

# REVISION RECORD FOR THE STATE OF CALIFORNIA

## SUPPLEMENT

July 1, 2015

2013 Title 24, Part 2, Vol. 1, California Building Code

**PLEASE NOTE: The date of this supplement is for identification purposes only.  
See the History Note Appendix.**

It is suggested that the section number as well as the page number be checked when inserting this material and removing the superseded material. In case of doubt, rely on the section numbers rather than the page numbers because the section numbers must run consecutively.

It is further suggested that the superseded material be retained with this revision record sheet so that the prior wording of any section can be easily ascertained.

Please keep the removed pages with this revision page for future reference.

### Note

**Due to the fact that the application date for a building permit establishes the California Building Standards Code provisions that are effective at the local level, which apply to the plans, specifications, and construction for that permit, it is strongly recommended that the removed pages be retained for historical reference.**

### Part 2, Vol. 1

#### Remove Existing Pages

v and vi  
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## Marginal Markings

Solid vertical lines in the margins within the body of the code indicate a technical change from the requirements of the 2009 edition. Deletion indicators in the form of an arrow (➡) are provided in the margin where an entire section, paragraph, exception or table has been deleted or an item in a list of items or a table has been deleted.

Symbols in the margin indicate the status of code changes as follows:

- || This symbol indicates that a change has been made to a California amendment.
- > This symbol indicates deletion of California amendment language.
- | This symbol indicates that a change has been made to International Code Council model language.
- ➡ This symbol indicates deletion of International Code Council model language.

A single asterisk [\*] placed in the margin indicates that text or a table has been relocated within the code. A double asterisk [\*\*] placed in the margin indicates that the text or table immediately following it has been relocated there from elsewhere in the code. The following table indicates such relocations in the 2012 edition of the *International Building Code*.

2012 LOCATION	2009 LOCATION
407.4	1014.2
410.6	1015.6
424	402.6.3
712.1	708.1
712.1.2	708.2, Exception 1
712.1.3	708.2, Exception 2
712.1.3.1	708.2, Exception 2.1
712.1.3.2	708.2, Exception 2.2
712.1.4	708.2, Exception 3
712.1.5	708.2, Exception 4
712.1.6	708.2, Exception 5
712.1.7	708.2, Exception 6
712.1.8	708.2, Exception 7
712.1.9	708.2, Exception 8
712.1.10	708.2, Exception 9
712.1.11	708.2, Exception 10
712.1.12	708.2, Exception 11
712.1.13	708.2, Exception 12
712.1.14	708.2, Exception 13
712.1.15	708.2, Exception 14
712.1.16	708.2, Exception 15
712.1.18	708.2, Exception 16
713.3 through 713.14.1.1	708.3 through 708.14.1.1
909.21 through 909.21.11	708.14.2 through 708.14.2.11
1004.1.1.2	1004.6
1008.1.9.8	1008.1.4.4
1013.8	1405.13.2
1028.10.1	1017.4
<i>continued</i>	

2012 LOCATION	2009 LOCATION
1028.10.1.1	1017.4.1
1028.10.1.1	1017.4.2
1028.10.1.2	1017.4.3
1210.3.1	2903.1
1210.3.2	2903.2
1406.2.1	1406.2.1.1
1406.2.2	1406.2.1
1607.6	1605.4
1704.3	1705.1
1704.4	1709.1
1704.5	1710.1
1705.1.1	1704.15
1705.4.2	1704.11
1705.10	1706.1
1705.11	1707.1
1705.12	1708.1
3313.1	3311.4

## **Code Development Committee Responsibilities (Letter Designations in Front of Section Numbers)**

In each code development cycle, proposed changes to the code are considered at the Code Development Hearings by the applicable International Building Code Development Committee (IBC-Fire Safety, General, Means of Egress or Structural). Proposed changes to a code section that has a number beginning with a letter in brackets are considered by a different code development committee. For example, proposed changes to code sections that have [F] in front of them (e.g., [F] 903.1.1.1) are considered by the International Fire Code Development Committee during the portion of the code development hearings when the International Fire Code Development Committee meets.

The content of sections in this code that begin with a letter designation is maintained by another code development committee in accordance with the following:

- [A] = Administrative Code Development Committee;
- [E] = International Energy Conservation Code Development Committee (Commercial Energy Committee or Residential Energy Committee, as applicable);
- [EB] = International Existing Building Code Development Committee;
- [F] = International Fire Code Development Committee;
- [FG] = International Fuel Gas Code Development Committee;
- [M] = International Mechanical Code Development Committee; and
- [P] = International Plumbing Code Development Committee.

# How to Distinguish Between Model Code Language and California Amendments

To distinguish between model code language and the incorporated California amendments, including exclusive California standards, California amendments will appear in italic font print.

[BSC] This is an example of a state agency acronym used to identify an adoption or amendment by the agency. The acronyms will appear at California Amendments and in the Matrix Adoption Tables. Sections 1.2 through 1.14 in Chapter 1, Division 1 of this code, explain the used acronyms, the application of state agency adoptions to building occupancies or building features, the enforcement agency as designated by state law (may be the state adopting agency or local building or fire official), the authority in state law for the state agency to make the adoption, and the specific state law being implemented by the agency's adoption. The following acronyms are used in Title 24 to identify the state adopting agency making an adoption.

## Legend of Acronyms of Adopting State Agencies

BSC	California Building Standards Commission (see Section 1.2)
BSCC	Board of State and Community Corrections (see Section 1.3)
SFM	Office of the State Fire Marshal (see Section 1.11)
HCD 1	Department of Housing and Community Development (see Section 1.8.2.1.1)
HCD 2	Department of Housing and Community Development (see Section 1.8.2.1.3)
HCD 1/AC	Department of Housing and Community Development (see Section 1.8.2.1.2)
DSA-AC	Division of the State Architect-Access Compliance (see Section 1.9.1)
DSA-SS	Division of the State Architect-Structural Safety (see Section 1.9.2)
DSA-SS/CC	Division of the State Architect-Structural Safety/Community Colleges (see Section 1.9.2.2)
OSHPD 1	Office of Statewide Health Planning and Development (see Section 1.10.1)
OSHPD 2	Office of Statewide Health Planning and Development (see Section 1.10.2)
OSHPD 3	Office of Statewide Health Planning and Development (see Section 1.10.3)
OSHPD 4	Office of Statewide Health Planning and Development (see Section 1.10.4)
DPH	Department of Public Health (see Section 1.7)
AGR	Department of Food and Agriculture (see Section 1.6)
CEC	California Energy Commission (see Section 100 in Part 2, the California Energy Code)
CA	Department of Consumer Affairs (see Section 1.6): Board of Barbering and Cosmetology Board of Examiners in Veterinary Medicine Board of Pharmacy Acupuncture Board Bureau of Home Furnishings Structural Pest Control Board
SL	State Library (see Section 1.12)
SLC	State Lands Commission (see Section 1.14)
DWR	Department of Water Resources (see Section 1.12 of Chapter 1 of the California Plumbing Code in Part 2 of Title 24)

The state agencies are available to answer questions about their adoptions. Contact information is provided on page iv of this code. To learn more about the use of this code refer to pages xvii and xviii. Training materials on the application and use of this code are available at the website of the California Building Standards Commission [www.bsc.ca.gov](http://www.bsc.ca.gov).



## CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE CHAPTER 1 – ADMINISTRATION

(Matrix Adoption Tables are non-regulatory, intended only as an aid to the user.  
See Chapter 1 for state agency authority and building applications.)

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
Adopt entire chapter																				
Adopt entire chapter as amended (amended sections listed below)																				
Adopt only those sections that are listed below	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
Chapter / Section																				
Division I – California Administration																				
1.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X
1.2	X	X																		
1.2.2						X														
1.3		X											X							
1.4		X																X		
1.5 (Reserved)		X																		
1.6		X													X					
1.7		X												X						
1.8		X	X	X	X															
1.9		X																		
1.9.1 – 1.9.1.8						X														
1.9.2.1							X													
1.9.2.1.1							X													
1.9.2.1.2							X													
1.9.2.1.3							X													
1.9.2.2								X												
1.9.2.2.1								X												
1.9.2.2.2								X												
1.9.2.2.3								X												
1.9.2.2.4								X												
1.9.3								X												
1.10		X																		
1.10.1									X											
1.10.2										X										
1.10.3											X									
1.10.4												X								
1.11		X																		
1.12		X																	X	
1.13 (Reserved)																				
1.14																				X
Division II – Scope and Administration																				
101.1 – 101.4.5						X			X	X	X	X								
101.4.6, Exception									X	X		X								
102.1							X	X	X	X	X	X								
102.2 – 102.4							X	X	X	X	X	X								
102.4.1							X	X												
102.4.3							X	X	X	X	X	X								
102.4.4							X	X	X	X	X	X								
102.5							X	X	X	X	X	X								
102.6 – 104.1									X	X	X	X								
104.2 – 104.4		X							X	X	X	X								
104.5 – 104.8									X	X	X	X								

(continued)

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 1 – ADMINISTRATION—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
Adopt entire chapter																				
Adopt entire chapter as amended (amended sections listed below)																				
Adopt only those sections that are listed below	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
Chapter / Section																				
Division II – <i>Scope and Administration-cont'd</i>																				
104.9		X					X	X	X	X	X	X								
104.10							X	X	X	X	X	X								
104.11						X	X	X	X	X		X								
104.11.1 – 104.11.2									X	X	X	X								
104.11.3 – 104.11.4									X			X								
105.1		X							X	X	X	X								
105.1.1 – 105.2									X	X	X	X								
105.2 Building: 1-13			X	X																
105.2.1 – 105.2.2		X							X	X	X	X								
105.2.3									X	X	X	X								
105.3 – 105.3.1		X							X	X	X	X								
105.3.2									X	X		X								
105.4		X							X	X	X	X								
105.5									X	X	X	X								
105.6 – 105.7		X							X	X	X	X								
106.1		X					X	X	X	X	X	X								
106.1.1							X	X	X	X		X								
106.1.2									X	X		X								
106.2 – 106.3		X							X	X	X	X								
107.1		X	X	X					X	X	X	X								
107.2.1			X	X																
107.2.4			X	X																
107.2.5			X	X																
107.2 - 107.3		X							X	X	X	X								
107.3.4.2									X	X		X								
107.4		X							X	X		X								
107.5		X							X	X	X	X								
108.1 – 108.4		X							X	X	X	X								
109									X	X	X	X								
110.1 – 110.3		X							X	X	X	X								
110.3.1 – 110.3.3			X	X					X	X	X	X								
110.3.4 – 110.3.6		X	X	X					X	X	X	X								
110.3.8 – 110.3.10		X	X	X					X	X	X	X								
110.4 – 110.6		X							X	X	X	X								
111.1		X							X	X	X	X								
111.2		X				X			X	X	X	X								
111.3 – 111.4		X							X	X	X	X								
112		X							X	X	X	X								
113									X	X	X	X								
114.1 – 114.2		X							X	X	X	X								
114.2 – 114.3									X	X	X	X								
115 - 116		X							X	X	X	X								

**Application**—Any establishment or mobile unit where barbering, cosmetology or electrolysis is being performed.

**Enforcing agency**—State or local agency specified by the applicable provisions of law.

**Authority cited**—Business and Professions Code Section 7312.

**Reference**—Business and Professions Code Sections 7303, 7303.1, 7312 and 7313.

**2. Acupuncture Board.**

**Application**—Acupuncture offices.

**Enforcing agency**—State or local agency specified by the applicable provisions of law.

**Authority cited**—Business and Professions Code Section 4933.

**Reference**—Business and Professions Code Sections 4928, 4928.1 and 4933.

**3. Board of Pharmacy.**

**Application**—Pharmacies.

**Enforcing agency**—State or local agency specified by the applicable provisions of law.

**Authority cited**—Business and Professions Code Section 4005.

**Reference**—Business and Professions Code Sections 4005, 4127.7 and 4201.

**4. Veterinary Medical Board.**

**Application**—Veterinary facilities.

**Enforcing agency**—State or local agency specified by the applicable provisions of law.

**Authority cited**—Business and Professions Code Section 4808.

**Reference**—Business and Professions Code Sections 4800, 4800.1, 4808 and 4809.5.

**5. Structural Pest Control Board.**

**Application**—Structural pest control locations.

**Enforcing agency**—Structural Pest Control Board.

**Authority cited**—Business and Professions Code Section 8525.

**Reference**—Business and Professions Code Sections 8520, 8520.1 and 8525.

**1.4.2 Adopting agency identification.** The provisions of this code applicable to buildings identified in this section will be identified in the Matrix Adoption Tables under the acronym CA.

**SECTION 1.5  
Reserved**

**SECTION 1.6  
DEPARTMENT OF FOOD AND AGRICULTURE**

**1.6.1 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**—Dairies and places of meat and poultry inspection.

**Enforcing agency**—Department of Food and Agriculture.

**Authority cited**—Food and Agricultural Code Sections 18735, 18960, 19384, 33481 and 33731.

**Reference**—Food and Agricultural Code Sections 18735, 18960, 19384, 33481 and 33731.

**1.6.2 Adopting agency identification.** The provisions of this code applicable to buildings identified in this section will be identified in the Matrix Adoption Tables under the acronym AGR.

**SECTION 1.7  
CALIFORNIA DEPARTMENT OF PUBLIC HEALTH**

**1.7.1 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.**

**California Department of Public Health**

**Application**—Organized camps, laboratory animal quarters, public swimming pools, radiation protection and producing facilities, commissaries serving mobile food preparation vehicles, wild animal quarantine facilities, shellfish facilities and food establishments.

**Enforcing agency**—The California Department of Public Health and the local health agencies.

**Authority cited**—Health and Safety Code Sections 1660, 18897.2, 110065, 112165, 113710, 114304, 115061, 116050, 121795 and 131200.

**Reference**—Health and Safety Code Sections 1650, 1660, 18897.2, 18897.4, 18897.7, 100150, 110065, 113705, 113710, 114825, 114965, 115061, 116050, 116503, 112165, 121795 and 131200.

**1.7.2 Adopting agency identification.** The provisions of this code applicable to buildings identified in this section will be identified in the Matrix Adoption Tables under the acronym DPH.

**SECTION 1.8  
DEPARTMENT OF HOUSING  
AND COMMUNITY DEVELOPMENT**

**1.8.1 Purpose.** The purpose of this code is to establish the minimum requirements necessary to protect the health, safety and general welfare of the occupants and the public by governing accessibility, erection, construction, reconstruction, enlargement, conversion, alteration, repair, moving, removal, demolition, occupancy, use, height, court, area, sanitation, ventilation, maintenance and safety to life and property from fire and other hazards attributed to the built environment.

**SECTION 1.8.2  
AUTHORITY AND ABBREVIATIONS**

**1.8.2.1 General.** The Department of Housing and Community Development is authorized by law to promulgate and adopt building standards and regulations for several types of building applications. The applications under the authority of the Department of Housing and Community Development are listed in Sections 1.8.2.1.1 through 1.8.2.1.3.

**Note:** See the California Residential Code for detached one- and two-family dwellings and townhouses.

**1.8.2.1.1 Housing construction.**

**Application**—Hotels, motels, lodging houses, apartment houses, dwellings, dormitories, condominiums, shelters for homeless persons, congregate residences, employee housing, factory-built housing and other types of dwellings containing sleeping accommodations with or without common toilet or cooking facilities including accessory buildings, facilities, and uses thereto. Sections of this code which pertain to applications listed in this section are identified using the abbreviation “HCD 1.”

**Enforcing agency**—Local building department or the Department of Housing and Community Development.

**Authority cited**—Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11 and 19990; and Government Code Section 12955.1.

**Reference**—Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and Sections 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

**1.8.2.1.2 Housing accessibility.**

**Application**—“COVERED MULTIFAMILY DWELLINGS” as defined in Chapter 2 including, but not limited to, lodging houses, dormitories, timeshares, condominiums, shelters for homeless persons, congregate residences, apartment houses, dwellings, employee housing, factory-built housing and other types of dwellings containing sleeping accommodations with or without common toilet or cooking facilities.

Sections of this code identified by the abbreviation “HCD 1-AC” require specific accommodations for “PERSONS WITH DISABILITIES” as defined in Chapter 2. The application of such provisions shall be in conjunction with other requirements of this code and apply only to newly constructed “COVERED MULTIFAMILY DWELLINGS” as defined in Chapter 2 of the California Building Code. “HCD 1-AC” applications include, but are not limited to, the following:

1. All newly constructed “COVERED MULTIFAMILY DWELLINGS” as defined in Chapter 2.

2. New “COMMON USE AREAS” as defined in Chapter 2 serving existing covered multifamily dwellings.
3. Additions to existing buildings, where the addition alone meets the definition of “COVERED MULTIFAMILY DWELLINGS” as defined in Chapter 2.
4. New common use areas serving new covered multifamily dwellings.
5. Where any portion of a building’s exterior is preserved, but the interior of the building is removed, including all structural portions of floors and ceilings, the building is considered a new building for determining the application of Chapter 11A.

“HCD 1-AC” building standards generally do not apply to public use areas or public accommodations such as hotels and motels, and public housing. Public use areas, public accommodations and public housing as defined in Chapter 2 of this code are subject to the Division of the State Architect (DSA-AC) in Chapter 11B, and are referenced in Section 1.9.1.

Newly constructed covered multifamily dwellings, which can also be defined as public housing, shall be subject to the requirements of Chapter 11A and Chapter 11B.

**Enforcing agency**—Local building department or the Department of Housing and Community Development.

**Authority cited**—Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11 and 19990; and Government Code Section 12955.1.

**Reference**—Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

**1.8.2.1.3 Permanent buildings in mobilehome parks and special occupancy parks.**

**Application**—Permanent buildings, and permanent accessory buildings or structures, constructed within mobilehome parks and special occupancy parks that are under the control and ownership of the park operator. Sections of this code which pertain to applications listed in this section are identified using the abbreviation “HCD 2.”

**Enforcing agency**—The Department of Housing and Community Development, local building department or other local agency that has assumed responsibility for the enforcement of Health and

# CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE

## CHAPTER 2 – DEFINITIONS

(Matrix Adoption Tables are non-regulatory, intended only as an aid to the user.

See Chapter 1 for state agency authority and building applications.)

Adopting agency	BSC	SFM	HCD			DSA			OSHDP				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
Adopt entire chapter	X																			
Adopt entire chapter as amended (amended sections listed below)		X	X	X	X		X	X	X	X		X								
Adopt only those sections that are listed below						X					X		X	X						
Chapter / Section																				
201.3		X																		
201.4		X																		
202		X	X	X	X															
Access Aisle						X														
Accessibility			X	X	X	X														
Accessibility Function Button						X														
Accessible			X	X	X	X														
Accessible Element						X														
Accessible Means of Egress						X														
Accessible Route			X	X	X	X														
Accessible Space						X														
Active Equipment/Component							X	X	X	X	X	X								
Adaptable						X														
Adaptable Dwelling Unit			X	X	X															
Addition (2nd paragraph only)						X														
Administrative Authority						X														
Aged Home or Institution		X																		
Aisle (2nd paragraph only)						X														
Alteration						X														
Alternative System									X			X								
Amusement Attraction						X														
Amusement Ride						X														
Amusement Ride Seat						X														
Ancillary Facility													X							
ANSI						X														
Approved (with notes)			X	X	X															
Approved (2nd paragraph only) (w/o notes)						X														
Approved Agency			X	X																
Approved Listing Agency			X	X	X															
Approved Testing Agency			X	X	X	X														
Area of Refuge						X														
Area of Sport Activity						X														
Assembly Area						X														
Assistive Device			X	X	X															
Assistive Listening System (ALS)						X														
Associated Structural Alterations									X			X								
At-Grade Station		X																		
Automatic Door			X	X	X	X														
Automatic Teller Machine (ATM)						X														

(continued)

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 2 – DEFINITIONS—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
Adopt entire chapter	X																			
Adopt entire chapter as amended (amended sections listed below)		X	X	X	X		X	X	X	X		X								
Adopt only those sections that are listed below						X					X		X	X						
Chapter / Section																				
<i>Backwash</i>														X						
Bathroom			X	X	X	X														
Bedridden Person		X																		
<i>Blended Transition</i>						X														
<i>Boarding Pier</i>						X														
<i>Boat Launch Ramp</i>						X														
<i>Boat Slip</i>						X														
Building		X																		
Building (with exception)			X	X	X															
Building (w/o notes)						X														
Building Entrance on an Accessible Route			X	X	X															
Building, Existing			X	X	X															
Building Official						X														
<i>Cantilevered Decking</i>														X						
Care and Supervision		X																		
<i>Carriage Unit</i>			X			X														
Catastrophically Injured		X																		
<i>Catch Pool</i>						X														
CCR						X														
<i>CDF Director</i>		X																		
<i>Cell [SFM]</i>		X																		
<i>Cell Complex</i>		X																		
<i>Cell Tiers</i>		X																		
Cellular Concrete			X	X	X															
<i>Central Control Building</i>		X																		
<i>Characters</i>			X	X	X	X														
<i>Charter School</i>		X																		
<i>Child-Care Center</i>		X																		
<i>Child-Care Facilities</i>		X																		
<i>Child or Children</i>		X																		
<i>Children's Use</i>						X														
<i>Chronically Ill</i>		X																		
<i>Circulation Path</i>						X														
<i>Clean Pool Water</i>														X						
<i>Clear</i>						X														
<i>Clear Pool Water</i>														X						
<i>Clear Floor Space</i>						X														
<i>Clinic, Outpatient</i>		X																		

(continued)

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 2 – DEFINITIONS—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
Adopt entire chapter	X																			
Adopt entire chapter as amended (amended sections listed below)		X	X	X	X		X	X	X	X		X								
Adopt only those sections that are listed below						X					X		X	X						
Chapter / Section																				
Closed-Circuit Telephone						X														
Commercial Facilities						X														
Common Use			f	f		X														
Common Use Areas			X	X	X															
Community Care Facility		X																		
Comply With						X														
Concrete, Cellular			X	X	X															
Congregate Living Health Facility (CLHF)		X																		
Congregate Residence		X																		
Coping														X						
Corrosion Resistant														X						
Courtroom Dock		X																		
Courthouse Holding Facility [SFM]		X																		
Covered Multifamily Dwellings			X	X	X															
Cross Slope			X	X	X	X														
Curb Cut			X	X	X	X														
Curb Ramp			X	X	X	X														
Dangerous		X																		
Day-Care		X																		
Day-Care Home, Family		X																		
Day-Care Home, Large Family		X																		
Day-Care Home, Small Family		X																		
Day Room		X																		
Deck														X						
Department			X	X	X															
Designated Public Transportation						X														
Destination-Oriented Elevator						X														
Detached Single-Family Dwelling			X	X	X															
Detectable Warning			X	X	X	X														
Detention Elevator [SFM]		X																		
Detention Treatment Room [SFM]		X																		
Detoxification Facilities		X																		
Diaphragm, Rigid							X	X	X			X								
Diatomaceous Earth														X						
Direct Access		X																		
Directional Sign			X	X	X	X														
Disability						X														
Dormitory		X				X														
Dormitory [SFM]		X																		
Dwelling Unit			X	X	X															
Easily Cleanable														X						
Effective Particle Size														X						
Efficiency Dwelling Unit			X	X	X															
Electric Vehicle		X																		
Element						X														

(continued)

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 2 – DEFINITIONS—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
Adopt entire chapter	X																			
Adopt entire chapter as amended (amended sections listed below)		X	X	X	X		X	X	X	X		X								
Adopt only those sections that are listed below						X					X		X	X						
Chapter / Section																				
<i>Elevated Play Component</i>						X														
<i>Elevated Station</i>		X																		
<i>Elevator, Passenger</i>			X	X	X	X														
<i>Emergency Management Panel (EMP)</i>		X																		
<i>Employee Work Area</i>						X														
<i>Enclosed Station</i>		X																		
<i>Enforcement</i>			X	X	X															
<i>Enforcement Agent</i>							X	X	X			X								
<i>Enforcing Agency</i>		X	X	X	X	X			X	X	X	X		X						
<i>Engineering Analysis (Fire Hazard/ Fire Risk Assessment)</i>		X																		
<i>Entrance</i>					X	X														
<i>Equipment Area</i>		X												X						
<i>Equivalent Facilitation</i>			X	X	X	X														
<i>Existing Building</i>			X	X	X															
<i>Existing Building or Facility</i>						X														
<i>Existing Structure</i>		X								X	X									
<i>Exit</i>						X														
<i>Exterior Covering</i>		X																		
<i>Facility</i>			X	X	X	X														
<i>Family</i>			X	X	X															
<i>Fire Appliance [SFM]</i>		X																		
<i>Fire Hazard Severity Zones</i>		X																		
<i>Fire Protection Plan</i>		X																		
<i>Fire-Retardant Treated Wood [SFM]</i>		X																		
<i>Fire-Smoke Barrier [SFM]</i>		X																		
<i>Fixed Guideway Transit System</i>		X																		
<i>Foster Family Home</i>		X																		
<i>Freestanding Acute Psychiatric Building (APB)</i>									X											
<i>Freestanding Skilled Nursing Building (SNB)</i>									X											
<i>Full-Time Care</i>		X																		
<i>Functional Area</i>						X														
<i>Gangway</i>						X														
<i>General Acute Care Building (GAC Building)</i>									X											
<i>General Acute Care Hospital</i>									X			X								
<i>Golf Car Passage</i>						X														
<i>Grab Bar</i>			X	X	X	X														
<i>Grade (Adjacent Ground Elevation)</i>			X	X	X	X														
<i>Grade Break</i>						X														
<i>Ground Floor</i>			X	X	X	X														
<i>Ground Level Play Component</i>						X														
<i>Guard (or Guardrail)</i>			X	X	X	X														

(continued)

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 2 – DEFINITIONS—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
Adopt entire chapter	X																			
Adopt entire chapter as amended (amended sections listed below)		X	X	X	X		X	X	X	X		X								
Adopt only those sections that are listed below						X					X		X	X						
Chapter / Section																				
Guideway		X																		
Hall Call Console						X														
Handhold													X							
Handrail			X	X	X	X														
Hazardous Substance [SFM]		X																		
Health Care Provider						X														
Heavy Timber		X																		
High-Rise Building		X																		
High-Rise Building Access		X																		
Historic Buildings						X														
Holding Facility		X																		
Hotel or Motel			X	X	X															
Housing at a Place of Education					X	X														
Housing Unit		X																		
Hydrogen Fuel Gas Room		X																		
If, If... Then						X														
Ignition-Resistant Material		X																		
Incidental Structural Alterations, Additions or Repairs									X		X									
Infant		X																		
Intended to be occupied as a Resident			f	f	f															
Inlet													X							
International Symbol of Accessibility					X	X														
Key Station						X														
Kick Plate			X	X	X	X														
Kitchen or Kitchenette						X														
Labeled			X	X	X															
Laboratory [SFM]		X																		
Laboratory Suite [SFM]		X																		
Ladder													X							
Lavatory					X	X														
Level Area			X	X	X															
Lift., Platform (Wheelchair)			X	X	X															
Liquid Tight Floor [SFM]		X																		
Listed		X	X	X	X															
Listing Agency			X	X	X															
Living Unit													X							
Local Agency Very High Fire Hazard Severity Zone		X																		
Lobby [SFM]		X	X	X	X															
Lodging House			X	X	X															
Log Wall Construction		X																		
Mail Boxes						X														
Main Drain													X							

(continued)

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 2 – DEFINITIONS—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
Adopt entire chapter	X																			
Adopt entire chapter as amended (amended sections listed below)		X	X	X	X		X	X	X	X		X								
Adopt only those sections that are listed below						X					X		X	X						
Chapter / Section																				
Major Structural Alterations, Additions or Repairs									X			X								
Marked Crossing			X	X	X	X														
May						X														
Medical Pool														X						
Mentally Disabled Persons, Profoundly or Severely		X																		
Mezzanine						X														
Minor Structural Alteration, Additions or Repairs									X			X								
Motel			X	X																
Motion Picture and Television Production Studio Sound Stage, Approved Production Facilities and Production Locations		X																		
Multi-bedroom Housing Unit						X														
Multistory Dwelling Unit			X	X	X															
Naturally Durable Wood																				
New High-Rise Building		X																		
Newly Constructed			X	X	X															
Next Generation Attenuation (NGA)							X	X	X			X								
NFPA						X														
Non-General Acute Care Building (Non-GAC Building)									X											
Nonambulatory Persons		X																		
Noncombustible [SFM]		X																		
Nonstructural Alteration									X			X								
Normal			X	X	X															
Nosing						X														
NPC 1, NPC 2, NPC 3/NPC 3R, NPC 4 and NPC 5									X			X								
Occupant Load						X														
Occupiable Space						X														
Open Riser			X	X	X	X														
Open Station		X																		
Operable Part					X	X														
Operations Control Center (OCC) (Central Control)		X																		
Organized Camps		X																		
Outlet														X						
Passage Door			X	X	X															
Passenger Elevator			X	X	X	X														
Passive Solar Energy Collector			X	X	X															
Path of Travel						X														
Patio Cover		X																		
Pedestrian			X	X	X	X														
Pedestrian Ramp																				
Pedestrian Way			X	X	X	X														
Peer Review									X			X								

(continued)

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 2 – DEFINITIONS—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
Adopt entire chapter	X																			
Adopt entire chapter as amended (amended sections listed below)		X	X	X	X		X	X	X	X		X								
Adopt only those sections that are listed below						X					X	X	X							
Chapter / Section																				
<i>Performance Standard</i>														X						
<i>Perimeter Overflow System</i>														X						
Permanent						X														
Permanent Portable Building [SFM]		X																		
<i>Permissible Exposure Limit</i>														X						
Permit						X														
Persons with Disabilities			X	X	X															
<i>Pictogram</i>					X	X														
<i>Place of Public Accommodation</i>					X	X														
<i>Platform</i>						X														
<i>Platform (Wheelchair) Lift</i>			X	X	X	X														
<i>Play Area</i>						X														
<i>Play Component</i>						X														
<i>Point of Safety</i>		X																		
<i>Pool or Public Pool</i>														X						
<i>Pool Operator or Operator</i>														X						
<i>Pool User</i>														X						
<i>Point-of-Sale Device</i>						X														
<i>Powder Room</i>			X	X	X	X														
<i>Power-Assisted Door</i>						X														
<i>Power Substation</i>		X																		
<i>Primary Entry</i>			X	X	X															
<i>Primary-Entry Level</i>			X	X	X															
<i>Primary Function</i>		X																		
<i>Private Building or Facility</i>						X														
<i>Professional Office of a Health Care Provider</i>						X														
<i>Protective Social Care Facility [SFM]</i>		X																		
<i>Public Accommodation</i>																				
<i>Public Building or Facility</i>						X														
<i>Public Entity</i>					X	X														
<i>Public Entrance</i>			X	X	X	X														
<i>Public Housing</i>					X	X														
<i>Public Use</i>						X														
<i>Public-Use Areas</i>			X	X	X	X														
<i>Public Way</i>						X														
<i>Publicly Funded</i>																				
<i>Qualified Historic Building or Fac- ility</i>						X														
<i>Radius of Curvature</i>														X						
<i>Raftertail</i>		X																		
<i>Ramp</i>						X														
<i>Readily Accessible</i>														X						

(continued)

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 2 – DEFINITIONS—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
Adopt entire chapter	X																			
Adopt entire chapter as amended (amended sections listed below)		X	X	X	X		X	X	X	X		X								
Adopt only those sections that are listed below						X					X		X	X						
Chapter / Section																				
<i>Readily Disassembled</i>														X						
<i>Reasonable Portion</i>						X														
<i>Recessed Steps</i>														X						
<i>Recirculation System</i>														X						
<i>Recommend</i>			X	X	X	X														
<i>Relocatable Building (Public School)</i>		X																		
<i>Remodeling</i>						X														
<i>Repair</i>						X			X			X								
<i>Residential Care Facility for the Chronically Ill (RCF/CI)</i>		X																		
<i>Residential Care Facility for the Elderly (RCFE)</i>		X																		
<i>Residential Dwelling Unit</i>						X														
<i>Residential Facility (RF)</i>		X																		
<i>Restraint [SFM]</i>		X																		
<i>Restricted Entrance</i>						X														
<i>Retrofit</i>		X					X	X	X	X		X								
<i>Rim Flow Gutter</i>														X						
<i>Riser</i>			X	X	X	X														
<i>Roof Eave</i>		X																		
<i>Roof Eave Soffit</i>		X																		
<i>Rugged Equipment</i>							X	X	X	X	X	X								
<i>Running Slope</i>			X	X	X	X														
<i>Sanitary Facility</i>			X	X	X															
<i>Secure Interview Rooms</i>		X																		
<i>Self-Service Storage</i>						X														
<i>Service Entrance</i>						X														
<i>Shall</i>						X														
<i>Shopping Center (or Shopping Mall)</i>						X														
<i>Should</i>			X	X	X	X														
<i>Sidewalk</i>			X	X	X	X														
<i>Signage</i>						X														
<i>Significant Loss of Function</i>							X	X	X	X		X								
<i>Single-Accommodation Sanitary Facility</i>			X	X	X															
<i>Sink</i>					X	X														
<i>Site</i>						X														
<i>Site Development</i>			X	X	X															
<i>Skimmer Equalizer Line</i>														X						
<i>Sleeping Accommodations</i>			X	X	X	X														
<i>Slip Resistant</i>														X						
<i>Slope</i>			X	X	X															

(continued)

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 2 – DEFINITIONS—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
Adopt entire chapter	X																			
Adopt entire chapter as amended (amended sections listed below)		X	X	X	X		X	X	X	X		X								
Adopt only those sections that are listed below						X					X		X	X						
Chapter / Section																				
<i>Small Management Yard</i>		X																		
<i>Soft Contained Play Structure</i>						X														
<i>Sound Transmission Class (STC)</i>																				
<i>Spa Pool or Spa</i>														X						
<i>Space</i>			X	X	X	X														
<i>SPC Building</i>									X											
<i>SPC 1, SPC 2, SPC 3, SPC 4 and SPC 5</i>									X			X								
<i>Special Purpose Pool</i>														X						
<i>Specified Public Transportation</i>						X														
<i>Splash Zone</i>														X						
<i>Spray Ground</i>														X						
<i>Springline</i>														X						
<i>Stage</i>						X														
<i>Stair</i>						X														
<i>Stairs</i>														X						
<i>Stairway</i>						X														
<i>State-Owned/Leased Building [SFM]</i>		X																		
<i>State Responsibility Area</i>		X																		
<i>Station</i>		X																		
<i>Station Platform</i>		X																		
<i>Step</i>														X						
<i>Story (2nd paragraph only)</i>						X														
<i>Structural Frame</i>						X														
<i>Structure</i>						X														
<i>Suction Outlet</i>														X						
<i>Surge Basin</i>														X						
<i>Substantial Structural Damage</i>		X							X			X								
<i>Tactile</i>			X	X	X	X														
<i>Tactile Sign</i>			X	X	X	X														
<i>Technically Infeasible</i>		X				X														
<i>Teeing Ground</i>						X														
<i>Tempered Water</i>														X						
<i>Temporary</i>						X														
<i>Temporary Holding Cell, Room or Area. [CSA and SFM]</i>		X											X							
<i>Temporary Holding Facility [SFM]</i>		X																		
<i>Tenable Environment [SFM]</i>		X																		
<i>Terminally Ill</i>		X																		
<i>Testing Agency</i>			X	X	X															
<i>Text Telephone</i>					X	X														
<i>Transfer Device</i>						X														
<i>Transient Lodging</i>			X	X	X	X														
<i>Transit Boarding Platform</i>						X														

(continued)

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 2 – DEFINITIONS—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
Adopt entire chapter	X																			
Adopt entire chapter as amended (amended sections listed below)		X	X	X	X		X	X	X	X		X								
Adopt only those sections that are listed below						X					X		X	X						
Chapter / Section																				
Transition Plate						X														
Tread			X	X	X	X														
TTY					X	X														
Turnover Time														X						
Underground Station		X																		
Uniformity Coefficient														X						
Unreasonable Hardship					X	X														
Use Zone						X														
Valuation Threshold						X														
Variable Message Signs (VMS)						X														
Variable Message Sign (VMS) Characters						X														
Vehicular or Pedestrian Arrival Points			X	X	X															
Vehicular Way					X	X														
Voluntary Structural Alteration									X			X								
Wading Pool														X						
Waiting Room [SFM]		X																		
Walk			X	X	X	X														
Water Feature														X						
Waterline														X						
Wet Bar						X														
Wheelchair			X	X	X	X														
Wheelchair Space						X														
Wildfire		X																		
Wildfire Exposure		X																		
Wildland-Urban Interface Fire Area		X																		
Winery Caves		X																		
Work Area Equipment						X														
Workstation (2nd paragraph only)						X														

The state agency does not adopt sections identified by the following symbol: †

The Office of the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures regulated by other state agencies pursuant to Section 1.11.

## CHAPTER 2

# DEFINITIONS

### SECTION 201 GENERAL

**201.1 Scope.** Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings shown in this chapter.

**201.2 Interchangeability.** Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

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

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

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

### SECTION 202 DEFINITIONS

**24-HOUR CARE.** The actual time that a person is an occupant within a facility for the purpose of receiving care. It shall not include a facility that is open for 24 hours and is capable of providing care to someone visiting the facility during any segment of the 24 hours.

**AAC MASONRY.** Masonry made of autoclaved aerated concrete (AAC) units, manufactured without internal reinforcement and bonded together using thin- or thick-bed mortar.

**ACCESS AISLE. [DSA-AC].** An accessible pedestrian space adjacent to or between parking spaces that provides clearances in compliance with this code.

**ACCESSIBILITY. [DSA-AC & HCD 1-AC]** Accessibility is the combination of various elements in a building, facility, site, or area, or portion thereof which allows access, circulation and the full use of the building and facilities by persons with disabilities in compliance with this code.

**ACCESSIBILITY FUNCTION BUTTON. [DSA-AC]** A button on an elevator hall call console in a destination-oriented elevator system that when pressed will activate a series of visual and verbal prompts and announcements providing

*instruction regarding hall call console operation and direction to an assigned elevator.*

**ACCESSIBLE. [DSA-AC & HCD 1-AC]** A site, building, facility, or portion thereof that is approachable and usable by persons with disabilities in compliance with this code.

**ACCESSIBLE ELEMENT. [DSA-AC]** An element specified by the regulations adopted by the Division of the State Architect-Access Compliance.

**ACCESSIBLE MEANS OF EGRESS.** A continuous and unobstructed way of egress travel from any accessible point in a building or facility to a public way.

**ACCESSIBLE ROUTE. [DSA-AC & HCD 1-AC]** A continuous unobstructed path connecting accessible elements and spaces of an accessible site, building or facility that can be negotiated by a person with a disability using a wheelchair, and that is also safe for and usable by persons with other disabilities. Interior accessible routes may include corridors, hallways, floors, ramps, elevators and lifts. Exterior accessible routes may include parking access aisles, curb ramps, crosswalks at vehicular ways, walks, ramps and lifts.

**ACCESSIBLE SPACE. [DSA-AC]** A space that complies with the accessibility provisions of this code

**ACCREDITATION BODY.** An approved, third-party organization that is independent of the grading and inspection agencies, and the lumber mills, and that initially accredits and subsequently monitors, on a continuing basis, the competency and performance of a grading or inspection agency related to carrying out specific tasks.

**ACTIVE EQUIPMENT/COMPONENT. [DSA-SS, DSA-SS/CC & OSHPD 1, 2, 3 & 4]** Equipment/Component containing moving or rotating parts, electrical parts such as switches or relays, or other internal components that are sensitive to earthquake forces and critical to the function of the equipment.

**ADAPTABLE. [DSA-AC]** Capable of being readily modified and made accessible.

**ADAPTABLE DWELLING UNIT. [HCD 1-AC]** An accessible dwelling unit within a covered multifamily building as designed with elements and spaces allowing the dwelling unit to be adapted or adjusted to accommodate the user. See Chapter 11A, Division IV.

**[A] ADDITION.** An extension or increase in floor area or height of a building or structure. [DSA-AC] An expansion, extension or increase in the gross floor area or height of a building or facility.

**ADHERED MASONRY VENEER.** Veneer secured and supported through the adhesion of an approved bonding material applied to an approved backing.

**ADMINISTRATIVE AUTHORITY. [DSA-AC]** A governmental agency that adopts or enforces regulations and guide-

## DEFINITIONS

*lines for the design, construction or alteration of buildings and facilities.*

**ADOBE CONSTRUCTION.** Construction in which the exterior load-bearing and nonload-bearing walls and partitions are of unfired clay masonry units, and floors, roofs and interior framing are wholly or partly of wood or other approved materials.

**Adobe, stabilized.** Unfired clay masonry units to which admixtures, such as emulsified asphalt, are added during the manufacturing process to limit the units' water absorption so as to increase their durability.

**Adobe, unstabilized.** Unfired clay masonry units that do not meet the definition of "Adobe, stabilized."

**[F] AEROSOL.** A product that is dispensed from an aerosol container by a propellant. Aerosol products shall be classified by means of the calculation of their chemical heats of combustion and shall be designated Level 1, Level 2 or Level 3.

**Level 1 aerosol products.** Those with a total chemical heat of combustion that is less than or equal to 8,600 British thermal units per pound (Btu/lb) (20 kJ/g).

**Level 2 aerosol products.** Those with a total chemical heat of combustion that is greater than 8,600 Btu/lb (20 kJ/g), but less than or equal to 13,000 Btu/lb (30 kJ/g).

**Level 3 aerosol products.** Those with a total chemical heat of combustion that is greater than 13,000 Btu/lb (30 kJ/g).

**[F] AEROSOL CONTAINER.** A metal can or a glass or plastic bottle designed to dispense an aerosol. Metal cans shall be limited to a maximum size of 33.8 fluid ounces (1000 ml). Glass or plastic bottles shall be limited to a maximum size of 4 fluid ounces (118 ml).

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

**AGGREGATE.** In roofing, crushed stone, crushed slag or water-worn gravel used for surfacing for roof coverings.

**AGRICULTURAL BUILDING.** A structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products. This structure shall not be a place of human habitation or a place of employment where agricultural products are processed, treated or packaged, nor shall it be a place used by the public.

**AIR-INFLATED STRUCTURE.** A structure that uses air-pressurized membrane beams, arches or other elements to enclose space. Occupants of such a structure do not occupy the pressurized area used to support the structure.

**AIR-SUPPORTED STRUCTURE.** A structure wherein the shape of the structure is attained by air pressure and occupants of the structure are within the elevated pressure area. Air-supported structures are of two basic types:

**Double skin.** Similar to a single skin, but with an attached liner that is separated from the outer skin and provides an airspace which serves for insulation, acoustic, aesthetic or similar purposes.

**Single skin.** Where there is only the single outer skin and the air pressure is directly against that skin.

**AISLE.** An unenclosed exit access component that defines and provides a path of egress travel. *[DSA-AC] A circulation path between objects such as seats, tables, merchandise, equipment, displays, shelves, desks, etc., that provides clearances in compliance with this code.*

**AISLE ACCESSWAY.** That portion of an exit access that leads to an aisle.

**[F] ALARM NOTIFICATION APPLIANCE.** A fire alarm system component such as a bell, horn, speaker, light or text display that provides audible, tactile or visible outputs, or any combination thereof.

**[F] ALARM SIGNAL.** A signal indicating an emergency requiring immediate action, such as a signal indicative of fire.

**[F] ALARM VERIFICATION FEATURE.** A feature of automatic fire detection and alarm systems to reduce unwanted alarms wherein smoke detectors report alarm conditions for a minimum period of time, or confirm alarm conditions within a given time period, after being *automatically* reset, in order to be accepted as a valid alarm-initiation signal.

**ALLOWABLE STRESS DESIGN.** A method of proportioning structural members, such that elastically computed stresses produced in the members by nominal loads do not exceed specified allowable stresses (also called "working stress design").

**[A] ALTERATION.** Any construction or renovation to an existing structure other than repair or addition. *[DSA-AC] A change, addition or modification in construction, change in occupancy or use, or structural repair to an existing building or facility. Alterations include, but are not limited to, remodeling, renovation, rehabilitation, reconstruction, historic restoration, resurfacing of circulation paths or vehicular ways, changes or rearrangement of the structural parts or elements, and changes or rearrangement in the plan configuration of walls and full-height partitions. Normal maintenance, reroofing, painting or wallpapering, or changes to mechanical and electrical systems are not alterations unless they affect the usability of the building or facility.*

**ALTERNATING TREAD DEVICE.** A device that has a series of steps between 50 and 70 degrees (0.87 and 1.22 rad) from horizontal, usually attached to a center support rail in an alternating manner so that the user does not have both feet on the same level at the same time.

**ALTERNATIVE SYSTEM.** *[OSHPD 1 & 4] Alternative materials, design and methods of construction in accordance with Section 104.11, Section 11.1.4 of ASCE 7 or structural design criteria as approved by the enforcement agency.*

**AMBULATORY CARE FACILITY.** Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than 24-hour basis to individuals who are rendered incapable of self-preservation by the services provided.

**AMUSEMENT ATTRACTION.** *[DSA-AC] Any facility, or portion of a facility, located within an amusement park or theme park which provides amusement without the use of an amusement device. Amusement attractions include, but are not limited to, fun houses, barrels and other attractions without seats.*

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

**DEAD LOAD.** The weight of materials of construction incorporated into the building, including but not limited to walls, floors, roofs, ceilings, stairways, built-in partitions, finishes, cladding and other similarly incorporated architectural and structural items, and the weight of fixed service equipment, such as cranes, plumbing stacks and risers, electrical feeders, heating, ventilating and air-conditioning systems and automatic sprinkler systems.

**DECK.** *Is an area surrounding a pool which is specifically constructed or installed for use by bathers.*

**DECORATIVE GLASS.** A carved, leaded or Dalle glass or glazing material whose purpose is decorative or artistic, not functional; whose coloring, texture or other design qualities or components cannot be removed without destroying the glazing material and whose surface, or assembly into which it is incorporated, is divided into segments.

**[F] DECORATIVE MATERIALS.** All materials applied over the building interior finish for decorative, acoustical or other effect (such as curtains, draperies, fabrics, streamers and surface coverings), and all other materials utilized for decorative effect (such as batting, cloth, cotton, hay, stalks, straw, vines, leaves, trees, moss and similar items), including foam plastics and materials containing foam plastics. Decorative materials do not include floor coverings, ordinary window shades, interior finish and materials 0.025 inch (0.64 mm) or less in thickness applied directly to and adhering tightly to a substrate.

**DEEP FOUNDATION.** A deep foundation is a foundation element that does not satisfy the definition of a shallow foundation.

**[F] DEFLAGRATION.** An exothermic reaction, such as the extremely rapid oxidation of a flammable dust or vapor in air, in which the reaction progresses through the unburned material at a rate less than the velocity of sound. A deflagration can have an explosive effect.

**[F] DELUGE SYSTEM.** A sprinkler system employing open sprinklers attached to a piping system connected to a water supply through a valve that is opened by the operation of a detection system installed in the same areas as the sprinklers. When this valve opens, water flows into the piping system and discharges from all sprinklers attached thereto.

**DEPARTMENT.** [HCD 1 & HCD 2] *The Department of Housing and Community Development.*

**DESIGN DISPLACEMENT.** See Section 1905.1.1.

**DESIGN EARTHQUAKE GROUND MOTION.** The earthquake ground motion that buildings and structures are specifically proportioned to resist in Section 1613.

**DESIGN FLOOD.** The flood associated with the greater of the following two areas:

1. Area with a flood plain subject to a 1-percent or greater chance of flooding in any year; or
2. Area designated as a flood hazard area on a community's flood hazard map, or otherwise legally designated.

**DESIGN FLOOD ELEVATION.** The elevation of the "design flood," including wave height, relative to the datum specified on the community's legally designated flood hazard map. In areas designated as Zone AO, the design flood elevation shall be the elevation of the highest existing grade of the building's perimeter plus the depth number (in feet) specified on the flood hazard map. In areas designated as Zone AO where a depth number is not specified on the map, the depth number shall be taken as being equal to 2 feet (610 mm).

tion shall be the elevation of the highest existing grade of the building's perimeter plus the depth number (in feet) specified on the flood hazard map. In areas designated as Zone AO where a depth number is not specified on the map, the depth number shall be taken as being equal to 2 feet (610 mm).

**DESIGN PROFESSIONAL, REGISTERED.** See "Registered design professional."

**DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE, REGISTERED.** See "Registered design professional in responsible charge."

**DESIGN STRENGTH.** The product of the nominal strength and a resistance factor (or strength reduction factor).

**DESIGNATED PUBLIC TRANSPORTATION.** [DSA-AC] *Transportation provided by a public entity (other than public school transportation) by bus, rail, or other conveyance (other than transportation by aircraft or intercity or commuter rail transportation) that provides the general public with general or special service, including charter service, on a regular and continuing basis.*

**DESIGNATED SEISMIC SYSTEM.** Those nonstructural components that require design in accordance with Chapter 13 of ASCE 7 and for which the component importance factor,  $I_p$ , is greater than 1 in accordance with Section 13.1.3 of ASCE 7.

