoke detectors 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.1~~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.~~*
      2. *Smoke alarms and smoke detectors shall not be installed within a 36 in. (910 mm) horizontal path from a door to a bathroom containing a shower or tub unless listed for installation in close proximity to such locations. ~~the tip of the blade of a ceiling-suspended (paddle) fan.~~*
      3. *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. ~~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.~~*
      4. *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 unless the room configuration restricts meeting this requirement. ~~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.~~*
      5. *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. ~~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.~~*
      6. *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. ~~Smoke alarms and detectors installed in rooms with joists or beams shall comply with the requirements of 17.7.3.2.4.~~*
      7. *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. ~~Heat alarms and detectors installed in rooms with joists or beams shall comply with the requirements of 17.6.3.~~*
      8. *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.*
      9. *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.*

# Item 9-21 Chapter 9, Fire Protection And Life Safety Systems, Section 907.2.23 Energy Storage Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

**[F] 907.2.23 Energy Storage Systems *~~Energy Storage Systems~~*.** An automatic smoke detection system or radiant-energy detection system *~~or radiant-energy detection system~~*shall be installed in rooms,areasand walk-in units *~~and~~**~~rooms, walk-in units and~~* ~~areas~~ containing stationary energy *~~energy~~*storage systems as required in Section 1206 ~~of~~ *~~this code~~*.

# Item 9-22 Chapter 9, Fire Protection And Life Safety Systems, Section 907.5 Occupant notification

[SFM proposed amendment to CFC Section 907.5 includes additional sections of the CFC representing CFC sections inadvertently omitted from the California Building Code.]

**907.5 Occupant notification.** Occupant notification by fire alarms shall be in accordance with Sections 907.5.1 through ~~907.5.2.3.3~~ *907.5.2.5*. Occupant notification by smoke alarms in Group R-1 and R-2 occupancies shall comply with Section 907.5.2.1.3.2.

# Item 9-23 Chapter 9, Fire Protection And Life Safety Systems, Section 907.5.1 Alarm activation and annuniciation

[To coincide with the renumbering of sections of the 2021 edition of the International Fire Code, the SFM proposed amendment renumbers CFC Section 907.5.1 to Section 907.5.1.1.]

[Related Sections in Part 2, California Building Code 907.1, 907.2, 907.5]

**907.5.1 Alarm activation and annunciation.** Upon activation, fire alarm systems shall initiate occupant notification and shall annunciate at the fire alarm control unit, or where allowed elsewhere by Section 907, at a *constantly attended location*.

**907.5.1.1 Presignal feature.** A presignal feature shall be provided only where *approved*. The presignal shall be annunciated at an approved, *constantly attended location,* having the capability to activate the occupant notification system in the event of fire or other emergency.

***Exception:*** *A pre-signal feature shall not be permitted to be installed in a Group I-2, I-2.1 or R-2.1 occupancy.*

# Item 9-24 Chapter 9, Fire Protection And Life Safety Systems, Section 907.5.2.1 Audible Alarms

[The SFM proposes to renumber California amendments based on changes in the model code.]

[Related Sections in Part 2, California Building Code 308.3, 907.1, 907.2, 907.5, 907.5.2.5]

**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 ~~907.6.6~~ 907.5.2.5.*

**Exceptions:**

1. Audible alarm notification appliances are not required in *patient* areas of Group I-2~~, Condition~~~~2~~ occupancies that are in compliance with Section ~~907.2.6, Exception 2~~ *907.5.2.5*.
2. A visible alarm notification appliance installed in a nurses’ control station or othercontinuously attended staff location in a Group I-2~~, Condition 2~~ *care* suite shall be anacceptable alternative to the installation of audible alarm notification appliancesthroughout a *care* suite ~~or unit~~ in Group I-2, ~~Condition 2~~ occupancies that are in compliance with Section ~~907.2.6, Exception 2~~ *907.5.2.5*.

# Item 9-25 Chapter 9, Fire Protection And Life Safety Systems, Section 905.2.1.4 Audible alarm signal

[The SFM proposes to renumber California amendments based on changes in the model code.]

***~~907.5.2.1.3~~ 907.5.2.1.4 Audible alarm signal.*** *…*

# Item 9-26 Chapter 9, Fire Protection And Life Safety Systems, Section 907.5.2.3 Visible Arlarms

[The SFM proposes to modify and amend section 907.5.2.3.]

[Related Sections in Part 2, California Building Code 308.3, 907.1, 907.2, 907.5, 907.5.2.5]

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

**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 *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~~ *907.5.2.5*.
5. A visible *alarm notification appliance* installed in a nurses’ control station or other continuously attended staff location in a Group I-2~~, Condition 2~~ *care* suite shall be an acceptable alternative to the installation of visible alarm notification appliances throughout the *care* suite ~~or unit~~ in Group I-2, ~~Condition 2~~ occupancies that are in compliance with Section ~~907.2.6,~~ ~~Exception 2~~ *907.5.2.5*.

# Item 9-27 Chapter 9, Fire Protection And Life Safety Systems, Section 907.6.4.4 Notification zoning Schools

[The SFM proposes to correct a reference number.]

[Related Sections in Part 2, California Building Code 308.3, 907.1, 907.2, 907.2.12]

***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~~12.*

*…*

# Item 9-28 Chapter 9, Fire Protection and Life Safety Systems, Section 907.6.6.3 Group E Schools

[The SFM proposes to renumber section 907.6.6.3 based on changes to the model code.]

***~~907.6.6.3~~ 907.6.6.4 Group E schools.*** *…*

**SECTION 908**

**EMERGENCY ALARM SYSTEMS**

# Item 9-29 Chapter 9, Fire Protection and Life Safety Systems, Section 908.4 Carbon dioxide Enrichment Systems

[The SFM proposes to renumber section 907.6.6.3 based on changes to the model code.]

***~~908.3~~ 908.4 Carbon dioxide enrichment systems. …***

**SECTION 911**

**EXPLOSION CONTROL**

# Item 9-30 Chapter 9, Fire Protection and Life Safety Systems, Section 911.1 General

[The SFM proposes to repeal California amendment and replace with model code language.]

**911.1 General.** Explosion control shall be provided in the following locations:

1. Where a structure, room or space is occupied for purposes involving explosion hazards as identified in Table 911.1.
2. Where quantities of hazardous materials specified in Table 911.1 exceed the maximum allowable quantities in Table 5003.1.1(1).

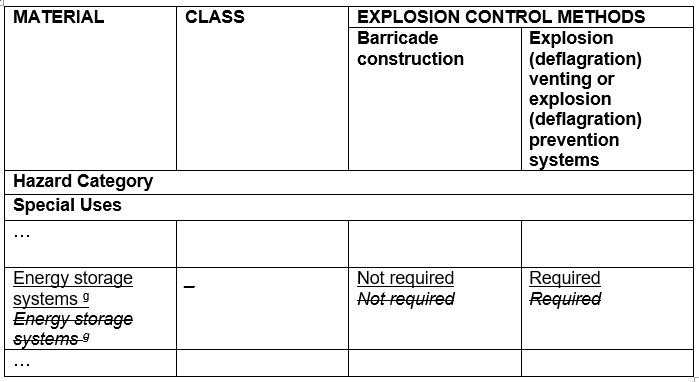
Such areas shall be provided with explosion (deflagration) venting, explosion (deflagration) prevention systems or barricades in accordance with this section and NFPA 68*, ~~NFPA 68,~~* NFPA 69, or NFPA 495 as applicable. Deflagration venting shall not be utilized as a means to protect buildings from detonation hazards.

# Item 9-31 Chapter 9, Fire Protection and Life Safety Systems, Table 911.1 Explosion Control Requirements

[The SFM proposes to repeal California amendment and replace with model code language.]

**TABLE 911.1**

**EXPLOSION CONTROL REQUIREMENTS f**

****

(Footnotes a-f remain unchanged)

…

g. Where explosion control is required in Section 1207.

*~~g. Where explosion control is required in Section 1206.~~*

# Item 9-32 Chapter 9, Fire Protection And Life Safety Systems, Table 911.4 Deflagration Venting

[The SFM proposes to repeal California amendment and replace with model code language.]

**911.4 Deflagration venting.** Deflagration venting shall be of an approved type and installed in accordance with the provisions of this code and NFPA 68.

***~~911.4 Deflagration venting.~~*** *~~Deflagration venting shall be of an approved type and installed in accordance with the provisions of this code and NFPA 68.~~*

**SECTION 913**

**FIRE PUMPS**

# Item 9-33 Chapter 9, Fire Protection And Life Safety Systems, Section 913.1 General

[The SFM proposes to amend Section 913.1 to correlate the exception reference section to the applicable California Residential Code section number.]

**913.1 General.** Where provided, fire pumps for fire protection systems shall be installed in accordance with this section and NFPA 20.

**Exception:** Pumps for automatic sprinkler systems installed in accordance with Section 903.3.1.3 or Section ~~P2904~~ *R313* of the ~~International~~ *California* Residential Code.

# Item 9-34 Chapter 9, Fire Protection And Life Safety Systems, Section 913.1 General

[The SFM proposes to repeal California amendments that reference Sections that are no longer applicable, relevant or exist.]