**DESTINATION-ORIENTED ELEVATOR.** [DSA-AC] *Destination-oriented elevators are operated by the user selecting a destination floor at a hall call console located at or near an elevator landing. The destination-oriented elevator system then assigns an elevator car which transports the user to the selected destination floor. Destination-oriented elevators do not provide floor selection within elevator cars.*

**[F] DETACHED BUILDING.** A separate single-story building, without a basement or crawl space, used for the storage or use of hazardous materials and located an approved distance from all structures.

**DETACHED SINGLE-FAMILY DWELLING.** [HCD 1 & HCD 2] *Any single-family dwelling which is separated (detached) from adjacent buildings.*

**DETAILED PLAIN CONCRETE STRUCTURAL WALL.** See Section 1905.1.1

**DETECTABLE WARNING.** *A standardized surface feature built in or applied to walking surfaces or other elements to warn of hazards on a circulation path.*

**[F] DETECTOR, HEAT.** A fire detector that senses heat—either abnormally high temperature or rate of rise, or both.

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

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

**[F] DETONATION.** An exothermic reaction characterized by the presence of a shock wave in the material which establishes and maintains the reaction. The reaction zone progresses through the material at a rate greater than the velocity of sound. The principal heating mechanism is one of shock compression. Detonations have an explosive effect.

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

**DIAPHRAGM.** A horizontal or sloped system acting to transmit lateral forces to the vertical-resisting elements. When the term “diaphragm” is used, it shall include horizontal bracing systems.

**Diaphragm, blocked.** In light-frame construction, a diaphragm in which all sheathing edges not occurring on a framing member are supported on and fastened to blocking.

**Diaphragm boundary.** In light-frame construction, a location where shear is transferred into or out of the diaphragm sheathing. Transfer is either to a boundary element or to another force-resisting element.

**Diaphragm chord.** A diaphragm boundary element perpendicular to the applied load that is assumed to take axial stresses due to the diaphragm moment.

**Diaphragm flexible.** A diaphragm is flexible for the purpose of distribution of story shear and torsional moment where so indicated in Section 12.3.1 of ASCE 7.

**Diaphragm, rigid.** [DSA-SS, DSA-SS/CC & OSHPD 1 & 4] A diaphragm is rigid for the purpose of distribution of story shear and torsional moment *where so indicated in Section 12.3.1 of ASCE 7.*

**Diaphragm, rigid.** A diaphragm is rigid for the purpose of distribution of story shear and torsional moment when the lateral deformation of the diaphragm is less than or equal to two times the average story drift.

**Diaphragm, unblocked.** A diaphragm that has edge nailing at supporting members only. Blocking between supporting structural members at panel edges is not included. Diaphragm panels are field nailed to supporting members.

## DIMENSIONS.

**Nominal.** The specified dimension plus an allowance for the joints with which the units are to be laid. Nominal dimensions are usually stated in whole numbers. Thickness is given first, followed by height and then length.

**Specified.** Dimensions specified for the manufacture or construction of a unit, joint element.

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

**DIRECTIONAL SIGN.** [DSA-AC, HCD 1 & HCD 2] *A publicly displayed notice which indicates by use of words or symbols a recommended direction or route of travel.*

**DISABILITY** [DSA-AC] *Disability is (1) a physical or mental impairment that limits one or more of the major life activities of an individual, (2) a record of such an impairment, or (3) being regarded as having such an impairment.*

**[F] DISPENSING.** The pouring or transferring of any material from a container, tank or similar vessel, whereby vapors, dusts, fumes, mists or gases are liberated to the atmosphere.

**DOOR, BALANCED.** A door equipped with double-pivoted hardware so designed as to cause a semicounter balanced swing action when opening.

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

**DRAFTSTOP.** A material, device or construction installed to restrict the movement of air within open spaces of concealed areas of building components such as crawl spaces, floor/ceiling assemblies, roof/ceiling assemblies and attics.

**DRAG STRUT.** See “Collector.”

**DRAIN.** *A fitting or fixture, usually at or near the bottom of a pool, through which water leaves the pool normally to the recirculation pump.*

**DRILLED SHAFT.** A drilled shaft is a cast-in-place deep foundation element constructed by drilling a hole (with or without permanent casing) into soil or rock and filling it with fluid concrete.

**Socketed drilled shaft.** A socketed drilled shaft is a drilled shaft with a permanent pipe or tube casing that extends down to bedrock and an uncased socket drilled into the bedrock.

**[F] DRY-CHEMICAL EXTINGUISHING AGENT.** A powder composed of small particles, usually of sodium bicarbonate, potassium bicarbonate, urea-potassium-based bicarbonate, potassium chloride or monoammonium phosphate, with added particulate material supplemented by special treatment to provide resistance to packing, resistance to moisture absorption (caking) and the proper flow capabilities.

**DRY FLOODPROOFING.** A combination of design modifications that results in a building or structure, including the attendant utility and sanitary facilities, being water tight with walls substantially impermeable to the passage of water and with structural components having the capacity to resist loads as identified in ASCE 7.

**DURATION OF LOAD.** The period of continuous application of a given load, or the aggregate of periods of intermittent applications of the same load.

**DWELLING.** A building that contains one or two dwelling units used, intended or designed to be used, rented, leased, let or hired out to be occupied for living purposes.

**DWELLING UNIT.** A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation. [HCD 1-AC] *For the purposes of Chapter 11A, a single unit of residence for a family of one or more persons. Examples of dwelling units covered by Chapter 11A include condominiums, an apartment unit within an apartment building, and other types of dwellings in which sleeping accommodations are provided but toileting or cooking facilities are shared by occupants of more than one room or portion of the dwelling. Examples of the latter include dormitory rooms and sleeping accommodations in shelters intended for occupancy as residences for homeless persons.*

**DWELLING UNIT OR SLEEPING UNIT, MULTI-STORY.** See definition for “Multistory unit.”

**EFFICIENCY DWELLING UNIT.** [HCD 1] *A dwelling unit containing only one habitable room and includes an effi-*

**FIRE WINDOW ASSEMBLY.** A window constructed and glazed to give protection against the passage of fire.

**FIREBLOCKING.** Building materials, or materials approved for use as fireblocking, installed to resist the free passage of flame to other areas of the building through concealed spaces.

**FIREPLACE.** A hearth and fire chamber or similar prepared place in which a fire may be made and which is built in conjunction with a chimney.

**FIREPLACE THROAT.** The opening between the top of the firebox and the smoke chamber.

**FIRESTOP, MEMBRANE PENETRATION.** See “Membrane penetration firestop.”

**FIRESTOP, PENETRATION.** See “Penetration firestop.”

**FIRESTOP SYSTEM, THROUGH PENETRATION.** See “Through penetration firestop system.”

**[F] FIREWORKS.** Any composition or device for the purpose of producing a visible or audible effect for entertainment purposes by combustion, deflagration or detonation that meets the definition of 1.4G fireworks or 1.3G fireworks as set forth herein.

**Fireworks, 1.3G.** Large fireworks devices, which are explosive materials, intended for use in fireworks displays and designed to produce audible or visible effects by combustion, deflagration or detonation. Such 1.3G fireworks include, but are not limited to, firecrackers containing more than 130 milligrams (2 grains) of explosive composition, aerial shells containing more than 40 grams of pyrotechnic composition, and other display pieces which exceed the limits for classification as 1.4G fireworks. Such 1.3G fireworks are also described as fireworks, UN0335 by the DOTn.

**Fireworks, 1.4G.** Small fireworks devices containing restricted amounts of pyrotechnic composition designed primarily to produce visible or audible effects by combustion. Such 1.4G fireworks which comply with the construction, chemical composition and labeling regulations of the DOTn for fireworks, UN0336, and the U.S. Consumer Product Safety Commission (CPSC) as set forth in CPSC 16 CFR: Parts 1500 and 1507, are not explosive materials for the purpose of this code.

**FIXED BASE OPERATOR (FBO).** A commercial business granted the right by the airport sponsor to operate on an airport and provide aeronautical services, such as fueling, hangaring, tie-down and parking, aircraft rental, aircraft maintenance and flight instruction.

**FIXED GUIDEWAY TRANSIT SYSTEM (the system).** [SFM] (See Chapter 4, Section 433 for definition of term.)

**FIXED SEATING.** Furniture or fixture designed and installed for the use of sitting and secured in place including bench-type seats and seats with or without backs or arm rests.

**FLAME SPREAD.** The propagation of flame over a surface.

**FLAME SPREAD INDEX.** A comparative measure, expressed as a dimensionless number, derived from visual measurements of the spread of flame versus time for a material tested in accordance with ASTM E 84 or UL 723.

**[F] FLAMMABLE GAS.** A material that is a gas at 68°F (20°C) or less at 14.7 pounds per square inch atmosphere (psia) (101 kPa) of pressure [a material that has a boiling point of 68°F (20°C) or less at 14.7 psia (101 kPa)] which:

1. Is ignitable at 14.7 psia (101 kPa) when in a mixture of 13 percent or less by volume with air; or
2. Has a flammable range at 14.7 psia (101 kPa) with air of at least 12 percent, regardless of the lower limit.

The limits specified shall be determined at 14.7 psi (101 kPa) of pressure and a temperature of 68°F (20°C) in accordance with ASTM E 681.

**[F] FLAMMABLE LIQUEFIED GAS.** A liquefied compressed gas which, under a charged pressure, is partially liquid at a temperature of 68°F (20°C) and which is flammable.

**[F] FLAMMABLE LIQUID.** A liquid having a closed cup flash point below 100°F (38°C). Flammable liquids are further categorized into a group known as Class I liquids. The Class I category is subdivided as follows:

**Class IA.** Liquids having a flash point below 73°F (23°C) and a boiling point below 100°F (38°C).

**Class IB.** Liquids having a flash point below 73°F (23°C) and a boiling point at or above 100°F (38°C).

**Class IC.** Liquids having a flash point at or above 73°F (23°C) and below 100°F (38°C). The category of flammable liquids does not include compressed gases or cryogenic fluids.

**[F] FLAMMABLE MATERIAL.** A material capable of being readily ignited from common sources of heat or at a temperature of 600°F (316°C) or less.

**[F] FLAMMABLE SOLID.** A solid, other than a blasting agent or explosive, that is capable of causing fire through friction, absorption or moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which has an ignition temperature below 212°F (100°C) or which burns so vigorously and persistently when ignited as to create a serious hazard. A chemical shall be considered a flammable solid as determined in accordance with the test method of CPSC 16 CFR; Part 1500.44, if it ignites and burns with a self-sustained flame at a rate greater than 0.1 inch (2.5 mm) per second along its major axis.

**[F] FLAMMABLE VAPORS OR FUMES.** The concentration of flammable constituents in air that exceed 25 percent of their lower flammable limit (LFL).

**[F] FLASH POINT.** The minimum temperature in degrees Fahrenheit at which a liquid will give off sufficient vapors to form an ignitable mixture with air near the surface or in the container, but will not sustain combustion. The flash point of a liquid shall be determined by appropriate test procedure and apparatus as specified in ASTM D 56, ASTM D 93 or ASTM D 3278.

**FLIGHT.** A continuous run of rectangular treads, winders or combination thereof from one landing to another.

**FLOOD or FLOODING.** A general and temporary condition of partial or complete inundation of normally dry land from:

1. The overflow of inland or tidal waters.

## DEFINITIONS

2. The unusual and rapid accumulation or runoff of surface waters from any source.

**FLOOD DAMAGE-RESISTANT MATERIALS.** Any construction material capable of withstanding direct and prolonged contact with floodwaters without sustaining any damage that requires more than cosmetic repair.

**FLOOD, DESIGN.** See “Design flood.”

**FLOOD ELEVATION, DESIGN.** See “Design flood elevation.”

**FLOOD HAZARD AREA.** The greater of the following two areas:

1. The area within a flood plain subject to a 1-percent or greater chance of flooding in any year.
2. The area designated as a flood hazard area on a community’s flood hazard map, or otherwise legally designated.

**FLOOD HAZARD AREAS, SPECIAL.** See “Special flood hazard areas.”

**FLOOD HAZARD AREA SUBJECT TO HIGH-VELOCITY WAVE ACTION.** Area within the flood hazard area that is subject to high-velocity wave action, and shown on a Flood Insurance Rate Map (FIRM) or other flood hazard map as Zone V, VO, VE or V1-30.

**FLOOD INSURANCE RATE MAP (FIRM).** An official map of a community on which the Federal emergency Management Agency (FEMA) has delineated both the special flood hazard areas and the risk premium zones applicable to the community.

**FLOOD INSURANCE STUDY.** The official report provided by the Federal Emergency Management Agency containing the Flood Insurance Rate Map (FIRM), the Flood Boundary and Floodway Map (FBFM), the water surface elevation of the base flood and supporting technical data.

**FLOODWAY.** The channel of the river, creek or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

**FLOOR AREA, GROSS.** The floor area within the inside perimeter of the exterior walls of the building under consideration, exclusive of vent shafts and courts, without deduction for corridors, stairways, closets, the thickness of interior walls, columns or other features. The floor area of a building, or portion thereof, not provided with surrounding exterior walls shall be the usable area under the horizontal projection of the roof or floor above. The gross floor area shall not include shafts with no openings or interior courts.

**FLOOR AREA, NET.** The actual occupied area not including unoccupied accessory areas such as corridors, stairways, toilet rooms, mechanical rooms and closets.

**FLOOR FIRE DOOR ASSEMBLY.** A combination of a fire door, a frame, hardware and other accessories installed in a horizontal plane, which together provide a specific degree of fire protection to a through-opening in a fire-resistance-rated floor (see Section 711.8).

**[F] FOAM-EXTINGUISHING SYSTEM.** A special system discharging a foam made from concentrates, either mechanically or chemically, over the area to be protected.

**FOAM PLASTIC INSULATION.** A plastic that is intentionally expanded by the use of a foaming agent to produce a reduced-density plastic containing voids consisting of open or closed cells distributed throughout the plastic for thermal insulating or acoustical purposes and that has a density less than 20 pounds per cubic foot (pcf) (320 kg/m<sup>3</sup>).

**FOLDING AND TELESCOPIC SEATING.** Tiered seating having an overall shape and size that is capable of being reduced for purposes of moving or storing and is not a building element.

**FOOD COURT.** A public seating area located in the mall that serves adjacent food preparation tenant spaces.

**FOSTER CARE FACILITIES.** See *FOSTER FAMILY HOME*.

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

**FOUNDATION PIER.** An isolated vertical foundation member whose horizontal dimension measured at right angles to its thickness does not exceed three times its thickness and whose height is equal to or less than four times its thickness.

**FRAME STRUCTURE.** A building or other structure in which vertical loads from floors and roofs are primarily supported by columns.

**FREESTANDING ACUTE PSYCHIATRIC BUILDING (APB).** [OSHPD 1] A freestanding building, as defined in the California Administrative Code Section 7-111, that provides 24-hour inpatient Acute Psychiatric Services as defined in the Health and Safety Code (H&SC) Section 1250(b) or as special services in accordance with H&SC Section 1255(a)(5) of a general acute care hospital defined in H&SC Section 1250(a) and all structures required for their continuous operation or access/egress.

**FREESTANDING SKILLED NURSING BUILDING (SNB).** [OSHPD 1] A freestanding building, as defined in the California Administrative Code Section 7-111, that provides skilled nursing and/or intermediate care as defined in the Health and Safety Code Section 1250(c) or (d), and all structures required for their continuous operation or access/egress.

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

**FUNCTIONAL AREA.** [DSA-AC] A room, space or area intended or designated for a group of related activities or processes.

**GANGWAY.** [DSA-AC] *A variable-sloped pedestrian walkway that links a fixed structure or land with a floating structure. Gangways that connect to vessels are not addressed by this code.*

**[F] GAS CABINET.** A fully enclosed, ventilated noncombustible enclosure used to provide an isolated environment for compressed gas cylinders in storage or use. Doors and access ports for exchanging cylinders and accessing pressure-regulating controls are allowed to be included.

**[F] GAS ROOM.** A separately ventilated, fully enclosed room in which only compressed gases and associated equipment and supplies are stored or used.

**[F] GASEOUS HYDROGEN SYSTEM.** An assembly of piping, devices and apparatus designed to generate, store, contain, distribute or transport a nontoxic, gaseous hydrogen-containing mixture having at least 95-percent hydrogen gas by volume and not more than 1-percent oxygen by volume. Gaseous hydrogen systems consist of items such as compressed gas containers, reactors and appurtenances, including pressure regulators, pressure relief devices, manifolds, pumps, compressors and interconnecting piping and tubing and controls.

**GENERAL ACUTE CARE BUILDING (GAC Building).** [OSHDP 1] *Hospital buildings as defined in the California Administrative Code Section 7-111 and all structures required for their continuous operation or access/egress, except Freestanding Skilled Nursing Building (SNB) and Acute Psychiatric Building (APB).*

**GLASS FIBERBOARD.** Fibrous glass roof insulation consisting of inorganic glass fibers formed into rigid boards using a binder. The board has a top surface faced with asphalt and kraft reinforced with glass fiber.

**GLUED BUILT-UP MEMBER.** A structural element, the section of which is composed of built-up lumber, wood structural panels or wood structural panels in combination with lumber, all parts bonded together with structural adhesives.

**GOLF CAR PASSAGE.** [DSA-AC] *A continuous passage on which a motorized golf car can operate.*

**GRAB BAR.** [DSA-AC & HCD 1-AC] *A bar for the purpose of being grasped by the hand for support.*

**GRADE (Adjacent Ground Elevation)** [DSA-AC & HCD 1-AC] *The lowest point of elevation of the finished surface of the ground, paving or sidewalk within the area between the building and the property line or, when the property line is more than 5 feet (1524 mm) from the building, between the building and a line 5 feet (1524 mm) from the building. See Health and Safety Code Section 19955.3(d).*

**GRADE BREAK.** [DSA-AC] *The line where two surface planes with different slopes meet.*

**GRADE FLOOR OPENING.** A window or other opening located such that the sill height of the opening is not more than 44 inches (1118 mm) above or below the finished ground level adjacent to the opening.

**GRADE (LUMBER).** The classification of lumber in regard to strength and utility in accordance with American Softwood Lumber Standard DOC PS 20 and the grading rules of an approved lumber rules-writing agency.

**GRADE PLANE.** A reference plane representing the average of finished ground level adjoining the building at exterior walls. Where the finished ground level slopes away from the exterior walls, the reference plane shall be established by the lowest points within the area between the building and the lot line or, where the lot line is more than 6 feet (1829 mm) from the building, between the building and a point 6 feet (1829 mm) from the building.

**GRADE PLANE, STORY ABOVE.** See “Story above grade plane.”

**GRANDSTAND.** Tiered seating supported on a dedicated structural system and two or more rows high and is not a building element (see “Bleachers”).

**GROSS LEASABLE AREA.** The total floor area designed for tenant occupancy and exclusive use. The area of tenant occupancy is measured from the centerlines of joint partitions to the outside of the tenant walls. All tenant areas, including areas used for storage, shall be included in calculating gross leasable area.

**GROUND FLOOR.** *The floor of a building with a building entrance on an accessible route. A building may have one or more ground floors.*

**GROUND LEVEL PLAY COMPONENT.** [DSA-AC] *A play component that is approached and exited at the ground level.*

**GROUP HOME.** *A facility that provides 24-hour care and supervision to children, provides services specified in this chapter to a specific client group, and maintains a structured environment, with such services provided at least in part by staff employed by the licensee. The care and supervision provided by a group home shall be nonmedical except as permitted by Welfare and Institutions Code Section 17736(b). Since small-family and foster family homes, by definition, care for six or fewer children only, any facility providing 24-hour care for seven or more children must be licensed as a group home.*

**GUARD [DSA-AC, HCD 1 & HCD 2] OR GUARDRAIL.** A building component or a system of building components located at or near the open sides of elevated walking surfaces that minimizes the possibility of a fall from the walking surface to a lower level.

**GUIDEWAY.** [SFM] *(See Chapter 4, Section 433 for definition of term.)*

**GYPSON BOARD.** Gypsum wallboard, gypsum sheathing, gypsum base for gypsum veneer plaster, exterior gypsum soffit board, predecorated gypsum board or water-resistant gypsum backing board complying with the standards listed in Tables 2506.2, 2507.2 and Chapter 35.

**GYPSON PLASTER.** A mixture of calcined gypsum or calcined gypsum and lime and aggregate and other approved materials as specified in this code.

**GYPSON VENEER PLASTER.** Gypsum plaster applied to an approved base in one or more coats normally not exceeding 1/4 inch (6.4 mm) in total thickness.

**HABITABLE SPACE.** A space in a building for living, sleeping, eating or cooking. Bathrooms, toilet rooms, closets, halls, storage or utility spaces and similar areas are not considered habitable spaces.

**HALL CALL CONSOLE.** [DSA-AC] *An elevator call user interface exclusive to a destination-oriented elevator system that requires the user to select a destination floor prior to entering the elevator car.*

**[F] HALOGENATED EXTINGUISHING SYSTEM.** A fire-extinguishing system using one or more atoms of an element from the halogen chemical series: fluorine, chlorine, bromine and iodine.

**[F] HANDLING.** The deliberate transport by any means to a point of storage or use.

**HANDRAIL.** A horizontal or sloping rail intended for grasping by the hand for guidance or support.

**HANDWASHING FIXTURE.** *Refer to the California Plumbing Code, Section 210.0.*

**HARDBOARD.** A fibrous-felted, homogeneous panel made from lignocellulosic fibers consolidated under heat and pressure in a hot press to a density not less than 31 pcf (497 kg/m<sup>3</sup>).

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

**[F] HAZARDOUS PRODUCTION MATERIAL (HPM).** A solid, liquid or gas associated with semiconductor manufacturing that has a degree-of-hazard rating in health, flammability or instability of Class 3 or 4 as ranked by NFPA 704 and which is used directly in research, laboratory or production processes which have as their end product materials that are not hazardous.

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

**HEAD JOINT.** Vertical mortar joint placed between masonry units within the wythe at the time the masonry units are laid.

**HEALTH CARE PROVIDER.** [DSA-AC] *See “Professional Office of a Health Care Provider”*

**[F] HEALTH HAZARD.** A classification of a chemical for which there is statistically significant evidence that acute or chronic health effects are capable of occurring in exposed persons. The term “health hazard” includes chemicals that are toxic or highly toxic, and corrosive.

**HEAT DETECTOR.** See “Detector, heat.”

**HEAVY TIMBER.** [SFM] *(See Chapter 7A, Section 702A for defined term.)*

**HEIGHT, BUILDING.** The vertical distance from grade plane to the average height of the highest roof surface.

**HELICAL PILE.** Manufactured steel deep foundation element consisting of a central shaft and one or more helical bearing plates. A helical pile is installed by rotating it into the ground. Each helical bearing plate is formed into a screw thread with a uniform defined pitch.

**HELIPAD.** A structural surface that is used for the landing, taking off, taxiing and parking of helicopters.

**HELIPORT.** An area of land or water or a structural surface that is used, or intended for the use, for the landing and taking off of helicopters, and any appurtenant areas that are used, or intended for use, for heliport buildings or other heliport facilities.

**HELISTOP.** The same as “heliport,” except that no fueling, defueling, maintenance, repairs or storage of helicopters is permitted.

**HIGH-PRESSURE DECORATIVE EXTERIOR-GRADE COMPACT LAMINATE (HPL).** Panels consisting of layers of cellulose fibrous material impregnated with thermosetting resins and bonded together by a high-pressure process to form a homogeneous nonporous core suitable for exterior use.

**HIGH-PRESSURE DECORATIVE EXTERIOR-GRADE COMPACT LAMINATE (HPL) SYSTEM.** An exterior wall covering fabricated using HPL in a specific assembly including joints, seams, attachments, substrate, framing and other details as appropriate to a particular design.

**HIGH-RISE BUILDING.** *In other than Group I-2 occupancies “high-rise buildings” as used in this code:*

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

*High-rise structure.* Every building of any type of construction or occupancy having floors used for human occupancy located more than 75 feet above the lowest floor level having building access (see Section 403.1.2), except buildings used as hospitals as defined in Health and Safety Code Section 1250.

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

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

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

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

**[F] HIGHLY TOXIC.** A material which produces a lethal dose or lethal concentration that falls within any of the following categories:

1. A chemical that has a median lethal dose (LD<sub>50</sub>) of 50 milligrams or less per kilogram of body weight when

administered orally to albino rats weighing between 200 and 300 grams each.

2. A chemical that has a median lethal dose ( $LD_{50}$ ) of 200 milligrams or less per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between 2 and 3 kilograms each.
3. A chemical that has a median lethal concentration ( $LC_{50}$ ) in air of 200 parts per million by volume or less of gas or vapor, or 2 milligrams per liter or less of mist, fume or dust, when administered by continuous inhalation for 1 hour (or less if death occurs within 1 hour) to albino rats weighing between 200 and 300 grams each.

Mixtures of these materials with ordinary materials, such as water, might not warrant classification as highly toxic. While this system is basically simple in application, any hazard evaluation that is required for the precise categorization of this type of material shall be performed by experienced, technically competent persons.

**HISTORIC BUILDINGS.** Buildings that are listed in or eligible for listing in the National Register of Historic Places, or designated as historic under an appropriate state or local law (see Sections 3409 and 3411.9). *[DSA-AC] See "Qualified historical building or property," C.C.R., Title 24, Part 8.*

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

**HORIZONTAL ASSEMBLY.** A fire-resistance-rated floor or roof assembly of materials designed to restrict the spread of fire in which continuity is maintained.

**HORIZONTAL EXIT.** See "Exit, horizontal."

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

**HOTEL OR MOTEL. [HCD 1 & HCD 2]** *Any building containing six or more guest rooms intended or designed to be used, or which are used, rented or hired out to be occupied, or which are occupied for sleeping purposes by guests.*

**HOUSING AT A PLACE OF EDUCATION.** *Housing operated by or on behalf of an elementary, secondary, undergraduate, or postgraduate school, or other place of education, including dormitories, suites, apartments, or other places of residence.*

**HOUSING UNIT.** *An area intended to lodge inmates on a 24-hour basis where accommodations are provided for sleeping.*

**[F] HPM FLAMMABLE LIQUID.** An HPM liquid that is defined as either a Class I flammable liquid or a Class II or Class IIIA combustible liquid.

**[F] HPM ROOM.** A room used in conjunction with or serving a Group H-5 occupancy, where HPM is stored or used and which is classified as a Group H-2, H-3 or H-4 occupancy.

**HURRICANE-PRONE REGIONS.** Areas vulnerable to hurricanes defined as:

1. The U.S. Atlantic Ocean and Gulf of Mexico coasts where the ultimate design wind speed,  $V_{ult}$ , for Risk

Category II buildings is greater than 115 mph (51.4 m/s); and

2. Hawaii, Puerto Rico, Guam, Virgin Islands and American Samoa.

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

**ICE-SENSITIVE STRUCTURE.** A structure for which the effect of an atmospheric ice load governs the design of a structure or portion thereof. This includes, but is not limited to, lattice structures, guyed masts, overhead lines, light suspension and cable-stayed bridges, aerial cable systems (e.g., for ski lifts or logging operations), amusement rides, open catwalks and platforms, flagpoles and signs.

**IF, IF . . . THEN. [DSA-AC]** *The terms "if" and "if . . . then" denote a specification that applies only when the conditions described are present.*

**IGNITION-RESISTANT MATERIAL. [SFM]** *(See Chapter 7A, Section 702A for defined term.)*

**[F] IMMEDIATELY DANGEROUS TO LIFE AND HEALTH (IDLH).** The concentration of air-borne contaminants which poses a threat of death, immediate or delayed permanent adverse health effects, or effects that could prevent escape from such an environment. This contaminant concentration level is established by the National Institute of Occupational Safety and Health (NIOSH) based on both toxicity and flammability. It generally is expressed in parts per million by volume (ppmv/v) or milligrams per cubic meter ( $mg/m^3$ ). If adequate data do not exist for precise establishment of IDLH concentrations, an independent certified industrial hygienist, industrial toxicologist, appropriate regulatory agency or other source approved by the building official shall make such determination.

**IMPACT LOAD.** The load resulting from moving machinery, elevators, cranes, vehicles and other similar forces and kinetic loads, pressure and possible surcharge from fixed or moving loads.

**INCIDENTAL STRUCTURAL ALTERATIONS, ADDITIONS, OR REPAIRS. [OSHPD 1, 2 & 4]** *Alterations, additions or repairs which would not reduce the story lateral shear force-resisting capacity by more than 5 percent or increase the story shear by more than 5 percent in any existing story.*

**INCAPABLE OF SELF-PRESERVATION.** Persons because of age, physical limitations, mental limitations, chemical dependency, or medical treatment who cannot respond as an individual to an emergency situation.

**[F] INCOMPATIBLE MATERIALS.** Materials that, when mixed, have the potential to react in a manner that generates heat, fumes, gases or byproducts which are hazardous to life or property.

**[F] INERT GAS.** A gas that is capable of reacting with other materials only under abnormal conditions such as high temperatures, pressures and similar extrinsic physical forces. Within the context of the code, inert gases do not exhibit either physical or health hazard properties as defined (other than acting as a simple asphyxiant) or hazard properties other than those of a compressed gas. Some of the more common inert gases include argon, helium, krypton, neon, nitrogen and xenon.

## DEFINITIONS

**INFANT.** *Any child who because of age only, is unable to walk and requires the aid of another person to evacuate the building. In no case shall the term “infant” mean a child 2 years of age or older.*

**[F] INITIATING DEVICE.** A system component that originates transmission of a change-of-state condition, such as in a smoke detector, manual fire alarm box or supervisory switch.

**INLET.** *A fitting or fixture through which circulation water enters the pool.*

**INSPECTION CERTIFICATE.** An identification applied on a product by an approved agency containing the name of the manufacturer, the function and performance characteristics, and the name and identification of an approved agency that indicates that the product or material has been inspected and evaluated by an approved agency (see Section 1703.5 and “Label,” “Manufacturer’s designation” and “Mark”).

**INTERIOR EXIT RAMP.** An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and provides for a protected path of egress travel to the exit discharge or public way.

**INTERIOR EXIT STAIRWAY.** An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and provides for a protected path of egress travel to the exit discharge or public way.

**INTERIOR FINISH.** Interior finish includes interior wall and ceiling finish and interior floor finish.

**INTERIOR FLOOR FINISH.** The exposed floor surfaces of buildings including coverings applied over a finished floor or stair, including risers.

**INTERIOR FLOOR-WALL BASE.** Interior floor finish trim used to provide a functional or decorative border at the intersection of walls and floors.

**INTERIOR SURFACES.** Surfaces other than weather exposed surfaces.

**INTERIOR WALL AND CEILING FINISH.** The exposed interior surfaces of buildings, including but not limited to: fixed or movable walls and partitions; toilet room privacy partitions; columns; ceilings; and interior wainscoting, paneling or other finish applied structurally or for decoration, acoustical correction, surface insulation, structural fire resistance or similar purposes, but not including trim.

**INTERLAYMENT.** A layer of felt or nonbituminous saturated felt not less than 18 inches (457 mm) wide, shingled between each course of a wood-shake roof covering.

**INTERNATIONAL SYMBOL OF ACCESSIBILITY.** *The symbol adopted by Rehabilitation International’s 11th World Congress for the purpose of indicating that buildings and facilities are accessible to persons with disabilities.*

**INTUMESCENT FIRE-RESISTANT COATINGS.** Thin film liquid mixture applied to substrates by brush, roller, spray or trowel which expands into a protective foamed layer to provide fire-resistant protection of the substrates when exposed to flame or intense heat.

**JOINT.** The opening in or between adjacent assemblies that is created due to building tolerances, or is designed to allow independent movement of the building in any plane caused by thermal, seismic, wind or any other loading.

**[A] JURISDICTION.** The governmental unit that has adopted this code under due legislative authority.

**KEY STATION.** *[DSA-AC] Certain rapid and light rail stations, and commuter rail stations, as defined under criteria established by the Department of Transportation in 49 CFR 37.47 and 49 CFR 37.51, respectively.*

**KICK PLATE.** *An abrasion-resistant plate affixed to the bottom portion of a door to prevent a trap condition and protect its surface.*

**KITCHEN OR KITCHENETTE.** *[DSA-AC] A room, space or area with equipment for the preparation and cooking of food.*

**L RATING.** The air leakage rating of a through penetration firestop system or a fire-resistant joint system when tested in accordance with UL 1479 or UL 2079, respectively.

**[A] LABEL.** An identification applied on a product by the manufacturer that contains the name of the manufacturer, the function and performance characteristics of the product or material, and the name and identification of an approved agency and that indicates that the representative sample of the product or material has been tested and evaluated by an approved agency (see Section 1703.5 and “Inspection certificate,” “Manufacturer’s designation” and “Mark”).

**[A] LABELED.** Equipment, materials or products to which has been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose. *[HCD 1 & HCD 2] “Labeled” means equipment or materials to which has been attached a label, symbol or other identifying mark of an organization, approved by the Department, that maintains a periodic inspection program of production of labeled products, installations, equipment, or materials and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.*

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

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

**LADDER.** *A series of vertically separate treads or rungs either connected by vertical rail members or independently fastened to an adjacent vertical pool wall.*

**MEANS OF EGRESS.** A continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a public way. A means of egress consists of three separate and distinct parts: the exit access, the exit and the exit discharge.

**MECHANICAL-ACCESS OPEN PARKING GARAGES.** Open parking garages employing parking machines, lifts, elevators or other mechanical devices for vehicles moving from and to street level and in which public occupancy is prohibited above the street level.

**MECHANICAL EQUIPMENT SCREEN.** A rooftop structure, not covered by a roof, used to aesthetically conceal plumbing, electrical or mechanical equipment from view.

**MECHANICAL SYSTEMS.** For the purposes of determining seismic loads in ASCE 7, mechanical systems shall include plumbing systems as specified therein.

**MEDICAL CARE.** Care involving medical or surgical procedures, nursing or for psychiatric purposes.

**MEDICAL POOL.** *A special-purpose pool used by a state-recognized medical institution engaged in the healing arts under the direct supervision of licensed medical personnel for treatment of the infirm.*

**MEMBRANE-COVERED CABLE STRUCTURE.** A nonpressurized structure in which a mast and cable system provides support and tension to the membrane weather barrier and the membrane imparts stability to the structure.

**MEMBRANE-COVERED FRAME STRUCTURE.** A nonpressurized building wherein the structure is composed of a rigid framework to support a tensioned membrane which provides the weather barrier.

**MEMBRANE PENETRATION.** A breach in one side of a floor-ceiling, roof-ceiling or wall assembly to accommodate an item installed into or passing through the breach.

**MEMBRANE-PENETRATION FIRESTOP.** A material, device or construction installed to resist for a prescribed time period the passage of flame and heat through openings in a protective membrane in order to accommodate cables, cable trays, conduit, tubing, pipes or similar items.

**MEMBRANE-PENETRATION FIRESTOP SYSTEM.** An assemblage consisting of a fire-resistance-rated floor-ceiling, roof-ceiling or wall assembly, one or more penetrating items installed into or passing through the breach in one side of the assembly and the materials or devices, or both, installed to resist the spread of fire into the assembly for a prescribed period of time.

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

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

**MERCHANDISE PAD.** A merchandise pad is an area for display of merchandise surrounded by aisles, permanent fixtures or walls. Merchandise pads contain elements such as nonfixed and moveable fixtures, cases, racks, counters and partitions as indicated in Section 105.2 from which customers browse or shop.

**METAL COMPOSITE MATERIAL (MCM).** A factory-manufactured panel consisting of metal skins bonded to both faces of a plastic core.

**METAL COMPOSITE MATERIAL (MCM) SYSTEM.** An exterior wall covering fabricated using MCM in a specific assembly including joints, seams, attachments, substrate, framing and other details as appropriate to a particular design.

**METAL ROOF PANEL.** An interlocking metal sheet having a minimum installed weather exposure of 3 square feet (0.279 m<sup>2</sup>) per sheet.

**METAL ROOF SHINGLE.** An interlocking metal sheet having an installed weather exposure less than 3 square feet (0.279 m<sup>2</sup>) per sheet.

**MEZZANINE.** An intermediate level or levels between the floor and ceiling of any story and in accordance with Section 505. *[DSA-AC] An intermediate level or levels between the floor and ceiling of any story with an aggregate floor area of not more than one-third of the area of the room or space in which the level or levels are located. Mezzanines have sufficient elevation that space for human occupancy can be provided on the floor below.*

**MICROPILE.** A micropile is a bored, grouted-in-place deep foundation element that develops its load-carrying capacity by means of a bond zone in soil, bedrock or a combination of soil and bedrock.

**MINERAL BOARD.** A rigid felted thermal insulation board consisting of either felted mineral fiber or cellular beads of expanded aggregate formed into flat rectangular units.

**MINERAL FIBER.** Insulation composed principally of fibers manufactured from rock, slag or glass, with or without binders.

**MINERAL WOOL.** Synthetic vitreous fiber insulation made by melting predominately igneous rock or furnace slag, and other inorganic materials, and then physically forming the melt into fibers.

**MINOR STRUCTURAL ALTERATIONS, ADDITIONS, OR REPAIRS.** *[OSHPD 1, 2 & 4] Alterations, additions or repairs of greater extent than incidental structural additions or alterations which would not reduce the story shear lateral-force-resisting capacity by more than 10 percent or increase base shear by more than 10 percent.*

**MODIFIED BITUMEN ROOF COVERING.** One or more layers of polymer-modified asphalt sheets. The sheet materials shall be fully adhered or mechanically attached to the substrate or held in place with an approved ballast layer.

**MONOLITHIC.** *[OSHPD 1] (See Chapter 12, Section 1224.3 for defined term.)*

**MONOLITHIC CEILING.** *[OSHPD 1] (See Chapter 12, Section 1224.3 for defined term.)*

**MORTAR.** A mixture consisting of cementitious materials, fine aggregates, water, with or without admixtures, that is used to construct unit masonry assemblies.

**MORTAR, SURFACE-BONDING.** A mixture to bond concrete masonry units that contains hydraulic cement, glass fiber reinforcement with or without inorganic fillers or organic modifiers and water.

**MOTEL.** *[HCD 1 & HCD 2] See "Hotel" or "Motel."*

## DEFINITIONS

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

**MULTI-BEDROOM HOUSING UNIT. [DSA-AC]** A housing unit, intended for use by students at a place of education, with a kitchen and/or toilet and bathing rooms within the unit, such as an apartment or dormitory. Multi-bedroom housing units are separate from one another and from common use spaces within a building.

**[F] MULTIPLE-STATION ALARM DEVICE.** Two or more single-station alarm devices that can be interconnected such that actuation of one causes all integral or separate audible alarms to operate. It also can consist of one single-station alarm device having connections to other detectors or to a manual fire alarm box.

**[F] MULTIPLE-STATION SMOKE ALARM.** Two or more single-station alarm devices that are capable of interconnection such that actuation of one causes the appropriate alarm signal to operate in all interconnected alarms.

**MULTISTORY DWELLING UNIT. [HCD 1-AC]** A dwelling unit with finished living space located on one floor and the floor or floors immediately above or below it.

**NAILING, BOUNDARY.** A special nailing pattern required by design at the boundaries of diaphragms.

**NAILING, EDGE.** A special nailing pattern required by design at the edges of each panel within the assembly of a diaphragm or shear wall.

**NAILING, FIELD.** Nailing required between the sheathing panels and framing members at locations other than boundary nailing and edge nailing.

**NATURALLY DURABLE WOOD.** The heartwood of the following species except for the occasional piece with corner sapwood, provided 90 percent or more of the width of each side on which it occurs is heartwood.

**Decay resistant.** Redwood, cedar, black locust and black walnut.

**Termite resistant.** Redwood, Alaska yellow cedar, Eastern red cedar and both heartwood and all sapwood of Western red cedar.

**NEWLY CONSTRUCTED. [HCD 1-AC]** A building that has never before been used or occupied for any purpose.

**NEXT GENERATION ATTENUATION (NGA). [DSA-SS, DSA-SS/CC & OSHPD 1 & 4]** Attenuation relations used for the 2008 United States Geological Survey (USGS) seismic hazards maps (for the Western United States) or their equivalent as determined by the enforcement agency.

**NFPA [DSA-AC]** The National Fire Protection Association.

**NOMINAL LOADS.** The magnitudes of the loads specified in Chapter 16 (dead, live, soil, wind, snow, rain, flood and earthquake).

**NOMINAL SIZE (LUMBER).** The commercial size designation of width and depth, in standard sawn lumber and glued-laminated lumber grades; somewhat larger than the standard net size of dressed lumber, in accordance with DOCPS 20 for sawn lumber and with the AF&PA NDS for glued-laminated lumber.

**NON-GENERAL ACUTE CARE BUILDING (Non-GAC Building). [OSHPD 1]** A non-freestanding SPC building, which is removed from general acute care services in accordance with the Section 3418A that remains under OSHPD jurisdiction as part of an OSHPD 1 Hospital building.

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

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

**NONCOMBUSTIBLE. [SFM]** Noncombustible as applied to building construction material means a material which, in the form in which it is used, is either one of the following:

1. Material of which no part will ignite and burn when subjected to fire. Any material passing ASTM E 136 shall be considered noncombustible.
2. Material having a structural base of noncombustible material as defined in Item 1 above, with a surfacing material not over 1/8 inch (3.2 mm) thick which has a flame-spread index of 50 or less.

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

**NONCOMBUSTIBLE MEMBRANE STRUCTURE.** A membrane structure in which the membrane and all component parts of the structure are noncombustible.

**NORMAL. [HCD 1 & HCD 2]** Conforming to a pattern or standard regarded as usual or typical.

**[F] NORMAL TEMPERATURE AND PRESSURE (NTP).** A temperature of 70°F (21°C) and a pressure of 1 atmosphere [14.7 psia (101 kPa)].

**NOSING.** The leading edge of treads of stairs and of landings at the top of stairway flights.

**[F] NOTIFICATION ZONE.** See “Zone, notification.”

**NPC 1, NPC 2, NPC 3/NPC 3R, NPC 4, and NPC 5** are the building nonstructural performance categories for Hospital Buildings defined in Table 11.1 of California Administrative Code (Part 1, Title 24 CCR), Chapter 6.

**[F] NUISANCE ALARM.** An alarm caused by mechanical failure, malfunction, improper installation or lack of proper maintenance, or an alarm activated by a cause that cannot be determined.

- (2) *Rooms available on a walk-up or call-in basis;*
- (3) *Availability of housekeeping or linen service; and*
- (4) *Acceptance of reservations for a guest room type without guaranteeing a particular unit or room until check-in, and without a prior lease or security deposit.*
- (2) *A restaurant, bar, or other establishment serving food or drink;*
- (3) *A motion picture house, theater, concert hall, stadium, or other place of exhibition or entertainment;*
- (4) *An auditorium, convention center, lecture hall, or other place of public gathering;*
- (5) *A bakery, grocery store, clothing store, hardware store, shopping center, or other sales or rental establishment;*
- (6) *A laundromat, dry-cleaner, bank, barber shop, beauty shop, travel service, shoe repair service, funeral parlor, gas station, office of an accountant or lawyer, pharmacy, insurance office, professional office of a health care provider, hospital, or other service establishment;*
- (7) *A terminal, depot, or other station used for specified public transportation;*
- (8) *A museum, library, gallery, or other place of public display or collection;*
- (9) *A park, zoo, amusement park, or other place of recreation;*
- (10) *A nursery, elementary, secondary, undergraduate, or postgraduate private school, or other place of education;*
- (11) *A day-care center, senior citizen center, homeless shelter, food bank, adoption agency, or other social service center establishment;*
- (12) *A gymnasium, health spa, bowling alley, golf course, or other place of exercise or recreation;*
- (13) *A religious facility;*
- (14) *An office building; and*
- (15) *A public curb or sidewalk.*

**PLACE OF RELIGIOUS WORSHIP.** See “Religious worship, place of.”

**PLASTIC, APPROVED.** Any thermoplastic, thermosetting or reinforced thermosetting plastic material that conforms to combustibility classifications specified in the section applicable to the application and plastic type.

**PLASTIC GLAZING.** Plastic materials that are glazed or set in frame or sash and not held by mechanical fasteners that pass through the glazing material.

**PLATFORM.** A raised area within a building used for worship, the presentation of music, plays or other entertainment; the head table for special guests; the raised area for lecturers

and speakers; boxing and wrestling rings; theater-in-the-round stages; and similar purposes wherein there are no overhead hanging curtains, drops, scenery or stage effects other than lighting and sound. A temporary platform is one installed for not more than 30 days.

**PLATFORM (WHEELCHAIR) LIFT.** *A hoisting and lowering mechanism equipped with a car or platform or support that serves two landings of a building or structure and is designed to carry a passenger or passengers and/or luggage or other material a vertical distance as may be allowed.*

**PLAY AREA. [DSA-AC]** *A portion of a site containing play components designed and constructed for children.*

**PLAY COMPONENT. [DSA-AC]** *An element intended to generate specific opportunities for play, socialization or learning. Play components are manufactured or natural; and are stand-alone or part of a composite play structure.*

**POINT OF SAFETY. [SFM]** *(See Chapter 4, Section 433 for definition of term.)*

**POINT-OF-SALE DEVICE. [DSA-AC]** *A device used for the purchase of a good or service where a personal identification number (PIN), zip code or signature is required.*

**POLYPROPYLENE SIDING.** A shaped material, made principally from polypropylene homopolymer, or copolymer, which in some cases contains fillers or reinforcements, that is used to clad exterior walls of buildings.

**POOL.** *A constructed or prefabricated artificial basin, chamber or tank intended to be used primarily by bathers, and not for cleaning of the body or for individual therapeutic use.*

**POOL USER.** *A person using a pool and ancillary facilities for the purpose of water activities such as diving, swimming or wading.*

**POOL VOLUME.** *The amount of water expressed in gallons (liters) that a pool holds when filled.*

**PORCELAIN TILE.** Porcelain tile shall conform to the requirements of ANSI 137.1.3 for ceramic tile having an absorption of 0.5 percent or less according to ANSI 137.4.1–Class Table and ANSI 137.1.6.1 Allowable Properties by Tile Type–Table 10.

**POSITIVE ROOF DRAINAGE.** The drainage condition in which consideration has been made for all loading deflections of the roof deck, and additional slope has been provided to ensure drainage of the roof within 48 hours of precipitation.

**POWDER ROOM.** *A room containing a water closet (toilet) and a lavatory, and which is not defined as a bathroom.*

**POWER-ASSISTED DOOR [DSA-AC]** *A door used for human passage with a mechanism that helps to open the door, or relieves the opening resistance of a door, upon the activation of a switch or a continued force applied to the door itself.*

**POWER SUBSTATION. [SFM]** *(See Chapter 4, Section 433 for definition of term.)*

**PREFABRICATED WOOD I-JOIST.** Structural member manufactured using sawn or structural composite lumber flanges and wood structural panel webs bonded together with

## DEFINITIONS

exterior exposure adhesives, which forms an “I” cross-sectional shape.

**PRESTRESSED MASONRY.** Masonry in which internal stresses have been introduced to counteract potential tensile stresses in masonry resulting from applied loads.

**PRIMARY ENTRY.** [HCD 1-AC] *The principal entrance through which most people enter the building, as designated by the building official.*

**PRIMARY ENTRY LEVEL.** [HCD 1-AC] *The floor or level of the building on which the primary entry is located.*

**PRIMARY FUNCTION.** A primary function is a major activity for which the facility is intended. Areas that contain a primary function include, but are not limited to, the customer service lobby of a bank, the dining area of a cafeteria, the meeting rooms in a conference center, as well as offices and other work areas in which the activities of the public accommodation or other private entity using the facility are carried out. Mechanical rooms, boiler rooms, supply storage rooms, employee lounges or locker rooms, janitorial closets, entrances, corridors and restrooms are not areas containing a primary function.

**PRIMARY STRUCTURAL FRAME.** The primary structural frame shall include all of the following structural members:

1. The columns;
2. Structural members having direct connections to the columns, including girders, beams, trusses and spandrels;
3. Members of the floor construction and roof construction having direct connections to the columns; and
4. Bracing members that are essential to the vertical stability of the primary structural frame under gravity loading shall be considered part of the primary structural frame whether or not the bracing member carries gravity loads.

**PRISM.** An assemblage of masonry units and mortar with or without grout used as a test specimen for determining properties of the masonry.

**PRIVATE BUILDING OR FACILITY.** [DSA-AC] *A place of public accommodation or a commercial building or facility subject to Chapter 1, Section 1.9.1.2.*

**PRIVATE POOL.** *Any constructed pool, permanent or portable, that is intended for noncommercial use as a swimming pool by not more than three owner families and their guests.*

*Note:* A single-family residence is a Group R, Division 3 occupancy.

**PROFESSIONAL OFFICE OF A HEALTH CARE PROVIDER.** [DSA-AC] *See Chapter 11B. A location where a person or entity, regulated by the State to provide professional services related to the physical or mental health of an individual, makes such services available to the public. The facility housing the professional office of a health care provider only includes floor levels housing at least one health*

*care provider, or any floor level designed or intended for use by at least one health care provider.*

**PROSCENIUM WALL.** The wall that separates the stage from the auditorium or assembly seating area.

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

**PSYCHIATRIC HOSPITALS.** See “Hospitals.”

**PUBLIC BUILDING OR FACILITY.** [DSA-AC] *A building or facility or portion of a building or facility designed, constructed, or altered by, on behalf of, or for the use of a public entity subject to Chapter 1, Section 1.9.1.1.*

**PUBLIC ENTITY.** *Any state or local government; any department, agency, special-purpose district, or other instrumentality of a state or local government.*

**PUBLIC ENTRANCE.** An entrance that is not a service entrance or a restricted entrance.

**PUBLIC HOUSING.** [DSA-AC] *Housing facilities owned, operated, or constructed by, for or on behalf of a public entity including but not limited to the following:*

1. Publicly owned and/or operated one- or two-family dwelling units or congregate residences;
2. Publicly owned and/or operated buildings or complexes with three or more residential dwelling units;
3. Reserved.
4. Publicly owned and/or operated homeless shelters, group homes and similar social service establishments;
5. Publicly owned and/or operated transient lodging, such as hotels, motels, hostels and other facilities providing accommodations of a short term nature of not more than 30 days duration;
6. Housing at a place of education owned or operated by a public entity, such as housing on or serving a public school, public college or public university campus;
7. Privately owned housing made available for public use as housing.

**PUBLIC POOL.** A pool other than a private pool.

**PUBLIC USE.** [DSA-AC] *Interior or exterior rooms, spaces or elements that are made available to the public. Public use may be provided at a building or facility that is privately or publicly owned. Private interior or exterior rooms, spaces or elements associated with a residential dwelling unit provided by a public housing program or in a public housing facility are not public use areas and shall not be required to be made available to the public. In the context of public housing,*

rial in skylights, including unit skylights, solariums, sun-rooms, roofs and sloped walls, are included in this definition.

**SLEEPING ACCOMMODATIONS.** *Rooms intended and designed for sleeping.*

**SLEEPING UNIT.** A room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. Such rooms and spaces that are also part of a dwelling unit are not sleeping units.

**SLIP RESISTANT.** *A rough finish that is not abrasive to the bare foot.*

**SLOPE.** [HCD 1-AC] *The relative steepness of the land between two points and is calculated as follows:*

*The horizontal distance and elevation change between the two points (e.g., an entrance and a passenger loading zone). The difference in elevation is divided by the distance and the resulting fraction is multiplied by 100 to obtain the percentage of slope.*

*For example: if a principal entrance is 10 feet (3048 mm) from a passenger loading zone, and the principal entrance is raised 1 foot (305 mm) higher than the passenger loading zone, then the slope is  $1/10 \times 100 = 10$  percent.*

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

**[F] SMOKE ALARM.** A single- or multiple-station alarm responsive to smoke. See also definitions of “Multiple-station smoke alarm” and “Single station smoke alarm.”

**SMOKE BARRIER.** A continuous membrane, either vertical or horizontal, such as a wall, floor or ceiling assembly, that is designed and constructed to restrict the movement of smoke.

**SMOKE COMPARTMENT.** A space within a building enclosed by smoke barriers on all sides, including the top and bottom.

**SMOKE DAMPER.** A listed device installed in ducts and air transfer openings designed to resist the passage of smoke. The device is installed to operate automatically, controlled by a smoke detection system, and where required, is capable of being positioned from a fire command center.

**[F] SMOKE DETECTOR.** A listed device that senses visible or invisible particles of combustion.

**SMOKE-DEVELOPED INDEX.** A comparative measure, expressed as a dimensionless number, derived from measurements of smoke obscuration versus time for a material tested in accordance with ASTM E 84.

**SMOKE-PROTECTED ASSEMBLY SEATING.** Seating served by means of egress that is not subject to smoke accumulation within or under a structure.

**SMOKEPROOF ENCLOSURE.** An exit stairway designed and constructed so that the movement of the products of combustion produced by a fire occurring in any part of the building into the enclosure is limited.

**SOFT CONTAINED PLAY STRUCTURE.** [DSA-AC] *A play structure made up of one or more play components*

*where the user enters a fully enclosed play environment that utilizes pliable materials, such as plastic, netting or fabric.*

**[F] SOLID.** A material that has a melting point, decomposes or sublimates at a temperature greater than 68°F (20°C).

**SPACE.** *A definable area, such as, a room, toilet room, hall, assembly area, entrance, storage room, alcove, courtyard, or lobby.*

**SPC 1, SPC 2, SPC 3, SPC 4 and SPC 5** *are the building structural performance categories for Hospital Buildings defined in Table 2.5.3 of California Administrative Code (Part 1, Title 24 CCR), Chapter 6.*

**SPC BUILDING.** [OSHPD 1] *Means a structure with an independent vertical and lateral force-resisting system (LFRS) and a distinct building structural performance category assigned by OSHPD.*

**SPECIAL AMUSEMENT BUILDING.** A special amusement building is any temporary or permanent building or portion thereof that is occupied for amusement, entertainment or educational purposes and that contains a device or system that conveys passengers or provides a walkway along, around or over a course in any direction so arranged that the means of egress path is not readily apparent due to visual or audio distractions or is intentionally confounded or is not readily available because of the nature of the attraction or mode of conveyance through the building or structure.

**SPECIAL FLOOD HAZARD AREA.** The land area subject to flood hazards and shown on a *Flood Insurance Rate Map* or other flood hazard map as Zone A, AE, A1-30, A99, AR, AO, AH, V, VO, VE or V1-30.

**SPECIAL INSPECTION.** Inspection of construction requiring the expertise of an approved special inspector in order to ensure compliance with this code and the approved construction documents.

**Continuous special inspection.** Special inspection by the special inspector who is present when and where the work to be inspected is being performed.

**Periodic special inspection.** Special inspection by the special inspector who is intermittently present where the work to be inspected has been or is being performed.

**SPECIAL INSPECTOR.** A qualified person employed or retained by an approved agency and approved by the building official as having the competence necessary to inspect a particular type of construction requiring special inspection.

**SPECIAL STRUCTURAL WALL.** See Section 1905.1.1.

**SPECIFIED.** Required by construction documents.

**SPECIFIED COMPRESSIVE STRENGTH OF MASONRY,  $f'_m$ .** Minimum compressive strength, expressed as force per unit of net cross-sectional area, required of the masonry used in construction by the construction documents, and upon which the project design is based. Whenever the quantity  $f'_m$  is under the radical sign, the square root of numerical value only is intended and the result has units of pounds per square inch (psi) (MPa).

**SPECIFIED PUBLIC TRANSPORTATION.** [DSA-AC] *Transportation by bus, rail, or any other conveyance (other than aircraft) provided by a private entity to the general pub-*

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*lic, with general or special service (including charter service) on a regular and continuing basis.*

**SPLICE.** The result of a factory and/or field method of joining or connecting two or more lengths of a fire-resistant joint system into a continuous entity.

**SPRAYED FIRE-RESISTANT MATERIALS.** Cementitious or fibrous materials that are sprayed to provide fire-resistant protection of the substrates.

**STACK BOND.** The placement of masonry units in a bond pattern is such that head joints in successive courses are vertically aligned. For the purpose of this code, requirements for stack bond shall apply to masonry laid in other than running bond.

**STAGE.** A space within a building utilized for entertainment or presentations, which includes overhead hanging curtains, drops, scenery or stage effects other than lighting and sound.

**STAIR.** A change in elevation, consisting of one or more risers.

**STAIRS.** A series of two or more steps.

**STAIR, SCISSOR.** See “Scissor stair.”

**STAIRWAY.** One or more flights of stairs, either exterior or interior, with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage from one level to another.

**STAIRWAY, EXIT ACCESS.** See “Exit access stairway.”

**STAIRWAY, EXTERIOR.** A stairway that is open on at least one side, except for required structural columns, beams, handrails and guards. The adjoining open areas shall be either yards, courts or public ways. The other sides of the exterior stairway need not be open.

**STAIRWAY, INTERIOR.** A stairway not meeting the definition of an exterior stairway.

**STAIRWAY, INTERIOR EXIT.** See “Interior exit stairway.”

**STAIRWAY, SPIRAL.** A stairway having a closed circular form in its plan view with uniform section-shaped treads attached to and radiating from a minimum-diameter supporting column.

**[F] STANDPIPE SYSTEM, CLASSES OF.** Standpipe classes are as follows:

**Class I system.** A system providing 2½-inch (64 mm) hose connections to supply water for use by fire departments and those trained in handling heavy fire streams.

**Class II system.** A system providing 1½-inch (38 mm) hose stations to supply water for use primarily by the building occupants or by the fire department during initial response.

**Class III system.** A system providing 1½-inch (38 mm) hose stations to supply water for use by building occupants and 2½-inch (64 mm) hose connections to supply a larger volume of water for use by fire departments and those trained in handling heavy fire streams.

**[F] STANDPIPE, TYPES OF.** Standpipe types are as follows:

**Automatic dry.** A dry standpipe system, normally filled with pressurized air, that is arranged through the use of a

device, such as dry pipe valve, to admit water into the system piping automatically upon the opening of a hose valve. The water supply for an automatic dry standpipe system shall be capable of supplying the system demand.

**Automatic wet.** A wet standpipe system that has a water supply that is capable of supplying the system demand automatically.

**Manual dry.** A dry standpipe system that does not have a permanent water supply attached to the system. Manual dry standpipe systems require water from a fire department pumper to be pumped into the system through the fire department connection in order to meet the system demand.

**Manual wet.** A wet standpipe system connected to a water supply for the purpose of maintaining water within the system but does not have a water supply capable of delivering the system demand attached to the system. Manual-wet standpipe systems require water from a fire department pumper (or the like) to be pumped into the system in order to meet the system demand.

**Semiautomatic dry.** A dry standpipe system that is arranged through the use of a device, such as a deluge valve, to admit water into the system piping upon activation of a remote control device located at a hose connection. A remote control activation device shall be provided at each hose connection. The water supply for a semiautomatic dry standpipe system shall be capable of supplying the system demand.

**START OF CONSTRUCTION.** The date of issuance for new construction and substantial improvements to existing structures, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement is within 180 days after the date of issuance. The actual start of construction means the first placement of permanent construction of a building (including a manufactured home) on a site, such as the pouring of a slab or footings, installation of pilings or construction of columns.

Permanent construction does not include land preparation (such as clearing, excavation, grading or filling), the installation of streets or walkways, excavation for a basement, footings, piers or foundations, the erection of temporary forms or the installation of accessory buildings such as garages or sheds not occupied as dwelling units or not part of the main building. For a substantial improvement, the actual “start of construction” means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

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

**STATE RESPONSIBILITY AREA.** [SFM] *(See Chapter 7A, Section 702A for definition of term.)*

includes materials that are sensitive to mechanical or localized thermal shock at normal temperatures and pressures.

**Class 3.** Materials that in themselves are capable of detonation or of explosive decomposition or explosive reaction but which require a strong initiating source or which must be heated under confinement before initiation. This class includes materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures.

**Class 2.** Materials that in themselves are normally unstable and readily undergo violent chemical change but do not detonate. This class includes materials that can undergo chemical change with rapid release of energy at normal temperatures and pressures, and that can undergo violent chemical change at elevated temperatures and pressures.

**Class 1.** Materials that in themselves are normally stable but which can become unstable at elevated temperatures and pressure.

**[F] USE (MATERIAL).** Placing a material into action, including solids, liquids and gases.

**USE ZONE.** [DSA-AC] *The ground level area beneath and immediately adjacent to a play structure or play equipment that is designated by ASTM F 1487 for unrestricted circulation around the play equipment and where it is predicted that a user would land when falling from or exiting the play equipment.*

**VALUATION THRESHOLD.** [DSA-AC] *An annually adjusted, dollar-amount figure used in part to determine the extent of required path of travel upgrades. The baseline valuation threshold of \$50,000 is based on the January 1981, "ENR US20 Cities" Average Construction Cost Index (CCI) of 3372.02 as published in Engineering News Record, McGraw Hill Publishing Company. The current valuation threshold is determined by multiplying the baseline valuation threshold by a ratio of the current year's January CCI to the baseline January 1981 CCI.*

**VAPOR PERMEABLE MEMBRANE.** The property of having a moisture vapor permeance rating of 10 perms ( $5.7 \times 10^{-10}$  kg/Pa  $\times$  s  $\times$  m<sup>2</sup>) or greater, when tested in accordance with the desiccant method using Procedure A of ASTM E 96. A vapor permeable material permits the passage of moisture vapor.

**VAPOR RETARDER CLASS.** A measure of a material or assembly's ability to limit the amount of moisture that passes through that material or assembly. Vapor retarder class shall be defined using the desiccant method of ASTM E 96 as follows:

**Class I:** 0.1 perm or less.

**Class II:**  $0.1 < \text{perm} \leq 1.0$  perm.

**Class III:**  $1.0 < \text{perm} \leq 10$  perm.

**VARIABLE MESSAGE SIGNS (VMS).** [DSA-AC] *Electronic signs that have a message with the capacity to change by means of scrolling, streaming, or paging across a background.*

**VARIABLE MESSAGE SIGN (VMS) CHARACTERS.** [DSA-AC] *Characters of an electronic sign are composed of pixels in an array. High resolution VMS characters have vertical pixel counts of 16 rows or greater. Low resolution VMS characters have vertical pixel counts of 7 to 15 rows.*

**VEHICLE BARRIER.** A component or a system of components, near open sides of a garage floor or ramp or building walls that act as restraints for vehicles.

**VEHICULAR GATE.** A gate that is intended for use at a vehicular entrance or exit to a facility, building or portion thereof, and that is not intended for use by pedestrian traffic.

**VEHICULAR OR PEDESTRIAN ARRIVAL POINTS.** [HCD 1-AC] *Public or resident parking areas, public transportation stops, passenger loading zones, and public streets or sidewalks.*

**VEHICULAR WAY.** *A route provided for vehicular traffic, such as in a street, driveway, or parking facility.*

**VENEER.** A facing attached to a wall for the purpose of providing ornamentation, protection or insulation, but not counted as adding strength to the wall.

**[M] VENTILATION.** The natural or mechanical process of supplying conditioned or unconditioned air to, or removing such air from, any space.

**VINYL SIDING.** A shaped material, made principally from rigid polyvinyl chloride (PVC), that is used as an exterior wall covering.

**[F] VISIBLE ALARM NOTIFICATION APPLIANCE.** A notification appliance that alerts by the sense of sight.

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

**WALK.** [DSA-AC] *An exterior prepared surface for pedestrian use, including pedestrian areas such as plazas and courts. (As differentiated from the definition of "Sidewalk".) [HCD 1-AC] A surfaced pedestrian way not located contiguous to a street used by the public. (See also "Sidewalk".)*

**WALKWAY, PEDESTRIAN.** A walkway used exclusively as a pedestrian trafficway.

**WALL.** A vertical element with a horizontal length-to-thickness ratio greater than three, used to enclose space.

**Cavity wall.** A wall built of masonry units or of concrete, or a combination of these materials, arranged to provide an airspace within the wall, and in which the inner and outer parts of the wall are tied together with metal ties.

**Composite wall.** A wall built of a combination of two or more masonry units bonded together, one forming the backup and the other forming the facing elements.

**Dry-stacked, surface-bonded wall.** A wall built of concrete masonry units where the units are stacked dry, without mortar on the bed or head joints, and where both sides of the wall are coated with a surface-bonding mortar.

**Masonry-bonded hollow wall.** A multi-wythe wall built of masonry units arranged to provide an air space between the wythes and with the wythes bonded together with masonry units.

**Parapet wall.** The part of any wall entirely above the roof line.

**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 wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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**WALL, NONLOAD-BEARING.** Any wall that is not a load-bearing wall.

**WALL PIER.** See Section 1905.1.1.

**WATERLINE.** Shall be defined as one of the following:

1. *Skimmer systems.* The waterline shall be the midpoint of the operating range of the skimmers.
2. *Overflow system.* The waterline shall be the top edge of the overflow rim.

**[F] WATER-REACTIVE MATERIAL.** A material that explodes; violently reacts; produces flammable, toxic or other hazardous gases; or evolves enough heat to cause autoignition or ignition of combustibles upon exposure to water or moisture. Water-reactive materials are subdivided as follows:

**Class 3.** Materials that react explosively with water without requiring heat or confinement.

**Class 2.** Materials that react violently with water or have the ability to boil water. Materials that produce flammable, toxic or other hazardous gases or evolve enough heat to cause autoignition or ignition of combustibles upon exposure to water or moisture.

**Class 1.** Materials that react with water with some release of energy, but not violently.

**WATER-RESISTIVE BARRIER.** A material behind an exterior wall covering that is intended to resist liquid water that has penetrated behind the exterior covering from further intruding into the exterior wall assembly.

**WEATHER-EXPOSED SURFACES.** Surfaces of walls, ceilings, floors, roofs, soffits and similar surfaces exposed to the weather except the following:

1. Ceilings and roof soffits enclosed by walls, fascia, bulkheads or beams that extend a minimum of 12 inches (305 mm) below such ceiling or roof soffits.
2. Walls or portions of walls beneath an unenclosed roof area, where located a horizontal distance from an open exterior opening equal to at least twice the height of the opening.
3. Ceiling and roof soffits located a minimum horizontal distance of 10 feet (3048 mm) from the outer edges of the ceiling or roof soffits.

**WET BAR. [DSA-AC]** An area or space with a counter equipped with a sink and running water but without cooking facilities.

**[F] WET-CHEMICAL EXTINGUISHING SYSTEM.** A solution of water and potassium-carbonate-based chemical, potassium-acetate-based chemical or a combination thereof, forming an extinguishing agent.

**WHEELCHAIR.** A chair mounted on wheels to be propelled by its occupant manually or with the aid of electric power, of a size and configuration conforming to the recognized standard models of the trade.

**WHEELCHAIR SPACE.** A space for a single wheelchair and its occupant.

**WILDFIRE. [SFM]** (See Chapter 7A, Section 702A for defined term.)

**WILDFIRE EXPOSURE. [SFM]** (See Chapter 7A, Section 702A for defined term.)

**WILDLAND-URBAN INTERFACE FIRE AREA. [SFM]** (See Chapter 7A, Section 702A for defined term.)

**WINERY CAVES.** See Section 436.

**WIND-BORNE DEBRIS REGION.** Areas within hurricane-prone regions located:

1. Within 1 mile (1.61 km) of the coastal mean high water line where the ultimate design wind speed,  $V_{ult}$ , is 130 mph (58 m/s) or greater; or
2. In areas where the ultimate design wind speed is 140 mph (63.6 m/s) or greater; or Hawaii.

For Risk Category II buildings and structures and Risk Category III buildings and structures, except health care facilities, the windborne debris region shall be based on Figure 1609A. For Risk Category IV buildings and structures and Risk Category III health care facilities, the windborne debris region shall be based on Figure 1609B.

**WINDFORCE-RESISTING SYSTEM, MAIN.** See "Main Windforce-Resisting System."

**WIND SPEED,  $V_{ult}$**  Ultimate design wind speeds.

**WIND SPEED,  $V_{asd}$**  Nominal design wind speeds.

**WINDER.** A tread with nonparallel edges.

**WIRE BACKING.** Horizontal strands of tautened wire attached to surfaces of vertical supports which, when covered with the building paper, provide a backing for cement plaster

**[F] WIRELESS PROTECTION SYSTEM.** A system or a part of a system that can transmit and receive signals without the aid of wire.

**WOOD SHEAR PANEL.** A wood floor, roof or wall component sheathed to act as a shear wall or diaphragm.

**WOOD STRUCTURAL PANEL.** A panel manufactured from veneers, wood strands or wafers or a combination of veneer and wood strands or wafers bonded together with waterproof synthetic resins or other suitable bonding systems. Examples of wood structural panels are:

**Composite panels.** A wood structural panel that is comprised of wood veneer and reconstituted wood-based material and bonded together with waterproof adhesive;

**Oriented strand board (OSB).** A mat-formed wood structural panel comprised of thin rectangular wood strands arranged in cross-aligned layers with surface layers normally arranged in the long panel direction and bonded with waterproof adhesive; or

**Plywood.** A wood structural panel comprised of plies of wood veneer arranged in cross-aligned layers. The plies are bonded with waterproof adhesive that cures on application of heat and pressure.

**[F] WORKSTATION.** A defined space or an independent principal piece of equipment using HPM within a fabrication area where a specific function, laboratory procedure or research activity occurs. Approved or listed hazardous materials storage cabinets, flammable liquid storage cabinets or gas cabinets serving a workstation are included as part of the workstation. A workstation is allowed to contain ventilation

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 3 – USE AND OCCUPANCY CLASSIFICATION**

(Matrix Adoption Tables are non-regulatory, intended only as an aid to the user.

See Chapter 1 for state agency authority and building applications.)

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
Adopt entire chapter	X						X	X	X	X		X								
Adopt entire chapter as amendeded (amended sections listed below)		X	X	X																
Adopt only those sections that are listed below															X			X		
Chapter / Section																				
302.1		X																		
302.1.3																		X		
303.1		X																		
303.1.1		X																		
303.1.2		X																		
303.1.3		X																		
303.1.4		X																		
303.2		X																		
303.7		X	X	X																
303.8		X																		
304.1		X																		
304.2 Clinic, Outpatient		X																		
305.1 w/ Exception		X																		
305.2 w/ Exception		X																		
306.2		X																		
306.4-306.4.4		X																		
307.1		X																		
Table 307.1(1) Footnote d		X																		
Table 307.1(2) Footnote e		X																		
307.1.1		X																		
308.1		X																		
308.2 Detoxification facilities		X																		
308.2 Hospitals and Mental hospitals		X																		
308.2 Nursing Homes		X																		
308.3		X	X	X																
308.4		X								X	X		X							
308.4.1		X																		
308.5		X	X	X																
308.5.1		X																		
308.5.2		X																		
308.5.6		X																		
308.5.7		X																		
308.5.8		X																		
308.6		X																		
308.6.1		X																		
308.6.2.1		X																		
310.1		X	X	X																
310.2		X																		

(continued)

11  
<

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 3 – USE AND OCCUPANCY CLASSIFICATION—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
<i>Adopt entire chapter</i>	X						X	X	X	X										
<i>Adopt entire chapter as amended (amended sections listed below)</i>		X	X	X																
<i>Adopt only those sections that are listed below</i>															X			X		
<i>Chapter / Section</i>																				
310.3		X																		
310.4		X																		
310.4.1		X																		
310.5		X																		
310.5.1		X																		
310.6		X																		
313		X																		
313.1		X																		

*The Office of the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures regulated by other state agencies pursuant to Section 1.11.*

# CHAPTER 3

## USE AND OCCUPANCY CLASSIFICATION

### SECTION 301 GENERAL

**301.1 Scope.** The provisions of this chapter shall control the classification of all buildings and structures as to use and occupancy.

### SECTION 302 CLASSIFICATION

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

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

*[SFM] Existing buildings housing existing protective social care homes or facilities established prior to 1972 (see Section 3413).*

**302.1.1 Reserved**

**302.1.2 Reserved**

**302.1.3 Pharmacies; veterinary facilities; barbering, cosmetology or electrolysis establishments; and acupuncture offices.** See Chapter 12.

### SECTION 303 ASSEMBLY GROUP A

**303.1 Assembly Group A.** Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering of persons for purposes such as civic, social or religious functions; recreation, food or drink consumption or awaiting transportation *or motion picture and television production studio sound stages, approved production facilities and production locations.*

**303.1.1 Small buildings and tenant spaces.** A building or tenant space used for assembly purposes with an occupant load of less than 50 persons shall be classified as a Group B occupancy.

**303.1.2 Small assembly spaces.** The following rooms and spaces shall not be classified as Assembly occupancies:

1. A room or space used for assembly purposes with an occupant load of less than 50 persons and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.
2. A room or space used for assembly purposes that is less than 750 square feet (70 m<sup>2</sup>) in area and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.

**303.1.3 Associated with Group E occupancies.** A room or space used for assembly purposes that is associated with a Group E occupancy is not considered a separate occupancy.

**303.1.4 Accessory to places of religious worship.** Accessory religious educational rooms and religious auditoriums with occupant loads of less than 100 are not considered separate occupancies.

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

*Motion picture and television production studio sound stages, approved production facilities and production locations. (with live audiences).*

Motion picture theaters  
Symphony and concert halls  
Television and radio studios admitting an audience  
Theaters

**303.3 Assembly Group A-2.** Assembly uses intended for food and/or drink consumption including, but not limited to:

Banquet halls  
Casinos (gaming areas)  
Nightclubs  
Restaurants, cafeterias and similar dining facilities  
(including associated commercial kitchens)  
Taverns and bars

## USE AND OCCUPANCY CLASSIFICATION

**303.4 Assembly Group A-3.** Assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A including, but not limited to:

- Amusement arcades
- Art galleries
- Bowling alleys
- Community halls
- Courtrooms
- Dance halls (not including food or drink consumption)
- Exhibition halls
- Funeral parlors
- Gymnasiums (without spectator seating)
- Indoor swimming pools (without spectator seating)
- Indoor tennis courts (without spectator seating)
- Lecture halls
- Libraries
- Museums
- Places of religious worship
- Pool and billiard parlors
- Waiting areas in transportation terminals

**303.5 Assembly Group A-4.** Assembly uses intended for viewing of indoor sporting events and activities with spectator seating including, but not limited to:

- Arenas
- Skating rinks
- Swimming pools
- Tennis courts

**303.6 Assembly Group A-5.** Assembly uses intended for participation in or viewing outdoor activities including, but not limited to:

- Amusement park structures
- Bleachers
- Grandstands
- Stadiums

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

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

### SECTION 304 BUSINESS GROUP B

**304.1 Business Group B.** Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

- Airport traffic control towers
- Ambulatory care facilities serving five or fewer patients (see Section 308.4.2 for facilities serving more than five patients)
- Animal hospitals, kennels and pounds
- Banks
- Barber and beauty shops

- Car wash
- Civic administration
- Clinic, outpatient [SFM] (not classified as Group I-2.1)
- Dry cleaning and laundries: pick-up and delivery stations and self-service
- Educational occupancies for students above the 12th grade
- Electronic data processing
- Laboratories: testing, research and [SFM] instruction
- Motor vehicle showrooms
- Post offices
- Print shops
- Professional services (architects, attorneys, dentists, physicians, engineers, etc.)
- Radio and television stations
- Telephone exchanges
- Training and skill development not within a school or academic program (this shall include, but not be limited to, tutoring centers, martial arts studios, gymnastics, and similar uses regardless of the ages served, and where not classified as a Group A occupancy)

**304.2 Definitions.** The following terms are defined in Chapter 2:

**AMBULATORY CARE FACILITY.**

**CLINIC, OUTPATIENT.**

### SECTION 305 EDUCATIONAL GROUP E

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

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

**305.1.1 Accessory to places of religious worship.** Religious educational rooms and religious auditoriums, which are accessory to places of religious worship in accordance with Section 303.1.4 and have occupant loads of less than 100, shall be classified as Group A-3 occupancies.

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

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

### SECTION 306 FACTORY GROUP F

**306.1 Factory Industrial Group F.** Factory Industrial Group F occupancy includes, among others, the use of a building or structure, or a portion thereof, for assembling, disassembling,

[F] TABLE 307.1(2)  
 MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIAL POSING A HEALTH HAZARD<sup>a, b, c, i</sup>

MATERIAL	STORAGE <sup>d</sup>			USE-CLOSED SYSTEMS <sup>d</sup>			USE-OPEN SYSTEMS <sup>d</sup>	
	Solid pounds (cubic feet)	Liquid gallons (pounds) <sup>e, f</sup>	Gas (cubic feet at NTP) <sup>e</sup>	Solid pounds <sup>e</sup>	Liquid gallons (pounds) <sup>e</sup>	Gas (cubic feet at NTP) <sup>e</sup>	Solid pounds <sup>e</sup>	Liquid gallons (pounds) <sup>e</sup>
Corrosive	5,000	500	Gaseous 810 <sup>f</sup> Liquefied (150) <sup>h</sup>	5,000	500	Gaseous 810 <sup>f</sup> Liquefied (150) <sup>h</sup>	1,000	100
Highly toxic	10	(10) <sup>h</sup>	Gaseous 20 <sup>g</sup> Liquefied (4) <sup>g, h</sup>	10	(10) <sup>i</sup>	Gaseous 20 <sup>g</sup> Liquefied (4) <sup>g, h</sup>	3	(3) <sup>i</sup>
Toxic	500	(500) <sup>h</sup>	Gaseous 810 <sup>f</sup> Liquefied (150) <sup>f, h</sup>	500	(500) <sup>i</sup>	Gaseous 810 <sup>f</sup> Liquefied (150) <sup>f, h</sup>	125	(125)

For SI: 1 cubic foot = 0.028 m<sup>3</sup>, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

- a. For use of control areas, see Section 414.2.
- b. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs, consumer or industrial products, and cosmetics, containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.
- c. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).
- d. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.
- e. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Where Note f also applies, the increase for both notes shall be applied cumulatively.
- f. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, gas cabinets or exhausted enclosures as specified in the *California Fire Code*. Where Note e also applies, the increase for both notes shall be applied cumulatively.
- g. Allowed only when stored in approved exhausted gas cabinets or exhausted enclosures as specified in the *California Fire Code*.
- h. Quantities in parenthesis indicate quantity units in parenthesis at the head of each column.
- i. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2 of the *California Fire Code*.

- Division 1.4
- Division 1.5
- Division 1.6

Organic peroxides, unclassified detonable  
 Oxidizers, Class 4  
 Unstable (reactive) materials, Class 3 detonable and Class 4

[F] 307.3.1 Occupancies containing explosives not classified as H-1. The following occupancies containing explosive materials shall be classified as follows:

1. Division 1.3 explosive materials that are used and maintained in a form where either confinement or configuration will not elevate the hazard from a mass fire to mass explosion hazard shall be allowed in H-2 occupancies.
2. Articles, including articles packaged for shipment, that are not regulated as a Division 1.4 explosive under Bureau of Alcohol, Tobacco, Firearms and Explosives regulations, or unpackaged articles used in process operations that do not propagate a detonation or deflagration between articles shall be allowed in H-3 occupancies.

[F] 307.4 High-hazard Group H-2. Buildings and structures containing materials that pose a deflagration hazard or a hazard from accelerated burning shall be classified as Group H-2. Such materials shall include, but not be limited to, the following:

Class I, II or IIIA flammable or combustible liquids which are used or stored in normally open containers or sys-

- tems, or in closed containers or systems pressurized at more than 15 psi (103.4 kPa) gage
- Combustible dusts where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3
- Cryogenic fluids, flammable
- Flammable gases
- Organic peroxides, Class I
- Oxidizers, Class 3, that are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 psi (103 kPa) gage
- Pyrophoric liquids, solids and gases, nondetonable
- Unstable (reactive) materials, Class 3, nondetonable
- Water-reactive materials, Class 3

[F] 307.5 High-hazard Group H-3. Buildings and structures containing materials that readily support combustion or that pose a physical hazard shall be classified as Group H-3. Such materials shall include, but not be limited to, the following:

- Class I, II or IIIA flammable or combustible liquids that are used or stored in normally closed containers or systems pressurized at 15 pounds per square inch gauge (103.4 kPa) or less
- Combustible fibers, other than densely packed baled cotton
- Consumer fireworks, 1.4G (Class C, Common)
- Cryogenic fluids, oxidizing
- Flammable solids
- Organic peroxides, Class II and III
- Oxidizers, Class 2

## USE AND OCCUPANCY CLASSIFICATION

Oxidizers, Class 3, that are used or stored in normally closed containers or systems pressurized at 15 pounds per square inch gauge (103 kPa) or less  
Oxidizing gases  
Unstable (reactive) materials, Class 2  
Water-reactive materials, Class 2

**[F] 307.6 High-hazard Group H-4.** Buildings and structures which contain materials that are health hazards shall be classified as Group H-4. Such materials shall include, but not be limited to, the following:

Corrosives  
Highly toxic materials  
Toxic materials

**[F] 307.7 High-hazard Group H-5.** Semiconductor fabrication facilities and comparable research and development areas in which hazardous production materials (HPM) are used and the aggregate quantity of materials is in excess of those listed in Tables 307.1(1) and 307.1(2) shall be classified as Group H-5. Such facilities and areas shall be designed and constructed in accordance with Section 415.10.

**[F] 307.8 Multiple hazards.** Buildings and structures containing a material or materials representing hazards that are classified in one or more of Groups H-1, H-2, H-3 and H-4 shall conform to the code requirements for each of the occupancies so classified.

### SECTION 308 INSTITUTIONAL GROUP I

**308.1 Institutional Group I.** Institutional Group I occupancy includes, among others, the use of a building or structure, or a portion thereof, in which care or supervision is provided to persons who are or are not capable of self-preservation without physical assistance or in which persons are detained for penal or correctional purposes or in which the liberty of the occupants is restricted. Institutional occupancies shall be classified as Group I-1, I-2, I-2.1, I-3 or I-4. *Restraint shall not be permitted in any building except in Group I-3 occupancies constructed for such use, see Section 408.1.1.*

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

**308.2 Definitions.** The following terms are defined in Chapter 2:

**24-HOUR CARE.**

**CUSTODIAL CARE.**

**DETOXIFICATION FACILITIES.**

**FOSTER CARE FACILITIES.**

**HOSPITALS AND PSYCHIATRIC HOSPITALS.**

**INCAPABLE OF SELF-PRESERVATION.**

**MEDICAL CARE.**

**NURSING HOMES.**

**308.3 Institutional Group I-1.** *Not used. (See Group R-2.1 Section 310.1)*

**308.4 Institutional Group I-2.** This occupancy shall include buildings and structures used for medical care on a 24-hour basis for more than five persons who are incapable of self-preservation *or classified as nonambulatory or bedridden.* This group shall include, but not be limited to, the following:

Foster care facilities  
Detoxification facilities  
Hospitals  
Nursing homes  
Psychiatric hospitals

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

**308.5 Institutional Group I-3.** This occupancy shall include buildings and structures that are inhabited by *one or more* persons who are under restraint or security. An I-3 facility is occupied by persons who are generally incapable of self-preservation due to security measures not under the occupants' control, *which includes persons restrained.* This group shall include, but not be limited to, the following:

Correctional centers  
*Courthouse holding facility*  
Detention centers  
*Detention treatment room*  
Jails  
Prerelease centers  
Prisons  
Reformatories  
*Secure interview rooms*  
*Temporary holding facility*

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

**308.5.1 Condition 1.** This occupancy condition shall include buildings in which free movement is allowed from sleeping areas, and other spaces where access or occupancy is permitted, to the exterior via means of egress without restraint. A Condition 1 facility is permitted to be constructed as Group R.

**308.5.2 Condition 2.** This occupancy condition shall include buildings in which free movement is allowed from sleeping areas and any other occupied smoke compartment to one or more other smoke compartments. Egress to the exterior is impeded by locked exits.

**308.5.3 Condition 3.** This occupancy condition shall include buildings in which free movement is allowed within individual smoke compartments, such as within a residential unit comprised of individual sleeping units and group activity spaces, where egress is impeded by remote-controlled release of means of egress from such a smoke compartment to another smoke compartment.

**308.5.4 Condition 4.** This occupancy condition shall include buildings in which free movement is restricted from an occupied space. Remote-controlled release is provided to permit movement from sleeping units, activity

## CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE

### CHAPTER 4 – SPECIAL DETAILED REQUIREMENTS ON USE AND OCCUPANCY

(Matrix Adoption Tables are non-regulatory, intended only as an aid to the user.

See Chapter 1 for state agency authority and building applications.)

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
<i>Adopt entire chapter</i>	X						X	X	X	X	X									
<i>Adopt entire chapter as amendeded (amended sections listed below)</i>		X	X	X																
<i>Adopt only those sections that are listed below</i>					X	X									X			X		
<i>Chapter / Section</i>																				
403		X																		
403.1		X																		
403.1.1		X																		
403.2		X																		
403.2.1		X																		
403.2.1.1		X																		
403.3		X																		
403.3.1		X																		
403.3.2		X																		
403.3.2.1		X																		
403.3.4		X																		
403.4.4		X																		
403.4.6		X																		
403.4.6.1		X																		
403.4.7		X																		
403.4.7.1		X																		
403.4.8.1		X																		
403.5.3		X																		
403.5.4		X																		
403.6		X																		
403.7		X																		
404.2		X																		
404.6		X																		
404.10		X																		
406.3.5			X	X																
406.4.1			X	X	X	X														
406.6.2		X																		
406.9		X																		
406.9.1		X																		
406.9.2		X																		
406.9.3		X																		
406.9.4		X																		
407.1		X																		
407.2		X																		
407.2.1		X																		
407.2.2		X																		
407.3		X																		
407.3.1		X																		
407.3.1.1		X																		
407.3.2		X																		
407.4		X																		
407.4.1		X																		
407.4.1.2		X																		
407.4.2		X																		
407.4.2		X																		
407.4.3.2		X																		

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**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE**  
**CHAPTER 4 – SPECIAL DETAILED REQUIREMENTS ON USE AND OCCUPANCY—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
Adopt entire chapter	X						X	X	X	X										
Adopt entire chapter as amendeded (amended sections listed below)		X	X	X																
Adopt only those sections that are listed below						X									X			X		
Chapter / Section																				
407.5		X																		
407.5.2		X																		
407.6		X																		
407.6.1		X																		
407.8		X																		
407.9		X																		
407.10		X																		
407.11		X																		
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407.11.4		X																		
408.1.1		X																		
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408.3.10		X																		
408.3.11		X																		
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408.4.3		X																		
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408.6.1		X																		
408.8		X																		
408.8.1		X																		
408.9		X																		
408.9.1		X																		

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**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE**  
**CHAPTER 4 – SPECIAL DETAILED REQUIREMENTS ON USE AND OCCUPANCY—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
<i>Adopt entire chapter</i>	X						X	X	X	X										
<i>Adopt entire chapter as amended (amended sections listed below)</i>		X	X	X																
<i>Adopt only those sections that are listed below</i>						X								X			X			
<i>Chapter / Section</i>																				
408.12		X																		
408.13		X																		
408.14		X																		
408.15		X																		
408.15.1		X																		
408.15.2		X																		
408.15.3		X																		
408.15.3.1		X																		
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408.15.4		X																		
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412.3.5						X														
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414.1.2		X																		
414.1.2.1		X																		
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Table 415.5.2		X																		
415.8		X																		
415.8.1		X																		
415.8.1.4		X																		
415.8.2		X																		
415.8.2.3		X																		
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415.8.2.6		X																		
415.8.2.7		X																		
415.8.2.8		X																		
415.8.3		X																		
415.8.4		X																		
415.9		X																		
415.10		X																		
415.10.1.7		X																		
415.10.4		X																		

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**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE**  
**CHAPTER 4 – SPECIAL DETAILED REQUIREMENTS ON USE AND OCCUPANCY—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
<i>Adopt entire chapter</i>	X						X	X	X	X										
<i>Adopt entire chapter as amended (amended sections listed below)</i>		X	X	X																
<i>Adopt only those sections that are listed below</i>						X								X			X			
<i>Chapter / Section</i>																				
415.10.7.2		X																		
415.10.9.3		X																		
415.10.10.1		X																		
415.10.11		X																		
415.11		X																		
415.11.1		X																		
415.11.1.1		X																		
415.11.1.2		X																		
415.11.1.3		X																		
415.11.1.4		X																		
415.11.1.5		X																		
415.12		X																		
415.12.1		X																		
415.12.2		X																		
415.12.3		X																		
416.1		X																		
416.3		X																		
416.4		X																		
419.7		X			X															
419.9		X	X	X	X															
420.1		X																		
420.6		X	X	X	X															
420.6.1		X	X	X	X															
420.6.1.1		X	X	X	X															
420.6.1.2		X	X	X	X															
420.6.1.3		X	X	X	X															
420.6.1.4		X	X	X	X															
420.6.1.5		X	X	X	X															
420.6.1.6		X	X	X	X															
420.6.2		X	X	X	X															
420.6.2.1		X	X	X	X															
420.6.2.2		X	X	X	X															
420.6.2.3		X	X	X	X															
420.6.2.3.1		X	X	X	X															
420.6.2.3.2		X	X	X	X															
420.6.2.3.3			X	X	X															
420.6.2.4		X	X	X	X															
420.6.2.5		X	X	X	X															
420.6.2.6		X	X	X	X															
420.7		X	X	X	X															
420.8		X	X		X															
420.8.1		X	X	X	X															

(continued)

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE**  
**CHAPTER 4 – SPECIAL DETAILED REQUIREMENTS ON USE AND OCCUPANCY—continued**

Adopting Agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
<i>Adopt entire chapter</i>	X						X	X	X	X										
<i>Adopt entire chapter as amended (amended sections listed below)</i>		X	X	X																
<i>Adopt only those sections that are listed below</i>					X	X									X			X		
<i>Chapter / Section</i>																				
420.9		X																		
420.10		X																		
421		X																		
421.1		X																		
421.2		X																		
421.3		X																		
421.4		X																		
421.4.1		X																		
421.5		X																		
421.6		X																		
421.6.2		X																		
421.6.3		X																		
421.6.4		X																		
421.7		X																		
425		X																		
426		X																		
429		X																		
430		X																		
431		X																		
432		X																		
433		X																		
434		X																		
436		X																		
439		X																		X
440		X													X					
442		X																		
443		X																		
445		X																		



4. Grandstands, bleachers, stadiums, arenas and similar facilities.
5. Where the lowest story is the only story that would qualify the building as an underground building and has an area not greater than 1,500 square feet (139 m<sup>2</sup>) and has an occupant load less than 10.
6. Pumping stations and other similar mechanical spaces intended only for limited periodic use by service or maintenance personnel.

**405.2 Construction requirements.** The underground portion of the building shall be of Type I construction.

**[F] 405.3 Automatic sprinkler system.** The highest level of exit discharge serving the underground portions of the building and all levels below shall be equipped with an automatic sprinkler system installed in accordance with Section 903.3.1.1. Water-flow switches and control valves shall be supervised in accordance with Section 903.4.

**405.4 Compartmentation.** Compartmentation shall be in accordance with Sections 405.4.1 through 405.4.3.

**405.4.1 Number of compartments.** A building having a floor level more than 60 feet (18 288 mm) below the finished floor of the lowest level of exit discharge shall be divided into no fewer than two compartments of approximately equal size. Such compartmentation shall extend through the highest level of exit discharge serving the underground portions of the building and all levels below.

**Exception:** The lowest story need not be compartmented where the area is not greater than 1,500 square feet (139 m<sup>2</sup>) and has an occupant load of less than 10.

**405.4.2 Smoke barrier penetration.** The compartments shall be separated from each other by a smoke barrier in accordance with Section 709. Penetrations between the two compartments shall be limited to plumbing and electrical piping and conduit that are firestopped in accordance with Section 714. Doorways shall be protected by fire door assemblies that are automatic-closing by smoke detection in accordance with Section 716.5.9.3 and are installed in accordance with NFPA 105 and Section 716.5.3. Where provided, each compartment shall have an air supply and an exhaust system independent of the other compartments.

**405.4.3 Elevators.** Where elevators are provided, each compartment shall have direct access to an elevator. Where an elevator serves more than one compartment, an elevator lobby shall be provided and shall be separated from each compartment by a smoke barrier in accordance with Section 709. Doors shall be gasketed, have a drop sill and be automatic-closing by smoke detection in accordance with Section 716.5.9.3.

**405.5 Smoke control system.** A smoke control system shall be provided in accordance with Sections 405.5.1 and 405.5.2.

**405.5.1 Control system.** A smoke control system is required to control the migration of products of combustion in accordance with Section 909 and the provisions of this section. Smoke control shall restrict movement of

smoke to the general area of fire origin and maintain means of egress in a usable condition.

**405.5.2 Compartment smoke control system.** Where compartmentation is required, each compartment shall have an independent smoke control system. The system shall be automatically activated and capable of manual operation in accordance with Sections 907.2.18 and 907.2.19.

**[F] 405.6 Fire alarm systems.** A fire alarm system shall be provided where required by Sections 907.2.18 and 907.2.19.

**405.7 Means of egress.** Means of egress shall be in accordance with Sections 405.7.1 and 405.7.2.

**405.7.1 Number of exits.** Each floor level shall be provided with no fewer than two exits. Where compartmentation is required by Section 405.4, each compartment shall have no fewer than one exit and shall also have no fewer than one exit access doorway into the adjoining compartment.

**405.7.2 Smokeproof enclosure.** Every required stairway serving floor levels more than 30 feet (9144 mm) below the finished floor of its level of exit discharge shall comply with the requirements for a smokeproof enclosure as provided in Section 1022.10.

**[F] 405.8 Standby power.** A standby power system complying with Chapter 27 shall be provided standby power loads specified in Section 405.8.1.

**[F] 405.8.1 Standby power loads.** The following loads are classified as standby power loads:

1. Smoke control system.
2. Ventilation and automatic fire detection equipment for smokeproof enclosures.
3. Fire pumps.

Standby power shall be provided for elevators in accordance with Section 3003.

**[F] 405.8.2 Pick-up time.** The standby power system shall pick up its connected loads within 60 seconds of failure of the normal power supply.

**[F] 405.9 Emergency power.** An emergency power system complying with Chapter 27 shall be provided for emergency power loads specified in Section 405.9.1.

**[F] 405.9.1 Emergency power loads.** The following loads are classified as emergency power loads:

1. Emergency voice/alarm communications systems.
2. Fire alarm systems.
3. Automatic fire detection systems.
4. Elevator car lighting.
5. Means of egress and exit sign illumination as required by Chapter 10.

**[F] 405.10 Standpipe system.** The underground building shall be equipped throughout with a standpipe system in accordance with Section 905.

## SECTION 406 MOTOR-VEHICLE-RELATED OCCUPANCIES

Section 406 has been completely reorganized from the 2009 code; therefore, the \* and \*\* margin indicators have not been included for clarity.

**406.1 General.** Motor-vehicle-related occupancies shall comply with Sections 406.1 through 406.8.

**406.2 Definitions.** The following terms are defined in Chapter 2:

**MECHANICAL-ACCESS OPEN PARKING GARAGES.**

**OPEN PARKING GARAGE.**

**RAMP-ACCESS OPEN PARKING GARAGES.**

**406.3 Private garages and carports.** Private garages and carports shall comply with Sections 406.3.1 through 406.3.5.

**406.3.1 Classification.** Buildings or parts of buildings classified as Group U occupancies because of the use or character of the occupancy shall be not greater than 1,000 square feet (93 m<sup>2</sup>) in area or one story in height except as provided in Section 406.3.2. Any building or portion thereof that exceeds the limitations specified in this section shall be classified in the occupancy group other than Group U that it most nearly resembles.

**406.3.2 Area increase.** Group U occupancies used for the storage of private or pleasure-type motor vehicles where no repair work is completed or fuel is dispensed are permitted to be 3,000 square feet (279 m<sup>2</sup>) where the following provisions are met:

1. For a mixed occupancy building, the exterior wall and opening protection for the Group U portion of the building shall be as required for the major occupancy of the building. For such a mixed occupancy building, the allowable floor area of the building shall be as permitted for the major occupancy contained therein.
2. For a building containing only a Group U occupancy, the exterior wall shall not be required to have a fire-resistance rating and the area of openings shall not be limited where the fire separation distance is 5 feet (1524 mm) or more.

More than one 3,000-square-foot (279 m<sup>2</sup>) Group U occupancy shall be permitted to be in the same structure, provided each 3,000-square-foot (279 m<sup>2</sup>) area is separated by fire walls complying with Section 706.

**406.3.3 Garages and carports.** Carports shall be open on no fewer than two sides. Carport floor surfaces shall be of approved noncombustible material. Carports not open on at least two sides shall be considered a garage and shall comply with the provisions of this section for garages.

**Exception:** Asphalt surfaces shall be permitted at ground level in carports.

The area of floor used for parking of automobiles or other vehicles shall be sloped to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway.

**406.3.4 Separation.** Separations shall comply with the following:

1. The private garage shall be separated from the dwelling unit and its attic area by means of gypsum board, not less than 1/2 inch (12.7 mm) in thickness, applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than a 5/8-inch (15.9 mm) Type X gypsum board or equivalent and 1/2-inch (12.7 mm) gypsum board applied to structures supporting the separation from habitable rooms above the garage. Door openings between a private garage and the dwelling unit shall be equipped with either solid wood doors or solid or honeycomb core steel doors not less than 1 3/8 inches (34.9 mm) in thickness, or doors in compliance with Section 716.5.3 with a fire protection rating of not less than 20 minutes. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Doors shall be self-closing and self-latching.
2. Ducts in a private garage and ducts penetrating the walls or ceilings separating the dwelling unit, including its attic area, from the garage shall be constructed of sheet steel of not less than 0.019 inches (0.48 mm), in thickness, and shall have no openings into the garage.
3. A separation is not required between a Group R-3 and U carport, provided the carport is entirely open on two or more sides and there are not enclosed areas above.