***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 percent 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.)~~*

**Item 9-35  
Chapter 9, Fire Protection And Life Safety Systems, Section 916 Gas Detection Systems**

[The SFM proposes to repeal California amendments and replace with model code language.]

**SECTION 916**

**GAS DETECTION SYSTEMS**

***~~SECTION 916~~***

***~~GAS DETECTION SYSTEMS~~***

**916.1 Gas detection systems.** Gas detection systems required by this code shall comply with Sections 916.2 through 916.11.

***~~916.1 Gas detection systems.~~*** *~~Gas detection systems required by this code shall comply with Sections 916.2 through 916.11.~~*

**916.2 Permits.** Permits shall be required as set forth in Section 105.6.10.

***~~916.2 Permits.~~*** *~~Permits shall be required as set forth in Section 105.7.11.~~*

**916.2.1 Construction documents.** Documentation of the gas detection system design and equipment to be used that demonstrates compliance with the requirements of this code shall be provided with the application for permit.

***~~916.2.1 Construction documents.~~*** *~~Documentation of the gas detection system design and equipment to be used that demonstrates compliance with the requirements of this code shall be provided with the application for permit.~~*

**916.3 Equipment.** Gas detection system equipment shall be designed for use with the gases being detected and shall be installed in accordance with manufacturer’s instructions.

***~~916.3 Equipment.~~*** *~~Gas detection system equipment shall be designed for use with the gases being detected and shall be installed in accordance with manufacturer’s instructions.~~*

**916.4 Power connections.** Gas detection systems shall be permanently connected to the building electrical power supply or shall be permitted to be cord connected to an unswitched receptacle using an approved restraining means that secures the plug to the receptacle.

***~~916.4 Power connections.~~*** *~~Gas detection systems shall be permanently connected to the building electrical power supply or shall be permitted to be cord connected to an unswitched receptacle using an approved restraining means that secures the plug to the receptacle.~~*

**916.5 Emergency and standby power.** Standby or emergency power shall be provided or the gas detection system shall initiate a trouble signal at an approved location if the power supply is interrupted.

***~~916.5 Emergency and standby power.~~*** *~~Standby or emergency power shall be provided or the gas detection system shall initiate a trouble signal at an approved location if the power supply is interrupted.~~*

**916.6 Sensor locations.** Sensors shall be installed in approved locations where leaking gases are expected to accumulate.

***~~916.6 Sensor locations.~~*** *~~Sensors shall be installed in approved locations where leaking gases are expected to accumulate.~~*

**916.7 Gas sampling.** Gas sampling shall be performed continuously. Sample analysis shall be processed immediately after sampling, except as follows:

1. For HPM gases, sample analysis shall be performed at intervals not exceeding 30 minutes.

2. For toxic gases that are not HPM, sample analysis shall be performed at intervals not exceeding 5 minutes, in accordance with Section 6004.2.2.7.

3. Where a less frequent or delayed sampling interval is approved.

***~~916.7 Gas sampling.~~*** *~~Gas sampling shall be performed continuously. Sample analysis shall be processed immediately after sampling, except as follows:~~*

*~~1. For HPM gases, sample analysis shall be performed at intervals not exceeding 30 minutes.~~*

*~~2. For toxic gases that are not HPM, sample analysis shall be performed at intervals not exceeding 5 minutes, in accordance with Section 6004.2.2.7.~~*

*~~3. Where a less frequent or delayed sampling interval is approved.~~*

**916.8 System activation.** A gas detection alarm shall be initiated where any sensor detects a concentration of gas exceeding the following thresholds:

1. For flammable gases, a gas concentration exceeding 25 percent of the lower flammability limit (LFL).

2. For nonflammable gases, a gas concentration exceeding one-half of the IDLH, unless a different threshold is specified by the section of this code requiring a gas detection system.

Upon activation of a gas detection alarm, alarm signals or other required responses shall be as specified by the section of this code requiring a gas detection system. Audible and visible alarm signals associated with a gas detection alarm shall be distinct from fire alarm and carbon monoxide alarm signals.

***~~916.8 System activation.~~*** *~~A gas detection alarm shall be initiated where any sensor detects a concentration of gas exceeding the following thresholds:~~*

*~~1. For flammable gases, a gas concentration exceeding 25 percent of the lower flammability limit (LFL).~~*

*~~2. For nonflammable gases, a gas concentration exceeding one-half of the IDLH, unless a different threshold is specified by the section of this code requiring a gas detection system.~~*

*~~Upon activation of a gas detection alarm, alarm signals or other required responses shall be as specified by the section of this code requiring a gas detection system. Audible and visible alarm signals associated with a gas detection alarm shall be distinct from fire alarm and carbon monoxide alarm signals.~~*

**916.9 Signage.** Signs shall be provided adjacent to gas detection system alarm signaling devices that advise occupants of the nature of the signals and actions to take in response to the signal.

***~~916.9 Signage.~~*** *~~Signs shall be provided adjacent to gas detection system alarm signaling devices that advise occupants of the nature of the signals and actions to take in response to the signal.~~*

**916.10 Fire alarm system connections.** Gas sensors and gas detection systems shall not be connected to fire alarm systems unless approved and connected in accordance with the fire alarm equipment manufacturer’s instructions.

***~~916.10 Fire alarm system connections.~~*** *~~Gas sensors and gas detection systems shall not be connected to fire alarm systems unless approved and connected in accordance with the fire alarm equipment manufacturer’s instructions.~~*

**916.11 Inspection, testing and sensor calibration.** Inspection and testing of gas detection systems shall be conducted not less than annually. Sensor calibration shall be confirmed at the time of sensor installation and calibration shall be performed at the frequency specified by the sensor manufacturer.

***~~916.11 Inspection, testing and sensor calibration.~~*** *~~Inspection and testing of gas detection systems shall be conducted not less than annually. Sensor calibration shall be confirmed at the time of sensor installation and calibration shall be performed at the frequency specified by the sensor manufacturer.~~*

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 10**

**MEANS OF EGRESS**

# Item 10-1 Chapter 10, Means Of Egress

[The SFM proposes to adopt Chapter 10 and carry forward existing amendments. Modifications are shown below.]

# Item 10-2 Chapter 10, Means Of Egress, Section 1001.1 General

[The SFM proposes an editorial change to get the term townhouse out of parentheses and eliminate the preceding text that describes what a townhouse is.]

**1001.1 General.** Buildings or portions thereof shall be provided with a means of egress system as required by this chapter. The provisions of this chapter shall control the design, construction and arrangement of means of egress components required to provide an approved means of egress from structures and portions thereof. Sections 1003 through 1031 shall apply to new construction. Section 1032 shall apply to existing buildings.

**Exception:** Detached one- and two-family dwellings and ~~multiple single-family dwellings (~~townhouses~~)~~ not more than three stories above grade plane in height with a separate means of egress and their accessory structures shall comply with the ~~International~~ *California* Residential Code.

**SECTION 1003**

**GENERAL MEANS OF EGRESS**

# Item 10-3 Chapter 10, Means Of Egress, Section 1003.5 Elevation change

[The SFM proposes repeal California amendment to exception 1 and adopt model code language.]

**[BE] 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~~ *~~11A or 11B~~* ~~of the~~ *~~California Building Code.~~* Steps at exterior doors complying with Section 1010.1.4.

…

**SECTION 1005**

**MEANS OF EGRESS SIZING**

# Item 10-4 Chapter 10, Means Of Egress, Section 1005.7.2 Other projections

[The SFM proposes to delete model code language.]

[Related Sections in Part 2, California Building Code 308.3, 407.1, 407.4.3 *Reserved*, 1001.1, 1001.2, 1003.1, 1003.3.3, 1003.3.3.1, 1003.3.4, 1005.1, 1005.2, 1005.7]

**[BE] 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 of the International Building Code.~~

**SECTION 1006**

**NUMBERS OF EXITS AND**

**EXIT ACCESS DOORWAYS**

# Item 10-5 Chapter 10, Means Of Egress, Section 1006.2.1 Egress based on occupant load and common path of egress travel distance…

[The SFM proposes to renumber exception 3, based on changes made to the model code.]

**[BE] 1006.2.1 Egress based on occupant load and common path of egress travel distance.** …

**Exceptions:**

1. …

*~~3~~4. 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 of the California Building Code.*

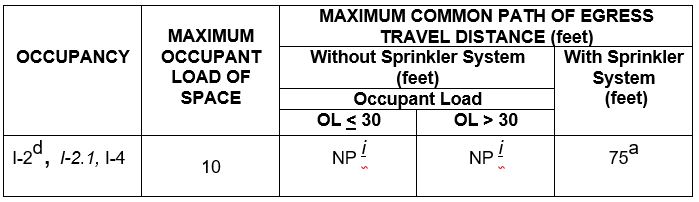
# Item 10-6 Chapter 10, Means Of Egress, Table 1006.2.1 Spaces with one exit or exit access doorway

[CFC Table 1006.2.1 regulates spaces with one exit or exit access doorway. SFM proposed amendment adds footnote i to CFC Table 1006.2.1.]