**406.3.5 Automatic garage door openers.** Automatic garage door openers, if provided, shall be listed in accordance with UL 325. *See Health and Safety Code Sections 19890 and 19891 for additional provisions for residential garage door openers.*

**406.4 Public parking garages.** Parking garages other than private parking garages, shall be classified as public parking garages and shall comply with the provisions of Sections 406.4.2 through 406.4.8 and shall be classified as either an open parking garage or an enclosed parking garage. Open parking garages shall also comply with Section 406.5. Enclosed parking garages shall also comply with Section 406.6. See Section 510 for special provisions for parking garages.

**406.4.1 Clear height.** The clear height of each floor level in vehicle and pedestrian traffic areas shall be not less than 7 feet (2134 mm). *(HCD 1-AC) The clear height of vehicle and pedestrian areas required to be accessible shall comply with Chapter 11A.*

**406.4.2 Guards.** Guards shall be provided in accordance with Section 1013. Guards serving as vehicle barriers shall comply with Sections 406.4.3 and 1013.

**406.4.3 Vehicle barriers.** Vehicle barriers not less than 2 feet 9 inches (835 mm) in height shall be placed at the ends

84 or UL 723 and a self-ignition temperature of 650°F (343°C) or greater when tested in accordance with ASTM D 1929; or

3. Panels constructed of light-transmitting plastic materials shall be permitted to be installed in canopies erected over motor vehicle fuel-dispensing station fuel dispensers, provided the panels are located not less than 10 feet (3048 mm) from any building on the same lot and face yards or streets not less than 40 feet (12 192 mm) in width on the other sides. The aggregate areas of plastics shall be not greater than 1,000 square feet (93 m<sup>2</sup>). The maximum area of any individual panel shall be not greater than 100 square feet (9.3 m<sup>2</sup>).

**406.7.2.1 Canopies used to support gaseous hydrogen systems.** Canopies that are used to shelter dispensing operations where flammable compressed gases are located on the roof of the canopy shall be in accordance with the following:

1. The canopy shall meet or exceed Type I construction requirements.
2. Operations located under canopies shall be limited to refueling only.
3. The canopy shall be constructed in a manner that prevents the accumulation of hydrogen gas.

**406.8 Repair garages.** Repair garages shall be constructed in accordance with the *California Fire Code* and Sections 406.8.1 through 406.8.6. This occupancy shall not include motor fuel-dispensing facilities, as regulated in Section 406.7.

**406.8.1 Mixed uses.** Mixed uses shall be allowed in the same building as a repair garage subject to the provisions of Section 508.1.

**406.8.2 Ventilation.** Repair garages shall be mechanically ventilated in accordance with the *California Mechanical Code*. The ventilation system shall be controlled at the entrance to the garage.

**406.8.3 Floor surface.** Repair garage floors shall be of concrete or similar noncombustible and nonabsorbent materials.

**Exception:** Slip-resistant, nonabsorbent, interior floor finishes having a critical radiant flux not more than 0.45 W/cm<sup>2</sup>, as determined by NFPA 253, shall be permitted.

**406.8.4 Heating equipment.** Heating equipment shall be installed in accordance with the *California Mechanical Code*.

**[F] 406.8.5 Gas detection system.** Repair garages used for the repair of vehicles fueled by nonodorized gases such as hydrogen and nonodorized LNG, shall be provided with a flammable gas detection system.

**[F] 406.8.5.1 System design.** The flammable gas detection system shall be listed or approved and shall be calibrated to the types of fuels or gases used by vehicles to be repaired. The gas detection system shall be designed to activate when the level of flammable gas

exceeds 25 percent of the lower flammable limit (LFL). Gas detection shall be provided in lubrication or chassis service pits of repair garages used for repairing nonodorized LNG-fueled vehicles.

**[F] 406.8.5.1.1 Gas detection system components.**

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

**[F] 406.8.5.2 Operation.** Activation of the gas detection system shall result in all of the following:

1. Initiation of distinct audible and visual alarm signals in the repair garage.
2. Deactivation of all heating systems located in the repair garage.
3. Activation of the mechanical ventilation system, where the system is interlocked with gas detection.

**[F] 406.8.5.3 Failure of the gas detection system.**

Failure of the gas detection system shall result in the deactivation of the heating system, activation of the mechanical ventilation system where the system is interlocked with the gas detection system and cause a trouble signal to sound in an approved location.

**[F] 406.8.6 Automatic sprinkler system.** A repair garage shall be equipped with an automatic sprinkler system in accordance with Section 903.2.9.1.

**406.9 Electric vehicle. [SFM]**

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

**406.9.2 Charging.** *In any building or interior area used for charging electric vehicles, electrical equipment shall be installed in accordance with the California Electrical Code.*

**406.9.3 Ventilation.** *Mechanical exhaust ventilation, when required by the California Electrical Code shall be provided at a rate as required by Article 625 or as required by Section 1203 of the California Building Code whichever is greater. The ventilation system shall include both the supply and exhaust equipment and shall be permanently installed and located to intake supply air from the outdoors, and vent the exhaust directly to, the outdoors without conducting the exhaust air through other spaces within the building.*

**Exception:** *Positive pressure ventilation systems shall only be allowed in buildings or areas that have been designed and approved for that application.*

**406.9.4 Electrical interface.** *The electrical supply circuit to electrically powered mechanical ventilation equipment shall be interlocked with the recharging equipment used to supply the vehicle(s) being charged, and shall remain energized during the entire charging cycle. Electric vehicle recharging equipment shall be marked or labeled in accordance with the California Electrical Code.*

**Exceptions:**

1. Exhaust ventilation shall not be required in areas with an approved engineered ventilation system, which maintains a hydrogen gas concentration at less than 25 percent of the lower flammability limit.
2. Mechanical exhaust ventilation for hydrogen shall not be required where the charging equipment utilized is installed and listed for indoor charging of electric vehicles without ventilation.

**SECTION 407  
GROUP I-2**

**407.1 General.** Occupancies in Group I-2 and I-2.1 shall comply with the provisions of Sections 407.1 through 407.10 and other applicable provisions of this code.

**407.2 Corridors continuity and separation.** Corridors in occupancies in Group I-2 and I-2.1 shall be continuous to the exits and shall be separated from other areas in accordance with Section 407.3 except spaces conforming to Sections 407.2.1 through 407.2.4.

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

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

**407.2.2 Nurses' stations.** Spaces for doctors' and nurses' charting, communications and related clerical areas shall be permitted to be open to, or located within the corridor, provided the required construction along the perimeter of the corridor is maintained. Construction of nurses' stations or portions of nurses' stations, within the envelope of the corridor is not required to be fire-resistive rated.

*Nurses' stations in new and existing facilities see the California Code of Regulations, Title 19, Division 1, Chapter 1, Subchapter 1, Article 3, Section 3.11(d) for storage and equipment requirements.*

*In detention or secure mental health facilities, the provisions above applies to enclosed nurses' stations within the corridor.*

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

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

**407.2.4 Gift shops.** Gift shops and associated storage that are less than 500 square feet (455 m<sup>2</sup>) in area shall be permitted to be open to the corridor where such spaces are constructed as required for corridors.

**407.3 Corridor wall construction.** Corridor walls shall be constructed as fire partitions in accordance with Section 708.

**407.3.1 Corridor doors.** Corridor doors, other than those in a wall required to be rated by Section 509.4 or for the enclosure of a vertical opening or an exit, shall not have a required fire protection rating and shall not be required to be equipped with self-closing or automatic-closing devices, but shall provide an effective barrier to limit the transfer of smoke and shall be equipped with positive latching. Roller latches are not permitted. Other doors shall conform to Section 716.5. *In Group I-2 Occupancies, self-closing or automatic-closing devices are not required on corridor doors to patient sleeping rooms, treatment rooms, and offices located in areas specified in Sections 1224 and 1225, excluding offices specified in Sections 1224.21 and 1225.8.*

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

**Exception:** *Doors may swing into required width of corridors in I-3 facilities as long as 44" clear is maintained with any one door open 90 degrees and clear corridor widths required in Chapter 12 can be maintained with doors open 180 degrees.*

**407.3.2 Glazing.** *In fully sprinklered buildings, fixed fully tempered or laminated glass in wood or metal frames may be used in corridor walls, provided the glazed area does not exceed 25 percent of the areas of the corridor wall of the room. The total area of glass in corridor walls is not limited when the glazing is fixed 1/4-inch-thick (6.4 mm) wired glass in steel frames and the size of individual glazed panel does not exceed 1,296 square inches (0.836 m<sup>2</sup>).*

|| **407.4 Means of egress.** Group I-2 and I-2.1 occupancies shall be provided with means of egress complying with Chapter 10 and Sections 407.4.1 through 407.4.3.

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

**Exceptions:**

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

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

**Exceptions:**

1. This section shall not apply to rooms in psychiatric treatment and similar care areas.
2. Locking arrangements in accordance with Section 1008.1.9.6.

**407.4.1.2 Basement exits.** *All rooms below grade shall have not less than one exit access that leads directly to an exterior exit door opening directly to an exit discharge at grade plane or the public way.*

|| **407.4.2 Travel distance.** The travel distance between any point in a Group I-2 or I-2.1 occupancy sleeping room and an exit access door in that room shall be not greater than 50 feet (15 240 mm).

|| **407.4.3 Group I-2 care suites.** Care suites in Group I-2 or I-2.1 shall comply with Sections 407.4.3.1 through 407.4.3.4 and either Section 407.4.3.5 or 407.4.3.6.

**407.4.3.1 Exit access through care suites.** Exit access from all other portions of a building not classified as a care suite shall not pass through a care suite. In a care suite required to have more than one exit, one exit access is permitted to pass through an adjacent care suite provided all of the other requirements of Sections 407.4 and 1014.2 are satisfied.

**407.4.3.2 Separation.** Care suites shall be separated from other portions of the building by *not less than a one-hour fire barrier* complying with Section 707. *Each suite of rooms shall be separated from the remainder of the building by not less than a one-hour fire barrier.*

**407.4.3.3 One intervening room.** For rooms other than sleeping rooms located within a care suite, exit access travel from the care suite shall be permitted through one intervening room where the travel distance to the exit access door from the care suite is not greater than 100 feet (30 480 mm).

**407.4.3.4 Two intervening rooms.** For rooms other than sleeping rooms located within a care suite, exit access travel within the care suite shall be permitted through two intervening rooms where the travel distance to the exit access door from the care suite is not greater than 50 feet (15 240 mm).

**407.4.3.5 Care suites containing sleeping room areas.** Sleeping rooms shall be permitted to be grouped into care suites with one intervening room if one of the following conditions is met:

1. The intervening room within the care suite is not used as an exit access for more than eight care recipient beds.
2. The arrangement of the care suite allows for direct and constant visual supervision by care providers.

**407.4.3.5.1 Area.** Care suites containing sleeping rooms shall be not greater than 5,000 square feet (465 m<sup>2</sup>) in area.

**407.4.3.5.2 Exit access.** Any sleeping room, or any care suite that contains sleeping rooms, of more than 1,000 square feet (93 m<sup>2</sup>) shall have no fewer than two exit access doors from the care suite located in accordance with Section 1015.2.

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

**407.4.3.6 Care suites not containing sleeping rooms.** Areas not containing sleeping rooms, but only treatment areas and the associated rooms, spaces or circulation space shall be permitted to be grouped into care suites and shall conform to the limitations in Section 407.4.3.6.1 and 407.4.3.6.2.

**407.4.3.6.1 Area.** Care suites of rooms, other than sleeping rooms, shall have an area not greater than 10,000 square feet (929 m<sup>2</sup>).

**407.4.3.6.2 Exit access.** Care suites, other than sleeping rooms, with an area of more than 2,500 square feet (232 m<sup>2</sup>) shall have no fewer than two exit access doors from the care suite located in accordance with Section 1015.2.

**407.5 Smoke barriers.** Smoke barriers shall be provided to subdivide every story used by persons receiving care, treatment or sleeping and to divide other stories with an occupant load of 50 or more persons, into no fewer than two smoke compartments. Such stories shall be divided into smoke compartments with an area of not more than 22,500 square feet (2092 m<sup>2</sup>) and the travel distance from any point in a smoke compartment to a smoke barrier door shall be not greater than

200 feet (60 960 mm). The smoke barrier shall be in accordance with Section 709.

**Exceptions:**

1. This requirement shall not apply to Group I-2.1 less than 10,000 ft<sup>2</sup> (929 m<sup>2</sup>).
2. An area in an adjoining occupancy shall be permitted to serve as a smoke compartment for a Group I-2.1 facility if the following criteria are met:
  - 2.1. The separating wall and both compartments meet the requirements of 407.5.
  - 2.2. The Group I-2.1 is less than 22,500 ft<sup>2</sup> (2100 m<sup>2</sup>).
  - 2.3. Access from the Group I-2.1 to the other occupancy is unrestricted.

**407.5.1 Refuge area.** Refuge areas shall be provided within each smoke compartment. The size of the refuge area shall accommodate the occupants and care recipients from the adjoining smoke compartment. Where a smoke compartment is adjoined by two or more smoke compartments, the minimum area of the refuge area shall accommodate the largest occupant load of the adjoining compartments. The size of the refuge area shall provide the following:

1. Not less than 30 net square feet (2.8 m<sup>2</sup>) for each care recipient confined to bed or litter.
2. Not less than 6 square feet (0.56 m<sup>2</sup>) for each ambulatory care recipient not confined to bed or litter and for other occupants.

Areas or spaces permitted to be included in the calculation of refuge area are corridors, sleeping areas, treatment rooms, lounge or dining areas and other low-hazard areas.

**407.5.2 Independent egress.** At least two means of egress shall be provided from each smoke compartment created by smoke barriers. Means of egress may pass through adjacent compartments provided it does not return through the smoke compartment from which means of egress originated.

**407.5.3 Horizontal assemblies.** Horizontal assemblies supporting smoke barriers required by this section shall be designed to resist the movement of smoke and shall comply with Section 711.9.

**[F] 407.6 Automatic sprinkler system.** Every facility as specified herein wherein more than six clients or patients are housed or cared for on the premises on a 24-hour per-day-basis shall have installed and maintained in an operable condition in every building or portion thereof where clients or patients are housed, an automatic sprinkler system of a type approved by the state fire marshal. The provisions of this subsection shall apply to every person, firm or corporation establishing, maintaining or operating a hospital, children's home, children's nursery or institution, or a home or institution for the care of aged or persons with dementia or other

cognitive impairments, or any institution for persons with mental illness or persons with developmental disabilities and any nursing or convalescent home, and to any state-owned or state-occupied building used for any of the types of facilities specified herein.

**Exceptions:**

1. This section shall not apply to homes or institutions for the 24-hour-per-day care of ambulatory children if all of the following conditions are satisfied:
  - 1.1. The buildings or portions thereof in which children are housed are not more than two stories in height and are constructed and maintained in accordance with regulations adopted by the state fire marshal.
  - 1.2. The buildings or portions thereof housing more than six such children shall have installed and maintained in an operable condition therein, a fire alarm system of a type approved by the state fire marshal. Such system shall be activated by detectors responding to invisible particles of combustion other than heat, except that detectors used in closets, usable under-floor areas, storage rooms, bathrooms, attached garages, attics, plenums, laundry rooms and rooms of similar use, may be heat-responsive devices.
  - 1.3. The building or portions thereof do not house persons with mental illness or children with developmental disabilities.
2. This section shall not apply to any one-story building or structure of an institution or home for the care of the aged providing 24-hour-per-day care if such building or structure is used or intended to be used for the housing of no more than six ambulatory aged persons. Such buildings or institutions shall have installed and maintained in an operable condition herein a fire alarm system of a type approved by the state fire marshal. Such system shall be activated by detectors responding to either visible or invisible particles of combustion other than heat, except that detectors used in closets, usable under-floor areas, storage rooms, bathrooms, attached garages, attics, plenums, laundry rooms and rooms of similar use, may be heat-responsive devices.
3. This section shall not apply to occupancies or any alterations thereto conforming to the construction provisions of this exception which were under construction or in existence on March 4, 1972. "Under construction" as used in this exception shall mean that actual work had been performed on the construction site and shall not be construed to mean that the hospital, home, nursery, institution, sanitarium or any portion thereof, was or is in the planning stage. The provisions of this exception shall apply to those buildings or structures having bearing walls

and structural flame protected in accordance with the provisions of Column Type 1A of Table 601.

4. In detention facilities where inmates are not restrained.

The provisions of this section shall not apply to any facility used to house six or less persons on the premises.

**407.6.1** When a new addition is to be made to an unsprinklered building or structure as permitted by this subsection, such new addition shall be sprinklered as required by this section and shall be separated from the existing building or structures by not less than a two-hour fire-resistive fire barrier.

When a sprinkler system is added to an existing unsprinklered building or structure, the sprinklered area(s) shall be separated from the remainder of the building by not less than a one-hour fire-resistive fire barrier. The provisions of this section do not apply to any facility used to house six or less persons on the premises.

**[F] 407.7 Fire alarm system.** A fire alarm system shall be provided in accordance with Section 907.2.6.

**[F] 407.8 Automatic fire detection.** See Section 907.2.6.2.

**407.9 Secured yards.** Grounds are permitted to be fenced and gates therein are permitted to be equipped with locks, provided that safe dispersal areas having 30 net square feet (2.8 m<sup>2</sup>) for bed and litter care recipients and 6 net square feet (0.56 m<sup>2</sup>) for ambulatory care recipients and other occupants are located between the building and the fence. Such provided safe dispersal area shall be located not less than 50 feet (15 240 mm) from the building they serve. Each safe dispersal area shall have a minimum of two exits. The aggregate clear width of exits from a safe dispersal area shall be determined on the basis of not less than one exit unit of 22 inches (559 mm) for each 500 persons to be accommodated, and no exit shall be less than 44 inches (1118 mm) in width. Gates shall not be installed across corridors or passageways leading to such dispersal areas unless they comply with egress requirements. Keys to gate locks shall be provided in accordance with the California Fire Code.

**407.10 Hyperbaric facilities.** Hyperbaric facilities in Group I-2 or I-2.1 occupancies shall meet the requirements contained in Chapter 20 of NFPA 99.

#### **407.11 Special Hazards.**

**407.11.1** Storage and handling of flammable, combustible liquids and hazardous materials shall be in accordance with the California Fire Code.

**407.11.2** All exterior openings in a boiler room or room containing central heating equipment, if located below openings in another story, or if less than 10 feet (3048 mm) from other doors or windows of the same building, shall be protected by a fire assembly having a three-fourths-hour fire protection rating.

**407.11.3 Safety padding.** See Sections 308.1 and 408.14.

**407.11.4 Floor Surfaces.** Rooms occupied by patients whose personal liberties are restrained shall have non-combustible floor surfaces see Sections 308.1 and 804.4.2.

## **SECTION 408 GROUP I-3**

**408.1 General.** Occupancies in Group I-3 shall comply with the provisions of Sections 408.1 through 408.11 and other applicable provisions of this code (see Section 308.5).

**408.1.1 Definitions.** The following terms are defined in Chapter 2:

**CELL.**

**CELL COMPLEX.**

**CELL TIERS.**

**CENTRAL CONTROL BUILDING.**

**DAY ROOM.**

**DORMITORY.**

**HOLDING FACILITY.**

**HOUSING UNIT.**

**RESTRAINT.**

**SALLYPORT.**

**SMALL MANAGEMENT YARD.**

**408.1.2 Construction.** Group I-3 Occupancies shall be housed in buildings of Type IA or Type IB.

**Exception:** Such occupancies may be housed in one-story buildings of Type IIA, Type IIIA or Type VA construction provided the floor area does not exceed 5,200 square feet (483m<sup>2</sup>) between fire walls of two-hour fire-resistive construction with openings protected by fire assemblies having 1- and 1½-hour fire-protection rating.

**408.1.2.1 Nonbearing walls and partitions interior.** Nonbearing cell or dormitory walls within cell complexes shall be of noncombustible construction.

**408.1.2.2 Intervening spaces.** Common rooms and spaces within Group I-3 occupancies can be considered an intervening space in accordance with Section 1014.2, and not considered a corridor, when they meet any of the following:

1. The inmate and/or staff movement within cell complexes, medical housing wings and mental health housing wings of Type I construction.
2. Areas within any temporary holding area of non-combustible construction.
3. Areas within secure mental health treatment facilities of noncombustible construction.

**408.1.2.3 Courthouse holding facilities.** Group I-3 courthouse holding facilities shall be considered a separate and distinct building from the remaining courthouse building for the purpose of determining the type of construction where all of the following conditions are met:

1. 2-hour fire barriers in accordance with Section 707 and 2-hour horizontal assemblies in accordance with Section 711 are provided to separate

the courthouse holding facility from all other portions of the courthouse building.

2. Any of the structure used to support courthouse holding facilities meets the requirements for the Group I-3 portion of the building.
3. Each courthouse holding facility located above the first story is less than 1,000 square feet in area, and is designed to hold 10 or less in-custody defendants.
4. Courthouse holding facilities located above the first story containing an internal stairway discharging to the main courthouse holding facility at the first story or basement.
5. Additional exits from the courthouse holding facility located above the first story shall be permitted to exit through the courtrooms.
6. The main courthouse holding facility located on the first story or basement has at least one exit directly to the exterior and additional means of egress shall be permitted to pass through a 1-hour corridor or lobby in the courthouse building.

**408.1.2.4 Horizontal building separation for combined Group I-3/Group B occupancy.** A Group B Administration building one story in height shall be permitted to be located above a Group I-3 (or Group I-3/I-2) housing/treatment building that is one story above grade and shall be classified as a separate and distinct building for the purpose of determining the type of construction, and shall be considered a separate fire area, where all of the following conditions are met:

1. A 3-hour floor-ceiling assembly below the administration building is constructed as a horizontal assembly in accordance with Section 711.
2. Interior shafts for stairs, elevators and mechanical systems complete the 3-hour separation between the Group B and Group I-3 (or Group I-3/I-2).
3. The Group I-3 occupancy (or Group I-3/I-2 occupancies, correctional medical and mental health uses) below is minimum Type I-B construction with 2-hour fire resistive rated exterior walls.
4. No unprotected openings are allowed in lower roofs within 10 feet of unprotected windows in the upper floor.
5. The Group B building above is of noncombustible construction and equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.
6. The Group B occupancy building above has all required means of egress capable of discharging directly to the exterior to a safe dispersal area.

**408.1.2.5 Temporary holding area.** In buildings protected with automatic sprinklers, corridor serving temporary holding rooms shall be one hour fire resistance

rated when the temporary holding occupant load is greater than 20.

**408.1.2.6 Temporary holding facilities.** Temporary holding facilities with nine or fewer persons under restraint may be classified as Group B when located in a buildings complying with all of the following conditions:

1. The building shall be protected throughout with a monitored automatic sprinkler system installed in accordance with Section 903.3.1.1.
2. The building shall protected with a automatic fire alarm system with notification appliances throughout the holding facility in accordance with Section 907.2.
3. The building shall be constructed of Type I, IIA, IIIA or VA construction.

**408.1.2.7 Secure interview rooms.** Secure Interview Rooms used for law enforcement shall be permitted to locked, and shall not be classified as Group I-3 occupancies where all of the following conditions are met:

1. A monitored automatic sprinkler system shall be provided throughout buildings and portions thereof including secure interview rooms. The automatic sprinkler system shall comply with Section 903.1.1.
2. Secure interview rooms shall be located in non-combustible construction.
3. Secure interview rooms have glazed or barred openings with direct, continuous observation from law enforcement personnel who have a means to open the secure interview room.
4. Not more than 6 occupants in secure interview rooms shall be located in the same fire area.
5. An automatic smoke detection system shall be installed within secure interview rooms and mechanical and electrical rooms.

**408.2 Other occupancies.** Buildings or portions of buildings in Group I-3 occupancies where security operations necessitate the locking of required means of egress shall be permitted to be classified as a different occupancy. Occupancies classified as other than Group I-3 shall meet the applicable requirements of this code for that occupancy provided provisions are made for the release of occupants at all times.

Means of egress from detention and correctional occupancies that traverse other use areas shall, as a minimum, conform to requirements for detention and correctional occupancies.

**Exception:**

1. It is permissible to exit through a horizontal exit into other contiguous occupancies that do not conform to detention and correctional occupancy egress provisions but that do comply with requirements set forth in the appropriate occupancy, as long as the occupancy is not a Group H use.

ment building wiring without a disconnecting switch other than as required for overcurrent protection.

**Exceptions:**

1. Where there is no commercial power supply, the carbon monoxide alarm may be solely battery operated.
2. Other power sources recognized for use by NFPA 720.

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

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

Carbon monoxide alarms required by Section 420.6.1 shall be installed and maintained in the following locations:

1. Outside of each separate dwelling unit sleeping area in the immediate vicinity of the bedroom(s).
2. On every level of a dwelling unit including basements.
3. Group R-1 Occupancies only.
  - a. On the ceiling of every sleeping unit or other locations within the sleeping unit in compliance with the manufacturer's installation instructions.

**420.6.1.5 Multiple-purpose alarms.** Carbon monoxide alarms combined with smoke alarms shall comply with Section 420.6, all applicable standards, and requirements for listing and approval by the Office of the State Fire Marshal, for smoke alarms.

**420.6.1.6 Visible alarms.** In buildings containing covered multifamily dwellings as defined in Chapter 2, with fuel-burning appliances and/or attached garages as described in Section 420.6.1, all required carbon monoxide alarms shall be equipped with the capability to support visible alarm notification in accordance with NFPA 720.

**420.6.2 Carbon monoxide alarms in existing dwellings or sleeping units.** Existing Group R occupancies located in a building with a fossil fuel-burning heater or appliance, fireplace or an attached garage shall have single station carbon monoxide alarms installed in accordance with this section. The carbon monoxide alarms shall be listed as complying with UL 2034 and be installed and maintained in accordance with NFPA 720 and the manufacturer's instructions.

An open parking garage, as defined in the California Building Code, or an enclosed parking garage ventilated

in accordance with the California Mechanical Code shall not be deemed to be an attached garage.

**Exception:** Sleeping units or dwelling units that do not themselves contain a fossil fuel-burning heater or appliance, fireplace or an attached garage, but that are located in a building with a fossil fuel-burning appliance or an attached garage, need not be provided with single station carbon monoxide alarms provided that:

1. The sleeping unit or dwelling unit is located more than one story above or below any story that contains a fuel-burning appliance or an attached garage; and
2. The sleeping unit or dwelling unit is not connected by duct work or ventilation shafts to any room containing a fuel-burning appliance or to an attached garage; and
3. The building is equipped with a common area carbon monoxide detection system, carbon monoxide detector or combination detector in the same space as permanently installed fuel-burning appliance(s).

**420.6.2.1 Carbon monoxide detection systems.** Carbon monoxide detection systems that include carbon monoxide detectors and audible notification appliances, installed and maintained in accordance with this section for carbon monoxide alarms and NFPA 720 shall be permitted. The carbon monoxide detectors shall be listed as complying with UL 2075.

**420.6.2.2 Existing dwellings or sleeping units requiring a permit.** When a permit is required for alterations, repairs or additions with a total cost or calculated valuation exceeding one thousand dollars (\$1,000), existing dwellings or sleeping units with a fossil fuel-burning heater or appliance, fireplace or an attached garage shall have a carbon monoxide alarm installed in accordance with Section 420.6.2. Carbon monoxide alarms shall only be required in the specific dwelling unit or sleeping unit for which the permit was obtained.

**420.6.2.3 Existing dwellings or sleeping units not requiring a permit (no construction taking place).** Pursuant to Health and Safety Code Section 17926, a carbon monoxide alarm(s) shall be installed in every existing dwelling unit or sleeping unit with a fossil fuel-burning heater or appliance, fireplace or an attached garage as follows:

**420.6.2.3.1 Carbon monoxide alarms on or after July 1, 2011.** Carbon monoxide alarms shall be installed in accordance with Section 420.6.2 in existing detached single-family dwellings or sleeping units intended for human occupancy that have a fossil fuel-burning heater or appliance, fireplace or an attached garage. Carbon monoxide alarms in existing buildings are permitted to be solely battery operated or plug-in type with battery back-up in areas where no construction is taking place.

**420.6.2.3.2 Carbon monoxide alarms on or after January 1, 2013.** Carbon monoxide alarms shall be

installed in accordance with Section 420.6.2 in all other existing dwelling units intended for human occupancy as defined in Health and Safety Code Section 13262(b) that have a fossil fuel-burning heater or appliance, fireplace or an attached garage. Carbon monoxide alarms in existing buildings are permitted to be solely battery operated or plug-in type with battery back-up in areas where no construction is taking place.

**Note:** See Section 420.6.2.3.3, which extends the required carbon monoxide alarms installation date for existing hotel and motel dwelling units intended for human occupancy.

**420.6.2.3.3 Carbon monoxide alarms on or after January 1, 2016.** Carbon monoxide alarms shall be installed in accordance with Section 420.6.2 in existing hotel and motel dwelling units intended for human occupancy as defined in Health and Safety Code Section 13262(b) that have a fossil fuel-burning heater or appliance, fireplace or an attached garage. Carbon monoxide alarms in existing buildings are permitted to be solely battery operated or plug-in type with battery back-up in areas where no construction is taking place.

**420.6.2.4 Power supply.** Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and shall be equipped with battery back-up. Alarm wiring shall be directly connected to the permanent building wiring without a disconnecting switch other than as required for overcurrent protection.

**Exceptions:**

1. In existing dwelling units where there is no commercial power supply, the carbon monoxide alarm may be solely battery operated.
2. In existing dwelling units, a carbon monoxide alarm is permitted to be solely battery operated or plug-in with a battery backup where repairs or alterations do not result in the removal of wall and ceiling finishes.
3. In existing dwelling units, a carbon monoxide alarm is permitted to be solely battery operated or plug-in with battery backup where repairs or alterations are limited to the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.
4. In existing dwelling units, a carbon monoxide alarm is permitted to be solely battery operated or plug-in with battery backup when work is limited to the installation, alteration or repair of plumbing or mechanical systems or the installation, alteration or repair of electrical systems, which do not result in the removal of interior wall or ceiling finishes exposing the structure.

5. Other power sources recognized for use by NFPA 720.

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

**Exceptions:**

1. In existing dwelling units or within sleeping units, interconnection is not required where repairs do not result in the removal of wall and ceiling finishes and no previous method for interconnection existed.
2. In existing dwelling units, carbon monoxide alarms are not required to be interconnected where no construction is taking place.
3. In existing dwelling units, carbon monoxide alarms are not required to be interconnected where repairs or alterations are limited to the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.
4. In existing dwelling units, carbon monoxide alarms are not required to be interconnected when work is limited to the installation, alteration or repair of plumbing or mechanical systems or the installation, alteration or repair of electrical systems, which do not result in the removal of interior wall or ceiling finishes exposing the structure.

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

Carbon monoxide alarms required by Section 420.6.2 shall be installed and maintained in the following locations:

1. Outside of each separate dwelling unit sleeping area in the immediate vicinity of the bedroom(s).
2. On every level of a dwelling unit including basements.
3. Group R-1 Occupancies only.
  - a. On the ceiling of every sleeping unit or other locations within the sleeping unit in compliance with the manufacturer's installation instructions.

**420.7 (HCD 1) Construction waste management.** Recycle and/or salvage for reuse a minimum of 50 percent of the non-hazardous construction and demolition waste in accordance with the California Green Building Standards Code (CAL-Green), Chapter 4, Division 4.4.

#### 420.8 Special provisions for residential hotels. (HCD 1 & HCD I-AC)

**420.8.1 Locking mail receptacles.** A locking mail receptacle for each residential unit shall be provided in all residential hotels pursuant to the requirements specified in Health and Safety Code Section 17958.3.

**420.9 Licensed 24-hour care facilities in a Group R-2.1, R-3.1 or R-4 occupancy.** See Section 425 for Special Provisions for licensed 24-hour care facilities in a Group R-2.1, R-3.1, or R-4 occupancy.

**420.10 Existing Group R Occupancies.** See Chapter 34.

### SECTION 421 HYDROGEN FUEL GAS ROOMS

**[F] 421.1 General.** Where required by the *California Fire Code*, hydrogen fuel gas rooms shall be designed and constructed in accordance with Sections 421.1 through 421.8.

**[F] 421.2 Definitions.** The following terms are defined in Chapter 2:

#### GASEOUS HYDROGEN SYSTEM.

##### HYDROGEN FUEL GAS ROOM.

**[F] 421.3 Location.** Hydrogen fuel gas rooms shall not be located below grade.

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

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

**[F] 421.4.2 Windows.** Operable windows in interior walls shall not be permitted. Fixed windows shall be permitted where in accordance with Section 716.

**[F] 421.5 Exhaust ventilation.** Hydrogen fuel gas rooms shall be provided with mechanical exhaust ventilation in accordance with the applicable provisions of the *California Mechanical Code*.

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

**[F] 421.6.1 System design.** The flammable gas detection system shall be listed for use with hydrogen and any other flammable gases used in the room. The gas detection system shall be designed to activate when the level of flammable gas exceeds 25 percent of the lower flammability limit (LFL) for the gas or mixtures present at their anticipated temperature and pressure.

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

**[F] 421.6.3 Operation.** Activation of the gas detection system shall result in all of the following:

1. Initiation of distinct audible and visual alarm signals both inside and outside of the fuel gas room.
2. Activation of the mechanical exhaust ventilation system.

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

**[F] 421.7 Explosion control.** Explosion control shall be provided where required by Section 414.5.1.

**[F] 421.8 Standby power.** Mechanical ventilation and gas detection systems shall be connected to a standby power system in accordance with Chapter 27.

### SECTION 422 AMBULATORY CARE FACILITIES

**422.1 General.** Occupancies classified as ambulatory care facilities shall comply with the provisions of Sections 422.1 through 422.7 and other applicable provisions of this code.

**422.2 Separation.** Ambulatory care facilities where the potential for four or more care recipients are to be incapable of self-preservation at any time, whether rendered incapable by staff or staff accepted responsibility for a care recipient already incapable, shall be separated from adjacent spaces, corridors or tenants with a fire partition installed in accordance with Section 708.

**422.3 Smoke compartments.** Where the aggregate area of one or more ambulatory care facilities is greater than 10,000 square feet (929 m<sup>2</sup>) on one story, the story shall be provided with a smoke barrier to subdivide the story into no fewer than two smoke compartments. The area of any one such smoke compartment shall be not greater than 22,500 square feet (2092 m<sup>2</sup>). The travel distance from any point in a smoke compartment to a smoke barrier door shall be not greater than 200 feet (60 960 mm). The smoke barrier shall be installed in accordance with Section 709 with the exception that smoke barriers shall be continuous from outside wall to an outside wall, a floor to a floor, or from a smoke barrier to a smoke barrier or a combination thereof.

**422.4 Refuge area.** Not less than 30 net square feet (2.8 m<sup>2</sup>) for each nonambulatory care recipient shall be provided within the aggregate area of corridors, care recipient rooms, treatment rooms, lounge or dining areas and other low-hazard areas within each smoke compartment. Each occupant of an ambulatory care facility shall be provided with access to a refuge area without passing through or utilizing adjacent tenant spaces.

**422.5 Independent egress.** A means of egress shall be provided from each smoke compartment created by smoke barriers without having to return through the smoke compartment from which means of egress originated.

[F] **422.6 Automatic sprinkler systems.** Automatic sprinkler systems shall be provided for ambulatory care facilities in accordance with Section 903.2.2.

[F] **422.7 Fire alarm systems.** A fire alarm system shall be provided for ambulatory care facilities in accordance with Section 907.2.2.1.

**SECTION 423  
STORM SHELTERS**

**423.1 General.** In addition to other applicable requirements in this code, storm shelters shall be constructed in accordance with ICC-500.

**423.1.1 Scope.** This section applies to the construction of storm shelters constructed as separate detached buildings or constructed as safe rooms within buildings for the purpose of providing safe refuge from storms that produce high winds, such as tornados and hurricanes. Such structures shall be designated to be hurricane shelters, tornado shelters, or combined hurricane and tornado shelters.

**423.2 Definitions.** The following terms are defined in Chapter 2:

**STORM SHELTER.**

**Community storm shelter.**

**Residential storm shelter.**

**SECTION 424  
CHILDREN'S PLAY STRUCTURES**

**424.1 Children's play structures.** Children's play structures installed inside all occupancies covered by this code that exceed 10 feet (3048 mm) in height and 150 square feet (14 m<sup>2</sup>) in area shall comply with Sections 424.2 through 424.5.

**424.2 Materials.** Children's play structures shall be constructed of noncombustible materials or of combustible materials that comply with the following:

1. Fire-retardant-treated wood complying with Section 2303.2.
2. Light-transmitting plastics complying with Section 2606.
3. Foam plastics (including the pipe foam used in soft-contained play equipment structures) having a maximum heat-release rate not greater than 100 kilowatts when tested in accordance with UL 1975 or when tested in accordance with NFPA 289, using the 20 kW ignition source.
4. Aluminum composite material (ACM) meeting the requirements of Class A interior finish in accordance with Chapter 8 when tested as an assembly in the maximum thickness intended for use.
5. Textiles and films complying with the flame propagation performance criteria contained in NFPA 701.
6. Plastic materials used to construct rigid components of soft-contained play equipment structures (such as tubes, windows, panels, junction boxes, pipes, slides and decks) exhibiting a peak rate of heat release not exceeding 400 kW/ m<sup>2</sup> when tested in accordance with

ASTM E 1354 at an incident heat flux of 50 kW/m<sup>2</sup> in the horizontal orientation at a thickness of 6 mm.

7. Ball pool balls, used in soft-contained play equipment structures, having a maximum heat-release rate not greater than 100 kilowatts when tested in accordance with UL 1975 or when tested in accordance with NFPA 289, using the 20 kW ignition source. The minimum specimen test size shall be 36 inches by 36 inches (914 mm by 914 mm) by an average of 21 inches (533 mm) deep, and the balls shall be held in a box constructed of galvanized steel poultry netting wire mesh.
8. Foam plastics shall be covered by a fabric, coating or film meeting the flame propagation performance criteria of NFPA 701.
9. The floor covering placed under the children's play structure shall exhibit a Class I interior floor finish classification, as described in Section 804, when tested in accordance with NFPA 253.

[F] **424.3 Fire protection.** Children's play structures shall be provided with the same level of approved fire suppression and detection devices required for other structures in the same occupancy.

**424.4 Separation.** Children's play structures shall have a horizontal separation from building walls, partitions and from elements of the means of egress of not less than 5 feet (1524 mm). Children's playground structures shall have a horizontal separation from other children's play structures of not less than 20 feet (6090 mm).

**424.5 Area limits.** Children's play structures shall be not greater than 300 square feet (28 m<sup>2</sup>) in area, unless a special investigation, acceptable to the building official, has demonstrated adequate fire safety.

**SECTION 425  
SPECIAL PROVISIONS FOR LICENSED 24-HOUR  
CARE FACILITIES IN A GROUP R-2.1, R-3.1, R-4  
[SFM]**

**425.1 Scope.** *The provisions of this section shall apply to 24-hour care facilities in a Group R-2.1, R-3.1 or R-4 occupancy licensed by a governmental agency.*

**425.2 General.** *The provisions in this section shall apply in addition to general requirements in this code.*

**425.2.1 Restraint shall not be practiced in a Group R-2.1, R-3.1 or R-4 Occupancies.**

**Exception:** *Occupancies which meet all the requirements for a Group I-3 Occupancy.*

**425.2.2 Pursuant to Health and Safety Code Section 13133, regulations of the state fire marshal pertaining to occupancies classified as Residential Facilities (RF) and Residential Care Facilities for the Elderly (RCFE) shall apply uniformly throughout the state and no city, county, city and county, including a charter city or charter county, or fire protection district shall adopt or enforce any ordinance or local rule or regulation relating to fire and panic safety which is inconsistent with these regulations. A city, county, city and county, including a charter city or charter**

county may pursuant to Health and Safety Code Section 13143.5, or a fire protection district may pursuant to Health and Safety Code Section 13869.7, adopt standards more stringent than those adopted by the state fire marshal that are reasonably necessary to accommodate local climate, geological or topographical conditions relating to roof coverings for Residential Care Facilities for the Elderly.

**Exception:** Local regulations relating to roof coverings in facilities licensed as a residential care facility for the elderly (RCFE) per Health and Safety Code Section 13133.

#### 425.3 Building height and area provisions.

**425.3.1** Group R-2.1, R-3.1 and R-4 shall be constructed in accordance with Table 503.

**425.3.2 Limitations six or less clients.** Group R-3.1 occupancies where nonambulatory clients are housed above the first story, having more than two stories in height or having more than 3,000 square feet (279 m<sup>2</sup>) of floor area above the first story shall not be of less than one-hour fire-resistance-rated construction throughout.

In Group R-3.1 occupancies housing a bedridden client, the client sleeping room shall not be located above or below the first story.

**Exception:** Clients who become bedridden as a result of a temporary illness as defined in Health and Safety Code Sections 1566.45, 1568.0832 and 1569.72. A temporary illness is an illness, which persists for 14 days or less. A bedridden client may be retained in excess of the 14 days upon approval by the Department of Social Services and may continue to be housed on any story in a Group R-3.1 occupancy classified as a licensed residential facility.

Every licensee admitting or retaining a bedridden resident shall, within 48 hours of the resident's admission or retention in the facility, notify the local fire authority with jurisdiction of the estimated length of time the resident will retain his or her bedridden status in the facility.

**425.3.3 Limitations seven or more clients.** Group R-4 occupancies where nonambulatory clients are housed above the first story and there is more than 3,000 square feet (279 m<sup>2</sup>) of floor area above the first story or housing more than 16 clients above the first story shall be constructed of not less than one-hour fire-resistance-rated construction throughout.

**425.3.4 Nonambulatory elderly clients.** Group R-4 occupancies housing nonambulatory elderly clients shall be of not less than one-hour fire-resistance-rated construction throughout.

#### 425.4 Type of construction provisions.

**425.4.1** Group R-2.1, occupancies are not permitted in nonfire-resistance-rated construction, see Health and Safety Code Section 13131.5.

#### 425.5 Fire-resistance-rated construction provisions.

**425.5.1 Smoke barriers required.** Group R-2.1 and R-4 occupancies licensed as a Residential Care Facility (RCF) with individual floor areas over 6,000 square feet (557 m<sup>2</sup>) per floor, shall be provided with smoke barriers, constructed in accordance with Section 709.

Group R-2.1 occupancies housing bedridden clients shall be provided with smoke barriers constructed in accordance with Section 709 regardless of the number of clients.

When smoke barriers are required, the area within a smoke compartment shall not exceed 22,500 square feet (2090 m<sup>2</sup>) nor shall its travel distance exceed 200 feet (60 960 mm). Such smoke barriers shall divide the floor as equally as possible.

**425.5.2 Smoke partitions.** Group R-2.1 occupancies where smoke partitions are required, framing shall be covered with noncombustible materials having an approved thermal barrier with an index of not less than 15 in accordance with FM 4880, UL 1040, NFPA 286 or UL 1715.

**425.5.3 Independent egress.** At least two means of egress shall be provided from each smoke compartment created by smoke barriers. Means of egress may pass through adjacent compartments provided it does not return through the smoke compartment from which means of egress originated.

#### 425.6 Interior finish provisions.

**425.6.1 Interior wall and ceiling finish.** Group R-3.1 occupancies housing a bedridden client shall comply with interior wall and ceiling finish requirements specified for Group I-2 occupancies in Table 803.9.

**425.6.2 Safety padding.** Padding material used on walls, floors and ceilings in Group I and R-2.1 occupancies shall be of an approved type tested in accordance with the procedures established by State Fire Marshal Standard 12-8-100, Room Fire Test for Wall and Ceiling Materials, California Code of Regulations, Title 24, Part 12.

#### 425.7 Fire protection system provisions.

**425.7.1 Automatic sprinkler systems in Group R-2.1, R-3.1 and R-4 occupancies.** An automatic sprinkler system shall be installed where required in Section 903.

**425.7.2 Fire alarm systems in Group R-2.1 and R-4 occupancies.** An approved fire alarm system shall be installed where required in Section 907.

**425.7.3 Smoke alarms in Groups R-2.1, R-3.1 and R-4 occupancies.** Smoke alarms shall be installed where required in Section 907.2.11.1.

**425.7.4 Hearing impaired.** See Section 907.5.2.3.

#### 425.8 Means of egress provisions.

**425.8.1 General.** In addition to the general means of egress requirements of Chapter 10, this section shall apply to Group R-2.1, R-3.1 and R-4 occupancies.

**425.8.2 Number of exits.**

**425.8.2.1** Group R-2.1, R-3.1 and R-4 occupancies shall have a minimum of two exits.

**Exception:** Ancillary use areas or occupancies shall have egress as required by Section 1021.

#### **425.8.3 Egress arrangements.**

**425.8.3.1** Egress through adjoining dwelling units shall not be permitted.

**425.8.3.2 Group R-3.1 occupancies housing non-ambulatory clients.** In a Group R-3.1 occupancy, bedrooms used by nonambulatory clients shall have access to at least one of the required exits which shall conform to one of the following:

1. Egress through a hallway or area into a bedroom in the immediate area which has an exit directly to the exterior and the corridor/hallway is constructed consistent with the dwelling unit interior walls. The hallway shall be separated from common areas by a solid wood door not less than 1<sup>3</sup>/<sub>8</sub> inch (35 mm) in thickness, maintained self-closing or shall be automatic closing by actuation of a smoke detector installed in accordance with Section 715.4.8.
2. Egress through a hallway which has an exit directly to the exterior. The hallway shall be separated from the rest of the house by a wall constructed consistent with the dwelling unit interior walls and opening protected by a solid wood door not less than 1<sup>3</sup>/<sub>8</sub> inch (35 mm) in thickness, maintained self-closing or shall be automatic closing by actuation of a smoke detector installed in accordance with Section 715.4.8.
3. Direct exit from the bedroom to the exterior shall be of a size as to permit the installation of a door not less than 3 feet (914 mm) in width and not less than 6 feet 8 inches (2032 mm) in height. When installed, doors shall be capable of opening at least 90 degrees and shall be so mounted that the clear width of the exit way is not less than 32 inches (813 mm).
4. Egress through an adjoining bedroom which exits to the exterior.

**425.8.3.3 Group R-3.1 occupancies housing only one bedridden client.** In Group R-3.1 occupancies housing a bedridden client and not provided with an approved automatic sprinkler system, all of the following shall apply:

1. In Group R-3.1 occupancies housing a bedridden client, a direct exit to the exterior of the residence shall be provided from the client sleeping room.
2. Doors to a bedridden client's sleeping room shall be of a self-closing, positive latching 1<sup>3</sup>/<sub>8</sub> inch solid wood door. Such doors shall be provided with a gasket so installed as to provide a seal where the door meets the jam on both sides and across the top. Doors shall be maintained self-

closing or shall be automatic closing by actuation of a smoke alarm in accordance with Section 715.4.8.

3. Group R-3.1 occupancies housing a bedridden client, shall not have a night latch, dead bolt, security chain or any similar locking device installed on any interior door leading from a bedridden client's sleeping room to any interior area such as a corridor, hallway and or general use areas of the residence in accordance with Chapter 10.
4. The exterior exit door to a bedridden client's sleeping room shall be operable from both the interior and exterior of the residence.
5. Every required exit doorway from a bedridden client sleeping room shall be of a size as to permit the installation of a door not less than 3 feet (914 mm) in width and not less than 6 feet 8 inches (2032 mm) in height. When installed in exit doorways, exit doors shall be capable of opening at least 90 degrees and shall be so mounted that the clear width of the exit way is not less than 32 inches (813 mm).

**Note:** A sliding glass door can be used as an exterior exit doorway as long as it is operable from the inside and outside and the clear width of the exit way is not less than 32 inches (813 mm).

**425.8.3.4 Intervening rooms.** A means of exit shall not pass through more than one intervening room. A means of egress shall not pass through kitchens, storerooms, closets, garages or spaces used for similar purposes.

**Exception:** Kitchens which do not form separate rooms by construction.

#### **425.8.4 Corridors.**

**425.8.4.1** Unless specified by Section 425.8.4, corridors serving Group R-2.1 and Group R-4 occupancies shall comply with Section 1018.1.

**425.8.4.2** The minimum clear width of a corridor shall be as follows:

1. Group R-2.1 occupancies shall have 60 inches (1524 mm) on floors housing nonambulatory clients and 44 inches (1118 mm) on floors housing only ambulatory clients.
2. Group R-4 occupancies shall have 44 inches (1118 mm) on floors housing clients.

#### **Exceptions:**

1. Corridors serving an occupant load of 10 or less shall not be less than 36 inches (914 mm) in width.
2. Corridors serving ambulatory persons only and having an occupant load of 49 or less shall not be less than 36 inches (914 mm) in width.

In Group R-2.1 occupancies provided with fire sprinklers throughout and which are required to have rated corridors, door closers need not be installed on doors to client sleeping rooms.

**425.8.4.3** In a Group R-2.1 and Group R-4 occupancies having smoke barriers, cross-corridor doors in corridors 6 feet (1829 mm) or less in width shall have, as a minimum, a door 36 inches (914 mm) in width.

**425.8.5 Changes in level.** In Group R-3.1 occupancies housing nonambulatory clients interior changes in level up to 0.25 inch (6 mm) may be vertical and without edge treatment. Changes in level between 0.25 inch (6 mm) and 0.5 inch (12.7 mm) shall be beveled with a slope no greater than 1 unit vertical in 2 units horizontal (50 percent slope). Changes in level greater than 0.5 inch (12.7 mm) shall be accomplished by means of a ramp.

**425.8.6 Stairways.**

**425.8.6.1** Group R-2.1 and Group R-4 occupancies housing more than six nonambulatory clients above the first floor shall be provided with two vertical exit enclosures. Stairway enclosures shall be in compliance with Section 1020. Exceptions to Section 1020 shall not apply in facilities licensed as a 24-hour care facility.

**425.8.6.2** Group R-3.1 occupancies may continue to use existing stairways (except for winding and spiral stairways which are not permitted as a required means of egress) provided the stairs have a maximum rise of 8 inches (203 mm) with a minimum run of 9 inches (229 mm). The minimum stairway width may be 30 inches (762 mm).

**425.8.7 Floor separation.** Group R-3.1 occupancies shall be provided with a nonfire resistance constructed floor separation at stairs which will prevent smoke migration between floors. Such floor separation shall have equivalent construction of 0.5 inch (12.7 mm) gypsum wallboard on one side of wall framing.

**Exceptions:**

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

**425.8.7.1 Doors within floor separations.** Doors within such floor separations shall be tight fitting solid wood at least  $1\frac{3}{8}$  inches (35 mm) in thickness. Door glazing shall not exceed 1296 square inches (32 918 mm<sup>2</sup>) with no dimension greater than 54 inches (1372 mm). Such doors shall be positive latching, smoke gasketed and shall be automatic-closing by smoke detection

**425.8.8 Fences and gates.** Grounds of a Residential Care Facility for the Elderly serving Alzheimer clients may be fenced and gates therein equipped with locks, provided safe dispersal areas are located not less than 50 feet (15 240 mm) from the buildings. Dispersal areas shall be sized to provide an area of not less than 3 square feet (0.28 m<sup>2</sup>) per occupant. Gates shall not be installed across corridors or passageways leading to such dispersal areas unless they comply with egress requirements.

**425.8.9 Basement exits.** One exit is required to grade level when the basement is accessible to clients.

**425.8.10 Delayed egress locks.** See Section 1008.1.8.6.

**425.9 Request for alternate means of protection for facilities housing bedridden clients.** Request for alternate means of protection shall apply to Sections 425 through 425.9. Request for approval to use an alternative material, assembly or materials, equipment, method of construction, method of installation of equipment, or means of protection shall be made in writing to the local fire authority having jurisdiction by the facility, client or the client's authorized representative. Sufficient evidence shall be submitted to substantiate the need for an alternate means of protection.

The facility, client or the client's representative or the local fire authority having jurisdiction may request a written opinion from the State Fire Marshal concerning the interpretation of the regulations promulgated by the State Fire Marshal for a particular factual dispute. The State Fire Marshal shall issue the written opinion within 45 days following the request.

Approval of a request for use of an alternative material, assembly or materials, equipment, method of construction, method of installation of equipment, or means of protection made pursuant to this section shall be limited to Group R, 3.1 occupancies housing a bedridden client.

Approvals made by the local fire authority having jurisdiction and the written opinion by the State Fire Marshal shall be applicable only to the requesting facility and shall not be construed as establishing any precedent for any future request by that facility or any other facility.

**425.10 Temporarily bedridden clients.** Clients who become temporarily bedridden as defined in Health and Safety Code Section 1569.72, as enforced by the Department of Social Services, may continue to be housed on any story in Group R-2.1, R-3.1 or R-4 occupancies classified as Residential Care Facilities for the Elderly (RCFE). Every Residential Care Facility for the Elderly (RCFE) admitting or retaining a bedridden resident shall, within 48 hours of the resident's admission or retention in the facility, notify the local fire authority with jurisdiction of the estimated length of time the resident will retain his or her bedridden status in the facility.

**SECTION 426  
GROUP I-4 [SFM]**

**426.1 Group I-4 special provisions.** Rooms classified as Group I-4 shall not be located above or below the first story.

**Exceptions:**

1. Basements or stories having floor levels located within 4 feet (1219 mm), measured vertically, from adjacent ground level at the level of exit discharge, provided the basement or story has exterior exit doors at that level.
2. In buildings equipped with an automatic sprinkler system throughout, rooms used for kindergarten, first- and second-grade children or for day-care purposes may be located on the second story, pro-

vided there are at least two exterior exit doors, or other egress systems complying with Section 1017 with two exits, for the exclusive use of such occupants. Egress systems for the exclusive use of such occupants shall be maintained until exit discharge at grade is attained.

3. Group I-4 child-care facilities may be located above the first story in buildings of Type I construction and in Types II-A and III-A construction, subject to the limitation of Section 503 when:

3.1. Group I-4 childcare facilities with children under the age of seven or containing more than 12 children per story shall not be located above the fourth floor; and

3.2. The entire story in which the Group I-4 child-care facility is located is equipped with an approved manual fire alarm and smoke-detection system. (See the Fire Code.) Actuation of an initiating device shall sound an audible alarm throughout the entire story. When a building fire alarm system is required by other provisions of this code or the Fire Code, the alarm system shall be connected to the building alarm system. An approved alarm signal shall sound at an approved location in the Group I-4 child-care facility to indicate a fire alarm or sprinkler flow condition in other portions of the building; and

3.3 Group I-4 child-care facilities, if more than 1,000 square feet (92.9 m<sup>2</sup>) in area, is divided into at least two compartments of approximately the same size by a smoke barrier with door openings protected by smoke- and draft-control assemblies having a fire-protection rating of not less than 20 minutes. Smoke barriers shall have a fire-resistive rating of not less than one hour. In addition to the requirements of Section 508.3.3, occupancy separations between Group I-4 child-care and other occupancies shall be constructed as smoke barriers. Door openings in the smoke barrier shall be 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.

3.4. Each compartment formed by the smoke barrier has not less than two exits or exit access doors, one of which is permitted to pass through the adjoining compartment; and

3.5. Where two or more exits or exit access are required at least one shall not share a common path of travel.

3.6. The building is equipped with an automatic sprinkler system throughout.

**SECTION 427**  
**Reserved**

**SECTION 428**  
**Reserved**

**SECTION 429**  
**ROAD TUNNELS, BRIDGES, AND**  
**OTHER LIMITED-ACCESS HIGHWAYS [SFM]**

**429.1 General.** Road tunnels, bridges, and other limited-access highways that are state owned shall comply with NFPA 502.

**SECTION 430**  
**HORSE RACING STABLES [SFM]**

**430.1** For automatic sprinkler and fire alarm system requirements applying to each building, barn or structure which is used by an association regulated by the California Horse Racing Board for the stabling of horses or human habitation, and the stable area grounds, including any additional location where any excess horses are stabled see Title 4, Division 4, Article 17, Section 1927.

**SECTION 431**  
**PET KENNELS [SFM]**

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

**431.2 Automatic sprinkler system.** An approved automatic sprinkler system complying with California Fire Code Section 903 shall be installed.

**Exception:** Where a fire alarm system that is connected to a central reporting station that alerts the local fire department in case of fire.

**SECTION 432**  
**COMBUSTION ENGINES**  
**AND GAS TURBINES [SFM]**

**432.1 General.** The installation of combustion engines and gas turbines shall be in accordance with NFPA-37 and this chapter.

**432.2 Separation.**

**432.2.1 Construction.** Every room in which is installed a combustion engine or gas turbine shall be separated from the remainder of the building by not less than a one-hour fire barrier.

**432.2.2 Exterior openings.** When doors, windows or lowered openings are located below openings in another story or less than 10 feet (3048 mm) from doors, windows or lowered openings of the same building, they shall be protected by a fire assembly having a <sup>3</sup>/<sub>4</sub>-hour rating. Such fire assemblies shall be fixed, automatic or self-closing.

**432.2.2.1 Interior openings.** In other than buildings housing Group I and R-2.1 occupancies, interior openings shall be allowed in buildings protected by an automatic fire sprinkler system throughout.

**432.2.3 Location.** Combustion engines and gas turbines used for emergency power shall not be located in a room or area used for any other purpose other than equipment

## CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE CHAPTER 5 – GENERAL BUILDING HEIGHTS AND AREAS

(Matrix Adoption Tables are non-regulatory, intended only as an aid to the user.

See Chapter 1 for state agency authority and building applications.)

Adopting Agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
<i>Adopt entire chapter</i>	X						X	X	X	X		X								
<i>Adopt entire chapter as amendeded (amended sections listed below)</i>		X	X	X																
<i>Adopt only those sections that are listed below</i>						X									X			X		
<i>Chapter / Section</i>																				
Table 503		X																		
503.1			X																	
504.2																				
506.3		X																		
506.4.1		X																		
506.5.2		X																		
507.3		X																		
507.10		X																		
508.2.4		X																		
508.3.3		X																		
Table 508.4		X																		
Table 509		X																		
509.2		X																		
510.10		X																		

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**TABLE 503—continued**  
**ALLOWABLE BUILDING HEIGHTS AND AREAS<sup>a, b</sup>**

GROUP	HEIGHT (feet)	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
		UL	160	65	55	65	55	65	50	40
STORIES(S) AREA (A)										
R-2	S A	UL UL	11 UL	4 24,000	4 16,000	4 24,000	4 16,000	4 20,500	3 12,000	2 7,000
R-2.1	S A	UL UL	6 <sup>f</sup> 55,000	3 <sup>c</sup> 19,000	NP NP	3 <sup>c</sup> 16,500	NP NP	NP NP	3 <sup>c</sup> 16,500	NP NP
R-3/R-3.1	S A	UL UL	11 UL	4 UL	4 UL	4 UL	4 UL	4 UL	3 UL	3 UL
R-4	S A	UL UL	11 <sup>f</sup> UL	4 <sup>e</sup> 24,000	4 <sup>g</sup> 16,000	4 <sup>e</sup> 24,000	4 <sup>g</sup> 16,000	4 <sup>g</sup> 20,500	3 <sup>e</sup> 12,000	2 <sup>e</sup> 7,000
S-1	S A	UL UL	11 48,000	4 26,000	2 17,500	3 26,000	2 17,500	4 25,500	3 14,000	1 9,000
S-2	S A	UL UL	11 79,000	5 39,000	3 26,000	4 39,000	3 26,000	5 38,500	4 21,000	2 13,500
U <sup>c</sup>	S A	UL UL	5 35,500	4 19,000	2 8,500	3 14,000	2 8,500	4 18,000	2 9,000	1 5,500

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m<sup>2</sup>.

A = building area per story, S = stories above grade plane, UL = Unlimited, NP = Not permitted.

a. See the following sections for general exceptions to Table 503:

1. Section 504.2, Allowable building height and story increase due to automatic sprinkler system installation.
2. Section 506.2, Allowable building area increase due to street frontage.
3. Section 506.3, Allowable building area increase due to automatic sprinkler system installation.
4. Section 507, Unlimited area buildings.

b. See Chapter 4 for specific exceptions to the allowable height and areas in Chapter 5.

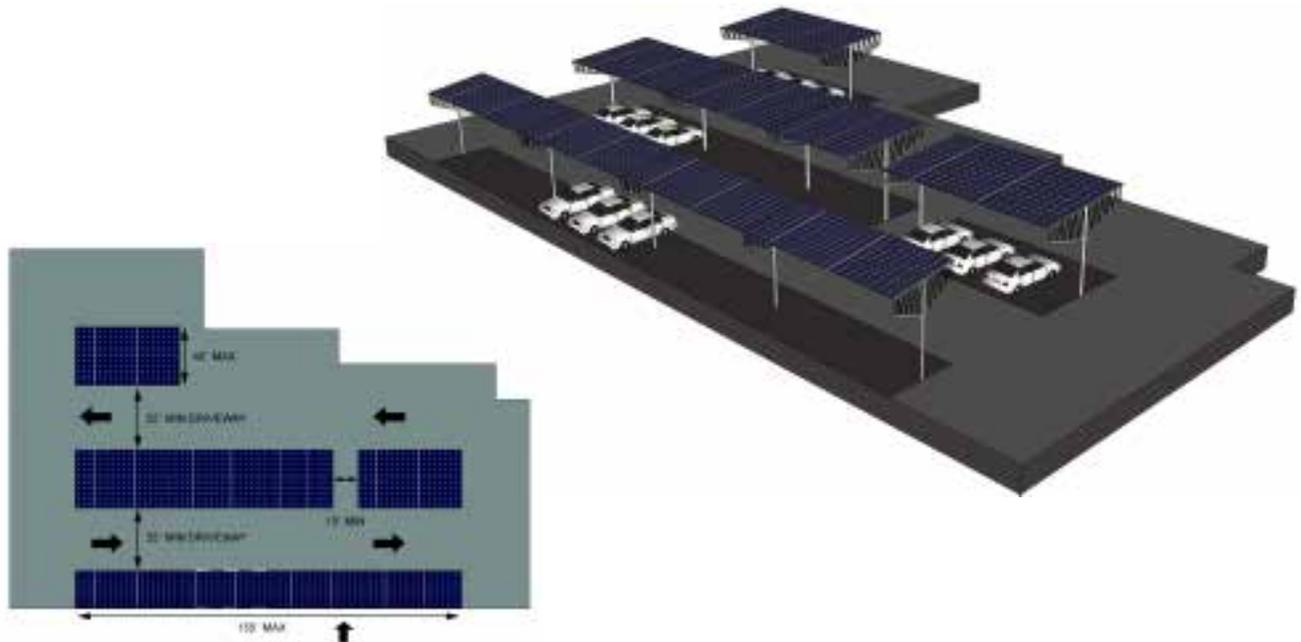
c. See Section 408.1.2 for specific exceptions to construction type, allowable building areas and allowable heights.

d. Restraint shall not be permitted in any building except in Group I-3 occupancies constructed for such use (see Section 408.1.2).

e. Nonambulatory persons shall be limited to the first 2 stories.

f. Nonambulatory persons shall be limited to the first 5 stories.

g. Nonambulatory elderly clients are not permitted in buildings of these types of construction. See Section 425.3.3 and 425.3.4.



**FIGURE 5-1**

## SECTION 504 BUILDING HEIGHT

**504.1 General.** The building height permitted by Table 503 shall be increased in accordance with Sections 504.2 and 504.3.

**Exception:** The building height of one-story aircraft hangars, aircraft paint hangars and buildings used for the manufacturing of aircraft shall not be limited if the building is provided with an automatic sprinkler system or automatic fire-extinguishing system in accordance with Chapter 9 and is entirely surrounded by public ways or yards not less in width than one and one-half times the building height.

**504.2 Automatic sprinkler system increase.** Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the value specified in Table 503 for maximum building height is increased by 20 feet (6096 mm) and the maximum number of stories is increased by one. Increases are permitted in addition to the building area increase in accordance with Section 506.2. *In other than Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, these increases are permitted in addition to the area increase in accordance with Section 506.3.* For Group R-2 buildings of Type VA construction equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the value specified in Table 503 for maximum building height is increased by 20 feet (6096 mm) and the maximum number of stories is increased by one, but shall not exceed 60 feet (18 288 mm) or four stories, respectively, *these increases are permitted in addition to the area increase in accordance with Section 506.3.* For Group R-3 buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.2, the value specified in Table 503 for maximum building height is increased by 20 feet (6096 mm) and the maximum number of stories is increased by one, but shall not exceed 60 feet (18 288 mm) or four stories, respectively.

**Exception:** The use of an automatic sprinkler system to increase building heights shall not be permitted for the following conditions:

1. Buildings, or portions of buildings, classified as a Group I-2 occupancy of Type IIB, III, IV or V construction.
2. Buildings, or portions of buildings, classified as a Group H-1, H-2, H-3 or H-5 occupancy.
3. Buildings where an automatic sprinkler system is substituted for fire-resistance rated construction in accordance with Table 601, Note d.
4. [SFM] Buildings, or portions of buildings, classified as a Group L occupancy.
5. [SFM] Buildings, or portions of buildings, classified as a Licensed Group R-2.1 or R-4 occupancy.

**504.3 Roof structures.** Towers, spires, steeples and other roof structures shall be constructed of materials consistent with the required type of construction of the building except where other construction is permitted by Section 1509.2.5. Such structures shall not be used for habitation or storage. The structures shall be unlimited in height if of noncombusti-

ble materials and shall not extend more than 20 feet (6096 mm) above the allowable building height if of combustible materials (see Chapter 15 for additional requirements).

## SECTION 505 MEZZANINES AND EQUIPMENT PLATFORMS

**505.1 General.** Mezzanines shall comply with Section 505.2. Equipment platforms shall comply with Section 505.3.

**505.2 Mezzanines.** A mezzanine or mezzanines in compliance with Section 505.2 shall be considered a portion of the story below. Such mezzanines shall not contribute to either the building area or number of stories as regulated by Section 503.1. The area of the mezzanine shall be included in determining the fire area. The clear height above and below the mezzanine floor construction shall be not less than 7 feet (2134 mm).

**505.2.1 Area limitation.** The aggregate area of a mezzanine or mezzanines within a room shall be not greater than one-third of the floor area of that room or space in which they are located. The enclosed portion of a room shall not be included in a determination of the floor area of the room in which the mezzanine is located. In determining the allowable mezzanine area, the area of the mezzanine shall not be included in the floor area of the room.

Where a room contains both a mezzanine and an equipment platform, the aggregate area of the two raised floor levels shall be not greater than two-thirds of the floor area of that room or space in which they are located.

### Exceptions:

1. The aggregate area of mezzanines in buildings and structures of Type I or II construction for special industrial occupancies in accordance with Section 503.1.1 shall be not greater than two-thirds of the floor area of the room.
2. The aggregate area of mezzanines in buildings and structures of Type I or II construction shall be not greater than one-half of the floor area of the room in buildings and structures equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 and an approved emergency voice/alarm communication system in accordance with Section 907.5.2.2.

**505.2.2 Means of egress.** The means of egress for mezzanines shall comply with the applicable provisions of Chapter 10.

**505.2.3 Openness.** A mezzanine shall be open and unobstructed to the room in which such mezzanine is located except for walls not more than 42 inches (1067 mm) in height, columns and posts.

### Exceptions:

1. Mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that the occupant load of the aggregate area of the enclosed space is not greater than 10.
2. A mezzanine having two or more means of egress is not required to be open to the room in which the mezzanine is located if at least one of the

**TABLE 509  
INCIDENTAL USES**

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

For SI: 1 square foot = 0.0929 m<sup>2</sup>, 1 pound per square inch (psi) = 6.9 kPa, 1 British thermal unit (Btu) per hour = 0.293 watts, 1 horsepower = 746 watts, 1 gallon = 3.785 L.

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

walls, limitation of number of stories and type of construction where all of the following conditions are met:

1. The buildings are separated with a horizontal assembly having a fire-resistance rating of not less than 3 hours.
2. The building below the horizontal assembly is not greater than one story above grade plane.
3. The building below the horizontal assembly is of Type IA construction.
4. Shaft, stairway, ramp and escalator enclosures through the horizontal assembly shall have not less than a 2-hour fire-resistance rating with opening protectives in accordance with Section 716.5.

**Exception:** Where the enclosure walls below the horizontal assembly have not less than a 3-hour fire-resistance rating with opening protectives in accordance with Section 716.5, the enclosure walls extending above the horizontal assembly shall be permitted to have a 1-hour fire-resistance rating, provided:

1. The building above the horizontal assembly is not required to be of Type I construction;
2. The enclosure connects fewer than four stories; and
3. The enclosure opening protectives above the horizontal assembly have a fire protection rating of not less than 1 hour.
5. The building or buildings above the horizontal assembly shall be permitted to have multiple Group A occupancy uses, each with an occupant load of less than 300, or Group B, M, R or S occupancies.
6. The building below the horizontal assembly shall be protected throughout by an approved automatic sprinkler system in accordance with Section 903.3.1.1, and shall be permitted to be any of the following occupancies:
  - 6.1. Group S-2 parking garage used for the parking and storage of private motor vehicles;
  - 6.2. Multiple Group A, each with an occupant load of less than 300;

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- 6.3. Group B;
  - 6.4. Group M;
  - 6.5. Group R; and
  - 6.6. Uses incidental to the operation of the building (including entry lobbies, mechanical rooms, storage areas and similar uses).
7. The maximum building height in feet (mm) shall not exceed the limits set forth in Section 503 for the building having the smaller allowable height as measured from the grade plane.

**510.3 Group S-2 enclosed parking garage with Group S-2 open parking garage above.** A Group S-2 enclosed parking garage with not more than one story above grade plane and located below a Group S-2 open parking garage shall be classified as a separate and distinct building for the purpose of determining the type of construction where all of the following conditions are met:

1. The allowable area of the building shall be such that the sum of the ratios of the actual area divided by the allowable area for each separate occupancy shall not exceed 1.
2. The Group S-2 enclosed parking garage is of Type I or II construction and is at least equal to the fire-resistance requirements of the Group S-2 open parking garage.
3. The height and the number of tiers of the Group S-2 open parking garage shall be limited as specified in Table 406.5.4.
4. The floor assembly separating the Group S-2 enclosed parking garage and Group S-2 open parking garage shall be protected as required for the floor assembly of the Group S-2 enclosed parking garage. Openings between the Group S-2 enclosed parking garage and Group S-2 open parking garage, except exit openings, shall not be required to be protected.
5. The Group S-2 enclosed parking garage is used exclusively for the parking or storage of private motor vehicles, but shall be permitted to contain an office, waiting room and toilet room having a total area of not more than 1,000 square feet (93 m<sup>2</sup>), and mechanical equipment rooms incidental to the operation of the building.

**510.4 Parking beneath Group R.** Where a maximum one story above grade plane Group S-2 parking garage, enclosed or open, or combination thereof, of Type I construction or open of Type IV construction, with grade entrance, is provided under a building of Group R, the number of stories to be used in determining the minimum type of construction shall be measured from the floor above such a parking area. The floor assembly between the parking garage and the Group R above shall comply with the type of construction required for the parking garage and shall also provide a fire-resistance rating not less than the mixed occupancy separation required in Section 508.4.

**510.5 Group R-1 and R-2 buildings of Type IIIA construction.** The height limitation for buildings of Type IIIA construction in Groups R-1 and R-2 shall be increased to six stories and 75 feet (22 860 mm) where the first floor assembly

above the basement has a fire-resistance rating of not less than 3 hours and the floor area is subdivided by 2-hour fire-resistance-rated fire walls into areas of not more than 3,000 square feet (279 m<sup>2</sup>).

**510.6 Group R-1 and R-2 buildings of Type IIA construction.** The height limitation for buildings of Type IIA construction in Groups R-1 and R-2 shall be increased to nine stories and 100 feet (30 480 mm) where the building is separated by not less than 50 feet (15 240 mm) from any other building on the lot and from lot lines, the exits are segregated in an area enclosed by a 2-hour fire-resistance-rated fire wall and the first floor assembly has a fire-resistance rating of not less than 1½ hours.

**510.7 Open parking garage beneath Groups A, I, B, M and R.** Open parking garages constructed under Groups A, I, B, M and R shall not exceed the height and area limitations permitted under Section 406.5. The height and area of the portion of the building above the open parking garage shall not exceed the limitations in Section 503 for the upper occupancy. The height, in both feet and stories, of the portion of the building above the open parking garage shall be measured from grade plane and shall include both the open parking garage and the portion of the building above the parking garage.

**510.7.1 Fire separation.** Fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711 between the parking occupancy and the upper occupancy shall correspond to the required fire-resistance rating prescribed in Table 508.4 for the uses involved. The type of construction shall apply to each occupancy individually, except that structural members, including main bracing within the open parking structure, which is necessary to support the upper occupancy, shall be protected with the more restrictive fire-resistance-rated assemblies of the groups involved as shown in Table 601. Means of egress for the upper occupancy shall conform to Chapter 10 and shall be separated from the parking occupancy by fire barriers having not less than a 2-hour fire-resistance rating as required by Section 707 with self-closing doors complying with Section 716 or horizontal assemblies having not less than a 2-hour fire-resistance rating as required by Section 711, with self-closing doors complying with Section 716. *Means of egress* from the open parking garage shall comply with Section 406.5.

**510.8 Group B or M with Group S-2 open parking garage.** Group B or M occupancies located not higher than the first story above grade plane shall be considered as a separate and distinct building for the purpose of determining the type of construction where all of the following conditions are met:

1. The buildings are separated with a horizontal assembly having a fire-resistance rating of not less than 2 hours.
2. The occupancies in the building below the horizontal assembly are limited to Groups B and M.
3. The occupancy above the horizontal assembly is limited to a Group S-2 open parking garage.

tance-rated assembly. A wall is not required in attic or ceiling spaces above tenant separation walls.

5. Attic fireblocking or draftstopping is not required at the partition line in Group R-2 buildings that do not exceed four stories above grade plane, provided the attic space is subdivided by draftstopping into areas not exceeding 3,000 square feet (279 m<sup>2</sup>) or above every two dwelling units, whichever is smaller.
6. Fireblocking or draftstopping is not required at the partition line in buildings equipped with an automatic sprinkler system installed throughout in accordance with Section 903.3.1.1 or 903.3.1.2, provided that automatic sprinklers are installed in *all* combustible floor/ceiling and roof/ceiling spaces.

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

**Exception:** Exterior walls required to be fire-resistance rated in accordance with Section 1019.2 for exterior egress balconies, Section 1022.7 for interior exit stairways and ramps and Section 102.6.6 for exterior exit stairways and ramps.

**708.6 Openings.** Openings in a fire partition shall be protected in accordance with Section 716.

**708.7 Penetrations.** Penetrations of fire partitions shall comply with Section 714.

**708.8 Joints.** Joints made in or between fire partitions shall comply with Section 715.

**708.9 Ducts and air transfer openings.** Penetrations in a fire partition by ducts and air transfer openings shall comply with Section 717.

## SECTION 709 SMOKE BARRIERS

**709.1 General.** Smoke barriers shall comply with this section.

**709.2 Materials.** Smoke barriers shall be of materials permitted by the building type of construction.

**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.

**709.4 Continuity.** Smoke barriers shall form an effective membrane continuous from outside wall to outside wall and from the top of the foundation or floor/ceiling assembly below to the underside of the floor or roof sheathing, deck or slab above, including continuity through concealed spaces, such as those found above suspended ceilings, and interstitial structural and mechanical spaces. The supporting construction shall be protected to afford the required fire-resistance rating of the wall or floor supported in buildings of other than Type IIB, IIIB or VB construction.

### Exceptions:

1. Smoke-barrier walls are not required in interstitial spaces where such spaces are designed and constructed with ceilings that provide resistance to the passage of fire and smoke equivalent to that provided by the smoke-barrier walls.
2. Smoke barriers used for elevator lobbies in accordance with Section 405.4.3, 3007.4.2 or 3008.11.2 are not required to extend from outside wall to outside wall.
3. Smoke barriers used for areas of refuge in accordance with Section 1007.6.2 are not required to extend from outside wall to outside wall.

**709.5 Openings.** Openings in a smoke barrier shall be protected in accordance with Section 716.

### Exceptions:

1. In Group I-2, *I-2.1* and ambulatory care facilities, where doors are installed across corridors, a pair of opposite-swinging doors without a center mullion shall be installed having vision panels with fire-protection-rated glazing materials in fire-protection-rated frames, the area of which shall not exceed that tested. The doors shall be close fitting within operational tolerances, and shall not have undercuts in excess of <sup>3</sup>/<sub>4</sub>-inch, louvers or grilles. The doors shall have head and jamb stops, astragals or rabbets at meeting edges and shall be automatic-closing by smoke detection in accordance with Section 716.5.9.3. Where permitted by the door manufacturer's listing, positive-latching devices are not required.
2. In Group I-2 and ambulatory care facilities, horizontal sliding doors installed in accordance with Section 1008.1.4.3 and protected in accordance with Section 716.

**709.6 Penetrations.** Penetrations of smoke barriers shall comply with Section 714.

**709.7 Joints.** Joints made in or between smoke barriers shall comply with Section 715.

**709.8 Ducts and air transfer openings.** Penetrations in a smoke barrier by ducts and air transfer openings shall comply with Section 717.

## SECTION 710 SMOKE PARTITIONS

**710.1 General.** Smoke partitions installed as required elsewhere in the code shall comply with this section.

**710.2 Materials.** The walls shall be of materials permitted by the building type of construction. *In Group I-2 and I-2.1, smoke partitions shall have framing covered with noncombustible materials having an approved thermal barrier with an index of not less than 15 in accordance with FM 4880, UL 1040, NFPA 286 or UL 1715.*

## FIRE AND SMOKE PROTECTION FEATURES

**710.3 Fire-resistance rating.** Unless required elsewhere in the code, smoke partitions are not required to have a fire-resistance rating.

**710.4 Continuity.** Smoke partitions shall extend from the top of the foundation or floor below to the underside of the floor or roof sheathing, deck or slab above or to the underside of the ceiling above where the ceiling membrane is constructed to limit the transfer of smoke.

**710.5 Openings.** Openings in smoke partitions shall comply with Sections 710.5.1 and 710.5.2.

**710.5.1 Windows.** Windows in smoke partitions shall be sealed to resist the free passage of smoke or be automatic-closing upon detection of smoke.

**710.5.2 Doors.** Doors in smoke partitions shall comply with Sections 710.5.2.1 through 710.5.2.3.

**710.5.2.1 Louvers.** Doors in smoke partitions shall not include louvers.

**710.5.2.2 Smoke and draft control doors.** Where required elsewhere in the code, doors in smoke partitions shall meet the requirements for a smoke and draft control door assembly tested in accordance with UL 1784. The air leakage rate of the door assembly shall not exceed 3.0 cubic feet per minute per square foot (0.015424 m<sup>3</sup>/(s • m<sup>2</sup>)) of door opening at 0.10 inch (24.9 Pa) of water for both the ambient temperature test and the elevated temperature exposure test. Installation of smoke doors shall be in accordance with NFPA 105.

**710.5.2.3 Self- or automatic-closing doors.** Where required elsewhere in the code, doors in smoke partitions shall be self- or automatic-closing by smoke detection in accordance with Section 716.5.9.3.

**710.6 Penetrations.** The space around penetrating items shall be filled with an approved material to limit the free passage of smoke.

**710.7 Joints.** Joints shall be filled with an approved material to limit the free passage of smoke.

**710.8 Ducts and air transfer openings.** The space around a duct penetrating a smoke partition shall be filled with an approved material to limit the free passage of smoke. Air transfer openings in smoke partitions shall be provided with a smoke damper complying with Section 717.3.2.2. *For Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, duct openings in smoke partitions shall also be provided with a smoke damper complying with Section 717.3.2.2.*

**Exception:**

1. Where the installation of a smoke damper will interfere with the operation of a required smoke control system in accordance with Section 909, approved alternative protection shall be utilized.
2. [SFM] Smoke dampers are not required in corridor penetrations where the duct is constructed of steel

*not less than 0.019-inch (0.40 mm) in thickness and there are no openings serving the corridor.*

## SECTION 711 HORIZONTAL ASSEMBLIES

**711.1 General.** Floor and roof assemblies required to have a fire-resistance rating shall comply with this section. Nonfire-resistance-rated floor and roof assemblies shall comply with Section 714.4.2.

**711.2 Materials.** The floor and roof assemblies shall be of materials permitted by the building type of construction.

**711.3 Fire-resistance rating.** The fire-resistance rating of floor and roof assemblies shall not be less than that required by the building type of construction. Where the floor assembly separates mixed occupancies, the assembly shall have a fire-resistance rating of not less than that required by Section 508.4 based on the occupancies being separated. Where the floor assembly separates a single occupancy into different fire areas, the assembly shall have a fire-resistance rating of not less than that required by Section 707.3.10. Horizontal assemblies separating dwelling units in the same building and horizontal assemblies separating sleeping units in the same building shall be a minimum of 1-hour fire-resistance-rated construction.

**Exception:** Dwelling unit and sleeping unit separations in buildings of Type IIB, IIIB and VB construction shall have fire-resistance ratings of not less than 1/2 hour in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

**711.3.1 Ceiling panels.** Where the weight of lay-in ceiling panels, used as part of fire-resistance-rated floor/ceiling or roof/ceiling assemblies, is not adequate to resist an upward force of 1 pound per square foot (48 Pa), wire or other approved devices shall be installed above the panels to prevent vertical displacement under such upward force.

**711.3.2 Access doors.** Access doors shall be permitted in ceilings of fire-resistance-rated floor/ceiling and roof/ceiling assemblies provided such doors are tested in accordance with ASTM E 119 or UL 263 as horizontal assemblies and labeled by an approved agency for such purpose.

**711.3.3 Unusable space.** In 1-hour fire-resistance-rated floor assemblies, the ceiling membrane is not required to be installed over unusable crawl spaces. In 1-hour fire-resistance-rated roof assemblies, the floor membrane is not required to be installed where unusable attic space occurs above.

**711.4 Continuity.** Assemblies shall be continuous without openings, penetrations or joints except as permitted by this section and Sections 712.1, 714.4, 715, 1009.3 and 1022.1. Skylights and other penetrations through a fire-resistance-rated roof deck or slab are permitted to be unprotected, provided that the structural integrity of the fire-resistance-rated roof assembly is maintained. Unprotected skylights shall not be permitted in roof assemblies required to be fire-resistance

**713.10 Duct and air transfer openings.** Penetrations of a shaft enclosure by ducts and air transfer openings shall comply with Section 717.

**713.11 Enclosure at the bottom.** Shafts that do not extend to the bottom of the building or structure shall comply with one of the following:

1. They shall be enclosed at the lowest level with construction of the same fire-resistance rating as the lowest floor through which the shaft passes, but not less than the rating required for the shaft enclosure.
2. They shall terminate in a room having a use related to the purpose of the shaft. The room shall be separated from the remainder of the building by fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both. The fire-resistance rating and opening protectives shall be at least equal to the protection required for the shaft enclosure.
3. They shall be protected by approved fire dampers installed in accordance with their listing at the lowest floor level within the shaft enclosure.

**Exceptions:**

1. The fire-resistance-rated room separation is not required, provided there are no openings in or penetrations of the shaft enclosure to the interior of the building except at the bottom. The bottom of the shaft shall be closed off around the penetrating items with materials permitted by Section 718.3.1 for draftstopping, or the room shall be provided with an approved automatic sprinkler system.
2. A shaft enclosure containing a refuse chute or laundry chute shall not be used for any other purpose and shall terminate in a room protected in accordance with Section 713.13.4.
3. The fire-resistance-rated room separation and the protection at the bottom of the shaft are not required provided there are no combustibles in the shaft and there are no openings or other penetrations through the shaft enclosure to the interior of the building.

**713.12 Enclosure at top.** A shaft enclosure that does not extend to the underside of the roof sheathing, deck or slab of the building shall be enclosed at the top with construction of the same fire-resistance rating as the topmost floor penetrated by the shaft, but not less than the fire-resistance rating required for the shaft enclosure.

**713.13 Refuse and laundry chutes.** In other than Group I-2 and I-2.1, refuse and laundry chutes, access and termination rooms and incinerator rooms shall meet the requirements of Sections 713.13.1 through 713.13.6.

**Exceptions:**

1. Chutes serving and contained within a single dwelling unit.
2. Refuse and laundry chutes in Group I-2 and I-2.1 shall comply with the provisions of NFPA 82, Chapter 5.

**713.13.1 Refuse, recycling and laundry chute enclosures.** A shaft enclosure containing a refuse, recycling, or laundry chute shall not be used for any other purpose and shall be enclosed in accordance with Section 713.4. Openings into the shaft, including those from access rooms and termination rooms, shall be protected in accordance with this section and Section 716. Openings into chutes shall not be located in corridors. Doors shall be self- or automatic-closing upon the actuation of a smoke detector in accordance with Section 716.5.9.3, except that heat-activated closing devices shall be permitted between the shaft and the termination room.

**713.13.2 Materials.** A shaft enclosure containing a refuse, recycling, or laundry chute shall be constructed of materials as permitted by the building type of construction.

**713.13.3 Refuse, recycling and laundry chute access rooms.** Access openings for refuse, recycling and laundry chutes shall be located in rooms or compartments enclosed by not less than 1-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both. Openings into the access rooms shall be protected by opening protectives having a fire protection rating of not less than  $\frac{3}{4}$  hour. Doors shall be self- or automatic-closing upon the detection of smoke in accordance with Section 716.5.9.3.

**713.13.4 Termination room.** Refuse, recycling, and laundry chutes shall discharge into an enclosed room separated from the remainder of the building by fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both. Openings into the termination room shall be protected by opening protectives having a fire protection rating equal to the protection required for the shaft enclosure. Doors shall be self- or automatic-closing upon the detection of smoke in accordance with Section 716.5.9.3. Refuse chutes shall not terminate in an incinerator room. Refuse, recycling and laundry rooms that are not provided with chutes need only comply with Table 509.

**713.13.5 Incinerator room.** Incinerator rooms shall comply with Table 509.

**713.13.6 Automatic sprinkler system.** An approved automatic sprinkler system shall be installed in accordance with Section 903.2.11.2.

**713.14 Elevator, dumbwaiter and other hoistways.** Elevator, dumbwaiter and other hoistway enclosures shall be constructed in accordance with Section 713 and Chapter 30.

**713.14.1 Elevator lobby.** An enclosed elevator lobby shall be provided at each floor where an elevator shaft enclosure connects more than *two stories in Group A, E, H, I, L, R-1, R-2 and R-2.1 occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, and more than three stories for all other occupancies.* The lobby enclosure shall separate the elevator shaft enclosure doors from each floor by fire partitions. In addition to the requirements in Section 708 for fire partitions, doors protecting openings in the elevator lobby enclosure walls

shall also comply with Section 716.5.3 as required for corridor walls and penetrations of the elevator lobby enclosure by ducts and air transfer openings shall be protected as required for corridors in accordance with Section 717.5.4.1. Elevator lobbies shall have at least one means of egress complying with Chapter 10 and other provisions within this code.

**Exceptions:**

1. Enclosed elevator lobbies are not required at the level(s) of exit discharge, provided the level(s) of exit discharge is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. Elevators not required to be located in a shaft in accordance with Section 712.1 are not required to have enclosed elevator lobbies.
3. Enclosed elevator lobbies are not required where additional doors are provided at the hoistway opening in accordance with Section 3002.6. Such doors shall comply with the smoke and draft control door assembly requirements in Section 716.5.3.1 when tested in accordance with UL 1784 without an artificial bottom seal.
4. Enclosed elevator lobbies are not required where the building is protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. This exception shall not apply to the following:
  - 4.1. Group A occupancies;
  - 4.2. Group E occupancies;
  - 4.3. Group H occupancies;
  - 4.4. Group I occupancies;
  - 4.5. Group L occupancies;
  - 4.6. Group R-1, R-2, and R-2.1 occupancies; and
  - 4.7. High-rise buildings.
5. Smoke partitions shall be permitted in lieu of fire partitions to separate the elevator lobby at each floor where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. In addition to the requirements in Section 710 for smoke partitions, doors protecting openings in the smoke partitions shall also comply with Sections 710.5.2.2, 710.5.2.3, and 716.5.9 and duct penetrations of the smoke partitions shall be protected as required for corridors in accordance with Section 717.5.4.1.
6. [SFM] When approved, in other than Group I-2 occupancies enclosed elevator lobbies are not required where the elevator hoistway is pressurized in accordance with Section 909.21.
7. Enclosed elevator lobbies are not required where the elevator serves only open parking garages in accordance with Section 406.5.

8. [SFM] Enclosed elevator lobbies are not required where the hoistway door has a fire-protection rating as required by Section 708.7 and the hoistway door opening is also protected by a listed and labeled smoke containment system complying with ICC ES AC 77.

See Section 403.6 for additional requirements for highrise buildings.

**713.14.1.1 Areas of refuge.** Areas of refuge shall be provided as required in Section 1007.

**SECTION 714  
PENETRATIONS**

**714.1 Scope.** The provisions of this section shall govern the materials and methods of construction used to protect through penetrations and membrane penetrations of horizontal assemblies and fire-resistance-rated wall assemblies.

**714.1.1 Ducts and air transfer openings.** Penetrations of fire-resistance-rated walls by ducts that are not protected with dampers shall comply with Sections 714.2 through 714.3.3. Penetrations of horizontal assemblies not protected with a shaft as permitted by Section 717.6, and not required to be protected with fire dampers by other sections of this code, shall comply with Sections 714.4 through 714.4.2.2. Ducts and air transfer openings that are protected with dampers shall comply with Section 717.

**714.2 Installation details.** Where sleeves are used, they shall be securely fastened to the assembly penetrated. The space between the item contained in the sleeve and the sleeve itself and any space between the sleeve and the assembly penetrated shall be protected in accordance with this section. Insulation and coverings on or in the penetrating item shall not penetrate the assembly unless the specific material used has been tested as part of the assembly in accordance with this section.

**714.3 Fire-resistance-rated walls.** Penetrations into or through fire walls, fire barriers, smoke barrier walls and fire partitions shall comply with Sections 714.3.1 through 714.3.3. Penetrations in smoke barrier walls shall also comply with Section 714.5.

**714.3.1 Through penetrations.** Through penetrations of fire-resistance-rated walls shall comply with Section 714.3.1.1 or 714.3.1.2.

**Exception:** Where the penetrating items are steel, ferrous or copper pipes, tubes or conduits, the annular space between the penetrating item and the fire-resistance-rated wall is permitted to be protected as follows:

1. In concrete or masonry walls where the penetrating item is a maximum 6-inch (152 mm) nominal diameter and the area of the opening through the wall does not exceed 144 square inches (0.0929 m<sup>2</sup>), concrete, grout or mortar is permitted where it is installed the full thickness of the wall or the thickness required to maintain the fire-resistance rating; or

In Group I-2 and I-2.1 occupancies smoke activated doors installed in the above locations shall be automatic closing by actuation of the fire alarm system, or actuation of smoke detectors installed in accordance with Section 907.10, or activation of the sprinkler system installed in accordance with Section 903.1.

**716.5.9.4 Doors in pedestrian ways.** Vertical sliding or vertical rolling steel fire doors in openings through which pedestrians travel shall be heat activated or activated by smoke detectors with alarm verification.

**716.5.10 Swinging fire shutters.** Where fire shutters of the swinging type are installed in exterior openings, not less than one row in every three vertical rows shall be arranged to be readily opened from the outside, and shall be identified by distinguishing marks or letters not less than 6 inches (152 mm) high.

**716.5.11 Rolling fire shutters.** Where fire shutters of the rolling type are installed, such shutters shall include approved automatic-closing devices.

**716.6 Fire-protection-rated glazing.** Glazing in fire window assemblies shall be fire protection rated in accordance with this section and Table 716.6. Glazing in fire door assemblies shall comply with Section 716.5.8. Fire-protection-rated glazing in fire window assemblies shall be tested in accordance with and shall meet the acceptance criteria of NFPA 257 or UL 9. Fire-protection-rated glazing shall also comply with NFPA 80. Openings in nonfire-resistance-rated exterior wall assemblies that require protection in accordance with Section 705.3, 705.8, 705.8.5 or 705.8.6 shall have a fire protection rating of not less than ¾ hour. Fire-protection-rated glazing in 0.5-hour fire-resistance-rated partitions is permitted to have a 0.33-hour fire protection rating.

**716.6.1 Testing under positive pressure.** NFPA 257 or UL 9 shall evaluate fire-protection-rated glazing under positive pressure. Within the first 10 minutes of a test, the

pressure in the furnace shall be adjusted so at least two-thirds of the test specimen is above the neutral pressure plane, and the neutral pressure plane shall be maintained at that height for the balance of the test.

**716.6.2 Nonsymmetrical glazing systems.** Nonsymmetrical fire-protection-rated glazing systems in fire partitions, fire barriers or in exterior walls with a fire separation distance of 5 feet (1524 mm) or less pursuant to Section 705 shall be tested with both faces exposed to the furnace, and the assigned fire protection rating shall be the shortest duration obtained from the two tests conducted in compliance with NFPA 257 or UL 9.

**716.6.3 Safety glazing.** Fire-protection-rated glazing installed in fire window assemblies in areas subject to human impact in hazardous locations shall comply with Chapter 24.

**716.6.4 Glass and glazing.** Glazing in fire window assemblies shall be fire-protection-rated glazing installed in accordance with and complying with the size limitations set forth in NFPA 80.

**716.6.5 Installation.** Fire-protection-rated glazing shall be in the fixed position or be automatic-closing and shall be installed in approved frames.

**716.6.6 Window mullions.** Metal mullions that exceed a nominal height of 12 feet (3658 mm) shall be protected with materials to afford the same fire-resistance rating as required for the wall construction in which the protective is located.

**716.6.7 Interior fire window assemblies.** Fire-protection-rated glazing used in fire window assemblies located in fire partitions and fire barriers shall be limited to use in assemblies with a maximum fire-resistance rating of 1 hour in accordance with this section.

TABLE 716.6  
FIRE WINDOW ASSEMBLY FIRE PROTECTION RATINGS

TYPE OF WALL ASSEMBLY	REQUIRED WALL ASSEMBLY RATING (hours)	MINIMUM FIRE WINDOW ASSEMBLY RATING (hours)	FIRE-RATED GLAZING MARKING
Interior walls			
Fire walls	All	NP <sup>a</sup>	W-XXX <sup>b</sup>
Fire barriers	>1	NP <sup>a</sup>	W-XXX <sup>b</sup>
	1	NP <sup>a</sup>	W-XXX <sup>b</sup>
Incidental use areas (707.3.6), Mixed occupancy separations (707.3.8)	1	¾	OH-45 or W-60
Fire partitions	1	¾	OH-45 or W-60
	0.5	⅓	OH-20 or W-30
Smoke barriers	1	¾	OH-45 or W-60
Exterior walls	>1	1½	OH-90 or W-XXX <sup>b</sup>
	1	¾	OH-45 or W-60
	0.5	⅓	OH-20 or W-30
Party wall	All	NP	Not Applicable

NP = Not Permitted.

a. Not permitted except fire-resistance-rated glazing assemblies tested to ASTM E 119 or UL 263, as specified in Section 716.2.

b. XXX = The fire rating duration period in minutes, which shall be equal to the fire-resistance rating required for the wall assembly.

**716.6.7.1 Where 3/4-hour fire protection window assemblies permitted.** Fire-protection-rated glazing requiring 45-minute opening protection in accordance with Table 716.6 shall be limited to fire partitions designed in accordance with Section 708 and fire barriers utilized in the applications set forth in Sections 707.3.6 and 707.3.8 where the fire-resistance rating does not exceed 1 hour. Fire-resistance-rated glazing assemblies tested in accordance with ASTM E 119 or UL 263 shall not be subject to the limitations of this section.

**716.6.7.2 Area limitations.** The total area of the glazing in fire-protection-rated windows assemblies shall not exceed 25 percent of the area of a common wall with any room.

**716.6.7.3 Where 1/3-hour fire-protection window assemblies permitted.** Fire-protection-rated glazing shall be permitted in window assemblies tested to NFPA 257 or UL 9 in smoke barriers and fire partitions requiring 1/3-hour opening protection in accordance with Table 716.6.

**716.6.8 Labeling requirements.** Fire-protection-rated glazing shall bear a label or other identification showing the name of the manufacturer, the test standard and information required in Table 716.6 that shall be issued by an approved agency and shall be permanently identified on the glazing.

**SECTION 717  
DUCTS AND AIR TRANSFER OPENINGS**

**717.1 General.** The provisions of this section shall govern the protection of duct penetrations and air transfer openings in assemblies required to be protected and duct penetrations in nonfire-resistance-rated floor assemblies.

**717.1.1 Ducts that penetrate fire-resistance-rated assemblies without dampers.** Ducts that penetrate fire-resistance-rated assemblies and are not required by this section to have dampers shall comply with the requirements of Sections 714.2 through 714.3.3. Ducts that penetrate horizontal assemblies not required to be contained within a shaft and not required by this section to have dampers shall comply with the requirements of Sections 714.4 through 714.4.2.2.