[Related Sections in Part 2, California Building Code 903.2.6, 1001.1, 1003.1, 1004, 1006]

**[BE] TABLE 1006.2.1**

**SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY**

****

**…**

*i. In accordance with Health and Safety Code Section 13113(d), there is no requirement for automatic sprinkler protection in an existing Group I-2 located in Type IA construction.*

# Item 10-7 Chapter 10, Means Of Egress, Section 1006.2.2.2 Refrigeration machinery rooms

[The SFM proposes to correlate and simplify the egress requirements for refrigerated rooms and associated machinery rooms.]

**1006.2.2.2 Refrigeration machinery rooms.** Machinery rooms larger than 1,000 square feet (93 m) shall have not less than two exits or exit access doorways. Where two exit access doorways are required, one such doorway is permitted to be served by a fixed ladder or an alternating tread device. Exit access doorways shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of the room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an exit or exit access doorway. ~~An increase in exit access travel distance is permitted in accordance with Section 1017.1.~~

Exit and exit access doorways shall swing in the direction of egress travel and shall be equipped with panic hardware, regardless of the occupant

load served. Exit and exit access doorways shall be tight fitting and self-closing.

**1006.2.2.3 Refrigerated rooms or spaces.** Rooms or spaces having a floor area larger than 1,000 square feet (93 m), 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~~ *All* portions of a refrigerated room or space shall be within 150 feet (45 720 mm) of an exit or exit access doorway *leading to a nonrefrigerated area* where such rooms are not protected by anapproved 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*. Egress is allowed through adjoining refrigerated rooms or spaces.*

# Item 10-8 Chapter 10, Means Of Egress, Section 1006.2.2.8

[The SFM proposes to add Section 1006.2.2.8 which maintains the clear egress requirements for Group I-4 occupancies. This corresponds with Table 1006.2.1 for all I-4 occupancies.]

*1006.2.2.8 Group I-4 means of egress. Group I-4 facilities, rooms, or spaces where care is provided for more than 10 children that 36 months of age or less shall have access to not less than two exits or exit access doorways.*

**SECTION 1008**

**MEANS OF EGRESS ILLUMINATION**

# Item 10-9 Chapter 10, Means Of Egress, Section 1008.3.2

[SFM proposed amendment deletes item 7 from the list of areas in Section 1008.3.2.]

**1008.3.2 Buildings.** In the event of power supply failure in buildings that require two or more exits or access to exits, an emergency electrical system shall automatically illuminate all of the following areas:

…

*~~7. Operation of a patient room smoke detector in Group I-2, and R-2.1 occupancies shall not include a positive alarm sequence feature.~~*

**SECTION 1009**

**ACCESSIBLE MEANS OF EGRESS**

# Item 10-10 Chapter 10, Means Of Egress, Section 1009.6.3 Size

[The SFM proposes to amend California amendment to reflect changes made in the model code based on revisions made in the 2017 ICC A117.1 document.]

**[BE] 1009.6.3 Size.** Each area of refuge shall be sized to accommodate *two* wheelchair spaces *that are not less than* 30 inches by 52 inches (762 mm by 1320 mm). *The total*

*number of such 30-inch by ~~48~~ 52-inch (762 mm by ~~1219~~ 1320 mm) spaces per story shall be not less than one for every 200 persons of calculated occupant load 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~~ 52 inches (762 mm by ~~1219~~ 1320 mm) on floors where the occupant load is less than 200.*

# Item 10-11 Chapter 10, Means Of Egress, Section 1009.12 Alarms/emergency warning

[The SFM proposes to amend in coordination with OSHPD.]

***1009.12 Alarms/emergency warning systems/~~accessibility~~ two-way communication systems.*** *~~If~~* *Required emergency warning systems ~~are required, they~~ shall activate a means of warning the hearing impaired. Emergency warning systems provided as part of the fire-alarm system and two-way communication systems required by Chapter 10 shall be designed and installed in accordance with NFPA 72 as amended in Chapter 35.*

**SECTION 1010**

**DOORS, GATES AND TURNSTILES**

# Item 10-12 Chapter 10, Means Of Egress, Section 1010.1.1 Size of doors

[The SFM proposes to amend in coordination with OSHPD.]

**[BE] 1010.1.1 Size of doors.** The required capacity of each door opening shall be sufficient for the occupant load thereof and shall provide a minimum clear opening width of 32 inches (813 mm). The clear opening width of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear opening width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width of 32 inches (813 mm). In Group I-2 *or I-2.1,* doors serving as means of egress doors where used for the movement of beds *and stretcher patients* shall provide a minimum clear opening width of ~~41~~~~1~~~~/~~~~2~~~~inches (1154 mm)~~ *44 inches (1118 mm)*. *Where this section requires a minimum clear opening width of 44 inches (1118 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width of 44 inches (1118 mm).* The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. The minimum clear opening height of doors shall be not less than 80 inches (2032 mm).

**Exceptions:**

(Adopt model code for all exceptions)

…

# Item 10-13 Chapter 10, Means Of Egress, Section 1010.1.4 Floor elevation

[The SFM proposes to amend in coordination with OSHPD.]

**[BE] 1010.1.4 Floor elevation.** There shall be a floor or landing on each side of a door. Such floor or landing shall be at the same elevation on each side of the door. Landings shall be level except for exterior landings, which are permitted to have a slope not to exceed 0.25 unit vertical in 12 units horizontal (2-percent slope).

**Exceptions:**

* 1. At doors serving individual dwelling units or sleeping units in Groups R-2 and R-3, a door is permitted to open at the top step of an interior flight of stairs, provided that the door does not swing over the top step.
  2. At exterior doors serving Groups F, H, R-2 and S and where such doors are not part of an accessible route *or not required to be accessible by Chapter 11A or 11B of the California Building Code*, the landing at an exterior door shall be not more than 7 inches (178 mm) below the landing on the egress side of the door, provided that the door, other than an exterior storm or screen door, does not swing over the landing.

…

# Item 10-14 Chapter 10, Means Of Egress, Section 1010.2.5 Bolt locks

[The SFM proposes to amend in coordination with OSHPD.]

**[BE] 1010.2.5 Bolt locks.** Manually operated flush bolts or surface bolts are not permitted.

**Exceptions:**

**…**

5. ~~Where a~~ *Manually operated edge and surface mounted bolts shall be permitted on the inactive leaf of* pair*s* of doors *that serve* ~~serves~~ patient care rooms in Group I-2 occupancies~~,~~ *provided that the bolts are self-latching and* ~~self-latching edge or surface-mounted bolts are permitted on the inactive leaf provided that~~ the inactive leaf is not needed to meet *the minimum clear opening width required by Section 1010.1.1 of the California Building Code.* ~~egress capacity requirements and~~ ~~t~~*T*he inactive leaf shall not contain doorknobs, *panic* bars or similar operating hardware.

# Item 10-15 Chapter 10, Means Of Egress, Section 1010.2.8.1 Special provisions school classrooms

[The SFM proposes to renumber based on changes to the model code.]

***~~1010.1.4.5.1~~ 1010.2.8.1 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.*

# Item 10-16 Chapter 10, Means Of Egress, Section 1010.1.14 Controled egress in Group I-2

[The SFM proposes to carry forward existing amendments to Section 1010.1.14 in coordination with OSHPD.]

**1010.1.14 *Controlled egress doors in Group I-2. …***

# Item 10-17 Chapter 10, Means Of Egress, Section 1010.2.13 Delayed Egress

[The SFM proposes to carry forward exiting amendments and modify as shown below.]

**[BE] 1010.2.13 Delayed egress.** Delayed egress locking systems, shall be permitted to be installed on doors serving the following occupancies in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 *and* an approved automatic smoke detection system installed in accordance with Section 907:

1. Group B, F, I, M, R, S and U occupancies.

2. Group E classrooms with an occupant load of less than 50.

*~~2. Group E classrooms with an occupant load of less than 50.~~*

3. In courtrooms in Group A-3 and B occupancies, delayed egress locking systems shall be permitted to be installed on exit or exit access doors, other than the main exit or exit access door, in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 *and an approved* *automatic smoke detection system installed* *in accordance with Section 907*.

**~~Exception:~~** ~~Delayed egress locking systems shall be permitted to be installed on exit or exit access doors, other than the main exit or exit access door, serving a~~ *~~Group A~~* ~~courtroom in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1~~ *~~and an approved~~**~~automatic smoke detection system installed~~**~~in accordance with Section 907.~~*

# Item 10-18 Chapter 10, Means Of Egress, Section 1013.6.3 Power source

[The SFM proposes to amend in coordination with OSHPD.]

**[BE]** **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. Group I-2~~, Condition 2~~ exit sign illumination shall not be provided by unit equipment batteries only.

**SECTION 1017**

**EXIT ACCESS TRAVEL DISTANCE**

# Item 10-19 Chapter 10, Means Of Egress, Table 1017.2 Exit Access Travel Distance

[The SFM proposes to repeal and replace with model code language.]