**717.1.1.1 Ducts that penetrate nonfire-resistance-rated assemblies.** The space around a duct penetrating a nonfire-resistance-rated floor assembly shall comply with Section 717.6.3.

**717.2 Installation.** Fire dampers, smoke dampers, combination fire/smoke dampers and ceiling radiation dampers located within air distribution and smoke control systems shall be installed in accordance with the requirements of this section, the manufacturer's installation instructions and the dampers' listing.

**717.2.1 Smoke control system.** Where the installation of a fire damper will interfere with the operation of a required smoke control system in accordance with Section 909, approved alternative protection shall be utilized. Where

mechanical systems including ducts and dampers utilized for normal building ventilation serve as part of the smoke control system, the expected performance of these systems in smoke control mode shall be addressed in the rational analysis required by Section 909.4.

**717.2.2 Hazardous exhaust ducts.** Fire dampers for hazardous exhaust duct systems shall comply with the *California Mechanical Code*.

**717.3 Damper testing, ratings and actuation.** Damper testing, ratings and actuation shall be in accordance with Sections 717.3.1 through 717.3.3.

**717.3.1 Damper testing.** Dampers shall be listed and labeled in accordance with the standards in this section. Fire dampers shall comply with the requirements of UL 555. Only fire dampers labeled for use in dynamic systems shall be installed in heating, ventilation and air-conditioning systems designed to operate with fans on during a fire. Smoke dampers shall comply with the requirements of UL 555S. Combination fire/smoke dampers shall comply with the requirements of both UL 555 and UL 555S. Ceiling radiation dampers shall comply with the requirements of UL 555C or shall be tested as part of a fire-resistance-rated floor/ceiling or roof/ceiling assembly in accordance with ASTM E119 or UL 263.

**717.3.2 Damper rating.** Damper ratings shall be in accordance with Sections 717.3.2.1 through 717.3.2.3.

**717.3.2.1 Fire damper ratings.** Fire dampers shall have the minimum fire protection rating specified in Table 717.3.2.1 for the type of penetration.

**TABLE 717.3.2.1  
FIRE DAMPER RATING**

TYPE OF PENETRATION	MINIMUM DAMPER RATING (hours)
Less than 3-hour fire-resistance-rated assemblies	1.5
3-hour or greater fire-resistance-rated assemblies	3

**717.3.2.2 Smoke damper ratings.** Smoke damper leakage ratings shall be Class I or II. Elevated temperature ratings shall not be less than 250°F (121°C).

**717.3.2.3 Combination fire/smoke damper ratings.** Combination fire/smoke dampers shall have the minimum fire protection rating specified for fire dampers in Table 717.3.2.1 for the type of penetration and shall also have a minimum smoke damper rating as specified in Section 717.3.2.2.

**717.3.3 Damper actuation.** Damper actuation shall be in accordance with Sections 717.3.3.1 through 717.3.3.4 as applicable.

**717.3.3.1 Fire damper actuation device.** The fire damper actuation device shall meet one of the following requirements:

1. The operating temperature shall be approximately 50°F (10°C) above the normal temperature within the duct system, but not less than 160°F (71°C).

- 3.5. The duct shall not terminate at a wall register in the fire-resistance-rated wall.
- 3.6. A minimum 12-inch-long (305 mm) by 0.060-inch-thick (1.52 mm) steel sleeve shall be centered in each duct opening. The sleeve shall be secured to both sides of the wall and all four sides of the sleeve with minimum 1½-inch by 1½-inch by 0.060-inch (38 mm by 38 mm by 1.52 mm) steel retaining angles. The retaining angles shall be secured to the sleeve and the wall with No. 10 (M5) screws. The annular space between the steel sleeve and the wall opening shall be filled with mineral wool batting on all sides.
- 4. Such walls are penetrated by ducted HVAC systems, have a required fire-resistance rating of 1 hour or less, and are in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. For the purposes of this exception, a ducted HVAC system shall be a duct system for conveying supply, return or exhaust air as part of the structure's HVAC system. Such a duct system shall be constructed of sheet steel not less than No. 26 gage thickness and shall be continuous from the air-handling appliance or equipment to the air outlet and inlet terminals.

*For Group A, E, I and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, ducts and air transfer openings that penetrate fire partitions shall be protected with listed fire dampers installed in accordance with their listings.*

**Exceptions:**

- 1. *Fire dampers are not required in corridor penetrations where the duct is constructed of steel not less than 0.019 inch (0.48 mm) in thickness, protected as a through penetration in accordance with Section 713 and there are no openings serving the corridor.*
- 2. *Fire dampers are not required where the duct system is constructed of approved materials in accordance with the California Mechanical Code and the duct penetrating the wall complies with all of the following requirements:*
  - 2.1. *For other than corridors in Group I-2 occupancies the duct shall not exceed 100 square inches (0.6 m<sup>2</sup>).*
  - 2.2. *The duct shall be constructed of steel a minimum of 0.0217 inch (0.55 mm) in thickness.*
  - 2.3. *The duct shall not have openings that communicate the corridor with adjacent spaces or rooms.*
  - 2.4. *The duct shall be installed above a ceiling.*

- 2.5. *The duct shall not terminate at a wall register in the fire-resistance rated wall.*
- 2.6. *The duct shall be protected as a through penetration in accordance with Section 714 or shall comply with the all of the following:*
  - 1. *A minimum 12-inch-long (305 mm) by 0.060-inch-thick (1.52 mm) steel sleeve shall be centered in each duct opening.*
  - 2. *The sleeve shall be secured to both sides of the wall and for all four sides of the sleeve with minimum 1½-inch by 1½-inch by 0.060-inch (38 mm by 38 mm by 1.52 mm) steel retaining angles.*
  - 3. *The retaining angles shall be secured to the sleeve and the wall with No. 10 (M5) screws.*
  - 4. *The annular space between the steel sleeve and the wall opening shall be filled with mineral wool batting on all sides.*

**717.5.4.1 Corridors.** *In other than Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal a listed smoke damper designed to resist the passage of smoke shall be provided at each point a duct or air transfer opening penetrates a corridor enclosure required to have smoke and draft control doors in accordance with Section 716.5.3.*

**Exceptions:**

- 1. *Smoke dampers are not required where the building is equipped throughout with an approved smoke control system in accordance with Section 909, and smoke dampers are not necessary for the operation and control of the system.*
- 2. *Smoke dampers are not required in corridor penetrations where the duct is constructed of steel not less than 0.019 inch (0.48 mm) in thickness and there are no openings serving the corridor.*

*[SFM] For Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, a listed smoke damper designed to resist the passage of smoke shall also be provided at each point a duct or air transfer opening penetrates a fire-resistance rated corridor enclosure required to have smoke and draft doors in accordance with Section 715.5.3.*

**Exceptions:**

- 1. *Smoke dampers are not required where ducts are used as part of an approved mechanical smoke control system designed in accordance with Section 909 and where the smoke damper will interfere with the operation of the smoke control system.*
- 2. *Smoke damper are not required in corridor penetrations where the duct is constructed of*

*steel not less than 0.019 inch (0.48 mm) in thickness and there are no openings serving the corridor.*

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

**Exception:** Smoke dampers are not required where the openings in ducts are limited to a single smoke compartment and the ducts are constructed of steel.

**717.5.6 Exterior walls.** Ducts and air transfer openings in fire-resistance-rated exterior walls required to have protected openings in accordance with Section 705.10 shall be protected with listed fire dampers installed in accordance with their listing.

**717.5.7 Smoke partitions.** A listed smoke damper designed to resist the passage of smoke shall be provided at each point that an air transfer opening penetrates a smoke partition. Smoke dampers and smoke damper actuation methods shall comply with Section 717.3.3.2.

**Exception:** Where the installation of a smoke damper will interfere with the operation of a required smoke control system in accordance with Section 909, approved alternative protection shall be utilized.

**717.6 Horizontal assemblies.** Penetrations by ducts and air transfer openings of a floor, floor/ceiling assembly or the ceiling membrane of a roof/ceiling assembly shall be protected by a shaft enclosure that complies with Section 713 or shall comply with Sections 717.6.1 through 717.6.3.

**717.6.1 Through penetrations.** In occupancies other than Groups I-2, I-2.1 and I-3, a duct constructed of approved materials in accordance with the *California Mechanical Code* that penetrates a fire-resistance-rated floor/ceiling assembly that connects not more than two stories is permitted without shaft enclosure protection, provided a listed fire damper is installed at the floor line or the duct is protected in accordance with Section 714.4. For air transfer openings, see Section 712.1.8.

**Exception:** A duct is permitted to penetrate three floors or less without a fire damper at each floor, provided such duct meets all of the following requirements:

1. The duct shall be contained and located within the cavity of a wall and shall be constructed of steel having a minimum wall thickness of 0.0187 inches (0.4712 mm) (No. 26 gage).
2. The duct shall open into only one dwelling or sleeping unit and the duct system shall be continuous from the unit to the exterior of the building.
3. The duct shall not exceed 4-inch (102 mm) nominal diameter and the total area of such ducts shall not exceed 100 square inches (0.065 m<sup>2</sup>) in any 100 square feet (9.3 m<sup>2</sup>) of floor area.
4. The annular space around the duct is protected with materials that prevent the passage of flame and hot gases sufficient to ignite cotton waste

where subjected to ASTM E 119 or UL 263 time-temperature conditions under a minimum positive pressure differential of 0.01 inch (2.49 Pa) of water at the location of the penetration for the time period equivalent to the fire-resistance rating of the construction penetrated.

5. Grille openings located in a ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly shall be protected with a listed ceiling radiation damper installed in accordance with Section 717.6.2.1.

**717.6.2 Membrane penetrations.** Ducts and air transfer openings constructed of approved materials in accordance with the *California Mechanical Code* that penetrate the ceiling membrane of a fire-resistance-rated floor/ceiling or roof/ceiling assembly shall be protected with one of the following:

1. A shaft enclosure in accordance with Section 713.
2. A listed ceiling radiation damper installed at the ceiling line where a duct penetrates the ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly.
3. A listed ceiling radiation damper installed at the ceiling line where a diffuser with no duct attached penetrates the ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly.

**717.6.2.1 Ceiling radiation dampers.** Ceiling radiation dampers shall be tested in accordance with Section 717.3.1. Ceiling radiation dampers shall be installed in accordance with the details listed in the fire-resistance-rated assembly and the manufacturer's installation instructions and the listing. Ceiling radiation dampers are not required where either of the following applies:

1. Tests in accordance with ASTM E 119 or UL 263 have shown that ceiling radiation dampers are not necessary in order to maintain the fire-resistance rating of the assembly.
2. Where exhaust duct penetrations are protected in accordance with Section 714.4.1.2, are located within the cavity of a wall and do not pass through another dwelling unit or tenant space.

**717.6.3 Nonfire-resistance-rated floor assemblies.** Duct systems constructed of approved materials in accordance with the *California Mechanical Code* that penetrate non-fire-resistance-rated floor assemblies shall be protected by any of the following methods:

1. A shaft enclosure in accordance with Section 713.
2. The duct connects not more than two stories, and the annular space around the penetrating duct is protected with an approved noncombustible material that resists the free passage of flame and the products of combustion.
3. The duct connects not more than three stories, and the annular space around the penetrating duct is protected with an approved noncombustible material that resists the free passage of flame and the prod-

## CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE CHAPTER 8 – INTERIOR FINISHES

(Matrix Adoption Tables are non-regulatory, intended only as an aid to the user.  
See Chapter 1 for state agency authority and building applications.)

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
<i>Adopt entire chapter</i>	X		X	X			X	X	X	X										
<i>Adopt entire chapter as amendeded (amended sections listed below)</i>		X																		
<i>Adopt only those sections that are listed below</i>																				
<i>Chapter / Section</i>																				
Table 803.9		X																		
804.4		X																		
804.4.1		X																		
804.4.2		X																		
804.4.3		X																		
806.1		X																		
806.5		X																		

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**TABLE 803.9  
INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY<sup>k</sup>**

GROUP	SPRINKLERED <sup>l</sup>			NONSPRINKLERED		
	Interior exit stairways, interior exit ramps and exit passageways <sup>a,b</sup>	Corridors and enclosure for exit access stairways and exit access ramps	Rooms and enclosed spaces <sup>c</sup>	Interior exit stairways, interior exit ramps and exit passageways <sup>a,b</sup>	Corridors and enclosure for exit access stairways and exit access ramps	Rooms and enclosed spaces <sup>c</sup>
A-1 & A-2	B	B	C	A	A <sup>d</sup>	B <sup>e</sup>
A-3 <sup>f</sup> , A-4, A-5	B	B	C	A	A <sup>d</sup>	C
B, E, M, R-1	B	C	C	A	B	C
R-4	B	C	C	A	B	B
F	C	C	C	B	C	C
H, L	B	B	C <sup>g</sup>	A	A	B
I-2, I-2.1	B	B	B <sup>h,i</sup>	A	A	B
I-3	A	A <sup>i</sup>	B	NP	NP	NP
I-4	B	B	B <sup>h,i</sup>	A	A	B
R-2	C	C	C	B	B	C
R-2.1	B	C	C	A	B	B
R-3, R-3.1	C	C	C	C	C	C
S	C	C	C	B	B	C
U	No restrictions			No restrictions		

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929m<sup>2</sup>.

NP = Not permitted [SFM]

- a. Class C interior finish materials shall be permitted for wainscoting or paneling of not more than 1,000 square feet of applied surface area in the grade lobby where applied directly to a noncombustible base or over furring strips applied to a noncombustible base and fireblocked as required by Section 803.11.1.
- b. In other than Group I-2 and I-2.1 occupancies in buildings less than three stories above grade plane of other than Group I-3, Class B interior finish for nonsprinklered buildings and Class C interior finish for sprinklered buildings shall be permitted in interior exit stairways and ramps.
- c. Requirements for rooms and enclosed spaces shall be based upon spaces enclosed by partitions. Where a fire-resistance rating is required for structural elements, the enclosing partitions shall extend from the floor to the ceiling. Partitions that do not comply with this shall be considered enclosing spaces and the rooms or spaces on both sides shall be considered one. In determining the applicable requirements for rooms and enclosed spaces, the specific occupancy thereof shall be the governing factor regardless of the group classification of the building or structure.
- d. Lobby areas in Group A-1, A-2 and A-3 occupancies shall not be less than Class B materials.
- e. Class C interior finish materials shall be permitted in places of assembly with an occupant load of 300 persons or less.
- f. For places of religious worship, wood used for ornamental purposes, trusses, paneling or chancel furnishing shall be permitted.
- g. Class B material is required where the building exceeds two stories.
- h. Class C interior finish materials shall be permitted in administrative spaces.
- i. Class C interior finish materials shall be permitted in rooms with a capacity of four persons or less.
- j. Class B materials shall be permitted as wainscoting extending not more than 48 inches above the finished floor in corridors and exit access stairways and ramps.
- k. Finish materials as provided for in other sections of this code.
- l. Applies when protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

horizontal fire-resistance rated floor or roof assembly shall be of fire-resistance-rated construction as required elsewhere in this code.

**Exception:** In Types III and V construction, fire-retardant-treated wood shall be permitted for use as hangers and assembly members of dropped ceilings.

**803.11.3 Heavy timber construction.** Wall and ceiling finishes of all classes as permitted in this chapter that are installed directly against the wood decking or planking of Type IV construction or to wood furring strips applied directly to the wood decking or planking shall be fireblocked as specified in Section 803.11.1.1.

**803.11.4 Materials.** An interior wall or ceiling finish material that is not more than 1/4 inch (6.4 mm) thick shall be applied directly onto the wall, ceiling or structural ele-

ment without the use of furring strips and shall not be suspended away from the building element to which it is applied.

**Exceptions:**

- 1. Noncombustible interior finish materials.
- 2. Materials that meet the requirements of Class A materials in accordance with Section 803.1.1 or 803.1.2 where the qualifying tests were made with the material furred out from the noncombustible backing shall be permitted to be used with furring strips.
- 3. Materials that meet the requirements of Class A materials in accordance with Section 803.1.1 or 803.1.2 where the qualifying tests were made with the material suspended away from the non-

## INTERIOR FINISHES

combustible backing shall be permitted to be used suspended away from the building element.

**803.12 High-density Polyethylene (HDPE) and Polypropylene (PP).** Where high-density polyethylene or polypropylene is used as an interior finish it shall comply with Section 803.1.2.

**803.13 Site-fabricated stretch systems.** Where used as interior wall or interior ceiling finish materials, site-fabricated stretch systems containing all three components described in the definition in Section 802 shall be tested in the manner intended for use, and shall comply with the requirements of Section 803.1.1 or 803.1.2. If the materials are tested in accordance with ASTM E 84 or UL 723, specimen preparation and mounting shall be in accordance with ASTM E 2573.

### SECTION 804 INTERIOR FLOOR FINISH

**804.1 General.** Interior floor finish and floor covering materials shall comply with Sections 804.2 through 804.4.2.

**Exception:** Floor finishes and coverings of a traditional type, such as wood, vinyl, linoleum or terrazzo, and resilient floor covering materials that are not comprised of fibers.

**804.2 Classification.** Interior floor finish and floor covering materials required by Section 804.4.2 to be of Class I or II materials shall be classified in accordance with NFPA 253. The classification referred to herein corresponds to the classifications determined by NFPA 253 as follows: Class I, 0.45 watts/cm<sup>2</sup> or greater; Class II, 0.22 watts/cm<sup>2</sup> or greater.

**804.3 Testing and identification.** Interior floor finish and floor covering materials shall be tested by an agency in accordance with NFPA 253 and identified by a hang tag or other suitable method so as to identify the manufacturer or supplier and style, and shall indicate the interior floor finish or floor covering classification according to Section 804.2. Carpet-type floor coverings shall be tested as proposed for use, including underlayment. Test reports confirming the information provided in the manufacturer's product identification shall be furnished to the building official upon request.

**804.4 Interior floor finish requirements.** Interior floor covering materials shall comply with Sections 804.4.1 and 804.4.2 and interior floor finish materials shall comply with Section 804.4.3.

**804.4.1 Test requirement.** In all *other* occupancies *except* I-3, interior floor finish and interior floor covering materials shall comply with the requirements of the *ASTM Standard E 648*, and having a specific optical density smoke rating not to exceed 450 per ASTM E 662. For Group I-3 occupancies see Section 804.4.3.

**804.4.2 Minimum critical radiant flux.** In all occupancies, interior floor finish and floor covering materials in enclosures for stairways and ramps, exit passageways, corridors and rooms or spaces not separated from corridors by partitions extending from the floor to the underside of the ceiling shall withstand a minimum critical radiant flux. The minimum critical radiant flux shall not be less than

Class I in Groups I-2 and not less than Class II in Groups A, B, E, H, I-2.1, I-4, M, R-1, R-2 and S.

**Exception:** Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, Class II materials are permitted in any area where Class I materials are required, and materials complying with *ASTM Standard E 648*, and having a specific optical density smoke rating not to exceed 450 per ASTM E 662 are permitted in any area where Class II materials are required.

**804.4.3 Group I-3 Occupancy floor surfaces.** Interior floor finish and floor coverings occupied by inmates or patients whose personal liberties are restrained shall be noncombustible.

**Exception:** Noncombustible floor finish and floor coverings in areas where restraint is not used may have carpet or other floor covering materials applied in areas protected by an automatic sprinkler system and meeting ASTM Standard E 648, and having a specific optical density smoke rating not to exceed 450 per ASTM E 662. The carpeting and carpet padding shall be tested as a unit in accordance with floor covering radiant panel test meeting class I and has a critical radiant flux limit of not less than 0.45 watt per centimeter square. The carpeting and padding shall be identified by a hang-tag or other suitable method as to manufacturer and style and shall indicate the classification of the material based on the limits set forth above.

### SECTION 805 COMBUSTIBLE MATERIALS IN TYPES I AND II CONSTRUCTION

**805.1 Application.** Combustible materials installed on or embedded in floors of buildings of Type I or II construction shall comply with Sections 805.1.1 through 805.1.3.

**Exception:** Stages and platforms constructed in accordance with Sections 410.3 and 410.4, respectively.

**805.1.1 Subfloor construction.** Floor sleepers, bucks and nailing blocks shall not be constructed of combustible materials, unless the space between the fire-resistance-rated floor assembly and the flooring is either solidly filled with noncombustible materials or fireblocked in accordance with Section 718, and provided that such open spaces shall not extend under or through permanent partitions or walls.

**805.1.2 Wood finish flooring.** Wood finish flooring is permitted to be attached directly to the embedded or fireblocked wood sleepers and shall be permitted where cemented directly to the top surface of fire-resistance-rated floor assemblies or directly to a wood subfloor attached to sleepers as provided for in Section 805.1.1.

**805.1.3 Insulating boards.** Combustible insulating boards not more than 1/2 inch (12.7 mm) thick and covered with finish flooring are permitted where attached directly to a noncombustible floor assembly or to wood subflooring attached to sleepers as provided for in Section 805.1.1.

**SECTION 806  
DECORATIVE MATERIALS AND TRIM**

**[F] 806.1 General requirements.** In occupancies in Groups A, E, I and R-1 and dormitories in Group R-2, curtains, draperies, hangings and other decorative materials suspended from walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 806.2 or be noncombustible.

**Exceptions:**

1. Curtains, draperies, hangings and other decorative materials suspended from walls of sleeping units and dwelling units in dormitories in Group R-2 protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1 and such materials are limited to not more than 50 percent of the aggregate area of walls.
2. Decorative materials, including, but not limited to, photographs and paintings in dormitories in Group R-2 where such materials are of limited quantities such that a hazard of fire development or spread is not present.

**||** In Groups I-1, I-2 and I-2.1, combustible decorative materials shall meet the flame propagation criteria of NFPA 701 unless the decorative materials, including, but not limited to, photographs and paintings, are of such limited quantities that a hazard of fire development or spread is not present. In Group I-3, combustible decorative materials are prohibited.

Fixed or movable walls and partitions, paneling, wall pads and crash pads applied structurally or for decoration, acoustical correction, surface insulation or other purposes shall be considered interior finish if they cover 10 percent or more of the wall or of the ceiling area, and shall not be considered decorative materials or furnishings.

In Group B and M occupancies, fabric partitions suspended from the ceiling and not supported by the floor shall meet the flame propagation performance criteria in accordance with Section 806.2 and NFPA 701 or shall be noncombustible.

**[F] 806.1.1 Noncombustible materials.** The permissible amount of noncombustible decorative material shall not be limited.

**[F] 806.1.2 Combustible decorative materials.** The permissible amount of decorative materials meeting the flame propagation performance criteria of NFPA 701 shall not exceed 10 percent of the specific wall or ceiling area to which it is attached.

**Exceptions:**

1. In auditoriums in Group A, the permissible amount of decorative material meeting the flame propagation performance criteria of NFPA 701 shall not exceed 75 percent of the aggregate wall area where the building is equipped throughout with an automatic sprinkler system in accordance

with Section 903.3.1.1 and where the material is installed in accordance with Section 803.1.1.

2. The amount of fabric partitions suspended from the ceiling and not supported by the floor in Group B and M occupancies shall not be limited.

**[F] 806.2 Acceptance criteria and reports.** Where required by Section 806.1, decorative materials shall be tested by an agency and meet the flame propagation performance criteria of NFPA 701 or such materials shall be noncombustible. Reports of test results shall be prepared in accordance with NFPA 701 and furnished to the building official upon request.

**[F] 806.3 Foam plastic.** Foam plastic used as trim in any occupancy shall comply with Section 2604.2.

**[F] 806.4 Pyroxylin plastic.** Imitation leather or other material consisting of or coated with a pyroxylin or similarly hazardous base shall not be used in Group A occupancies.

**[F] 806.5 Interior trim.** Material, other than foam plastic used as interior trim, shall have a minimum *Class B flame spread and 450 smoke-developed index in Group I-3 and for all other occupancies* Class C flame spread and smoke-developed index when tested in accordance with ASTM E 84 or UL 723, as described in Section 803.1.1. Combustible trim, excluding handrails and guardrails, shall not exceed 10 percent of the specific wall or ceiling area in which it is attached.

**[F] 806.6 Interior floor-wall base.** Interior floor-wall base that is 6 inches (152 mm) or less in height shall be tested in accordance with Section 804.2 and shall not be less than Class II. Where a Class I floor finish is required, the floor-wall base shall be Class I.

**Exception:** Interior trim materials that comply with Section 806.5.

**SECTION 807  
INSULATION**

**807.1 Insulation.** Thermal and acoustical insulation shall comply with Section 720.

**SECTION 808  
ACOUSTICAL CEILING SYSTEMS**

**808.1 Acoustical ceiling systems.** The quality, design, fabrication and erection of metal suspension systems for acoustical tile and lay-in panel ceilings in buildings or structures shall conform with generally accepted engineering practice, the provisions of this chapter and other applicable requirements of this code.

**808.1.1 Materials and installation.** Acoustical materials complying with the interior finish requirements of Section 803 shall be installed in accordance with the manufacturer's recommendations and applicable provisions for applying interior finish.

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**808.1.1.1 Suspended acoustical ceilings.** Suspended acoustical ceiling systems shall be installed in accordance with the provisions of ASTM C 635 and ASTM C 636.

**808.1.1.2 Fire-resistance-rated construction.** Acoustical ceiling systems that are part of fire-resistance-rated construction shall be installed in the same manner used in the assembly tested and shall comply with the provisions of Chapter 7.

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 9 – FIRE PROTECTION SYSTEMS—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
<i>Adopt entire chapter</i>	X						X	X	X	X										
<i>Adopt entire chapter as amended (amended sections listed below)</i>		X	X	X																
<i>Adopt only those sections that are listed below</i>						X													X	
<i>Chapter / Section</i>																				
904.11		X																		
905.1		X																		
905.3		X																		
905.3.1		X																		
905.3.6		X																		
905.3.8		X																		
905.3.9		X																		
905.3.10		X																		
905.3.11		X																		
905.3.11.1		X																		
905.4		X																		
905.5		X																		
906.1		X																		
906.2		X																		
Table 906.3(1)		X																		
906.3.2		X																		
Table 906.3(2)		X																		
906.3.4		X																		
907.1.2		X																		
907.1.3		X																		
907.1.4		X																		
907.1.5		X																		
907.2		X																		
907.2.1		X																		
907.2.1.1		X																		
907.2.1.3		X																		
907.2.2		X																		
907.2.2.2		X																		
907.2.3		X																		
907.2.3.1		X																		
907.2.3.2		X																		
907.2.3.3		X																		
907.2.3.4		X																		
907.2.3.5		X																		
907.2.3.6		X																		
907.2.3.6.1		X																		
907.2.3.6.2		X																		
907.2.3.7		X																		
907.2.3.8		X																		

*(continued)*

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 9 – FIRE PROTECTION SYSTEMS—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
<i>Adopt entire chapter</i>	X						X	X	X	X										
<i>Adopt entire chapter as amended (amended sections listed below)</i>		X	X	X																
<i>Adopt only those sections that are listed below</i>						X													X	
<i>Chapter / Section</i>																				
907.2.3.8.1		X																		
907.2.3.8.2		X																		
907.2.5		X																		
907.2.5.1		X																		
907.2.6		X																		
907.2.6.2		X																		
907.2.6.2.1		X																		
907.2.6.2.2		X																		
907.2.6.3		X																		
907.2.6.3.3		X																		
907.2.6.3.4		X																		
907.2.6.4		X																		
907.2.8		X																		
907.2.9		X																		
907.2.9.1		X																		
907.2.9.3		X																		
907.2.9.4		X																		
907.2.9.4.1		X																		
907.2.11		X																		
907.2.11.1		X																		
907.2.11.2		X																		
907.2.11.2.1		X																		
907.2.11.2.2		X																		
907.2.11.2.3		X																		
907.2.11.3		X																		
907.2.11.4		X																		
907.2.11.5		X																		
907.2.11.6		X																		
907.2.13		X																		
907.2.13.1		X																		
907.2.13.1.1		X																		
907.2.13.1.2		X																		
907.2.13.2		X																		
907.2.15		X																		
907.2.16		X																		
907.2.24		X																		
907.2.24.1		X																		
907.2.24.2		X																		
907.2.24.3		X																		
907.2.24.4		X																		

(continued)

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 9 – FIRE PROTECTION SYSTEMS—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
<i>Adopt entire chapter</i>	X						X	X	X	X										
<i>Adopt entire chapter as amended (amended sections listed below)</i>		X	X	X																
<i>Adopt only those sections that are listed below</i>						X													X	
<i>Chapter / Section</i>																				
909.20.3		X																		
909.20.3.1		X																		
909.20.3.2		X																		
909.20.4		X																		
909.20.4.1		X																		
909.20.4.2		X																		
909.20.4.3		X																		
909.20.4.3.1		X																		
909.20.4.3.2		X																		
909.20.4.3.3		X																		
909.20.5		X																		
909.20.5.1		X																		
909.20.5.2		X																		
909.20.5.3		X																		
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910.2.2		X																		
910.3		X																		
910.3.1		X																		
910.3.2		X																		
910.3.3		X																		
910.4		X																		
910.4.1		X																		
910.4.2		X																		
910.4.3		X																		
910.4.3.1		X																		
910.4.4		X																		
910.4.5		X																		
910.4.6		X																		
910.4.7		X																		
911.1		X																		
911.1.5		X																		
912.3		X																		
912.5		X																		
913.6		X																		

*The Office of the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures regulated by other state agencies pursuant to Section 1.11.*



**[F] 903.2.1.2 Group A-2.** An automatic sprinkler system shall be provided for Group A-2 occupancies where one of the following conditions exists:

1. The fire area exceeds 5,000 square feet (464.5 m<sup>2</sup>);
2. The fire area has an occupant load of 100 or more; or
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.
4. *The structure exceeds 12,000 square feet (1155 m<sup>2</sup>), contains more than one fire area containing exhibition and display rooms, and is separated into two or more buildings by fire walls of less than four-hour fire resistance rating without openings.*

**[F] 903.2.1.3 Group A-3.** An automatic sprinkler system shall be provided for Group A-3 occupancies where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m<sup>2</sup>);
2. The fire area has an occupant load of 300 or more; or
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

**[F] 903.2.1.4 Group A-4.** An automatic sprinkler system shall be provided for Group A-4 occupancies where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m<sup>2</sup>);
2. The fire area has an occupant load of 300 or more; or
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

**[F] 903.2.1.5 Group A-5.** An automatic sprinkler system shall be provided for Group A-5 occupancies in the following areas: concession stands, retail areas, press boxes and other accessory use areas in excess of 1,000 square feet (93 m<sup>2</sup>).

**[F] 903.2.2 Ambulatory care facilities.** An automatic sprinkler system shall be installed throughout the entire floor containing an ambulatory care facility where either of the following conditions exist at any time:

1. Four or more care recipients are incapable of self-preservation, whether rendered incapable by staff or staff has accepted responsibility for care recipients already incapable.
2. One or more care recipients that are incapable of self-preservation are located at other than the level of exit discharge serving such a facility.

In buildings where ambulatory care is provided on levels other than the level of exit discharge, an automatic sprinkler system shall be installed throughout the entire floor where such care is provided as well as all floors below, and all floors between the level of ambulatory care

and the nearest level of exit discharge, including the level of exit discharge.

**[F] 903.2.3 Group E.** An automatic sprinkler system shall be provided for Group E occupancies as follows:

1. Throughout all Group E fire areas greater than 12,000 square feet (1115 m<sup>2</sup>) in area.
2. Throughout every portion of educational buildings below the lowest level of exit discharge serving that portion of the building.

**Exception:** An automatic sprinkler system is not required in any area below the lowest level of exit discharge serving that area where every classroom throughout the building has at least one exterior exit door at ground level.

3. *In rooms or areas with special hazards such as laboratories, vocational shops and other such areas where hazardous materials in quantities not exceeding the maximum allowable quantity are used or stored.*
4. *Throughout any Group E structure greater than 12,000 square feet (1115 m<sup>2</sup>) in area, which contains more than one fire area, and which is separated into two or more buildings by fire walls of less than four hour fire resistance rating without openings.*
5. *For public school state funded construction projects see Section 903.2.19.*

**[F] 903.2.4 Group F-1.** An automatic sprinkler system shall be provided throughout all buildings containing a Group F-1 occupancy where one of the following conditions exists:

1. A Group F-1 fire area exceeds 12,000 square feet (1115 m<sup>2</sup>).
2. A Group F-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group F-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m<sup>2</sup>).
4. A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m<sup>2</sup>).

**[F] 903.2.4.1 Woodworking operations.** An automatic sprinkler system shall be provided throughout all Group F-1 occupancy fire areas that contain woodworking operations in excess of 2,500 square feet (232 m<sup>2</sup>) in area which generate finely divided combustible waste or use finely divided combustible materials. *[SFM] A fire wall of less than four-hour fire-resistance rating, or any fire wall with openings, shall not be used to establish separate fire areas without openings.*

**[F] 903.2.5 Group H.** Automatic sprinkler systems shall be provided in high-hazard occupancies as required in Sections 903.2.5.1 through 903.2.5.3.

**[F] 903.2.5.1 General.** An automatic sprinkler system shall be installed in Group H occupancies.

[F] **903.2.5.2 Group H-5.** An automatic sprinkler system shall be installed throughout buildings containing Group H-5 occupancies. The design of the sprinkler system shall not be less than that required by this code for the occupancy hazard classifications in accordance with Table 903.2.5.2. Where the design area of the sprinkler system consists of a corridor protected by one row of sprinklers, the maximum number of sprinklers required to be calculated is 13.

[F] **903.2.5.3 Pyroxylin plastics.** An automatic sprinkler system shall be provided in buildings, or portions thereof, where cellulose nitrate film or pyroxylin plastics are manufactured, stored or handled in quantities exceeding 100 pounds (45 kg).

[F] **903.2.5.4 Group H occupancies located above the 10th story.** The fire sprinkler system shall be designed and zoned to provide separate indication upon water-flow for each side of the 2-hour fire-smoke barrier above the 10th story.

[F] TABLE 903.2.5.2  
GROUP H-5 SPRINKLER DESIGN CRITERIA

LOCATION	OCCUPANCY HAZARD CLASSIFICATION
Fabrication areas	Ordinary Hazard Group 2
Service corridors	Ordinary Hazard Group 2
Storage rooms without dispensing	Ordinary Hazard Group 2
Storage rooms with dispensing	Extra Hazard Group 2
Corridors	Ordinary Hazard Group 2

[F] **903.2.6 Group I.** An automatic sprinkler system shall be provided throughout buildings with a Group I fire area.

**Exceptions:**

1. Those areas exempted by Section 407.6 of the California Building Code.
2. Pursuant to health and Safety Code Section 13113(d), Group I-2 occupancies, or any alterations thereto, located in Type IA construction in existence on March 4, 1972.

[F] **903.2.6.1 Group I-2.** In an existing, unsprinklered Group I-2, nurses' station open to fire-resistive exit access corridors shall be protected by an automatic sprinkler system located directly above the nurses' station. It shall be permitted to connect the automatic sprinkler system to the domestic water service.

[F] **903.2.6.2 Group I-3.** Every building, or portion thereof, where inmates or persons are in custody or restrained shall be protected by an automatic sprinkler system conforming to NFPA 13. The main sprinkler control valve or valves and all other control valves in the system shall be locked in the open position and electrically supervised so that at least an audible and visual alarm will sound at a constantly attended location when valves are closed. The sprinkler branch piping serving cells may be embedded in the concrete construction.

[F] **903.2.7 Group M.** An automatic sprinkler system shall be provided throughout buildings containing a Group

M occupancy where one of the following conditions exists:

1. A Group M fire area exceeds 12,000 square feet (1115 m<sup>2</sup>).
2. A Group M fire area is located more than three stories above grade plane.
3. The combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m<sup>2</sup>).
4. A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m<sup>2</sup>).
5. The structure exceeds 24,000 square feet (465 m<sup>2</sup>), contains more than one fire area containing a Group M occupancy, and is separated into two or more buildings by fire walls of less than 4-hour fire resistance rating without openings.

[F] **903.2.7.1 High-piled storage.** An automatic sprinkler system shall be provided in accordance with the California Fire Code in all buildings of Group M where storage of merchandise is in high-piled or rack storage arrays.

**907.3.2.1** In other than Group I, R-2.1 and Group R-4, occupancies for single-story buildings smoke detectors shall be installed at ceilings throughout all occupied areas and mechanical/electrical spaces. For multiple-story buildings smoke detectors shall be installed throughout all occupied areas and mechanical/electrical spaces for the story where delayed egress devices are installed. Additional detectors are required on adjacent stories where occupants of those stories utilize the same means of egress.

**Exception:** Refer to 907.3.2.4 for Group A courthouse occupancies.

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

**Exceptions:**

1. Existing Group R-3 occupancies converted to Group R-3.1 occupancies not housing bedridden clients, not housing nonambulatory clients above the first floor and not housing clients above the second floor.
2. Existing Group R-3 occupancies converted to Group R-3.1 occupancies housing only one bedridden client and complying with Section 425.8.3.3.
3. Pursuant to Health and Safety Code Section 13113 occupancies housing ambulatory children only, none of whom are mentally ill or mentally retarded, and the buildings or portions thereof in which such children are housed are not more than two stories in height, and buildings or portions thereof housing such children have an auto-

13. Classification of the supervising station.
14. *All plans and shop drawings shall use the symbols identified in NFPA 170, Standard for Fire Safety and Emergency Symbols.*

**Exception:** *Other symbols are allowed where approved by the enforcing agency.*

**[F] 907.1.3 Equipment.** Systems and components shall be California State Fire Marshal listed and approved in accordance with California Code of Regulations, Title 19, Division 1 for the purpose for which they are installed.

**[F] 907.1.4 Fire-walls and fire barrier walls.** *For the purpose of Section 907 fire walls and fire barrier walls shall not define separate buildings.*

**[F] 907.1.5 Fire alarm use.** *A fire alarm system shall not be used for any purpose other than fire warning or mass notification and where permitted by NFPA 72.*

**[F] 907.2 Where required—new buildings and structures.** An approved fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Sections 907.2.1 through 907.2.23 and provide occupant notification in accordance with Section 907.5, unless other requirements are provided by another section of this code.

A minimum of one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or waterflow detection devices. Where other sections of this code allow elimination of fire alarm boxes due to sprinklers, or automatic fire alarm systems, a single fire alarm box shall be installed at a location approved by the enforcing agency.

**Exceptions:**

1. The manual fire alarm box is not required for fire alarm control units dedicated to elevator recall control supervisory service and fire sprinkler monitoring.
2. The manual fire alarm box is not required for Group R-2 occupancies unless required by the fire code official to provide a means for fire watch personnel to initiate an alarm during a sprinkler system impairment event. Where provided, the manual fire alarm box shall not be located in an area that is accessible to the public.
3. *The manual fire alarm box is not required to be installed when approved by the fire code official.*

**[F] 907.2.1 Group A.** A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the occupant load due to the assembly occupancy is 300 or more. Group A occupancies not separated from one another in accordance with Section 707.3.9 shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes with an occupant load of less than 1,000, shall be provided with a fire alarm system as required for the Group E occupancy.

**Exception:** Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler waterflow.

*Every Group A building used for educational purposes shall be provided with a manual or automatic fire alarm system. This provision shall apply to, but shall not necessarily be limited to, every community college and university.*

**Exception:** *Privately owned trade or vocational schools or any firm or company which provides educational facilities and instructions for its employees.*

**[F] 907.2.1.1 System initiation in Group A occupancies with an occupant load of 1,000 or more.** Activation of the fire alarm in Group A occupancies with an occupant load of 1,000 or more shall initiate a signal using an emergency voice/alarm communications system in accordance with Section 907.5.2.2. *Group A occupancies with an occupant load of 10,000 or more, see Section 907.2.1.3.*

**Exception:** Where approved, the prerecorded announcement is allowed to be manually deactivated for a period of time, not to exceed 3 minutes, for the sole purpose of allowing a live voice announcement from an approved, constantly attended location.

**[F] 907.2.1.2 Emergency voice/alarm communication captions.** Stadiums, arenas and grandstands required to caption audible public announcements shall be in accordance with Section 907.5.2.2.4.

**907.2.1.3 Public address system.** *Pursuant to Health and Safety Code Section 13108.9, for all buildings or structures constructed on or after July 1, 1991, which are intended for public assemblies of 10,000 or more persons a public address system with an emergency backup power system shall be required.*

**[F] 907.2.2 Group B.** A manual fire alarm system shall be installed in Group B occupancies where one of the following conditions exists:

1. The combined Group B occupant load of all floors is 500 or more.
2. The Group B occupant load is more than 100 persons above or below the lowest level of exit discharge.
3. The fire area contains an ambulatory care facility.
4. *Group B occupancies containing educational facilities, see Section 907.2.2.2.*

**Exception:** Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler waterflow.

[F] **907.2.2.1 Ambulatory care facilities.** Fire areas containing ambulatory care facilities shall be provided with an electronically supervised automatic smoke detection system installed within the ambulatory care facility and in public use areas outside of tenant spaces, including public corridors and elevator lobbies.

**Exception:** Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, provided the occupant notification appliances will activate throughout the notification zones upon sprinkler waterflow.

**907.2.2.2 Group B Educational facilities.** Every Group B building used for educational purposes shall be provided with a manual or automatic fire alarm system. This provision shall apply to, but shall not necessarily be limited to, every community college and university.

**Exception:** Privately owned trade or vocational schools or any firm or company which provides educational facilities and instructions for its employees.

[F] **907.2.3 Group E.** A manual and automatic fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E occupancies with an occupant load of 50 or more persons or containing more than one classroom or one or more rooms used for Group E or I-4 day care purposes in accordance with this section. When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

**Exceptions:**

1. Manual fire alarm boxes are not required in Group E occupancies where all of the following apply:
  - 1.1. Interior corridors are protected by smoke detectors.
  - 1.2. Auditoriums, cafeterias, gymnasiums and similar areas are protected by heat detectors or other approved detection devices.
  - 1.3. Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.
  - 1.4. The capability to activate the evacuation signal from a central point is provided.
2. Manual fire alarm boxes shall not be required in Group E occupancies where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, the emergency voice/alarm communication system will activate on sprinkler

water flow and manual activation is provided from a normally occupied location.

3. For public school state funded construction projects see Section 907.2.29.

**907.2.3.1 System connection.** Where more than one fire alarm control unit is used at the school campus, they shall be interconnected and shall operate all notification appliances.

**Exception:** Interconnection of fire alarm control units is not required when all the following are provided:

1. Buildings that are separated a minimum of 20 feet (6096 mm) and in accordance with the California Building Code; and
2. There is a method of two way communication between each classroom and the school administrative office approved by the fire enforcing agency; and
3. A method of manual activation of each fire alarm system is provided.

**907.2.3.2 Assemblies located within a Group E occupancy.** Assembly occupancies with an occupant load of less than 1,000 and located within a Group E occupancy campus or building shall be provided with a fire alarm system as required for the Group E occupancy.

**907.2.3.3 Notification.** The fire alarm system notification shall comply with the requirements of Section 907.5.

**907.2.3.4 Annunciation.** Annunciation of the fire alarm system shall comply with the requirements of Section 907.6.3.1.

**907.2.3.5 Monitoring.** School fire alarm systems shall be monitored in accordance with Section 907.6.5.2.

**907.2.3.6 Automatic fire alarm system.** Automatic detection shall be provided in accordance with this section.

**907.2.3.6.1 Smoke detectors.** Smoke detectors shall be installed at the ceiling of every room and in "ceiling-plenums" utilized for environmental air. Where the ceiling is attached directly to the underside of the roof structure, smoke detectors shall be installed on the ceiling only.

**Exception:** Where the environment or ambient conditions exceed smoke detector installation guidelines; heat detectors or fire sprinklers shall be used.

**907.2.3.6.2 Heat detectors.** Heat detectors shall be installed in combustible spaces where sprinklers or smoke detectors are not installed.

ture and may be of any type acceptable to the enforcing agency, provided that such devices are distinctive in tone and are audible throughout the structure.

**[F] 907.2.7 Group M.** A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group M occupancies where one of the following conditions exists:

1. The combined Group M occupant load of all floors is 500 or more persons.
2. The Group M occupant load is more than 100 persons above or below the lowest level of exit discharge.

**Exceptions:**

1. A manual fire alarm system is not required in covered or open mall buildings complying with Section 402.
2. Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will automatically activate throughout the notification zones upon sprinkler waterflow.

**[F] 907.2.7.1 Occupant notification.** During times that the building is occupied, the initiation of a signal from a manual fire alarm box or from a waterflow switch shall not be required to activate the alarm notification appliances when an alarm signal is activated at a constantly attended location from which evacuation instructions shall be initiated over an emergency voice/ alarm communication system installed in accordance with Section 907.5.2.2.

**[F] 907.2.8 Group R-1.** Fire alarm systems and smoke alarms shall be installed in Group R-1 occupancies as required in Sections 907.2.8.1 through 907.2.8.3.

**[F] 907.2.8.1 Manual fire alarm system.** A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R- 1 occupancies.

**Exceptions:**

1. A manual fire alarm system is not required in buildings not more than two stories in height where all individual sleeping units and contiguous attic and crawl spaces to those units are separated from each other and public or common areas by at least 1-hour fire partitions and each individual sleeping unit has an exit directly to a public way, egress court or yard.
2. Manual fire alarm boxes are not required throughout the building when all of the following conditions are met:
  - 2.1. The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2;

2.2. The notification appliances will activate upon sprinkler waterflow; and

2.3. At least one manual fire alarm box is installed at an approved location.

**[F] 907.2.8.2 Automatic smoke detection system.** An automatic smoke detection system that activates the occupant notification system in accordance with Section 907.5 shall be installed throughout all interior corridors serving sleeping units.

**Exception:** An automatic smoke detection system is not required in buildings that do not have interior corridors serving sleeping units and where each sleeping unit has a means of egress door opening directly to an exit or to an exterior exit access that leads directly to an exit.

**[F] 907.2.8.3 Smoke alarms.** Single- and multiple-station smoke alarms shall be installed in accordance with Section 907.2.11.

**[F] 907.2.9 Group R-2 and R-2.1.** Fire alarm systems and smoke alarms shall be installed in Group R-2 and R-2.1 occupancies as required in Sections 907.2.9.1 and 907.9.4.

**[F] 907.2.9.1 Manual fire alarm system.** A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-2 occupancies where:

1. Any dwelling unit or sleeping unit is located three or more stories above the lowest level of exit discharge;
2. Any dwelling unit or sleeping unit is located more than one story below the highest level of exit discharge of exits serving the dwelling unit or sleeping unit; or
3. The building contains more than 16 dwelling units or sleeping units.
4. *Congregate residences with more than 16 occupants.*

**Exceptions:**

1. A fire alarm system is not required in buildings not more than two stories in height where all dwelling units or sleeping units and contiguous attic and crawl spaces are separated from each other and public or common areas by at least 1-hour fire partitions and each dwelling unit or sleeping unit has an exit directly to a public way, egress court or yard.
2. Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and the occupant notification appliances will automatically activate throughout the notification zones upon a sprinkler waterflow.
3. A fire alarm system is not required in buildings that do not have interior corridors serving

dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open-ended corridors designed in accordance with Section 1026.6, Exception 4.

**[F] 907.2.9.2 Smoke alarms.** Single- and multiple-station smoke alarms shall be installed in accordance with Section 907.2.11.

**[F] 907.2.9.3 Group R-2 college and university buildings.** An automatic smoke detection system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-2 college and university buildings in the following locations:

1. Common spaces outside of dwelling units and sleeping units.
2. Laundry rooms, mechanical equipment rooms, and storage rooms.
3. All interior corridors serving sleeping units or dwelling units.

Required smoke alarms in dwelling units and sleeping units in Group R-2 college and university buildings shall be interconnected with the fire alarm system in accordance with NFPA 72.

**Exception:** An automatic smoke detection system is not required in buildings that do not have interior corridors serving sleeping units or dwelling units and where each sleeping unit or dwelling unit either has a means of egress door opening directly to an exterior exit access that leads directly to an exit or a means of egress door opening directly to an exit.

**907.2.9.4 Licensed Group R-2.1 occupancies.** *Licensed Group R-2.1 occupancies housing more than six nonambulatory, elderly clients shall be provided with an approved manual and automatic fire alarm system.*

**Exceptions:** *Buildings housing nonambulatory clients on the first story only and which are protected throughout by the following:*

1. *An approved and supervised automatic sprinkler system, as specified in Sections 903.3.1.1 or 903.3.1.2, which upon activation will initiate the fire alarm system to notify all occupants.*
2. *A manual fire alarm system.*
3. *Smoke alarms required by Section 907.2.11.*

**907.2.9.4.1 Smoke alarms.** *Single- and multiple-station smoke alarms shall be installed in accordance with Section 907.2.11.*

**[F] 907.2.10 Group R-4.** Fire alarm systems and smoke alarms shall be installed in Group R-4 occupancies as required in Sections 907.2.10.1 through 907.2.10.3.

**[F] 907.2.10.1 Manual fire alarm system.** A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-4 occupancies.

**Exceptions:**

1. A manual fire alarm system is not required in buildings not more than two stories in height where all individual sleeping units and contiguous attic and crawl spaces to those units are separated from each other and public or common areas by at least 1-hour fire partitions and each individual sleeping unit has an exit directly to a public way, egress court or yard.
2. Manual fire alarm boxes are not required throughout the building when the following conditions are met:
  - 2.1. The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2;
  - 2.2. The notification appliances will activate upon sprinkler waterflow; and
  - 2.3. At least one manual fire alarm box is installed at an approved location.
3. Manual fire alarm boxes in resident or patient sleeping areas shall not be required at exits where located at all nurses' control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that travel distances required in Section 907.4.2.1 are not exceeded.

**[F] 907.2.10.2 Automatic smoke detection system.** An automatic smoke detection system that activates the occupant notification system in accordance with Section 907.5 shall be installed in corridors, waiting areas open to corridors and habitable spaces other than sleeping units and kitchens.

**Exceptions:**

1. Smoke detection in habitable spaces is not required where the facility is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
2. An automatic smoke detection system is not required in buildings that do not have interior corridors serving sleeping units and where each sleeping unit has a means of egress door opening directly to an exit or to an exterior exit access that leads directly to an exit.

**[F] 907.2.10.3 Smoke alarms.** Single- and multiple-station smoke alarms shall be installed in accordance with Section 907.2.11.

**[F] 907.2.11 Single- and multiple-station smoke alarms.** Listed single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with Sections 907.2.11.1 through 907.2.11.4 and NFPA 72.

**Exception:** For Group R occupancies. A fire alarm system with smoke detectors located in accordance with this section may be installed in lieu of smoke alarms. Upon actuation of the detector, only those notification appliances in the dwelling unit or guest room where the detector is actuated shall activate.

**[F] 907.2.11.1 Group R-1.** Single- or multiple-station smoke alarms shall be installed in all of the following locations in Group R-1:

1. In sleeping areas.
2. In every room in the path of the means of egress from the sleeping area to the door leading from the sleeping unit.
3. In each story within the sleeping unit, including basements. For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

See Section 907.2.11.4 for specific location requirements.

**[F] 907.2.11.2 Groups R-2, R-2.1, R-3, R-3.1 and R-4 and I-1.** Single- or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-2.1, R-3, R-3.1 and R-4 regardless of occupant load at all of the following locations:

1. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.
2. In each room used for sleeping purposes.

**Exception:** Single- or multiple-station smoke alarms in Group I-1 shall not be required where smoke detectors are provided in the sleeping rooms as part of an automatic smoke detection system.

3. In each story within a dwelling unit, including basements but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.
4. In a Group R-3.1 occupancies, in addition to the above, smoke alarms shall be provided throughout the habitable areas of the dwelling unit except kitchens.

See Section 907.2.11.4 for specific location requirements.

**907.2.11.2.1 Group I-4 occupancies.** Large family day-care homes shall be equipped with State Fire Marshal approved and listed single station residential type smoke alarms.

**907.2.11.2.2 Group R-3.1.** In all facilities housing a bedridden client, smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms shall be electrically interconnected so as to cause all smoke alarms to sound a distinctive alarm signal upon actuation of any single smoke alarm. Such alarm signal shall be audible throughout the facility at a minimal level of 15 db above ambient noise level. These devices need not be interconnected to any other fire alarm device, have a control panel, or be electrically supervised or provided with emergency power.

**907.2.11.2.3 Smoke alarms.** Smoke alarms shall be tested and maintained in accordance with the manufacturer's instructions. Smoke alarms that no longer function shall be replaced.

**907.2.11.4 Specific location requirements.**

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

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

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

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

**Exceptions:**

- (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 ft 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.
- (5) 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.
- (6) 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.
- (7) 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.
- (8) 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.
- (9) 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.
- (10) 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.
- (11) Smoke alarms and detectors installed in rooms with joists or beams shall comply with the requirements of 17.7.3.2.4.
- (12) Heat alarms and detectors installed in rooms with joists or beams shall comply with the requirements of 17.6.3.

\*For additional requirements or clarification see NFPA 72.

**[F] 907.2.11.3 Interconnection.** Where more than one smoke alarm is required to be installed within an individual dwelling unit or sleeping unit in Group R occupancies, the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

**[F] 907.2.11.4 Power source.** In new construction, and in newly classified Group R-3.1 occupancies, required smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms with integral strobes that are not equipped with battery backup shall be connected to an emergency electrical system. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.

**Exception:** Smoke alarms are not required to be equipped with battery backup where they are connected to an emergency electrical system.

**907.2.11.6 Existing Group R Occupancies.** See the California Residential Code for existing Group R-3 occupancies or Chapter 46 of the California Fire Code for all other existing Group R occupancies.

**[F] 907.2.12 Special amusement buildings.** An automatic smoke detection system shall be provided in special amusement buildings in accordance with Sections 907.2.12.1 through 907.2.12.3.

**[F] 907.2.12.1 Alarm.** Activation of any single smoke detector, the automatic sprinkler system or any other automatic fire detection device shall immediately activate an audible and visible alarm at the building at a constantly attended location from which emergency action can be initiated, including the capability of manual initiation of requirements in Section 907.2.12.2.

**[F] 907.2.12.2 System response.** The activation of two or more smoke detectors, a single smoke detector equipped with an alarm verification feature, the automatic sprinkler system or other approved fire detection device shall automatically:

1. Cause illumination of the means of egress with light of not less than 1 footcandle (11 lux) at the walking surface level;
2. Stop any conflicting or confusing sounds and visual distractions;
3. Activate an approved directional exit marking that will become apparent in an emergency; and
4. Activate a prerecorded message, audible throughout the special amusement building, instructing

patrons to proceed to the nearest exit. Alarm signals used in conjunction with the prerecorded message shall produce a sound which is distinctive from other sounds used during normal operation.

**[F] 907.2.12.3 Emergency voice/alarm communication system.** An emergency voice/alarm communication system, which is also allowed to serve as a public address system, shall be installed in accordance with Section 907.5.2.2 and be audible throughout the entire special amusement building.

**[F] 907.2.13 High-rise buildings and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of the fire department vehicle access.** High-rise buildings and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access shall be provided with an automatic smoke detection system in accordance with Section 907.2.13.1, a fire department communication system in accordance with Section 907.2.13.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.

**Exceptions:**

1. Airport traffic control towers in accordance with Sections 907.2.22 and 412.
2. Open parking garages in accordance with Section 406.5.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1.
4. Low-hazard special occupancies in accordance with Section 503.1.1.
5. In Group I-2, *I-2.1* and *R-2.1* occupancies, the alarm shall sound at a constantly attended location and occupant notification shall be broadcast by the emergency voice/alarm communication system.

**[F] 907.2.13.1 Automatic smoke detection.** Automatic smoke detection in high-rise buildings and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access shall be in accordance with Sections 907.2.13.1.1 and 907.2.13.1.2.

**[F] 907.2.13.1.1 Area smoke detection.** Area smoke detectors shall be provided in accordance with this section. Smoke detectors shall be connected to an automatic fire alarm system. The activation of any detector required by this section shall activate the emergency voice/alarm communication system in accordance with Section 907.5.2.2. In addition to smoke detectors required by Sections 907.2.1 through 907.2.10, smoke detectors shall be located as follows:

1. In each mechanical equipment, electrical, transformer, telephone equipment or similar

room which is not provided with sprinkler protection.

2. In each elevator machine room and in elevator lobbies.

**[M] 907.2.13.1.2 Duct smoke detection.** *Smoke detectors listed for use in air duct systems shall be provided in accordance with this section and the California Mechanical Code. The activation of any detector required by this section shall initiate a visible and audible supervisory signal at a constantly attended location.* Duct smoke detectors complying with Section 907.3.1 shall be located as follows:

1. In the main return air and exhaust air plenum of each air-conditioning system having a capacity greater than 2,000 cubic feet per minute (cfm) (0.94 m<sup>3</sup>/s). Such detectors shall be located in a serviceable area downstream of the last duct inlet.
2. At each connection to a vertical duct or riser serving two or more stories from a return air duct or plenum of an air-conditioning system. In Group R-1 and R-2 occupancies, a smoke detector is allowed to be used in each return air riser carrying not more than 5,000 cfm (2.4 m<sup>3</sup>/s) and serving not more than 10 air-inlet openings.

**[F] 907.2.13.2 Fire department communication system.** Where a wired communication system is approved in lieu of an emergency responder radio coverage system in accordance with Section 510 of the *California Fire Code*, the wired fire department communication system shall be designed and installed in accordance with NFPA 72 and shall operate between a fire command center complying with Section 911, elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. The fire department communication device shall be provided at each floor level within the enclosed exit stairway.

**[F] 907.2.14 Atriums connecting more than two stories.** A fire alarm system shall be installed in occupancies with an atrium that connects more than two stories, with smoke detection installed throughout the atrium. The system shall be activated in accordance with Section 907.5. Such occupancies in Group A, E or M shall be provided with an emergency voice/alarm communication system complying with the requirements of Section 907.5.2.2.

**[F] 907.2.15 High-piled combustible storage areas.** An automatic smoke detection system shall be installed throughout high-piled combustible storage areas where required by Section 3206.5 of the *California Fire Code*.

**[F] 907.2.16 Aerosol storage uses.** Aerosol storage rooms and general-purpose warehouses containing aerosols shall be provided with an approved manual fire alarm system where required by the *California Fire Code*.

**[F] 907.2.17 Lumber, wood structural panel and veneer mills.** Lumber, wood structural panel and veneer mills shall be provided with a manual fire alarm system.

**[F] 907.2.18 Underground buildings with smoke control systems.** Where a smoke control system is installed in an underground building in accordance with this code, automatic smoke detectors shall be provided in accordance with Section 907.2.18.1.

**[F] 907.2.18.1 Smoke detectors.** A minimum of one smoke detector listed for the intended purpose shall be installed in the following areas:

1. Mechanical equipment, electrical, transformer, telephone equipment, elevator machine or similar rooms.
2. Elevator lobbies.
3. The main return and exhaust air plenum of each air-conditioning system serving more than one story and located in a serviceable area downstream of the last duct inlet.
4. Each connection to a vertical duct or riser serving two or more floors from return air ducts or plenums of heating, ventilating and air-conditioning systems, except that in Group R occupancies, a listed smoke detector is allowed to be used in each return air riser carrying not more than 5,000 cfm (2.4 m<sup>3</sup>/s) and serving not more than 10 air-inlet openings.

**[F] 907.2.18.2 Alarm required.** Activation of the smoke control system shall activate an audible alarm at a constantly attended location.

**[F] 907.2.19 Deep underground buildings.** Where the lowest level of a structure is more than 60 feet (18 288 mm) below the finished floor of the lowest level of exit discharge, the structure shall be equipped throughout with a manual fire alarm system, including an emergency voice/alarm communication system installed in accordance with Section 907.5.2.2.

**[F] 907.2.20 Covered and open mall buildings.** Where the total floor area exceeds 50,000 square feet (4645 m<sup>2</sup>) within either a covered mall building or within the perimeter line of an open mall building, an emergency voice/alarm communication system shall be provided. Emergency voice/alarm communication systems serving a mall, required or otherwise, shall be accessible to the fire department. The system shall be provided in accordance with Section 907.5.2.2.

**[F] 907.2.21 Residential aircraft hangars.** A minimum of one single-station smoke alarm shall be installed within a residential aircraft hangar as defined in Chapter 2 and shall be interconnected into the residential smoke alarm or other sounding device to provide an alarm which will be audible in all sleeping areas of the dwelling.

**[F] 907.2.22 Airport traffic control towers.** An automatic smoke detection system that activates the occupant notification system in accordance with Section 907.5 shall be provided in airport control towers in all occupiable and equipment spaces.

**Exception:** Audible appliances shall not be installed within the control tower cab.

**[F] 907.2.23 Battery rooms.** An automatic smoke detection system shall be installed in areas containing stationary storage battery systems with a liquid capacity of more than 50 gallons (189 L).

**907.2.24 Motion picture and television production studio sound stages and approved production facilities.**

**907.2.24.1 Sound stages-solid-ceiling sets and platforms.** Where required by Chapter 48 of the California Fire Code, all interior solid-ceiling sets over 600 square feet (55.7m<sup>2</sup>) in area, and platforms (when provided) over 600 square feet (55.7 m<sup>2</sup>) in area and which exceed 3 feet (914 mm) in height shall be protected by an approved heat detector system. Heat detectors shall be spaced 30 feet (9144 mm) on center or as required by the manufacturer's installation instructions. The fire alarm system shall be connected to an approved supervising station in accordance with Section 907.6.5 or a local alarm which will give an audible signal at a constantly attended location.

**907.2.24.2 Production locations-solid-ceiling sets and platforms.** Where required by Chapter 48 of the California Fire Code in buildings with existing fire protection systems and where production intends to construct solid-ceiling sets over 600 square feet (55.7 m<sup>2</sup>) in area, and platforms over 600 square feet (55.7 m<sup>2</sup>) in area and which exceed 3 feet (914 mm) in height shall be protected by an approved heat detector system. Heat detectors shall be spaced 30 feet (9144 mm) on center or as required by the manufacturer's installation instructions. The fire alarm system shall be connected to an approved supervising station in accordance with Section 907.6.5 or a local alarm which will give an audible signal at a constantly attended location.

**907.2.24.3 Fire alarm control units.** Fire alarm control units shall be California State Fire Marshal listed and shall be utilized in accordance with their listing. Control units are permitted to be temporarily supported by sets, platforms or pedestals.

**907.2.24.4 Heat detectors.**

**907.2.24.4.1 Heat detection required by this section** shall be defined as a portable system as it is intended to be reinstalled when platforms or sets are changed.

**907.2.24.4.2 Heat detectors** shall be secured to standard outlet boxes and are allowed to be temporarily supported by sets, platforms or pedestals.

**907.2.24.4.3** Heat detectors shall be provided for solid-ceiling sets and platforms where required by Sections 4805.3 and 4811.14.

**907.2.25 Group C occupancies (organized camps).**

**907.2.25.1 General.** Every building and structure used or intended for sleeping purposes shall be provided with an automatic smoke-detection system.

**Exceptions:**

1. Buildings and structures in existence and in operation prior to January 1, 1985.
2. Tents, tent structures and buildings and structures that do not exceed 25 ft (7620 mm) in any lateral dimensions and where such building or structure is not more than one story.

**907.2.25.2 Camp fire alarm.** Every organized camp shall provide and maintain audible appliances, or devices suitable for sounding a fire alarm. Such audible appliances or devices may be of any type acceptable to the enforcing agency provided they are distinctive in tone from all other signaling devices or systems and shall be audible throughout the camp premises. When an automatic fire alarm system is provided, as required by Section 440.6.6 of the California Building Code, all audible appliances required by this section shall be of the same type as that used in the automatic system.

**907.2.26 Fixed guideway transits systems fire alarm and communication systems.**

**907.2.26.1 General.** Every fixed guideway transit station shall be provided with an approved emergency voice/alarm communication system in accordance with NFPA 72. The emergency voice/alarm communication system, designed and installed so that damage to any one speaker will not render any paging zone of the system inoperative.

**Exception:** Open stations

**907.2.26.2 System components.** Each station fire alarm system shall consist of:

1. Fire alarm control unit at a location as permitted by the enforcing agency.
2. An alarm annunciator(s). The annunciator(s) shall be located at a point acceptable to the enforcing agency. The annunciator(s) shall indicate the type of device and general location of alarm. All alarm, supervisory and trouble signals shall be transmitted to the local annunciator(s) and the operations control center.
3. Manual fire alarm boxes shall be provided throughout passenger platforms and stations.

**Exception:** Two-way emergency communication reporting devices (emergency telephones) are allowed to be used in lieu of manual fire alarm boxes as permitted by the enforcing agency. Such devices shall provide two-way communication between the operations control center and each

device. Such devices shall be located as required for manual fire alarm boxes, and shall be distinctly identified by signs, coloring or other means acceptable to the enforcing agency.

4. Automatic smoke detectors in all ancillary spaces.

**Exceptions:**

1. Ancillary spaces protected by an approved fixed automatic extinguishing system; or
2. Ancillary spaces protected by quickresponse sprinklers.
5. Automatic control of exiting components.

**907.2.26.3 Emergency voice/alarm communication system.** Each station shall be provided with an emergency voice/alarm communication system capable of transmitting voice, recorded or electronically generated textual messages to all areas of the station. The system(s) shall be configured such that the messages can be initiated from either the Emergency Management Panel (EMP) or the operations control center.

**907.2.26.4 Emergency telephones.** A dedicated two-way emergency communication phone system designed and installed in accordance with NFPA 72 shall be provided in all underground stations to facilitate direct communications for emergency response between remote locations and the EMP.

**907.2.26.4.1** Remote emergency phones shall be located at ends of station platforms, each hose outlet connection and station valve rooms.

**907.2.26.4.2** Provisions shall be made in the design of this two-way emergency communication phone system for extensions of the system to the next passenger station or guideway portal.

**907.2.27 Winery caves.** An approved manual fire alarm system conforming to the provisions of Section 907.2 shall be provided in all Type 3 winery caves.

**907.2.28 Group L.** A manual fire alarm system shall be installed throughout buildings containing Group L occupancies. When Group L occupancies are located in mixed use buildings, at least one manual fire alarm shall be located in the Group L occupancy.

**907.2.28.1 Group L occupancies located above the 10th story.** Manual fire alarm boxes shall be required on each side of the 2-hour fire-smoke barrier and at each exit above the 10th story.

**907.2.29 Public school state funded construction projects for kindergarten through 12th grade - automatic fire alarm system requirements.**

**907.2.29.1 New public school campus.** An automatic fire alarm system shall be provided in all occupancies that activates the occupant notification system signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6. The provisions of this section shall apply to any public school project consisting of one or more buildings on a

new school campus and receiving state funds pursuant to Leroy F. Greene School Facilities Act of 1998, California Education Code Sections 17070.10 through 17079. For purposes of this section, new campus refers to a school site, where an application for construction of original buildings was made to DSA on or after July 1, 2002.

**Exceptions:**

1. A relocatable building that is sited with the intent that it be at the site for less than three years and is sited upon a temporary foundation in a manner that is designed to permit easy removal. Also see CCR, Title 24, Part 1, California Administrative Code, Section 4-314 for definition of relocatable building.

2. Detached buildings designed and used for non-instructional purposes that meet the applicable requirements for that occupancy. Buildings would include, but not be limited to:

- Concession stand
- Press box
- Restroom facilities
- Shade structure
- Snack bar
- Storage building
- Ticket booth

**907.2.29.2 New building on an existing public school campus.** An automatic fire alarm system shall be provided in all occupancies. The provisions of this section shall apply to any public school project construction of a new building on an existing campus and receiving state funds pursuant to Leroy F. Green, School Facilities Act of 1998, California Education Code Sections 17070.10 through 17079. For purposes of this section, an existing campus refers to a school site, where an application for construction of original buildings was made to DSA prior to July 1, 2002.

**Exceptions:**

1. A construction project that has an estimated total cost of less than \$200,000.
2. A relocatable building that is sited with the intent that it be at the site for less than three years and is sited upon a temporary foundation in a manner that is designed to permit easy removal. See California Administrative Code, Section 4-314 for definition of relocatable building.
3. Detached buildings designed and used for non-instructional purposes that meet the applicable requirements for that occupancy. Buildings would include, but not be limited to:

- Concession stand
- Press box
- Restroom facilities
- Shade structure
- Snack bar

- Storage building
- Ticket booth

**907.2.29.3 Alterations to existing buildings on an existing public school campus.** An automatic fire alarm system shall be provided for all portions within the scope of an alteration project. The provisions of this section shall apply to any public school project on an existing campus and receiving state funds pursuant to Leroy F. Green, School Facilities Act of 1998, California Education Code Sections 17070.10 through 17079. For purposes of this section, an existing campus refers to a school site, where an application for construction of original buildings was made to DSA prior to July 1, 2002.

**Exceptions:**

1. A construction project that has an estimated total cost of less than \$200,000.
2. A relocatable building that is sited with the intent that it be at the site for less than three years and is sited upon a temporary foundation in a manner that is designed to permit easy removal. See California Administrative Code, Section 4-314 for definition of relocatable building.
3. Detached buildings designed and used for non-instructional purposes that meet the applicable requirements for that occupancy. Buildings would include, but not be limited to:

- Storage building
- Ticket booth
- Concession stand
- Snack bar
- Restroom facilities
- Shade structure
- Press box

**907.2.29.4 Day-care, Group E or Group I-4 located on a public school campus.** An automatic fire alarm system shall be provided in all buildings used as or containing a Group E or Group I-4 day-care.

**[F] 907.3 Fire safety functions.** Automatic fire detectors utilized for the purpose of performing fire safety functions shall be connected to the building's fire alarm control unit where a fire alarm system is installed. Detectors shall, upon actuation, perform the intended function and activate the alarm notification appliances or activate a visible and audible supervisory signal at a constantly attended location. In buildings not equipped with a fire alarm system, the automatic fire detector shall be powered by normal electrical service and, upon actuation, perform the intended function. The detectors shall be located in accordance with NFPA 72.

**[F] 907.3.1 Duct smoke detectors.** Smoke detectors installed in ducts shall be listed for the air velocity, temperature and humidity present in the duct. Duct smoke detectors shall be connected to the building's fire alarm control unit when a fire alarm system is required by Section 907.2. Activation of a duct smoke detector shall initiate a visible and audible supervisory signal at a constantly

attended location and shall perform the intended fire safety function in accordance with this code and the *California Mechanical Code*. Duct smoke detectors shall not be used as a substitute for required open area detection.

**Exceptions:**

1. The supervisory signal at a constantly attended location is not required where duct smoke detectors activate the building's alarm notification appliances.
2. In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and an audible signal in an approved location. Smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

**[F] 907.3.2 Delayed egress locks.** Where delayed egress locks are installed on means of egress doors in accordance with Section 1008.1.9.7, an automatic smoke system shall be installed as required by that section.

**907.3.2.1** *In other than Groups I, R-2.1 and R-4 occupancies for single-story building, smoke detectors shall be installed at ceilings throughout all occupied areas and mechanical/electrical spaces. For multiple-story buildings, smoke detectors shall be installed throughout all occupied areas and mechanical/electrical spaces for the story where delayed egress devices are installed. Additional detectors are required on adjacent stories where occupants of those stories utilize the same means of egress.*

**Exception:** Refer to Section 907.1.2.4 for Group A courthouse occupancies.

**907.3.2.2** *For Group I and R-2.1 occupancies. Smoke detectors shall be installed at ceilings throughout all occupied areas and mechanical/electrical spaces of smoke-compartments where delayed egress devices are installed. Additional detectors are required in adjacent smoke-compartments where occupants of those compartments utilize the same means of egress.*

**907.3.2.3** *For Group R-4. Occupancies licensed as residential care facilities for the elderly, and housing clients with Alzheimer's disease or dementia residential facilities, smoke detectors shall be installed at ceilings throughout all occupiable rooms and areas and mechanical/ electrical rooms and spaces.*

**[F] 907.3.3 Elevator emergency operation.** Automatic fire detectors installed for elevator emergency operation shall be installed in accordance with the provisions of *California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders* and NFPA 72.

**[F] 907.3.4 Wiring.** The wiring to the auxiliary devices and equipment used to accomplish the above fire safety functions shall be monitored for integrity in accordance with NFPA 72.

**[F] 907.4 Initiating devices.** Where manual or automatic alarm initiation is required as part of a fire alarm system, the

initiating devices shall be installed in accordance with Sections 907.4.1 through 907.4.3.1.

**[F] 907.4.1 Protection of fire alarm control unit.** In areas that are not continuously occupied, a single smoke detector shall be provided at the location of each fire alarm control unit, notification appliance circuit power extenders, and supervising station transmitting equipment.

**Exception:** Where ambient conditions prohibit installation of a smoke detector, a heat detector shall be permitted.

**[F] 907.4.2 Manual fire alarm boxes.** Where a manual fire alarm system is required by another section of this code, it shall be activated by fire alarm boxes installed in accordance with Sections 907.4.2.1 through 907.4.2.6.

**[F] 907.4.2.1 Location.** Manual fire alarm boxes shall be located not more than 5 feet (1524 mm) from the entrance to each exit. Additional manual fire alarm boxes shall be located so that travel distance to the nearest box does not exceed 200 feet (60 960 mm).

**Exception:** *When individual dwelling units are served by a single exit stairway, additional boxes at other than the ground floor may be omitted.*

**[F] 907.4.2.2 Height.** The height of the manual fire alarm boxes shall be a minimum of 42 inches (1067 mm) and a maximum of 48 inches (1219 mm) measured vertically, from the floor level to the activating handle or lever of the box. *Manual fire alarm boxes shall also comply with Section 1117B.6, Item 4.*

**Exception:** *[DSA-AC] In existing buildings there is no requirement to retroactively relocate existing manual fire alarm boxes to a minimum of 42 inches (1067 mm) and a maximum of 48 inches (1219 mm) from the floor level to the activating handle or lever of the box.*

**[F] 907.4.2.3 Color.** Manual fire alarm boxes shall be red in color.

**[F] 907.4.2.4 Signs.** Where fire alarm systems are not monitored by a supervising station, an approved permanent sign shall be installed adjacent to each manual fire alarm box that reads: WHEN ALARM SOUNDS CALL FIRE DEPARTMENT.

**Exception:** Where the manufacturer has permanently provided this information on the manual fire alarm box.

**[F] 907.4.2.5 Protective covers.** The fire code official is authorized to require the installation of listed manual fire alarm box protective covers to prevent malicious false alarms or to provide the manual fire alarm box with protection from physical damage. The protective cover shall be transparent or red in color with a transparent face to permit visibility of the manual fire alarm box. Each cover shall include proper operating instructions. A protective cover that emits a local alarm signal shall not be installed unless approved. Protective covers shall not project more than that permitted by Section 1003.3.3.

[F] **907.4.2.6 Unobstructed and unobscured.** Manual fire alarm boxes shall be accessible, unobstructed, unobscured and visible at all times.

**907.4.2.7 Operation.** *Manual fire alarm boxes shall be operable with one hand including boxes with protective covers.*

[F] **907.4.3 Automatic smoke detection.** Where an automatic smoke detection system is required it shall utilize smoke detectors unless ambient conditions prohibit such an installation. In spaces where smoke detectors cannot be utilized due to ambient conditions, approved automatic heat detectors shall be permitted.

[F] **907.4.3.1 Automatic sprinkler system.** For conditions other than specific fire safety functions noted in Section 907.3, in areas where ambient conditions prohibit the installation of smoke detectors, an automatic sprinkler system installed in such areas in accordance with Section 903.3.1.1 or 903.3.1.2 and that is connected to the fire alarm system shall be approved as automatic heat detection.

[F] **907.5 Occupant notification systems.** A fire alarm system shall annunciate at the fire alarm control unit and shall initiate occupant notification upon activation, in accordance with Sections 907.5.1 through 907.5.2.3.4. Where a fire alarm system is required by another section of this code, it shall be activated by:

1. Automatic fire detectors.
2. Automatic sprinkler system waterflow devices.
3. Manual fire alarm boxes.
4. Automatic fire-extinguishing systems.

**Exception:** Where notification systems are allowed elsewhere in Section 907 to annunciate at a constantly attended location.

[F] **907.5.1 Presignal feature.** A presignal feature shall not be installed unless approved by the fire code official and the fire department. Where a presignal feature is provided, a signal shall be annunciated at a constantly attended location approved by the fire department, in order that occupant notification can be activated in the event of fire or other emergency.

[F] **907.5.2 Alarm notification appliances.** Alarm notification appliances shall be provided and shall be listed for their purpose.

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

**Exceptions:**

1. Visible alarm notification appliances shall be allowed in lieu of audible alarm notification appliances in *patient* areas of Group I-2 occupancies.

2. Where provided, audible notification appliances located in each occupant evacuation elevator lobby in accordance with Section 3008.5.1 shall be connected to a separate notification zone for manual paging only.

[F] **907.5.2.1.1 Average sound pressure.** The audible alarm notification appliances shall provide a sound pressure level of 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is greater, in every occupiable space within the building.

[F] **907.5.2.1.2 Maximum sound pressure.** The maximum sound pressure level for audible alarm notification appliances shall be 110 dBA at the minimum hearing distance from the audible appliance. Where the average ambient noise is greater than 95 dBA, visible alarm notification appliances shall be provided in accordance with NFPA 72 and audible alarm notification appliances shall not be required.

**907.5.2.1.3 Audible alarm signal.** *The audible signal shall be the standard fire alarm evacuation signal, ANSI S3.41 Audible Emergency Evacuation Signal, "three pulse temporal pattern," as described in NFPA 72.*

**Exception:** *The use of the existing evacuation signaling scheme shall be permitted where approved by the enforcing agency.*

[F] **907.5.2.2 Emergency voice/alarm communication systems.** Emergency voice/alarm communication systems required by this code shall be designed and installed in accordance with NFPA 72. The operation of any automatic fire detector, sprinkler waterflow device or manual fire alarm box shall automatically sound an alert tone followed by voice instructions giving approved information and directions for a general or staged evacuation in accordance with the building's fire safety and evacuation plans required by Section 404 of the *California Fire Code*. In high-rise buildings and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access, the system shall operate on a minimum of the alarming floor, the floor above and the floor below. Speakers shall be provided throughout the building by paging zones. At a minimum, paging zones shall be provided as follows:

1. Elevator groups.
2. Exit stairways.
3. Each floor.
4. Areas of refuge as defined in Section 1002.1.

**Exception:** In Group I-2, I-2.1 and R-2.1 occupancies, the alarm shall sound in a constantly attended area and a general occupant notification shall be broadcast over the overhead page.

[F] **907.5.2.2.1 Manual override.** A manual override for emergency voice communication shall be

provided on a selective and all-call basis for all paging zones.

**[F] 907.5.2.2.2 Live voice messages.** The emergency voice/alarm communication system shall also have the capability to broadcast live voice messages by paging zones on a selective and all-call basis.

**[F] 907.5.2.2.3 Alternate uses.** The emergency voice/alarm communication system shall be allowed to be used for other announcements, provided the manual fire alarm use takes precedence over any other use.

**[F] 907.5.2.2.4 Emergency voice/alarm communication captions.** Where stadiums, arenas and grandstands are required to caption audible public announcements in accordance with Section 1108.2.7.2, the emergency/voice alarm communication system shall also be captioned. Prerecorded or live emergency captions shall be from an approved location constantly attended by personnel trained to respond to an emergency.

**[F] 907.5.2.2.5 Emergency power.** Emergency voice/alarm communications systems shall be provided with an approved emergency power source.

**[F] 907.5.2.3 Visible alarms.** Visible alarm notification appliances shall be provided in accordance with Sections 907.5.2.3.1 through 907.5.2.3.5.

**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, exterior exit stairs and exterior exit ramps.*
3. *Visible alarm notification appliances shall not be required in elevator cars.*

**[F] 907.5.2.3.1 Public and common use areas.** Visible alarm notification appliances shall be provided in public use areas and common use areas, including but not limited to:

1. *Sanitary facilities including restrooms, bathrooms and shower rooms*
2. *Corridors*
3. *Music practice rooms*
4. *Band rooms*
5. *Gymnasiums*
6. *Multipurpose rooms*
7. *Occupational shops*
8. *Occupied rooms where ambient noise impairs hearing of the fire alarm*
9. *Lobbies*

10. *Meeting rooms*

11. *Classrooms*

**[F] 907.5.2.3.2 Employee work areas.** Where employee work areas have audible alarm coverage, the notification appliance circuits serving the employee work areas shall be initially designed with a minimum of 20-percent spare capacity to account for the potential of adding visible notification appliances in the future to accommodate hearing impaired employee(s).

**[F] 907.5.2.3.3 Groups R-1 and R-2.1.** Group R-1 and R-2.1 dwelling units or sleeping units in accordance with Table 907.5.2.3.3 shall be provided with a visible alarm notification appliance, activated by both the in-room smoke alarm and the building fire alarm system.

**[F] TABLE 907.5.2.3.3  
VISIBLE ALARMS**

NUMBER OF SLEEP UNITS	SLEEPING ACCOMMODATIONS WITH VISIBLE ALARMS
6 to 25	2
26 to 50	4
51 to 75	7
76 to 100	9
101 to 150	12
151 to 200	14
201 to 300	17
301 to 400	20
401 to 500	22
501 to 1,000	5% of total
1,001 and over	50 plus 3 for each 100 over 1,000

*[SFM] Also see Chapter 11B, Section 11B-224.4 and Table 11B-224.4.*

**[F] 907.5.2.3.4 Group R-2.** In Group R-2 occupancies required by Section 907 to have a fire alarm system, all dwelling units and sleeping units shall be provided with the capability to support visible alarm notification appliances in accordance with NFPA 72. Such capability shall be permitted to include the potential for future interconnection of the building fire alarm system with the unit smoke alarms, replacement of audible appliances with combination audible/visible appliances, or future extension of the existing wiring from the unit smoke alarm locations to required locations for visible appliances.

**907.5.2.3.5 Groups R-2.1, R-3.1 and R-4.** *Protective social care facilities which house persons who are hearing impaired, shall be provided with notification appliances for the hearing impaired installed in accordance with NFPA 72 and which shall activated upon initiation of the fire alarm system or the smoke alarms.*

**907.5.2.4 Group E schools.** *One audible alarm notification appliance shall be mounted on the exterior of a buildings to alert occupants at each playground area.*

**907.5.2.5 Groups I-2 and I-2.1.** Audible appliances shall be used in nonpatient areas. Visible appliances are allowed to be used in lieu of audible appliances in patient occupied areas. Audible appliances located in patient areas shall be only chimes or similar sounding appliances for alerting staff.

In occupancies housing nonambulatory persons where restraint is practiced, staff and attendants shall be provided and housed or located in such a manner that such supervisory personnel will also be alerted upon activation of the fire alarm system or any detector required by this section.

**[F] 907.6 Installation.** A fire alarm system shall be installed in accordance with this section and NFPA 72.

**[F] 907.6.1 Wiring.** Wiring shall comply with the requirements of *California Electrical Code* and NFPA 72. Wireless protection systems utilizing radio-frequency transmitting devices shall comply with the special requirements for supervision of low-power wireless systems in NFPA 72.

**907.6.1.1 High-rise buildings.** Wiring for fire alarm signaling line circuits, initiating circuits and notification circuits in high-rise buildings shall be in accordance with the following:

1. Class A in accordance with NFPA 72.

**Exception:** Initiating circuits which serve only a single initiating device.

2. Enclosed in continuous metallic raceways in accordance with the *California Electrical Code*.

**Exception:** Metallic cable (MC) shall be permitted for fire alarm notification circuits where continuous metallic raceways are not required for survivability.

**[F] 907.6.2 Power supply.** The primary and secondary power supply for the fire alarm system shall be provided in accordance with NFPA 72.

**Exception:** Back-up power for single-station and multiple-station smoke alarms as required in Section 907.2.11.4.

**[F] 907.6.3 Zones.** Fire alarm systems shall be divided into zones where required by this section. For the purposes of annunciation and notification, zoning shall be in accordance with the following:

1. Where the fire-protective signaling system serves more than one building, each building shall be considered as a separate zone.
2. Each floor of a building shall be considered as a separate zone.
3. Each section of floor of a building that is separated by fire walls or by horizontal exits shall be considered as a separate zone.
4. Each zone shall not exceed 22,500 square feet (2090 m<sup>2</sup>). The length of any zone shall not exceed 300 feet (91 440 mm) in any direction.

**Exception:** Automatic sprinkler system zones shall not exceed the area permitted by NFPA 13.

5. For Group I-3 occupancies each cell complex shall be considered a separate zone.
6. For Group H and L occupancies above the 10th story, each side of the 2-hour fire-smoke barrier shall be considered a separate zone.
7. Annunciation shall be further divided into zones where deemed necessary by the enforcing agency.

**907.6.3.1 Annunciation.** Alarm, supervisory and trouble signals shall be annunciated in the main control unit by means of an audible signal and a visual display in accordance with NFPA 72. Identification of the type of alarm and supervisory initiating devices, such as manual, automatic, sprinkler waterflow, sprinkler valve supervisory, fire-pump supervisory, etc., shall be separately indicated.

**Exception:** Group R-3 occupancies.

**[F] 907.6.3.1.1 Annunciator panel.** An annunciator panel complying with Section 907.6.3.1 and the associated controls shall be provided in an approved remote location where deemed necessary by the enforcing agency. The visual zone indication shall lock in until the system is reset and shall not be canceled by the operation of an audible-alarm silencing switch.

**[F] 907.6.3.2 High-rise buildings.** In high-rise buildings and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access, a separate zone by floor shall be provided for each of the following types of alarm-initiating devices where provided:

1. Smoke detectors.
2. Sprinkler waterflow devices.
3. Manual fire alarm boxes.
4. Other approved types of automatic fire detection devices or suppression systems.

**907.6.3.3 High-rise buildings zoning annunciator panel.** In high-rise buildings, a zoning annunciator panel shall be provided in the Fire Command Center. This panel shall not be combined with the Firefighter Smoke Control Panel unless approved. Panel shall be in matrix format or an approved equivalent configuration. All indicators shall be based upon positive confirmation. The panel shall include the following features at a minimum:

1. Fire alarm initiating devices with individual annunciation per floor for manual fire alarm boxes, area smoke detectors, elevator lobby smoke detectors, duct smoke detectors, heat detectors, auxiliary alarms and sprinkler waterflow. (Red LED)
2. Sprinkler and standpipe system control valves per floor - supervisory. (Yellow LED)

lar testing involved. The special inspections and tests required by this section shall be conducted under the same terms in Section 1704.

**[F] 909.4 Analysis.** A rational analysis supporting the types of smoke control systems to be employed, their methods of operation, the systems supporting them and the methods of construction to be utilized shall accompany the submitted construction documents and shall include, but not be limited to, the items indicated in Sections 909.4.1 through 909.4.6.

**[F] 909.4.1 Stack effect.** The system shall be designed such that the maximum probable normal or reverse stack effect will not adversely interfere with the system's capabilities. In determining the maximum probable stack effect, altitude, elevation, weather history and interior temperatures shall be used.

**[F] 909.4.2 Temperature effect of fire.** Buoyancy and expansion caused by the design fire in accordance with Section 909.9 shall be analyzed. The system shall be designed such that these effects do not adversely interfere with the system's capabilities.

**[F] 909.4.3 Wind effect.** The design shall consider the adverse effects of wind. Such consideration shall be consistent with the wind-loading provisions of Chapter 16.

**[F] 909.4.4 HVAC systems.** The design shall consider the effects of the heating, ventilating and air-conditioning (HVAC) systems on both smoke and fire transport. The analysis shall include all permutations of systems status. The design shall consider the effects of the fire on the HVAC systems.

**[F] 909.4.5 Climate.** The design shall consider the effects of low temperatures on systems, property and occupants. Air inlets and exhausts shall be located so as to prevent snow or ice blockage.

**[F] 909.4.6 Duration of operation.** All portions of active or passive smoke control systems shall be capable of continued operation after detection of the fire event for a period of not less than either 20 minutes or 1.5 times the calculated egress time, whichever is less.

**[F] 909.5 Smoke barrier construction.** Smoke barriers shall comply with Section 710, and shall be constructed and sealed to limit leakage areas exclusive of protected openings. The maximum allowable leakage area shall be the aggregate area calculated using the following leakage area ratios:

1. Walls  $A/A_w = 0.00100$
2. Interior exit stairways and ramps and exit passageways:  $A/A_w = 0.00035$
3. Enclosed exit access stairways and ramps and all other shafts:  $A/A_w = 0.00150$
4. Floors and roofs:  $A/A_F = 0.00050$

where:

$A$  = Total leakage area, square feet ( $m^2$ ).

$A_F$  = Unit floor or roof area of barrier, square feet ( $m^2$ ).

$A_w$  = Unit wall area of barrier, square feet ( $m^2$ ).

The leakage area ratios shown do not include openings due to doors, operable windows or similar gaps. These shall be included in calculating the total leakage area.

**[F] 909.5.1 Leakage area.** The total leakage area of the barrier is the product of the smoke barrier gross area multiplied by the allowable leakage area ratio, plus the area of other openings such as gaps and operable windows. Compliance shall be determined by achieving the minimum air pressure difference across the barrier with the system in the smoke control mode for mechanical smoke control systems. Passive smoke control systems tested using other approved means such as door fan testing shall be as approved by the fire code official.

**[F] 909.5.2 Opening protection.** Openings in smoke barriers shall be protected by automatic-closing devices actuated by the required controls for the mechanical smoke control system. Door openings shall be protected by fire door assemblies complying with Section 716.5.3.

**Exceptions:**

1. Passive smoke control systems with automatic-closing devices actuated by spot-type smoke detectors listed for releasing service installed in accordance with Section 907.3. *When used in Group I-2 or I-2.1, such detectors shall activate the fire alarm system.*
2. Fixed openings between smoke zones that are protected utilizing the airflow method *in other than Group I-2 or I-2.1.*
3. In Group I-2 or I-2.1, where such doors are installed across corridors, a pair of opposite-swinging doors without a center mullion *or horizontal sliding doors that comply with Section 1008.1.4.3 shall be installed. Vision panels consisting of fire-rated glazing in approved frames shall be provided in each cross-corridor swinging door and at each cross-corridor horizontal-sliding door in a smoke barrier.* The doors shall be close-fitting within operational tolerances and shall not have undercuts, louvers or grilles. *Swinging doors shall have head and jamb stops, astragals or rabbets at meeting edges. Doors installed across corridors shall be automatic-closing by smoke detection in accordance with Section 715.4.8.3. Positive-latching devices are not required. Doors installed across corridors shall comply with Section 1008.11.1.*
4. Group I-3.
5. Openings between smoke zones with clear ceiling heights of 14 feet (4267 mm) or greater and bank-down capacity of greater than 20 minutes as determined by the design fire size.
6. *In Group I-2 or I-2.1, smoke damper activation may be accomplished by a fire alarm control unit provided that an open area smoke detection system is provided within all areas served by an HVAC system.*

[F] **909.5.2.1 Ducts and air transfer openings.** Ducts and air transfer openings are required to be protected with a minimum Class II, 250°F (121°C) smoke damper complying with Section 717.

[F] **909.6 Pressurization method.** The primary mechanical means of controlling smoke shall be by pressure differences across smoke barriers. Maintenance of a tenable environment is not required in the smoke control zone of fire origin.

[F] **909.6.1 Minimum pressure difference.** The minimum pressure difference across a smoke barrier shall be 0.05-inch water gage (0.0124 kPa) in fully sprinklered buildings.

In buildings permitted to be other than fully sprinklered, the smoke control system shall be designed to achieve pressure differences at least two times the maximum calculated pressure difference produced by the design fire.

[F] **909.6.2 Maximum pressure difference.** The maximum air pressure difference across a smoke barrier shall be determined by required door-opening or closing forces. The actual force required to open exit doors when the system is in the smoke control mode shall be in accordance with Section 1008.1.3. Opening and closing forces for other doors shall be determined by standard engineering methods for the resolution of forces and reactions. The calculated force to set a side-hinged, swinging door in motion shall be determined by:

$$F = F_{dc} + K(WA\Delta P)/2(W-d) \quad \text{(Equation 9-1)}$$

where:

$A$  = Door area, square feet (m<sup>2</sup>).

$d$  = Distance from door handle to latch edge of door, feet (m).

$F$  = Total door opening force, pounds (N).

$F_{dc}$  = Force required to overcome closing device, pounds (N)

$K$  = Coefficient 5.2 (1.0).

$W$  = Door width, feet (m).

$\Delta P$  = Design pressure difference, inches of water (Pa).

[F] **909.7 Airflow design method.** When approved by the fire code official, smoke migration through openings fixed in a permanently open position, which are located between smoke control zones by the use of the airflow method, shall be permitted. The design airflow shall be in accordance with this section. Airflow shall be directed to limit smoke migration from the fire zone. The geometry of openings shall be considered to prevent flow reversal from turbulent effects.

[F] **909.7.1 Velocity.** The minimum average velocity through a fixed opening shall not be less than:

$$v = 217.2[h(T_f - T_o)/(T_f + 460)]^{1/2} \quad \text{(Equation 9-2)}$$

$$\text{For SI: } = 119.9 [h(T_f - T_o)/T_f]^{1/2}$$

where:

$h$  = Height of opening, feet (m).

$T_f$  = Temperature of smoke, °F (K).

$T_o$  = Temperature of ambient air, °F (K).

$v$  = Air velocity, feet per minute (m/minute).

[F] **909.7.2 Prohibited conditions.** This method shall not be employed where either the quantity of air or the velocity of the airflow will adversely affect other portions of the smoke control system, unduly intensify the fire, disrupt plume dynamics or interfere with exiting. In no case shall airflow toward the fire exceed 200 feet per minute (1.02 m/s). Where the formula in Section 909.7.1 requires airflow to exceed this limit, the airflow method shall not be used.

[F] **909.8 Exhaust method.** When approved by the fire code official, mechanical smoke control for large enclosed volumes, such as in atriums or malls, shall be permitted to utilize the exhaust method. Smoke control systems using the exhaust method shall be designed in accordance with NFPA 92.

[F] **909.8.1 Smoke layer.** The height of the lowest horizontal surface of the smoke layer interface shall be maintained at least 6 feet (1829 mm) above any walking surface that forms a portion of a required egress system within the smoke zone.

[F] **909.9 Design fire.** The design fire shall be based on a rational analysis performed by the registered design professional and approved by the fire code official. The design fire shall be based on the analysis in accordance with Section 909.4 and this section.

[F] **909.9.1 Factors considered.** The engineering analysis shall include the characteristics of the fuel, fuel load, effects included by the fire and whether the fire is likely to be steady or unsteady.

[F] **909.9.2 Design fire fuel.** Determination of the design fire shall include consideration of the type of fuel, fuel spacing and configuration.

[F] **909.9.3 Heat-release assumptions.** The analysis shall make use of best available data from approved sources and shall not be based on excessively stringent limitations of combustible material.

[F] **909.9.4 Sprinkler effectiveness assumptions.** A documented engineering analysis shall be provided for conditions that assume fire growth is halted at the time of sprinkler activation.

[F] **909.10 Equipment.** Equipment including, but not limited to, fans, ducts, automatic dampers and balance dampers, shall be suitable for its intended use, suitable for the probable exposure temperatures that the rational analysis indicates and as approved by the fire code official.

[F] **909.10.1 Exhaust fans.** Components of exhaust fans shall be rated and certified by the manufacturer for the probable temperature rise to which the components will be exposed. This temperature rise shall be computed by:

$$T_s = (Q_c/mc) + (T_a) \quad \text{(Equation 9-3)}$$

where:

$c$  = Specific heat of smoke at smoke layer temperature, Btu/lb°F (kJ/kg • K).

$m$  = Exhaust rate, pounds per second (kg/s).

$Q_c$  = Convective heat output of fire, Btu/s (kW).

$T_a$  = Ambient temperature, °F (K).

**909.21.4.3 Separate systems.** A separate fan system shall be used for each elevator hoistway.

**909.21.4.4 Fan capacity.** The supply fan shall either be adjustable with a capacity of at least 1,000 cfm (0.4719 m<sup>3</sup>/s) per door, or that specified by a registered design professional to meet the requirements of a designed pressurization system.

**909.21.5 Standby power.** The pressurization system shall be provided with standby power from the same source as other required emergency systems for the building.

**909.21.6 Activation of pressurization system.** The elevator pressurization system shall be activated upon activation of the building fire alarm system or upon activation of the elevator lobby smoke detectors. Where both a building fire alarm system and elevator lobby smoke detectors are present, each shall be independently capable of activating the pressurization system.

**909.21.7 Special inspection.** Special inspection for performance shall be required in accordance with Section 909.18.8. System acceptance shall be in accordance with Section 909.19.

**909.21.8 Marking and identification.** Detection and control systems shall be marked in accordance with Section 909.14.

**909.21.9 Control diagrams.** Control diagrams shall be provided in accordance with Section 909.15.

**909.21.10 Control panel.** A control panel complying with Section 909.16 shall be provided.

**909.21.11 System response time.** Hoistway pressurization systems shall comply with the requirements for smoke control system response time in Section 909.17.

**SECTION 910  
SMOKE AND HEAT REMOVAL**

**[F] 910.1 General.** Where required by this code, smoke and heat vents, or mechanical smoke removal systems shall conform to the requirements of this section.

**[F] 910.2 Where required.** Smoke and heat vents or mechanical smoke removal systems shall be installed as required by Sections 910.2.1 and 910.2.2.

**Exceptions:**

1. Frozen food warehouses used solely for storage of Class I and II commodities where protected by an approved automatic sprinkler system.
2. Where areas of buildings are equipped with early suppression fast-response (ESFR) sprinklers, smoke and heat removal shall not be required within these areas.