**TABLE 1017.2**

**EXIT ACCESS TRAVEL DISTANCE a**

(Table unchanged)

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to exit access travel distance requirements:

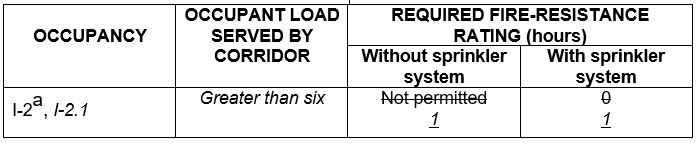
Section *~~411.2~~* 411.2: For the distance limitation in special amusement *~~areas~~* areas.

# Item 10-20 Chapter 10, Means Of Egress, Table 1020.2 Corridor Fire Resistance rating

[SFM proposed amendment revises CFC Table 1020.2 to indicate that Group I-2 and Group I-2.1 occupancies require a 1-hour fire resistance rated corridor.]

**[BE] TABLE 1020.2**

**CORRIDOR FIRE-RESISTANCE RATING**

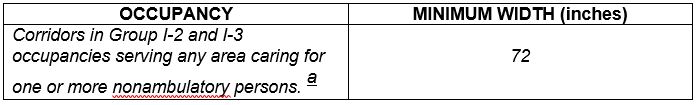
****

# Item 10-21 Chapter 10, Means Of Egress, Table 1020.3 Minimum corridor width

[Additional provisions regulating Group I-2 corridor widths are located in CBC Section 1224.4.7.1. In the eighth (last) row of CFC Table 1020.3 regulating the width of corridors serving nonambulatory persons, the SFM proposed amendment includes the addition of footnote a.]

**[BE] TABLE 1020.3**

**MINIMUM CORRIDOR WIDTH**

****

*a. See Section 1224.4.7.1 for Group I-2.*

# Item 10-22 Chapter 10, Means Of Egress, Section 1020.5 dead ends

[The SFM proposed amendment deletes a reference in CFC Section 1020. 5, Exception 4 to Condition 2 modifying a Group I-2.]

**[BE] 1020.5 Dead ends.** Where more than one *exit* or *exit access doorway* is required, the *exit access* shall be arranged such that dead-end *corridors* do not exceed 20 feet (6096 mm) in length.

**Exceptions:**

…

1. In Group I-2, ~~Condition 2~~ *and I-2.1* occupancies, *where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1,* the length of dead-end *corridors* that do not serve patient rooms or patient treatment spaces shall not exceed 30 feet (9144 mm).

# Item 10-23 Chapter 10, Means Of Egress, Section 1020.6 Air movement corridors

[The SFM proposes to carry forward existing amendments incorporated within new model code language.]

**1020.6 Air movement in corridors.** Corridors shall not serve as supply, return, exhaust, relief, or ventilation air ducts.

**Exceptions:**

1. (exceptions 1 through 3 remain unchanged)

…

4. Transfer air movement required to maintain the pressurization difference within health care facilities *and Group L occupancies*, in accordance with ASHRAE 170.

# Item 10-24 Chapter 10, Means Of Egress, Section 1022.3 Basements

[The SFM proposes to renumber based on model code changes.]

***~~1016.2.2~~ 1022.3 Basement exits in Group I-2 occupancies.*** *For additional requirements for occupancies in Group I-2 or I-2.1, see Section 407.4.1.2.*

# Item 10-25 Chapter 10, Means Of Egress, Section 1024.6 Penetrations

[The SFM proposes to repeal California amendment and replace with model code language.]

**[BE] 1024.6 Penetrations.** Penetrations into or through an exit passageway are prohibited except for the following:

1. Equipment and ductwork necessary for independent ventilation or *~~ventilation or~~* pressurization.

# Item 10-26 Chapter 10, Means Of Egress, Section 1030.6.3.2 Public address system

[The SFM proposes to renumber based on model code changes.]

***~~1029.6.4~~ 1030.6.3.2 Public address system.*** *See Section ~~907.2.1.3~~ 907.2.1.1.*

# Item 10-27 Chapter 10, Means Of Egress, Sections 1032.2.1.2 Maintenance, 1032.2.1.3 Examination

[The SFM proposes to add maintenance and examination enforceable requirements that all in one place. These requirements are also in Chapter 11 for Existing Buildings.]

***1032.2.1.2 Maintenance.*** *Fire escape stairways and balconies shall be kept clear and unobstructed at all times and shall be maintained in good working order.*

***1032.2.1.3 Examination.*** *Fire escape stairways and balconies shall be examined for structural adequacy and safety by a registered design professional or other person acceptable to the fire code official every 5 years. The examination shall determine whether the fire escape stairways and balconies can support the dead load plus a live load of not less than 100 pounds per square foot (4.78 kN/m ). An inspection report*

*shall be submitted to the fire code official after such examination.*

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 11**

**RESERVED**

***CHAPTER 11A***

***HOUSING ACCESSIBILITY***

# Item 11A-1 Chapter *11A*, *Housing Accessibility*

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

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

***CHAPTER 11B***

***ACCESSIBILITY TO PUBLIC BUILDINGS,***

***PUBLIC ACCOMMODATIONS, COMMERCIAL***

***BUILDINGS AND PUBLIC HOUSING***

# Item 11B-1 Chapter *11B*, *Accessibility To Public Buildings, Public Accommodations, Commercial Buildings And Public Housing*

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

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 12**

**INTERIOR ENVIRONMENT**

# Item 12-1 Chapter 12, Interior Environment

[The SFM proposes to adopt only sections 1202, 1204.4, 1204.1, 1204.5, 1204.7, 1204.7.1, 1205, 1208, 1224.3, 1224.4.7.1*,* 1224.33.2.1 of Chapter 12.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 13**

**ENERGY EFFICIENCY**

***Refer to California Energy Code, Title 24, Part 6.***

**CHAPTER 14**

**EXTERIOR WALLS**

# Item 14-1 Chapter 14, Process Piping

[The SFM proposes to adopt only sections 1401, 1402, 1403,1404, 1405, 1406, 1407, 1408, 1409 of Chapter 14 and carry forward existing amendments.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 15**

**ROOF ASSEMBLIES AND ROOFTOP STRUCTURES**

# Item 15-1 Chapter 15, Roof Assemblies And Rooftop Structures

[The SFM proposes to adopt sections 1501, 1503.3, 1503.3.1, 1503.3.2, 1503.4, 1505, 1506, 1507, 1509, 1510, 1511 of Chapter 15.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 16**

**STRUCTURAL DESIGN**

# Item 16-1 Chapter 16, Structural Design

[The SFM proposes to **not** adopt Chapter 16.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 16A**

**STRUCTURAL DESIGN**

# Item 16A-1 Chapter 16A, Structural Design

[The SFM proposes to **not** adopt Chapter 16A.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 17**

**SPECIAL INSPECTIONS AND TESTS**

# Item 17-1 Chapter 17, Special Inspections And Tests

[The SFM proposes to adopt sections 1701, 1702, 1703, 1705.1.1, 1705.3, Table 1705.5.3, 1705.12.1, 1705.12.2, 1705.13.2, 1705.13.3, 1705.15, 1705.16, 1705.18, 1705.19, 1705.20 of Chapter 17 and carry forward existing amendments.]

# Item 17-2 Chapter 17, Special Inspections And Tests, Sections 1705.5.3, Table 1705.5.3, 1705.12.1, 1705.12.2, 1705.13.2, 1705.13.3, 1705.15, 1705.16, 1705.20

[The SFM proposes to repeal and replace with model code language for Sections 1705.5.3, Table 1705.5.3, 1705.12.1, 1705.12.2, 1705.13.2, 1705.13.3, 1705.15, 1705.16, 1705.20.]

**SECTION 1705**

**REQUIRED SPECIAL INSPECTIONS AND TESTS**

***~~1705.5.3 Mass timber construction.~~*** *~~Special inspections of Mass Timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1705.5.3.~~*

*~~TABLE 1705.5.3~~*

*~~REQUIRED SPECIAL INSPECTIONS OF MASS TIMBER CONSTRUCTION~~*

| ***~~Type~~*** | ***~~Continuous Special Inspection~~*** | ***~~Periodic Special Inspection~~*** |
| --- | --- | --- |
| 1. *~~Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.~~* |  | *~~X~~* |
| 1. *~~Inspect erection of mass timber construction~~* |  | *~~X~~* |
| 1. *~~Inspection of connections where installation methods are required to meet design loads~~* |  |  |
| *~~3.1 Threaded fasteners~~* |  |  |
| *~~3.1.1 Verify use of proper installation equipment~~* |  | *~~X~~* |
| *~~3.1.2 Verify use of pre-drilled holes where required~~* |  | *~~X~~* |
| *~~3.1.3 Inspect screws, including diameter, length, head type, spacing, installation angle, and depth~~* |  | *~~X~~* |
| *~~3.2 Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads~~* | *~~X~~* |  |
| *~~3.3 Adhesive anchors not defined in 3.2~~* |  | *~~X~~* |
| *~~3.4 Bolted connections~~* |  | *~~X~~* |
| *~~3.5 Concealed connections~~* |  | *~~X~~* |

~~…~~

**~~1705.11.1 Structural wood.~~** ~~Continuous special inspection is required during field gluing operations of elements of the main wind force-resisting system. Periodic special inspection is required for nailing, bolting, anchoring and other fastening of elements of the main wind force-resisting system, including wood shear walls, wood diaphragms, drag struts, braces and hold-downs.~~

**~~Exception:~~** ~~Special inspections are not required for wood shear walls, shear panels and diaphragms, including nailing, bolting, anchoring and other fastening to other elements of the main wind force-resisting system, where the~~ *~~lateral resistance is provided by the structural sheathing and the~~* ~~specified fastener spacing at panel edges is more than 4 inches (102 mm) on center.~~

*~~…~~*

**~~1705.11.2 Cold-formed steel light-frame construction.~~** ~~Periodic special inspection is required for welding operations~~~~of elements of the main wind force-resisting system.~~~~Periodic special inspection is required for screw attachment,~~~~bolting, anchoring and other fastening of elements~~~~of the main wind force-resisting system, including shear~~

~~walls, braces, diaphragms, collectors (drag struts) and hold-downs.~~

**~~Exception:~~** ~~Special inspections are not required for cold-formed steel light-frame shear walls and diaphragms, including screwing, bolting, anchoring and other fastening to components of the wind force resisting system, where either of the following applies:~~

~~1. The sheathing is gypsum board or fiberboard.~~

~~2. The sheathing is wood structural panel or steel sheets on only one side of the shear wall, shear panel or diaphragm assembly and the~~ *~~specified~~* ~~fastener spacing of~~ *~~at~~* ~~the sheathing~~ *~~panel or sheet edges~~* ~~is more than 4 inches (102 mm) on center (o.c.).~~

~~…~~

**~~1705.12.2 Structural wood.~~** ~~For the seismic force-resisting systems of structures assigned to Seismic Design Category C, D, E or F:~~

~~1. Continuous special inspection shall be required during field gluing operations of elements of the seismic force-resisting system.~~

~~2. Periodic special inspection shall be required for nailing, bolting, anchoring and other fastening of elements of the seismic force-resisting system, including wood shear walls, wood diaphragms, drag struts, braces, shear panels and hold-downs.~~

**~~Exception:~~** ~~Special inspections are not required for wood shear walls, shear panels and diaphragms, including nailing, bolting, anchoring and other fastening to other elements of the seismic force-resisting system, where the~~ *~~lateral resistance is provided by structural sheathing, and the specified~~* ~~fastener spacing of~~ *~~at~~* ~~the sheathing~~ *~~panel edges~~* ~~is more than 4 inches (102 mm) on center.~~

~~…~~

**~~1705.12.3 Cold-formed steel light-frame construction.~~** ~~For the seismic force-resisting systems of structures~~~~assigned to Seismic Design Category C, D, E or F, periodic~~~~special inspection shall be required for both:~~

~~1. Welding operations of elements of the seismic force-resisting system.~~

~~2. Screw attachment, bolting, anchoring and other fastening of elements of the seismic force-resisting system, including shear walls, braces, diaphragms, collectors (drag struts) and hold-downs.~~

**~~Exception:~~** ~~Special inspections are not required for cold-formed steel light-frame shear walls and diaphragms, including screw installation, bolting, anchoring and other fastening to components of the seismic force-resisting system, where either of the following applies:~~

~~1. The sheathing is gypsum board or fiberboard.~~

~~2. The sheathing is wood structural panel or steel sheets on only one side of the shear wall, shear panel or diaphragm assembly and the~~ *~~specified~~* ~~fastener spacing of~~ *~~at~~* ~~the sheathing~~ *~~panel or sheet edge~~* ~~is more than 4 inches (102 mm) on center.~~

**~~…~~**

**~~1705.14 Sprayed fire-resistant materials.~~** ~~Special inspections and tests of sprayed fire-resistant materials applied to floor, roof and wall assemblies and structural members shall be performed in accordance with Sections 1705.14.1 through 1705.14.6. Special inspections shall be based on the fire-resistance design as designated in the approved construction documents. The tests set forth in this section shall be based on samplings from specific floor, roof and wall assemblies and structural members. Special inspections and tests shall be performed~~ *~~during construction with an addition visual inspection~~* ~~after the rough installation of electrical, automatic sprinkler, mechanical and plumbing systems and suspension systems for ceilings~~ *~~and before concealed~~*~~, where applicable.~~ *~~The required sample size shall not exceed 110% of that specified by the referenced standards in sections 1705.14.4.1 through 1705.14.4.9.~~*

~~…~~

**~~1705.15 Mastic and intumescent fire-resistant coatings.~~** ~~Special inspections and tests for mastic and intumescent~~~~fire-resistant coatings applied to structural elements and~~~~decks shall be performed in accordance with AWCI 12-B.~~~~Special inspections and tests shall be based on the fire-resistance~~~~design as designated in the approved construction documents.~~ *~~Special inspections and test shall be performed after the rough installation of electrical, automatic sprinkler, mechanical and plumbing systems and suspension systems for ceilings, and before concealed, where applicable.~~*

~~…~~

*~~1705.20 Sealing of mass timber. Periodic special inspections of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.9 is applied to mass timber building elements as designated in the approved construction documents.~~*

**1705.5.3 Mass timber construction.** Special inspections of Mass Timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1705.5.3.

TABLE 1705.5.3

REQUIRED SPECIAL INSPECTIONS OF MASS TIMBER CONSTRUCTION

| **Type** | **Continuous Special Inspection** | **Periodic Special Inspection** |
| --- | --- | --- |
| 1. Inspection of anchorage and connections of mass timber construction to timber deep foundation systems. |  | X |
| 1. Inspect erection of mass timber construction |  | X |
| 1. Inspection of connections where installation methods are required to meet design loads |  |  |
| 3.1 Threaded fasteners |  |  |
| 3.1.1 Verify use of proper installation equipment |  | X |
| 3.1.2 Verify use of pre-drilled holes where required |  | X |
| 3.1.3 Inspect screws, including diameter, length, head type, spacing, installation angle, and depth |  | X |
| 3.2 Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads | X |  |
| 3.3 Adhesive anchors not defined in 3.2 |  | X |
| 3.4 Bolted connections |  | X |
| 3.5 Concealed connections |  | X |

…

**1705.12.1 Structural wood.** Continuous special inspection is required during field gluing operations of elements of the main wind force-resisting system. Periodic special inspection is required for nailing, bolting, anchoring and other fastening of elements of the main wind force-resisting system, including wood shear walls, wood diaphragms, drag struts, braces, and hold-downs.

**Exception:** Special inspections are not required for wood shear walls, shear panels and diaphragms, including nailing, bolting, anchoring and other fastening to other elements of the main wind force-resisting system, where the lateral resistance is provided by the structural sheathing and the specified fastener spacing at panel edges is more than 4 inches (102 mm) on center.

**1705.12.2 Cold-formed steel light-frame construction.** Periodic special inspection is required for welding operationsof elements of the main wind force-resisting system.Periodic special inspection is required for screw attachment,bolting, anchoring and other fastening of elementsof the main wind force-resisting system, including shear

walls, braces, diaphragms, collectors (drag struts) and hold-downs.

**Exception:** Special inspections are not required for cold-formed steel light-frame shear walls and diaphragms, including screwing, bolting, anchoring and other fastening to components of the wind force resisting system, where either of the following applies:

1. The sheathing is gypsum board or fiberboard.

2. The sheathing is wood structural panel or steel sheets on only one side of the shear wall, shear panel or diaphragm assembly and the specified fastener spacing atthe panel or sheet edgesis more than 4 inches (102 mm) on center (o.c.).

…

**1705.13.2 Structural wood.** For the seismic force-resisting systems of structures assigned to Seismic Design Category C, D, E or F:

1. Continuous special inspection shall be required during field gluing operations of elements of the seismic force-resisting system.
2. Periodic special inspection shall be required for nailing, bolting, anchoring and other fastening of elements of the seismic force-resisting system, including wood shear walls, wood diaphragms, drag struts, braces, shear panels and hold-downs.

**Exception:** Special inspections are not required for wood shear walls, shear panels and diaphragms, including nailing, bolting, anchoring and other fastening to other elements of the seismic force-resisting system, where the lateral resistance is provided by structural sheathing, and the specified fastener spacing atthe panel edgesis more than 4 inches (102 mm) on center.

**1705.13.3 Cold-formed steel light-frame construction.** For the seismic force-resisting systems of structuresassigned to Seismic Design Category C, D, E or F, periodicspecial inspection shall be required for both:

1. Welding operations of elements of the seismic force-resisting system.
2. Screw attachment, bolting, anchoring and other fastening of elements of the seismic force-resisting system, including shear walls, braces, diaphragms, collectors (drag struts) and hold-downs.

**Exception:** Special inspections are not required for cold-formed steel light-frame shear walls and diaphragms, including screw installation, bolting, anchoring and other fastening to components of the seismic force-resisting system, where either of the following applies:

1. The sheathing is gypsum board or fiberboard.
2. The sheathing is wood structural panel or steel sheets on only one side of the shear wall, shear panel or diaphragm assembly and the specified fastener spacing at the panel or sheet edge is more than 4 inches (102 mm) on center.

**…**

**1705.15 Sprayed fire-resistant materials.** Special inspections and tests of sprayed fire-resistant materials applied to floor, roof and wall assemblies and structural members shall be performed in accordance with Sections 1705.14.1 through 1705.14.6. Special inspections shall be based on the fire-resistance design as designated in the approved construction documents. The tests set forth in this section shall be based on samplings from specific floor, roof and wall assemblies and structural members. Special inspections and tests shall be performed during construction with an addition visual inspection after the rough installation of electrical, automatic sprinkler, mechanical and plumbing systems and suspension systems for ceilings and before concealed, where applicable. The required sample size shall not exceed 110% of that specified by the referenced standards in sections 1705.15.4.1 through 1705.15.4.9.

…

**1705.16 Mastic and intumescent fire-resistant coatings.** Special inspections and tests for mastic and intumescentfire-resistant coatings applied to structural elements anddecks shall be performed in accordance with AWCI 12-B.Special inspections and tests shall be based on the fire-resistancedesign as designated in the approved construction documents. Special inspections and test shall be performed after the rough installation of electrical, automatic sprinkler, mechanical and plumbing systems, and suspension systems for ceilings, and before concealed, where applicable.

…

**1705.20 Sealing of mass timber.** Periodic special inspections of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to mass timber building elements as designated in the approved construction documents.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 17A**

**SPECIAL INSPECTIONS AND TESTS**

# Item 17A-1 Chapter 17A, Special Inspections And Tests

[The SFM proposes to **not** adopt Chapter 17A.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 18**

**SOILS AND FOUNDATIONS**

# Item 18-1 Chapter 18, Soils And Foundations

[The SFM proposes to **not** adopt Chapter 18.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 18A**

**SOILS AND FOUNDATIONS**

# Item 18A-1 Chapter 18A, Soils And Foundations

[The SFM proposes to **not** adopt Chapter 18.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 19**

**CONCRETE**

# Item 19-1 Chapter 19, Concrete

[The SFM proposes to **not** adopt Chapter 19.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 19A**

**CONCRETE**

# Item 19A-1 Chapter 19, Concrete

[The SFM proposes to **not** adopt Chapter 19A.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 20**

**ALUMINUM**

# Item 20-1 Chapter 20, Aluminum

[The SFM proposes to **not** adopt Chapter 20.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 21**

**MASONRY**

# Item 21-1 Chapter 21, Masonry

[The SFM proposes to adopt existing and carry forward SFM amended Section 2113.9.2 of Chapter 21.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 21A**

**MASONRY**

# Item 21A-1 Chapter 21A, Masonry

[The SFM proposes to **not** adopt Chapter 21A.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 22**

**STEEL**

# Item 22-1 Chapter 22, Steel

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

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 22A**

**STEEL**

# Item 22A-1 Chapter 22A, Steel

[The SFM proposes to **not** adopt Chapter 22A.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 23**

**WOOD**

# Item 23-1 Chapter 23, Wood

[The SFM proposes to adopt Sections 2303.2 – 2303.2.9 of Chapter 23.]

**SECTION 2304**

**GENERAL CONSTRUCTION REQUIREMENTS**

# Item 23-2 Chapter 23, Wood, Section 2304 General Construction Requirements, Sections 2304.10.1.2, 2304.11.3, 2304.11.4

[The SFM proposes to repeal and replace with model code language.]

***~~2304.10.1.2 Connection fire resistance rating.~~*** *~~Fire resistance ratings for connections in Type IV-A IV-B, or IV-C construction shall be determined by one of the following:~~*

*~~1. Testing in accordance with Section 703.2 where the connection is part of the fire resistance test.~~*

*~~2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of~~*

*~~250°F (139°C) and a maximum temperature rise of 325° F (181 °C) for a time corresponding to the required fire resistance rating of the structural element being connected. For the purposes of this analysis the connection includes connectors fasteners and portions of wood members included in the structural design of the connection.~~*

**~~2304.11.3 Floors.~~** ~~Floors shall be without concealed spaces.~~ *~~or with concealed spaces complying with Section 602.4.4.4.~~* ~~Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.~~

**~~2304.11.4 Roof decks.~~** ~~Roofs shall be without concealed spaces~~ *~~or with concealed spaces complying with Section 602.4.4.4.~~* ~~and~~ *~~rRoof~~* ~~decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent fire resistance and structural properties. Where supported by a wall, roof decks shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or approved hardware of sufficient strength to resist prescribed forces.~~

**2304.10.1 Connection fire resistance rating.** Fire resistance ratings for connections in Type IV-A IV-B, or IV-C construction shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the fire resistance test.
2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C) and a maximum temperature rise of 325° F (181 °C) for a time corresponding to the required fire resistance rating of the structural element being connected. For the purposes of this analysis the connection includes connectors fasteners and portions of wood members included in the structural design of the connection.

…

**2304.11.3 Floors.** Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4.3. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

…

**2304.11.4 Roof decks.** Roofs shall be without concealed spaces or with concealed spaces complying with Section 602.4.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent fire resistance and structural properties. Where supported by a wall, roof decks shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or approved hardware of sufficient strength to resist prescribed forces.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 24**

**GLASS AND GLAZING**

# Item 24-1 Chapter 24, Glass And Glazing

[The SFM proposes to adopt Chapter 24.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 25**

**GYPSUM BOARD, GYPSUM PANEL PRODUCTS AND PLASTER**

# Item 25-1 Chapter 25, Gypsum Board, Gypsum Panel Products And Plaster

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

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 26**

**PLASTIC**

# Item 26-1 Chapter 26, Plastic

[The SFM proposes to adopt Chapter 26.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 27**

**ELECTRICAL**

# Item 27-1 Chapter 27, Electrical

[The SFM proposes to adopt Chapter 27, carry forward existing amendments and make the following modifications as shown below.]

**SECTION 2702**

**EMERGENCY AND STANDBY POWER SYSTEMS**

# Item 27-2 Chapter 27, Electrical

[An emergency power system complying with Section 2702 shall be provided for the emergency power loads specified in Section 403.4.8.4.]

**[F] 2702.1 General.** Emergency power systems and standby power systems shall comply with Sections 2702.1.1 through 2702.1.8.

**[F] 2702.1.1 Stationary generators.** Stationary emergency and standby power generators required by this code shall be listed in accordance with UL 2200.

**[F] 2702.1.2 Fuel-line piping protection.** Fuel lines supplying a generator set inside a high-rise building *or new Group I-2 occupancy having occupied floors located more than 75 feet above the lowest level of fire department vehicle access* shall be separated from areas of the *building* other than the room the generator is located in by one of the following methods:

**…**

# Item 27-3 Chapter 27, Electrical, Section 2702 Emergency and Standby Power Systems, Section 2702.2.12.1 Group L Occupancy

[The SFM proposes to amend the Section 2702.2.12.1. Remembering based on changes to model code.]

***~~2702.2.19~~ 2702.2.12.1 Group L Occupancy.*** *Secondary power shall be provided in Group L occupancies in accordance with this chapter and Section 453.4.6 and 453.4.6.1.*

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 28**

**MECHANICAL SYSTEMS**

# Item 28-1 Chapter 28, Mechanical Systems

[The SFM proposes to adopt Chapter 28 and carry forward existing amendments.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 29**

**PLUMBING SYSTEMS**

# Item 29-1 Chapter 29, Plumbing Systems

[**Not** adopted by the State of California. The SFM proposes to **not** adopt Chapter 29.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 30**

**ELEVATORS AND CONVEYING SYSTEMS**

# Item 30-1 Chapter 30, Elevators And Conveying Systems

[The SFM proposes to adopt Chapter 30 and carry forward existing amendments with modifications as shown below.]

# Item 30-2 Chapter 30, Elevators And Conveying Systems, 3006.3 Hoistway opening protection

[The SFM proposes to correct a reference pointer to the correct section.]

**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. …(text to remain unchanged for items 1-4)

…

1. ***[SFM]*** *Enclosed elevator lobbies are not required where the hoistway door has a fire-protection rating as required by Section ~~708.7~~ 708.6 and the hoistway door opening is also protected by a listed and labeled smoke containment system complying with ICC ES AC 77.*

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 31**

**SPECIAL CONSTRUCTION**

# Item 31-1 Chapter 31, Special Construction

[The SFM proposes to adopt sections 3101, 3102, 3103, 3104, 3105, 3106, 3110, 3111, 3115 of Chapter 31 and carry forward existing amendments and make modifications as shown below.]

**SECTION 3102**

**MEMBRANE STRUCTURES**

# Item 31-2 Chapter 31, Special Construction, Section 3102 Membrane Structures, Sections 3102.3 and 3102.6.1.1

[The SFM proposes to repeal and replace with model code language.]

3102.3 Type of construction. Noncombustible membrane structures shall be classified as Type IIB construction. Noncombustible frame or cable-supported structures covered by an approved membrane in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported structures covered by an approved membrane in accordance with Section 3102.3.1 shall be classified as Type IV*-~~HT~~* HT construction. Other membrane structures shall be classified as Type V construction.

Exception: Plastic less than 30 feet (9144 mm) above any floor used in greenhouses, where occupancy by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

…

3102.6.1.1 Membrane. A membrane meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a skylight on buildings of Type IIB, III, IV*-~~HT~~* HT and V construction, provided that the membrane is not less than 20 feet (6096 mm) above any floor, balcony, or gallery.

# Item 31-3 Chapter 31, Special Construction

[The SFM proposes to add new language to establish appropriate fire testing and listing criteria for overhead photovoltaic (PV) support structures that could have people or vehicles in the space beneath them.]

***3111.3.5 Elevated photovoltaic (PV) support structures.*** *Elevated PV support structures shall comply with either 3111.3.5.1 or 3111.3.5.2.*

***Exception****: Elevated PV support structures that are installed over agricultural use.*

***3111.3.5.1 PV panels installed over open grid framing or non-combustible deck.*** *Elevated PV support structures with PV panels installed over open grid framing or over a noncombustible deck shall have PV panels tested, listed, and labeled with a fire type rating in accordance with UL 1703 or with both UL 61730-1 and UL 61730-2. Photovoltaic panels marked “not fire rated” shall not be installed on elevated PV support structures.*

***3111.3.5.2 PV panels installed over a roof assembly.*** *Elevated PV support structures with a PV panel system installed over a roof assembly shall*

*have a fire classification in accordance with Section 1505.9.*

**Revise as follows:**

**~~3111.3.5~~ *3111.3.6* Ground-mounted photovoltaic (PV) panel systems.** Ground-mounted photovoltaic panel systems shall be designed and installed in accordance with Chapter 16 and the *California* Fire Code.

**~~3111.3.5.1~~ *3111.3.6.1* Fire separation distances.** Ground-mounted photovoltaic panel systems shall be subject to the fire separation distance requirements determined by the local jurisdiction.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 31A**

***SYSTEMS FOR WINDOW CLEANING OR***

***EXTERIOR BUILDING MAINTENANCE***

***See Title 8, California Code of Regulations, Division 1, Chapter 4, Subchapter 7,***

***General Industry Safety Orders, Group 1, Articles 5 and 6.***

**CHAPTER 31B**

***PUBLIC POOLS***

# Item 31B-1 Chapter 31B, Public Pools

[The SFM proposes to **not** adopt Chapter 31B.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 31C**

***RADIATION***

# Item 31C-1 Chapter 31C, Radiation

[The SFM proposes to **not** adopt Chapter 31C.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 31D**

***FOOD ESTABLISHMENTS***

# Item 31D-1 Chapter 31D, Food Establishments

[The SFM proposes to **not** adopt Chapter 31D.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 31E**

***RESERVED***

**CHAPTER 31F**

***MARINE OIL TERMINALS***

# Item 31F-1 Chapter 31F, Marine Terminals

[The SFM proposes to **not** adopt Chapter 31F.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 32**

**ENCROACHMENTS INTO THE PUBLIC RIGHT-OF-WAY**

# Item 32-1 Chapter 32, Encroachments Into The Public Right-Of-Way

[The SFM proposes to adopt Chapter 32.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 32**

**ENCROACHMENTS INTO THE PUBLIC RIGHT-OF-WAY**

# Item 32-1 Chapter 32, Encroachments Into The Public Right-Of-Way

[The SFM proposes to adopt Chapter 32.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 33**

**SAFEGUARDS DURING CONSTRUCTION**

# Item 33-1 Chapter 33, Safeguards During Construction

[The SFM proposes to adopt Chapter 33.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 34**

**RESERVED**

**CHAPTER 35**

**REFERENCED STANDARDS**

# Item 35-1 Chapter 35, Referenced Standards

[The SFM proposes to adopt Chapter 35 and carry forward existing amendments with modifications as shown below.]

# Item 35-2 Chapter 35, Referenced Standards, ASTM F2374 Standard Practice For Design, Manufacture, Operation, and Maintenance Of Inflatable Amusement Devices

*ASTM F2374 - Standard Practice for Design, Manufacture, Operation, and Maintenance of Inflatable Amusement Devices*

# Item 35-2.1 Chapter 35, Referenced Standards, ASTM D3498-03 Standard Specification for Adhesives for Field Gluing Plywood to Lumber Framing for Floor Systems

***~~D3498-03(2011):~~*** *~~Standard Specification for Adhesives for Field-Gluing Plywood to Lumber Framing for Floor Systems~~*

**D3498-03(2011):** Standard Specification for Adhesives for Field-Gluing Plywood to Lumber Framing for Floor Systems

# Item 35-3 Chapter 35, Referenced Standards, NFPA 10 Portable Fire Extinguishers

**NFPA 10-~~18~~*21***

# Item 35-4 Chapter 35, Referenced Standards, NFPA 13 Installation of Sprinkler Systems *as amended\**

NFPA 13-~~19~~*22*

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

***Delete section 8.15.5.1 and 8.15.5.2***

***8.15.5.1\* Reserved****.*

***8.15.5.2* *Reserved.***

***Revise Section ~~8.15.1.2.15~~**9.2.1.16*** ***as follows:***

***~~8.15.1.2.15~~**9.2.1.16*** [Text remains the same]

***Revise Section ~~8.15.5.3~~**9.3.6.1* *as follows:***

***~~8.15.5.3~~**9.3.6.1*** [Text remains the same]

**Add new Sections *~~8.15.5.6.1~~ 9.3.6.1.1* as follows:**

***~~8.15.5.6.1~~ 9.3.6.1.1*** [Text remains the same]

***Revise Section ~~8.15.7.1\*~~ 9.3.19.1\* as follows:***

***~~8.15.7.1\*~~ 9.3.19.1\**** *Unless the requirements of ~~8.15.7.2 or 8.15.7.3~~ 9.2.3.1, or 9.2.3.2 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~~ 9.2.3.1\* as follows:***

***~~8.15.7.2~~ 9.2.3.1\** [**Text remains the same]

***Delete Section ~~A.8.15.7.2~~ A9.2.3.1 of Annex***

***Revise Section ~~8.15.7.3~~ 9.2.3.2***

***~~8.15.7.3~~ 9.2.3.2*** **[**Text remains the same]

***Delete language to section ~~8.15.7.4~~ 9.2.3.3 and reserve section number.***

***~~8.15.7.4~~ 9.2.3.3 Reserved.***

***Revise Annex Section ~~A.8.15.7.5~~A.9.3.19.2******as follows:***

***~~A.8.15.7.5~~ A.9.3.19.2*****[**Text remains the same]

***Add Section ~~8.15.7.6~~ 9.3.19.3 as follows:***

***~~8.15.7.6~~ 9.3.19.3*** [Text remains the same]

***Add new Sections ~~8.16.1.1.1.4~~ 16.9.3.1.3.4******and ~~8.16.1.1.1.5~~ 16.9.3.1.3.5 as follows:***

***~~8.16.1.1.1.4~~ 16.9.3.1.3.4***[Text remains the same]

***~~8.16.1.1.1.5~~ 16.9.3.1.3.5*** [Text remains the same]

***Add new Sections ~~8.16.1.6, 8.16.1.6.1, 8.16.1.6.1.1, 8.16.1.6.1.2, 8.16.1.6.1.3, 8.16.1.6.2,~~ 16.9.10.5, 16.9.10.5.1, 16.9.10.5.1.1, 16.9.10.5.1.2, 16.9.10.5.1.3, 16.9.10.5.1.4, 16.9.10.5.2 as follows:***

***~~8.16.1.6~~ 16.9.10.5 Sectional Valves.***

***~~8.16.1.6.1~~ 16.9.10.5.1*** [Text remains the same]

***~~8.16.1.6.1.1~~ 16.9.10.5.1.1*** [Text remains the same]

***~~8.16.1.6.1.2~~ 16.9.10.5.1.2*** *Sectional control valves shall be indicating valves in accordance with Section ~~6.6.1.3~~16.9.3.2.*

***~~8.16.1.6.1.3~~ 16.9.10.5.1.3*** [Text remains the same]

***~~8.16.1.6.1.4~~ 16.9.10.5.1.4*** [Text remains the same]

***~~8.16.1.6.2~~ 16.9.10.5.2*** [Text remains the same]

***Add new Section ~~9.1.3.9.1.1~~ 17.2.2.9.1 as follows:***

***~~9.1.3.9.1.1~~ 17.2.2.9.1*** [Text remains the same]

***Revise Section ~~9.3.5.11.4~~*18.5.11.4*****as follows:***

***~~9.3.5.11.4~~ 18.5.11.4***[Text remains the same]

***Replace Section ~~9.3.5.12.5~~*18.5.12.5*****as follows:***

***~~9.3.5.12.5~~ 18.5.12.5***[Text remains the same]

***Replace Section ~~9.3.5.12.6~~*18.5.12.5*****as follows:***

***~~9.3.5.12.6~~ 18.5.12.5*** *Fastening methods other than those identified in 9.3.5.12 shall not apply to other fastening methods, which shall be acceptable for use if certified by a registered professional engineer to support the loads determined in accordance with the criteria in ~~9.3.5.9~~ 18.5.9. Calculations shall be submitted to the authority having jurisdiction.*

***Revise Section ~~9.3.5.12.8.4~~*18.5.12.7.4 *as follows:***

***~~9.3.5.12.8.4~~ 18.5.12.7.4*** *Concrete anchors ~~other than those shown in Table 9.3.5.12.2(a) through Table 9.3.5.12.2(f) and~~ when identified in ~~9.3.5.11.11~~ 18.5.11.11 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)~~18.6.1(3)******as follows:***

***~~9.3.6.1~~ 18.6.1\*(3)*** [Text remains the same]

***Revise Section ~~10.4.3.1.1~~6.4.3.1.1as follows:***

***~~10.4.3.1.1~~6.4.3.1.1\**** *Pipe joints shall not be located under foundation footings. The pipe under the building or building foundation shall not contain mechanical joints.*

***Exceptions:***

* 1. *Where allowed in accordance with Section ~~10.4.3.2~~ 6.4.3.1.*
  2. *Alternate designs may be utilized where designed by a registered professional engineer and approved by the enforcing agency.*

***Revise Section ~~11.2.3.1.5.2(9)~~19.2.3.1.5.2(9) as follows:***

***~~11.2.3.1.5.2(9)~~ 19.2.3.1.5.2(9)*** [Text remains the same]

***Revise Section ~~11.2.3.2.3.1~~19.2.3.2.3.1 as follows:***

***~~11.2.3.2.3.1~~ 19.2.3.2.3.1*** *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~~ 19.2.3.2.3.1 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~~ 10.2.9 and ~~8.8.7~~ 11.2.7 exceeding 32 ft2 (3 m2)*

***Figure 19.2.3.2.3.1 Design Area Reduction for Quick-Response Sprinklers***

*[Diagram remains unchanged]*

***Revise Section ~~11.2.3.2.3.2~~ 19.2.3.2.3.2 as follows:***

***~~11.2.3.2.3.2~~ 19.2.3.2.3.2*** [Text remains the same]

***Revise Section ~~12.1.1.2~~ 20.9.5.2 as follows:***

***~~12.1.1.2~~ 20.9.5.2*** [Text remains the same]

***23.8.1.2 Positive Alarm Sequence***

***23.8.1.2.1*** *Systems that have positive alarm features complying with 23.8.1.2 shall be permitted if approved by the authority having jurisdiction. Operation of a patient room smoke detector in Group I-2, and R-2.1 occupancies shall not include a positive alarm sequence feature.*

***Add Section ~~23.2.1.1\*~~28.1.3(18)(e)******as follows:***

***~~23.2.1.1\*~~ 28.1.3(18)(e)*** [Text remains the same]

***Revise Section ~~25.1~~ 29.1 as follows:***

***~~25.1~~ 29.1\*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 ~~25.2~~29.2).*
  3. *Complete and sign the appropriate contractor’s material and test certificate(s) (see Figure ~~25.1~~A.29.1).*
  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~~ 29.3 as follows:***

***~~25.4~~ 29.3 Instructions.*** [Text remains the same]

***Revise Section ~~25.5.1~~29.4.1******as follows:***

***~~25.5.1~~ 29.4.1*** [Text remains the same]

***Revise Section ~~25.5.2~~ 29.4.3 as follows:***

***~~25.5.2~~ 29.4.3*** [Text remains the same]

***Revise Section ~~25.6.1~~ 29.6.1 as follows:***

***~~25.6.1~~ 29.6.1*** [Text remains the same]

# Item 35-5 Chapter 35, Referenced Standards, NFPA 13D Standard for the Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes *as amended\**

NFPA 13D-~~19~~*22*

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

***Add new Sections ~~8.3.10~~ 8.3.11 and ~~8.3.10.1~~8.3.11.1 as follows:***

***~~8.3.10~~ 8.3.11 Solar photovoltaic panel structures***

***8.3.11.1*** *Sprinklers shall be permitted to be omitted 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.*

# Item 35-6 Chapter 35, Referenced Standards, NFPA 13R Standard for the Installation of Sprinkler Systems in Low-rise Residential Occupancies *as amended\**

NFPA 13R-~~19~~*22*

# Item 35-7 Chapter 35, Referenced Standards, NFPA 14 Standard for the Installation of Standpipe and Hose Systems *as amended\**

NFPA 14-19

# Item 35-8 Chapter 35, Referenced Standards, NFPA 24 Installation of Private Fire Service Mains and Their Appurtenances *as amended\**

*NFPA 24-~~16~~19* *Standard for* *Installation of Private Fire Service Mains and Their Appurtenances,**as amended\**

# Item 35-9 Chapter 35, Referenced Standards, NFPA 37 Installation and Use of Stationary Combustion Engines and Gas Turbines

*37—~~15~~18: Installation and Use of Stationary Combustion Engines and Gas Turbines*

# Item 35-10 Chapter 35, Referenced Standards, NFPA 45 Standard on Fire Protection for Laboratories Using Chemicals (2015 Edition)

~~45—19: Standard on Fire Protection for Laboratories Using Chemicals (2015 Edition)~~

# Item 35-11 Chapter 35, Referenced Standards, NFPA 54 National Fuel Gas Code

*NFPA 54—~~15~~ 18*

# Item 35-12 Chapter 35, Referenced Standards, NFPA 72 National Fire Alarm and Signaling Code, *as amended*\*

NFPA 72-~~19~~*22*

***\*NFPA 72, Amended Sections as follows:***

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

***Revise Section 17. ~~15~~16 as follows:***

***17.~~15~~16 Fire Extinguisher Electronic Monitoring Device****. [Text remains the same]*

***Delete the amendments to Section 21.3.6 and adopt the model text.***

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

***Revise Section 12.3~~.7~~.8******as follows:***

***12.3~~.7~~.8*** *~~(4)~~(5) [Text remains the same]*

***23.8.1.2 Positive Alarm Sequence***

***23.8.1.2.1*** *Systems that have positive alarm features complying with 23.8.1.2 shall be permitted if approved by the authority having jurisdiction. Operation of a patient room smoke detector in Group I-2, and R-2.1 occupancies shall not include a positive alarm sequence feature.*

***Revise Section 23.8.5.1.2 as follows:***

***~~23.8.5.1.2~~ 23.8.5.1.2\**** *Where connected to a supervising station, fire alarm systems employing automatic fire detectors or water flow 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~~ 17.15 of NFPA 72.*

***Revise Section 29.5.2.1.1 as follows:***

***~~29.5.2.1.1\*~~ 29.8.2.1.1\*******Smoke and Heat Alarms.*** *Where connected to a supervising station u~~U~~nless exempted by applicable laws, codes, or standards, smoke or heat alarms used to provide a fire-warning function, and when two or more alarms are installed within a dwelling unit, suite of rooms, or similar area, shall be arranged so that the operation of any smoke or heat alarm causes all alarms within these locations to sound.*

*Note: Exception to ~~29.5.2.1.1~~* ***29.8.2.1.1*** *not adopted by the SFM.*

***Add Section ~~29.7.2.1~~ 29.10.2.1 as follows:***

***~~29.7.2.1~~ 29.10.2.1 [Text remains the same]***

***Add Section ~~29.7.6.7.1~~ 29.10.6.8.1 as follows:***

***~~29.7.6.7.1~~ 29.10.6.8.1 [Text remains the same]***

*[Delete amendment 23.8.3.4 and adopt NFPA 72 language in 29.11.3.4]*

***~~Revise Section 23.8.3.4 as follows:~~***

***~~23.8.3.4 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.~~*

1. *~~Effective January 1, 2022, 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.~~*
2. *~~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.~~*
3. *~~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.~~*
4. *~~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.~~*
5. *~~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.~~*
6. *~~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.~~*
7. *~~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.~~*
8. *~~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.~~*
9. *~~Heat alarms and detectors installed in rooms with joists or beams shall comply with the requirements of 17.6.3 of NFPA 72.~~*

# Item 35-13 Chapter 35, Referenced Standards, NFPA 111 Standard on Stored Electrical Energy Emergency and Standby Power Systems

NFPA 111-*~~16~~*19

# Item 35-14 Chapter 35, Referenced Standards, NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems

*NFPA 130—~~14~~ 20*

# Item 35-15 Chapter 35, Referenced Standards, NFPA 289 Standard Method of Fire Test for Individual Fuel Packages

NFPA 289-*~~18~~*19

# Item 35-16 Chapter 35, Referenced Standards, NFPA 502Standard for Road Tunnels, Bridges, and Other Limited Access Highways

*NFPA 502—~~14~~* *20*

# Item 35-17 Chapter 35, Referenced Standards, NFPA 2001 Standard on Clean Agent Fire Extinguishing Systems

2001—18: Standard on Clean Agent Fire Extinguishing Systems *as amended\**

**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, 18928, 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

**APPENDICES**

# Item A-1 Appendices, Appendix A- H

[The SFM proposes to **not** adopt Appendix A - H.]

# Item A-2 Appendices, Appendix I, Patio Covers

[The SFM proposes to adopt Section I101-I103 of Appendix I.]

# Item A-3 Appendices, Appendix J-P

[The SFM proposes to **not** adopt Appendix J-P.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.