**910.2.1 Group F-1 or S-1.** Smoke and heat vents installed in accordance with Section 910.3 or a mechanical smoke

removal system installed in accordance with Section 910.4 shall be installed in buildings and portions thereof used as a Group F-1 or S-1 occupancy having more than 50,000 square feet (4645 m<sup>2</sup>) of undivided area. In occupied portions of a building where the upper surface of the story is not a roof assembly, a mechanical smoke removal system in accordance with Section 910.4 shall be installed.

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

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

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

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

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

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

For buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1:  
 $A_{VR} = V/9000$  (Equation 9-4)

Where:

$A_{VR}$  = the required aggregate vent area (ft<sup>2</sup>)  
 $V$  = volume (ft<sup>3</sup>) of the area that requires smoke removal  
 For unsprinklered buildings:

$A_{VR} = A_{FA}/50$  (Equation 9-5)

Where:

$A_{VR}$  = the required aggregate vent area (ft<sup>2</sup>)  
 $A_{FA}$  = the area of the floor of the area that requires smoke removal.

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

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

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

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

**910.4.3.1 Makeup air.** Makeup air openings shall be provided within six feet (add metric) of the floor level. Operation of makeup air openings shall be manual or automatic. The minimum gross area of makeup air inlets shall be 8 ft<sup>2</sup> per 1000 cfm of smoke exhaust.

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

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

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

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

this code and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access, a fire command center for fire department operations shall be provided and shall comply with Sections 911.1.1 through 911.1.5.

[F] **911.1.1 Location and access.** The location and accessibility of the fire command center shall be approved by the fire chief.

[F] **911.1.2 Separation.** The fire command center shall be separated from the remainder of the building by not less than a 1-hour fire barrier constructed in accordance with Section 707 or horizontal assembly constructed in accordance with Section 711, or both.

[F] **911.1.3 Size.** The room shall be a minimum of 200 square feet (19 m<sup>2</sup>) with a minimum dimension of 10 feet (3048 mm).

[F] **911.1.4 Layout approval.** A layout of the fire command center and all features required by this section to be contained therein shall be submitted for approval prior to installation.

[F] **911.1.5 Required features.** The fire command center shall comply with NFPA 72 and shall contain the following features:

1. The emergency voice/alarm communication system control unit.
2. The fire department communications system.
3. Fire alarm system zoning annunciator panel required by Section 907.6.3.3.
4. Annunciator unit visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air distribution systems.
6. The fire-fighter's control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking stairway doors simultaneously.
8. Sprinkler valve and waterflow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire-fighting equipment and fire department access and the location of fire walls, fire barriers, fire partitions, smoke barriers and smoke partitions.

**SECTION 911  
FIRE COMMAND CENTER**

[F] **911.1 General.** Where required by other sections of this code and in all buildings classified as high-rise buildings by

13. An approved Building Information Card that contains, but is not limited to, the following information:

- 13.1. General building information that includes: property name, address, the number of floors in the building (above and below grade), use and occupancy classification (for mixed uses, identify the different types of occupancies on each floor), estimated building population (i.e., day, night, weekend);
- 13.2. Building emergency contact information that includes: a list of the building's emergency contacts (e.g., building manager, building engineer, etc.) and their respective work phone number, cell phone number, e-mail address;
- 13.3. Building construction information that includes: the type of building construction (e.g., floors, walls, columns, and roof assembly);
- 13.4. Exit stair information that includes: number of exit stairs in building, each exit stair designation and floors served, location where each exit stair discharges, exit stairs that are pressurized, exit stairs provided with emergency lighting, each exit stair that allows reentry, exit stairs providing roof access; elevator information that includes: number of elevator banks, elevator bank designation, elevator car numbers and respective floors that they serve, location of elevator machine rooms, location of sky lobby, location of freight elevator banks;
- 13.5. Building services and system information that includes: location of mechanical rooms, location of building management system, location and capacity of all fuel oil tanks, location of emergency generator, location of natural gas service;

13.6. Fire protection system information that includes: locations of standpipes, location of fire pump room, location of fire department connections, floors protected by automatic sprinklers, location of different types of sprinkler systems installed (e.g., dry, wet, pre-action, etc.); and

13.7. Hazardous material information that includes: location of hazardous material, quantity of hazardous material.

14. Work table.

15. Generator supervision devices, manual start and transfer features.

16. Public address system, where specifically required by other sections of this code.

17. Elevator fire recall switch in accordance with *California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*.

18. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.

19. A master switch for unlocking elevator lobby doors permitted by Section 1008.1.4.6.

*[SFM] Fire command centers shall not be used for the housing of any boiler, heating unit, generator, combustible storage, or similar hazardous equipment or storage.*

**911.1.6 Ventilation.** *The fire command center shall be provided with an independent ventilation or air-conditioning system.*

**SECTION 912  
FIRE DEPARTMENT CONNECTIONS**

**[F] 912.1 Installation.** Fire department connections shall be installed in accordance with the NFPA standard applicable to the system design and shall comply with Sections 912.2 through 912.5.

**[F] 912.2 Location.** With respect to hydrants, driveways, buildings and landscaping, fire department connections shall

be so located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. The location of fire department connections shall be approved by the fire chief.

**[F] 912.2.1 Visible location.** Fire department connections shall be located on the street side of buildings, fully visible and recognizable from the street or nearest point of fire department vehicle access or as otherwise approved by the fire chief.

**[F] 912.2.2 Existing buildings.** On existing buildings, wherever the fire department connection is not visible to approaching fire apparatus, the fire department connection shall be indicated by an approved sign mounted on the street front or on the side of the building. Such sign shall have the letters "FDC" at least 6 inches (152 mm) high and words in letters at least 2 inches (51 mm) high or an arrow to indicate the location. All such signs shall be subject to the approval of the fire code official.

**[F] 912.3 Access.** Immediate access to fire department connections shall be maintained at all times and without obstruction by fences, bushes, trees, walls or any other fixed or moveable object. Access to fire department connections shall be approved by the fire chief.

**Exceptions:**

1. *Fences, where provided with an access gate equipped with a sign complying with the legend requirements of Section 912.4 and a means of emergency operation. The gate and the means of emergency operation shall be approved by the fire chief and maintained operational at all times.*

2. *When acceptable to the fire authority having jurisdiction, fire department connections for Group I-3 detention facilities may be located inside all security walls or fences on the property.*

**[F] 912.3.1 Locking fire department connection caps.** The fire code official is authorized to require locking caps on fire department connections for water-based fire protection systems where the responding fire department carries appropriate key wrenches for removal.

**[F] 912.3.2 Clear space around connections.** A working space of not less than 36 inches (762 mm) in width, 36 inches (914 mm) in depth and 78 inches (1981 mm) in height shall be provided and maintained in front of and to the sides of wall-mounted fire department connections and around the circumference of free-standing fire department connections, except as otherwise required or approved by the fire chief.

**[F] 912.3.3 Physical protection.** Where fire department connections are subject to impact by a motor vehicle, vehicle impact protection shall be provided in accordance with Section 312 of the *California Fire Code*.

**[F] 912.4 Signs.** A metal sign with raised letters at least 1 inch (25 mm) in size shall be mounted on all fire department connections serving automatic sprinklers, standpipes or fire pump connections. Such signs shall read: AUTOMATIC SPRINKLERS or STANDPIPES or TEST CONNECTION or a combination thereof as applicable. Where the fire department connection does not serve the entire building, a sign shall be provided indicating the portions of the building served.

**[P] 912.5 Backflow protection.** The potable water supply to automatic sprinkler and standpipe systems shall be protected

## CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE CHAPTER 10 – MEANS OF EGRESS

(Matrix Adoption Tables are non-regulatory, intended only as an aid to the user.

See Chapter 1 for state agency authority and building applications.)

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
<i>Adopt entire chapter</i>	X						X	X												
<i>Adopt entire chapter as amended (amended sections listed below)</i>		X	X	X	X					X	X		X							
<i>Adopt only those sections that are listed below</i>						X														
<i>Chapter / Section</i>																				
1001.3		X																		
1001.4		X																		
1002.1		X																		
Accessible Means of Egress						X														
Area of Refuge						X														
Exit						X														
Guard (or Guardrail)			X	X	X	X														
Handrail						X														
Public Way						X														
Stair						X														
Stairway						X														
1003.1, not SFM exception						X														
1003.1		X	X	X	X															
1003.1.1										X			X							
1003.1.2											X									
1003.2		X	X	X	X															
1003.3																				
1003.3 Exc.		X																		
1003.3.3.1		X																		
1003.3.4			X	X	X															
1003.5		X	X	X	X															
Table 1004.1.1		X																		
1004.1.1.1		X																		
1004.1.1.2		X																		
1004.1.2.3		X																		
1005.1		X																		
1005.3		X																		
1005.3.1		X																		
1005.3.2		X																		
1005.7.1		X																		
1006.1		X																		
1007.1		X	X	X	X	X														
1007.2			X	X	X	X														
1007.2.1						X														
1007.3			X	X	X	X														
1007.4		X				X														
1007.5			X	X	X	X														

(continued)

**CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE  
CHAPTER 10 – MEANS OF EGRESS—continued**

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
<i>Adopt entire chapter</i>	X						X	X												
<i>Adopt entire chapter as amended (amended sections listed below)</i>		X	X	X	X				X	X		X								
<i>Adopt only those sections that are listed below</i>						X														
<i>Chapter / Section</i>																				
1007.5.1						X														
1007.6						X														
1007.6.1		X	X	X	X	X														
1007.6.2						X														
1007.6.3		X				X														
1007.7						X														
1007.7.1						X														
1007.7.2						X														
1007.7.3						X														
1007.7.4						X														
1007.7.5						X														
1007.7.6						X														
1007.8			X	X	X	X														
1007.8.1		X	X	X	X	X														
1007.8.1.1			X	X	X	X														
1007.8.2		X				X														
1007.9			X	X	X	X														
1007.10						X														
1007.11						X														
1007.12		X	X	X	X	X														
1008 (1st paragraph below title only)						X														
1008.1.1		X	X	X	X															
1008.1.1.1		X																		
1008.1.2		X																		
1008.1.4.1			X	X	X															
1008.1.4.4		X																		
1008.1.5			X	X	X															
1008.1.7			X	X	X															
1008.1.8			X	X	X															
1008.1.9.1		X	X	X	X															
1008.1.9.6		X																		
1008.1.9.7		X																		
1008.1.9.7 (Item 5.1 only)		X				X														
1008.1.9.8		X																		
1008.1.9.10		X																		
1008.1.9.12		X																		
1008.1.10		X																		
1008.1.11		X																		
1009 (1st paragraph below title only)						X														
1009.3		X																		
1009.4		X																		
1009.7.2 [DSA-AC: exc. 6 only]		X	X	X	X	X														

(continued)

## CHAPTER 10

# MEANS OF EGRESS

### SECTION 1001 ADMINISTRATION

**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.

**1001.2 Minimum requirements.** It shall be unlawful to alter a building or structure in a manner that will reduce the number of exits or the capacity of the means of egress to less than required by this code.

**[F] 1001.3 Maintenance.** Means of egress shall be maintained in accordance with the *California Fire Code*.

**[F] 1001.4 Fire safety and evacuation plans.** Fire safety and evacuation plans shall be provided for all occupancies and buildings where required by the *California Fire Code*. Such fire safety and evacuation plans shall comply with the applicable provisions of Sections 401.2 and 404 of the *California Fire Code*.

### SECTION 1002 DEFINITIONS

**1002.1 Definitions.** The following terms are defined in Chapter 2:

**ACCESSIBLE MEANS OF EGRESS.**

**AISLE.**

**AISLE ACCESSWAY.**

**ALTERNATING TREAD DEVICE.**

**AREA OF REFUGE.**

**BLEACHERS.**

**COMMON PATH OF EGRESS TRAVEL.**

**CORRIDOR.**

**DOOR, BALANCED.**

**EGRESS COURT.**

**EMERGENCY ESCAPE AND RESCUE OPENING.**

**EXIT.**

**EXIT ACCESS.**

**EXIT ACCESS DOORWAY.**

**EXIT ACCESS RAMP.**

**EXIT ACCESS STAIRWAY.**

**EXIT DISCHARGE.**

**EXIT DISCHARGE, LEVEL OF.**

**EXIT, HORIZONTAL.**

**EXIT PASSAGEWAY.**

**FIRE EXIT HARDWARE.**

**FIXED SEATING.**

**FLIGHT.**

**FLOOR AREA, GROSS.**

**FLOOR AREA, NET.**

**FOLDING AND TELESCOPIC SEATING.**

**GRANDSTAND.**

**GUARD (*DSA-AC, HCD 1 & HCD 2*) or GUARDRAIL).**

**HANDRAIL.**

**INTERIOR EXIT RAMP.**

**INTERIOR EXIT STAIRWAY.**

**MEANS OF EGRESS.**

**MERCHANDISE PAD.**

**NOSING.**

**OCCUPANT LOAD.**

**PANIC HARDWARE.**

**PHOTOLUMINESCENT.**

**PUBLIC WAY.**

**RAMP.**

**SCISSOR STAIR.**

**SELF-LUMINOUS.**

**SMOKE-PROTECTED ASSEMBLY SEATING.**

**STAIR.**

**STAIRWAY.**

**STAIRWAY, EXTERIOR.**

**STAIRWAY, INTERIOR.**

**STAIRWAY, SPIRAL.**

**WINDER.**

### SECTION 1003 GENERAL MEANS OF EGRESS

**1003.1 Applicability.** The general requirements specified in Sections 1003 through 1013 shall apply to all three elements of the means of egress system, in addition to those specific requirements for the exit access, the exit and the exit discharge detailed elsewhere in this chapter.

*(DSA-AC & HCD 1-AC) In addition to the requirement of this chapter, means of egress, which provide access to, or egress from, buildings or facilities where accessibility is required for applications listed in Section 1.8.2.1.2 regulated by the Department of Housing and Community Development, or Section 1.9.1 regulated by the Division of*

the State Architect-Access Compliance, shall also comply with Chapter 11A or Chapter 11B, as applicable.

**Exception:** Exiting requirements for Fixed Guideway Transit Systems shall be as per Section 433.3.

**1003.1.1 Means of egress for hospitals, skilled nursing facilities and intermediate care facilities and correctional treatment centers.** [OSHPD 1 & 4] See Section 3417A.

**1003.1.1 Means of egress for single-story light frame skilled nursing facilities and intermediate care facilities.** [OSHPD 2] See Section 3424.

**1003.2 Ceiling height.** The means of egress shall have a ceiling height of not less than 7 feet 6 inches (2286 mm).

**Exceptions:**

1. Sloped ceilings in accordance with Section 1208.2.
2. Ceilings of dwelling units and sleeping units within residential occupancies in accordance with Section 1208.2.
3. Allowable projections in accordance with Section 1003.3.
4. Stair headroom in accordance with Section 1009.5.
5. Door height in accordance with Section 1008.1.1.
6. Ramp headroom in accordance with Section 1010.6.2.
7. The clear height of floor levels in vehicular and pedestrian traffic areas in parking garages in accordance with Section 406.4.1. **(DSA-AC & HCD 1-AC)** The clear height of vehicle and pedestrian areas required to be accessible, or identified as accessible, shall comply with Chapter 11A or Chapter 11B, as applicable.
8. Areas above and below mezzanine floors in accordance with Section 505.2.
9. In Group I-2, I-2.1 and I-3 occupancies, the means of egress shall have a ceiling height of not less than 8 feet (2439 mm).

**1003.3 Protruding objects.** Protruding objects shall comply with the requirements of Sections 1003.3.1 through 1003.3.4.

**Exception:** In Group I-2 and Group I-2.1 occupancies, protruding objects shall not extend more than 12 inches (305 mm) below the minimum ceiling height required by Section 1003.2.

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

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

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

**1003.3.2 Post-mounted objects.** A free-standing object mounted on a post or pylon shall not overhang that post or pylon more than 4 inches (102 mm) where the lowest point of the leading edge is more than 27 inches (686 mm) and less than 80 inches (2032 mm) above the walking surface. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (686 mm) maximum or 80 inches (2032 mm) minimum above the finished floor or ground.

**Exception:** These requirements shall not apply to sloping portions of handrails between the top and bottom riser of stairs and above the ramp run.

**1003.3.3 Horizontal projections.** Structural elements, fixtures or furnishings shall not project horizontally from either side more than 4 inches (102 mm) over any walking surface between the heights of 27 inches (686 mm) and 80 inches (2032 mm) above the walking surface.

**Exception:** Handrails are permitted to protrude 4½ inches (114 mm) from the wall.

**1003.3.3.1 Horizontal projections for Group I-2 and I-2.1 occupancies.** Structural elements, fixtures or furnishings shall not project horizontally from either side more than 1½ inches (38 mm) into the required width of an exit access corridor serving any area caring for one or more nonambulatory or bedridden persons.

**Exceptions:**

1. Handrails are permitted to protrude 3½ inches (89 mm) from the wall.
2. Alcohol-based hand-rub dispensers are permitted to protrude 4 inches.
3. Manual fire alarm boxes with a protective cover installed are permitted to protrude 4 inches.

**1003.3.4 Clear width.** Protruding objects shall not reduce the minimum clear width of accessible routes as required in Chapter 11A or Chapter 11B.

**1003.4 Floor surface.** Walking surfaces of the means of egress shall have a slip-resistant surface and be securely attached.

**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 1010 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.

2. A stair with a single riser or with two risers and a tread is permitted at locations not required to be accessible by Chapter *11A or 11B*, provided that the risers and treads comply with Section 1009.7, the minimum depth of the tread is 13 inches (330 mm) and at least one handrail complying with Section 1012 is provided within 30 inches (762 mm) of the centerline of the normal path of egress travel on the stair.
3. A step is permitted in aisles serving seating that has a difference in elevation less than 12 inches (305 mm) at locations not required to be accessible by Chapter *11A or 11B*, provided that the risers and treads comply with Section 1028.11 and the aisle is provided with a handrail complying with Section 1028.13.

Throughout a story in a Group I-2 and Group *I-2.1 occupancies*, any change in elevation in portions of the means of egress that serve nonambulatory persons shall be by means of a *ramp* or sloped walkway.

**1003.6 Means of egress continuity.** The path of egress travel along a means of egress shall not be interrupted by any building element other than a means of egress component as specified in this chapter. Obstructions shall not be placed in the required width of a means of egress except projections permitted by this chapter. The required capacity of a means of egress system shall not be diminished along the path of egress travel.

**1003.7 Elevators, escalators and moving walks.** Elevators, escalators and moving walks shall not be used as a component of a required means of egress from any other part of the building.

**Exception:** Elevators used as an accessible means of egress in accordance with Section 1007.4.

## SECTION 1004 OCCUPANT LOAD

**1004.1 Design occupant load.** In determining means of egress requirements, the number of occupants for whom means of egress facilities shall be provided shall be determined in accordance with this section.

**1004.1.1 Cumulative occupant loads.** Where the path of egress travel includes intervening rooms, areas or spaces, cumulative occupant loads shall be determined in accordance with this section.

**1004.1.1.1 Intervening spaces or accessory areas.** Where occupants egress from one or more rooms, areas or spaces through others, the design occupant load shall be the combined occupant load of interconnected accessory or intervening spaces. Design of egress path capacity shall be based on the cumulative portion of occupant loads of all rooms, areas or spaces to that point along the path of egress travel.

**1004.1.1.2 Adjacent levels for mezzanines.** That portion of occupant load of a mezzanine with all required egress through a room, area or space on an adjacent

level shall be added to the occupant load of that room, area or space.

**1004.1.1.3 Adjacent stories.** Other than for the egress components designed for convergence in accordance with Section 1005.6, the occupant load from separate stories shall not be added.

**1004.1.2 Areas without fixed seating.** The number of occupants shall be computed at the rate of one occupant per unit of area as prescribed in Table 1004.1.2. For areas without fixed seating, the occupant load shall not be less than that number determined by dividing the floor area under consideration by the occupant load factor assigned to the function of the space as set forth in Table 1004.1.2. Where an intended function is not listed in Table 1004.1.2, the building official shall establish a function based on a listed function that most nearly resembles the intended function.

**Exception:** Where approved by the building official, the actual number of occupants for whom each occupied space, floor or building is designed, although less than those determined by calculation, shall be permitted to be used in the determination of the design occupant load.

**1004.2 Increased occupant load.** The occupant load permitted in any building, or portion thereof, is permitted to be increased from that number established for the occupancies in Table 1004.1.2, provided that all other requirements of the code are also met based on such modified number and the *occupant load* does not exceed one occupant per 7 square feet (0.65 m<sup>2</sup>) of occupiable floor space. Where required by the building official, an approved aisle, seating or fixed equipment diagram substantiating any increase in occupant load shall be submitted. Where required by the building official, such diagram shall be posted.

**1004.3 Posting of occupant load.** Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway from the room or space. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or authorized agent.

**1004.4 Fixed seating.** For areas having fixed seats and aisles, the occupant load shall be determined by the number of fixed seats installed therein. The occupant load for areas in which fixed seating is not installed, such as waiting spaces, shall be determined in accordance with Section 1004.1.2 and added to the number of fixed seats.

The occupant load of wheelchair spaces and the associated companion seat shall be based on one occupant for each wheelchair space and one occupant for the associated companion seat provided in accordance with Section 1108.2.3.

For areas having fixed seating without dividing arms, the occupant load shall not be less than the number of seats based on one person for each 18 inches (457 mm) of seating length.

The occupant load of seating booths shall be based on one person for each 24 inches (610 mm) of booth seat length measured at the backrest of the seating booth.

**MEANS OF EGRESS**

**1004.5 Outdoor areas.** Yards, patios, courts and similar outdoor areas accessible to and usable by the building occupants shall be provided with means of egress as required by this chapter. The occupant load of such outdoor areas shall be assigned by the building official in accordance with the anticipated use. Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, means of egress requirements for the building shall be based on the sum of the occupant loads of the building plus the outdoor areas.

**Exceptions:**

1. Outdoor areas used exclusively for service of the building need only have one means of egress.
2. Both outdoor areas associated with Group R-3 and individual dwelling units of Group R-2.

**1004.6 Multiple occupancies.** Where a building contains two or more occupancies, the means of egress requirements shall apply to each portion of the building based on the occupancy of that space. Where two or more occupancies utilize portions of the same means of egress system, those egress components shall meet the more stringent requirements of all occupancies that are served.

**SECTION 1005  
MEANS OF EGRESS SIZING**

**1005.1 General.** All portions of the means of egress system shall be sized in accordance with this section.

**Exception:** Means of egress complying with Section 1028.

**1005.2 Minimum width based on component.** The minimum width, in inches (mm), of any means of egress components shall not be less than that specified for such component, elsewhere in this code.

**1005.3 Required capacity based on occupant load.** The required capacity, in inches (mm), of the means of egress for any room, area, space or story shall not be less than that determined in accordance with Sections 1005.3.1 and 1005.3.2:

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

**Exceptions:**

1. For other than Group H and I-2 occupancies, the capacity, in inches (mm), of means of egress stairways shall be calculated by multiplying the occupant load served by such stairway by a means of egress capacity factor of 0.2 inch (5.1 mm) per occupant in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an emergency

**TABLE 1004.1.2  
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT**

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR <sup>a</sup>
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Exhibit Gallery and Museum	30 net
Assembly with fixed seats	See Section 1004.4
Assembly without fixed seats	
Concentrated (chairs only-not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	100 gross
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise rooms	50 gross
Group H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Laboratory	
<i>Educational</i>	50 net
<i>Laboratories, non-educational</i>	100 net
<i>Laboratory suite<sup>b</sup></i>	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mall buildings—covered and open	See Section 402.8.2
Mercantile	
Areas on other floors	60 gross
Basement and grade floor areas	30 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

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

a. Floor area in square feet per occupant.

b. See Section 443.2.

2. At elevator landings.
3. Within areas of refuge.

**1007.11 Instructions.** In areas of refuge and exterior areas for assisted rescue, instructions on the use of the area under emergency conditions shall be posted. The instructions shall include all of the following *and shall comply with Chapter 11B, Section 11B-703.5*:

1. Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.
2. Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance.
3. Directions for use of the two-way communications system where provided.

**1007.12 Alarms/emergency warning systems/accessibility.** *If emergency warning systems are required, they shall activate a means of warning the hearing impaired. Emergency warning systems as part of the fire-alarm system shall be designed and installed in accordance with NFPA 72 as amended in Chapter 35.*

## SECTION 1008 DOORS, GATES AND TURNSTILES

**[DSA-AC]** *In addition to the requirements of this section, means of egress, which provide access to, or egress from, buildings or facilities where accessibility is required for applications listed in Section 1.9.1 regulated by the Division of the State Architect—Access Compliance, shall also comply with Chapter 11A or Chapter 11B, Sections 11B-206.5 and 11B-404, as applicable.*

**1008.1 Doors.** Means of egress doors shall meet the requirements of this section. Doors serving a means of egress system shall meet the requirements of this section and Section 1020.2. Doors provided for egress purposes in numbers greater than required by this code shall meet the requirements of this section.

Means of egress doors shall be readily distinguishable from the adjacent construction and finishes such that the doors are easily recognizable as doors. Mirrors or similar reflecting materials shall not be used on means of egress doors. Means of egress doors shall not be concealed by curtains, drapes, decorations or similar materials.

**1008.1.1 Size of doors.** The minimum width of each door opening shall be sufficient for the occupant load thereof and shall provide a clear width of 32 inches (813 mm). Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a clear opening width of 32 inches (813 mm). The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. Means of egress doors in a Group I-2 or I-2.1 occupancy used for the movement of beds *and litter patients* shall provide a clear width not less than 44 inches (1054 mm). The height

of door openings shall not be less than 80 inches (2032 mm).

### Exceptions:

1. The minimum and maximum width shall not apply to door openings that are not part of the required means of egress in Group R-2 and R-3 occupancies.
2. Door openings to resident sleeping units in Group I-3 occupancies shall have a clear width of not less than 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m<sup>2</sup>) in area shall not be limited by the minimum width.
4. Width of door leaves in revolving doors that comply with Section 1008.1.4.1 shall not be limited.
5. Door openings within a dwelling unit or sleeping unit shall not be less than 78 inches (1981 mm) in height.
6. Exterior door openings in dwelling units and sleeping units, other than the required exit door, shall not be less than 76 inches (1930 mm) in height.
7. In other than Group R-1 occupancies, the minimum widths shall not apply to interior egress doors within a dwelling unit or sleeping unit that is not required to be *adaptable or accessible as specified in Chapter 11A*.

**1008.1.1.1 Projections into clear width.** There shall not be projections into the required clear width lower than 34 inches (864 mm) above the floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the floor or ground shall not exceed 4 inches (102 mm).

### Exceptions:

1. Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the floor.
2. *In a Group I-2 or I-2.1 occupancy, there shall be no projections into the clear width of doors used for the movement of beds and litter patients in the means of egress.*

**1008.1.2 Door swing.** Egress doors shall be of the pivoted or side-hinged swinging type.

### Exceptions:

1. Private garages, office areas, factory and storage areas with an occupant load of 10 or less.
2. Group I-3 occupancies used as a place of detention.
3. Critical or intensive care patient rooms within suites of health care facilities.
4. Doors within or serving a single dwelling unit in Groups R-2 and R-3.

**MEANS OF EGRESS**

5. In other than Group H occupancies, revolving doors complying with Section 1008.1.4.1.
6. In other than Group H occupancies, horizontal sliding doors complying with Section 1008.1.4.3 are permitted in a means of egress.
7. Power-operated doors in accordance with Section 1008.1.4.2.
8. Doors serving a bathroom within an individual sleeping unit in Group R-1.
9. In other than Group H occupancies, manually operated horizontal sliding doors are permitted in a means of egress from spaces with an occupant load of 10 or less.
10. *In I-2 and I-2.1 occupancies, exit doors serving an occupant load of 10 or more, may be of the pivoted or balanced type.*

Doors shall swing in the direction of egress travel where serving a room or area containing an occupant load of 50 or more persons or a Group H occupancy. *For Group L occupancies, see Section 443.6.3.*

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

**1008.1.3 Door opening force.** The force for pushing or pulling open interior swinging egress doors, other than fire doors, shall not exceed 5 pounds (22 N). For other swinging doors, as well as sliding and folding doors, the door latch shall release when subjected to a 15-pound (67 N) force. The door shall be set in motion when subjected to a 30-pound (133 N) force. The door shall swing to a full-open position when subjected to a 15-pound (67 N) force.

**1008.1.3.1 Location of applied forces.** Forces shall be applied to the latch side of the door.

**1008.1.4 Special doors.** Special doors and security grilles shall comply with the requirements of Sections 1008.1.4.1 through 1008.1.4.4.

**1008.1.4.1 Revolving doors.** Revolving doors shall comply with the following:

1. Each revolving door shall be capable of collapsing into a bookfold position with parallel egress paths providing an aggregate width of 36 inches (914 mm).
2. A revolving door shall not be located within 10 feet (3048 mm) of the foot of or top of stairs or escalators. A dispersal area shall be provided between the stairs or escalators and the revolving doors.
3. The revolutions per minute (rpm) for a revolving door shall not exceed those shown in Table 1008.1.4.1.
4. Each revolving door shall have a side-hinged swinging door which complies with Section

1008.1 in the same wall and within 10 feet (3048 mm) of the revolving door.

5. Revolving doors shall not be part of an accessible route required by Section 1007 and *Chapter 11A or 11B.*

**TABLE 1008.1.4.1  
REVOLVING DOOR SPEEDS**

INSIDE DIAMETER (feet-inches)	POWER-DRIVEN-TYPE SPEED CONTROL (rpm)	MANUAL-TYPE SPEED CONTROL (rpm)
6-6	11	12
7-0	10	11
7-6	9	11
8-0	9	10
8-6	8	9
9-0	8	9
9-6	7	8
10-0	7	8

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

**1008.1.4.1.1 Egress component.** A revolving door used as a component of a means of egress shall comply with Section 1008.1.4.1 and the following three conditions:

1. Revolving doors shall not be given credit for more than 50 percent of the required egress capacity.
2. Each revolving door shall be credited with no more than a 50-person capacity.
3. Each revolving door shall be capable of being collapsed when a force of not more than 130 pounds (578 N) is applied within 3 inches (76 mm) of the outer edge of a wing.

**1008.1.4.1.2 Other than egress component.** A revolving door used as other than a component of a means of egress shall comply with Section 1008.1.4.1. The collapsing force of a revolving door not used as a component of a means of egress shall not be more than 180 pounds (801 N).

**Exception:** A collapsing force in excess of 180 pounds (801 N) is permitted if the collapsing force is reduced to not more than 130 pounds (578 N) when at least one of the following conditions is satisfied:

1. There is a power failure or power is removed to the device holding the door wings in position.
2. There is an actuation of the automatic sprinkler system where such system is provided.
3. There is an actuation of a smoke detection system which is installed in accordance with Section 907 to provide coverage in

10. In Group I-3 occupancies, exit access stairways constructed in accordance with Section 408.5 are not required to be enclosed.

11. *Fixed guideway transit stations, constructed in accordance with Section 433.*

**1009.3.1 Construction.** Where required, enclosures for exit access stairways shall be constructed in accordance with this section. Exit access stairway enclosures shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies in accordance with Section 711, or both.

**1009.3.1.1 Materials.** Exit access stairway enclosures shall be of materials permitted by the building type of construction.

**1009.3.1.2 Fire-resistance rating.** Exit access stairway enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more, and not less than 1 hour where connecting less than four stories. The number of stories connected by the exit access stairway enclosures shall include any basements, but not any mezzanines. Exit access stairway enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours.

**1009.3.1.3 Continuity.** Exit access stairway enclosures shall have continuity in accordance with Section 707.5 for fire barriers or Section 711.4 for horizontal assemblies as applicable.

**1009.3.1.4 Openings.** Openings in an exit access stairway enclosure shall be protected in accordance with Section 716 as required for fire barriers. Doors shall be self- or automatic-closing by smoke detection in accordance with Section 716.5.9.3.

**1009.3.1.4.1 Prohibited openings.** Openings other than those necessary for the purpose of the exit access stairway enclosure shall not be permitted in exit access stairway enclosures.

**1009.3.1.5 Penetrations.** Penetrations in an exit access stairway enclosure shall be protected in accordance with Section 714 as required for fire barriers.

**1009.3.1.5.1 Prohibited penetrations.** Penetrations other than those necessary for the purpose of the exit access stairway enclosure shall not be permitted in exit access stairway enclosures.

**1009.3.1.6 Joints.** Joints in an exit access stairway enclosure shall comply with Section 715.

**1009.3.1.7 Ducts and air transfer openings.** Penetrations of an exit access stairway enclosure by ducts and air transfer openings shall comply with Section 717.

**1009.3.1.8 Exterior walls.** Where exterior walls serve as a part of an exit access stairway enclosure, such walls shall comply with the requirements of Section 705 for exterior walls and the fire-resistance-rated enclosure requirements shall not apply.

**1009.4 Width.** The width of stairways shall be determined as specified in Section 1005.1, but such width shall not be less

than 44 inches (1118 mm). See Section 1007.3 for accessible means of egress stairways.

**Exceptions:**

1. Stairways serving an occupant load of less than 50 shall have a width of not less than 36 inches (914 mm).
2. Spiral stairways as provided for in Section 1009.12.
3. Aisle stairs complying with Section 1028.
4. Where an incline platform lift or stairway chairlift is installed on stairways serving occupancies in Group R-3, or within dwelling units in occupancies in Group R-2, a clear passage width not less than 20 inches (508 mm) shall be provided. If the seat and platform can be folded when not in use, the distance shall be measured from the folded position.

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

**1009.5 Headroom.** Stairways shall have a minimum headroom clearance of 80 inches (2032 mm) measured vertically from a line connecting the edge of the nosings. Such headroom shall be continuous above the stairway to the point where the line intersects the landing below, one tread depth beyond the bottom riser. The minimum clearance shall be maintained the full width of the stairway and landing.

**Exceptions:**

1. Spiral stairways complying with Section 1009.12 are permitted a 78-inch (1981 mm) headroom clearance.
2. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; where the nosings of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom a maximum of  $4\frac{3}{4}$  inches (121 mm).

**1009.6 Walkline.** The walkline across winder treads shall be concentric to the direction of travel through the turn and located 12 inches (305 mm) from the side where the winders are narrower. The 12-inch (305 mm) dimension shall be measured from the widest point of the clear stair width at the walking surface of the winder. If winders are adjacent within the flight, the point of the widest clear stair width of the adjacent winders shall be used.

**1009.7 Stair treads and risers.** Stair treads and risers shall comply with Sections 1009.7.1 through 1009.7.5.3.

**1009.7.1 Dimension reference surfaces.** For the purpose of this section, all dimensions are exclusive of carpets, rugs or runners.

**1009.7.2 Riser height and tread depth.** Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102

mm) minimum. The riser height shall be measured vertically between the nosings of adjacent treads. Rectangular tread depths shall be 11 inches (279 mm) minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's nosing. Winder treads shall have a minimum tread depth of 11 inches (279 mm) between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline and a minimum tread depth of 10 inches (254 mm) within the clear width of the stair.

**Exceptions:**

1. Alternating tread devices in accordance with Section 1009.13.
2. Ship ladders in accordance with Section 1009.14.
3. Spiral stairways in accordance with Section 1009.12.
4. Aisle stairs in assembly seating areas where the stair pitch or slope is set, for sightline reasons, by the slope of the adjacent seating area in accordance with Section 1028.11.2.
5. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be  $7\frac{3}{4}$  inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum winder tread depth at the walkline shall be 10 inches (254 mm); and the minimum winder tread depth shall be 6 inches (152 mm). A nosing projection not less than  $\frac{3}{4}$  inch (19.1 mm) but not more than  $1\frac{1}{4}$  inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).
6. See Section 3404.1 for the replacement of existing stairways. *[DSA-AC] For applications listed in Section 1.9.1 regulated by the Division of the State Architect-Access Compliance, see Chapter 11B, Section 11B-202.*
7. In Group I-3 facilities, stairways providing access to guard towers, observation stations and control rooms, not more than 250 square feet (23 m<sup>2</sup>) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).
8. *[SFM] Stairways providing access to lifeguard towers not open to the public, not more than 250 square feet (23 m<sup>2</sup>) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).*

**1009.7.3 Winder treads.** Winder treads are not permitted in means of egress stairways except within a dwelling unit.

**Exceptions:**

1. Curved stairways in accordance with Section 1009.11.

2. Spiral stairways in accordance with Section 1009.12.

**1009.7.4 Dimensional uniformity.** Stair treads and risers shall be of uniform size and shape. The tolerance between the largest and smallest riser height or between the largest and smallest tread depth shall not exceed  $\frac{3}{8}$  inch (9.5 mm) in any flight of stairs. The greatest winder tread depth at the walkline within any flight of stairs shall not exceed the smallest by more than  $\frac{3}{8}$  inch (9.5 mm).

**Exceptions:**

1. Nonuniform riser dimensions of aisle stairs complying with Section 1028.11.2.
2. Consistently shaped winders, complying with Section 1009.7, differing from rectangular treads in the same stairway flight.

Where the bottom or top riser adjoins a sloping public way, walkway or driveway having an established grade and serving as a landing, the bottom or top riser is permitted to be reduced along the slope to less than 4 inches (102 mm) in height, with the variation in height of the bottom or top riser not to exceed one unit vertical in 12 units horizontal (8-percent slope) of stairway width. The nosings or leading edges of treads at such nonuniform height risers shall have a distinctive marking stripe, different from any other nosing marking provided on the stair flight. The distinctive marking stripe shall be visible in descent of the stair and shall have a slip-resistant surface. Marking stripes shall have a width of at least 1 inch (25 mm) but not more than 2 inches (51 mm).

**1009.7.5 Nosing and riser profile.** The radius of curvature at the leading edge of the tread shall be not greater than  $\frac{9}{16}$  inch (14.3 mm). Beveling of nosings shall not exceed  $\frac{9}{16}$  inch (14.3 mm). Risers shall be solid and vertical or sloped under the tread above from the underside of the nosing above at an angle not more than 30 degrees (0.52 rad) from the vertical.

**1009.7.5.1 Nosing projection size.** The leading edge (nosings) of treads shall project not more than  $1\frac{1}{4}$  inches (32 mm) beyond the tread below.

**1009.7.5.2 Nosing projection uniformity.** All nosing projections of the leading edges shall be of uniform size, including the projections of the nosings leading edge of the floor at the top of a flight.

**1009.7.5.3 Solid risers.** Risers shall be solid.

**Exceptions:**

1. Solid risers are not required for stairways that are not required to comply with Section 1007.3, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
2. Solid risers are not required for occupancies in Group I-3 or in Group F, H and S occupancies other than areas accessible to the public. There are no restrictions on the size of the opening in the riser.

comply with Section 2407. Where the glazing provided does not meet the strength and attachment requirements of Section 1607.8, complying guards shall also be located along glazed sides of open-sided walking surfaces.

**1013.3 Height.** Required guards shall not be less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces;
2. On stairs, from the line connecting the leading edges of the tread nosings; and
3. On ramps, from the ramp surface at the guard.

**Exceptions:**

1. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
2. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
3. The guard height in assembly seating areas shall comply with Section 1028.14.
4. Along alternating tread devices and ship ladders, guards whose top rail also serves as a handrail, shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread nosing.

**1013.4 Opening limitations.** Required guards shall not have openings which allow passage of a sphere 4 inches (102 mm) in diameter from the walking surface to the required guard height.

**Exceptions:**

1. From a height of 36 inches (914 mm) to 42 inches (1067 mm), guards shall not have openings which allow passage of a sphere  $4\frac{3}{8}$  inches (111 mm) in diameter.
2. The triangular openings at the open sides of a stair, formed by the riser, tread and bottom rail shall not allow passage of a sphere 6 inches (152 mm) in diameter.
3. At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall not have openings which allow passage of a sphere 21 inches (533 mm) in diameter.
4. In areas that are not open to the public within occupancies in Group I-3, F, H or S, and for alternating tread devices and ship ladders, guards shall not have openings which allow passage of a sphere 21 inches (533 mm) in diameter.
5. In assembly seating areas, guards at the end of aisles where they terminate at a fascia of boxes, balconies

and galleries shall not have openings which allow passage of a sphere 4 inches in diameter (102 mm) up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, guards shall not have openings which allow passage of a sphere 8 inches (203 mm) in diameter.

6. Within individual dwelling units and sleeping units in Group R-2 and R-3 occupancies, guards on the open sides of stairs shall not have openings which allow passage of a sphere  $4\frac{3}{8}$  (111 mm) inches in diameter.

7. *Lifeguard towers not open to the public, guards shall not have openings which allow passage of a sphere 21 inches (533 mm) in diameter.*

**1013.5 Screen porches.** Porches and decks which are enclosed with insect screening shall be provided with guards where the walking surface is located more than 30 inches (762 mm) above the floor or grade below.

**1013.6 Mechanical equipment.** Guards shall be provided where appliances, equipment, fans, roof hatch openings or other components that require service are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter. The guard shall extend not less than 30 inches (762 mm) beyond each end of such appliance, equipment, fan or component.

**1013.7 Roof access.** Guards shall be provided where the roof hatch opening is located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter.

**1013.8 Window sills.** In Occupancy Groups R-2 and R-3, one- and two-family and multiple-family dwellings, where the opening of the sill portion of an operable window is located more than 72 inches (1829 mm) above the finished grade or other surface below, the lowest part of the clear opening of the window shall be at a height not less than 36 inches (915 mm) above the finished floor surface of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4-inch-diameter (102 mm) sphere where such openings are located within 36 inches (915 mm) of the finished floor.

**Exceptions:**

1. Operable windows where the sill portion of the opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below and that are provided with window fall prevention devices that comply with ASTM F 2006.
2. Windows whose openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the window is in its largest opened position.

3. Openings that are provided with window fall prevention devices that comply with ASTM F 2090.
4. Windows that are provided with window opening control devices that comply with Section 1013.8.1.

**1013.8.1 Window opening control devices.** Window opening control devices shall comply with ASTM F 2090. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1029.2.

**SECTION 1014  
EXIT ACCESS**

**1014.1 General.** The exit access shall comply with the applicable provisions of Sections 1003 through 1013. Exit access arrangement shall comply with Sections 1014 through 1019.

**1014.2 Egress through intervening spaces.** Egress through intervening spaces shall comply with this section.

1. Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas and the area served are accessory to one or the other, are not a Group H occupancy and provide a discernible path of egress travel to an exit.

**Exception:** Means of egress are not prohibited through adjoining or intervening rooms or spaces in a Group H, S or F occupancy when the adjoining or intervening rooms or spaces are the same or a lesser hazard occupancy group.

2. An exit access shall not pass through a room that can be locked to prevent egress.
3. Means of egress from dwelling units or sleeping areas shall not lead through other sleeping areas, toilet rooms or bathrooms.
4. Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes.

**Exceptions:**

1. Means of egress are not prohibited through a kitchen area serving adjoining rooms constituting part of the same dwelling unit or sleeping unit.
2. Means of egress are not prohibited through stockrooms in Group M occupancies when all of the following are met:
  - 2.1. The stock is of the same hazard classification as that found in the main retail area;
  - 2.2. Not more than 50 percent of the exit access is through the stockroom;
  - 2.3. The stockroom is not subject to locking from the egress side; and
  - 2.4. There is a demarcated, minimum 44-inch-wide (1118 mm) aisle defined by

full- or partial-height fixed walls or similar construction that will maintain the required width and lead directly from the retail area to the exit without obstructions.

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

**1014.2.1 Multiple tenants.** Where more than one tenant occupies any one floor of a building or structure, each tenant space, dwelling unit and sleeping unit shall be provided with access to the required exits without passing through adjacent tenant spaces, dwelling units and sleeping units.

**Exception:** The means of egress from a smaller tenant space shall not be prohibited from passing through a larger adjoining tenant space where such rooms or spaces of the smaller tenant occupy less than 10 percent of the area of the larger tenant space through which they pass; are the same or similar occupancy group; a discernable path of egress travel to an exit is provided; and the means of egress into the adjoining space is not subject to locking from the egress side. A required means of egress serving the larger tenant space shall not pass through the smaller tenant space or spaces.

**1014.2.2 Basement exits in Group I-2 occupancies.** For additional requirements for occupancies in Group I-2 or I-2.1, see Section 407 of the California Building Code.

**1014.3 Common path of egress travel.** The common path of egress travel shall not exceed the common path of egress travel distances in Table 1014.3.

**TABLE 1014.3  
COMMON PATH OF EGRESS TRAVEL**

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)		WITH SPRINKLER SYSTEM (feet)
	Occupant Load		
	≤ 30	> 30	
B, S <sup>d</sup>	100	75	100 <sup>a</sup>
U	100	75	75 <sup>a</sup>
F	75	75	100 <sup>a</sup>
H-1, H-2, H-3	Not Permitted	Not Permitted	25 <sup>a</sup>
R-2	75	75	125 <sup>b</sup>
R-3 <sup>c</sup>	75	75	125 <sup>b</sup>
I-3	100	100	100 <sup>a</sup>
All others <sup>c, f</sup>	75	75	75 <sup>a</sup>

For SI: 1 foot = 304.8 mm.

- a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
- b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.
- c. For a room or space used for assembly purposes having fixed seating, see Section 1028.8.
- d. The length of a common path of egress travel in a Group S-2 open parking garage shall not be more than 100 feet (30 480 mm).
- e. The length of a common path of egress travel in a Group R-3 occupancy located in a mixed occupancy building.
- f. For the distance limitations in Group I-2 or I-2.1, see Section 407.4.

**SECTION 1015  
EXIT AND EXIT ACCESS DOORWAYS**

**1015.1 Exits or exit access doorways from spaces.** Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

1. The occupant load of the space exceeds one of the values in Table 1015.1.

**Exceptions:**

1. In Group R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Care suites in Group I-2 or I-2.1 occupancies complying with Section 407.4.3.
2. The common path of egress travel exceeds one of the limitations of Section 1014.3.
3. Where required by Section 1015.3, 1015.4, 1015.5, or 1015.6.
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.*

Where a building contains mixed occupancies, each individual occupancy shall comply with the applicable requirements for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1.

**TABLE 1015.1  
SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY**

OCCUPANCY	MAXIMUM OCCUPANT LOAD
A, B, E, F, M, U	49
H-1, H-2, H-3	3
H-4, H-5, I-2.1, I-3, I-4, R	10
S	29
L	See Section 443.6.1

a. *For holding cells, see Section 408.3.11.*

**1015.1.1 Three or more exits or exit access doorways.**

Three exits or exit access doorways shall be provided from any space with an occupant load of 501 to 1,000. Four exits or exit access doorways shall be provided from any space with an occupant load greater than 1,000.

**1015.2 Exit or exit access doorway arrangement.** Required exits shall be located in a manner that makes their availability obvious. Exits shall be unobstructed at all times. Exit and exit access doorways shall be arranged in accordance with Sections 1015.2.1 and 1015.2.2. *Exit access doorways, contributing to the total number of exits or exit access doorways required by Sections 1015.1 and 1015.1.1, shall lead to separate exits.*

**1015.2.1 Two exits or exit access doorways.** Where two exits or exit access doorways are required from any portion of the exit access, the exit doors or exit access door-

ways shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between exit doors or exit access doorways. Interlocking or scissor stairs shall be counted as one exit stairway.

**Exceptions:**

1. Where interior exit stairways are interconnected by a 1-hour fire-resistance-rated corridor conforming to the requirements of Section 1018, the required exit separation shall be measured along the shortest direct line of travel within the corridor.
2. Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, the separation distance of the exit doors or exit access doorways shall not be less than one-third of the length of the maximum overall diagonal dimension of the area served.

**1015.2.2 Three or more exits or exit access doorways.**

Where access to three or more exits is required, at least two exit doors or exit access doorways shall be arranged in accordance with the provisions of Section 1015.2.1. *Additional required exit or exit access doorways shall be arranged a reasonable distance apart so that if one becomes, blocked, the others will be available.*

**1015.3 Boiler, incinerator and furnace rooms.**

Two exit access doorways are required in boiler, incinerator and furnace rooms where the area is over 500 square feet (46 m<sup>2</sup>) and any fuel-fired equipment exceeds 400,000 British thermal units (Btu) (422 000 KJ) input capacity. Where two exit access doorways are required, one is permitted to be a fixed ladder or an alternating tread device. Exit access doorways shall be separated by a horizontal distance equal to one-half the length of the maximum overall diagonal dimension of the room.

**1015.4 Refrigeration machinery rooms.**

Machinery rooms larger than 1,000 square feet (93 m<sup>2</sup>) 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 room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an exit or exit access doorway. An increase in travel distance is permitted in accordance with Section 1016.1.

Doors shall swing in the direction of egress travel, regardless of the occupant load served. Doors shall be tight fitting and self-closing.

**1015.5 Refrigerated rooms or spaces.**

Rooms or spaces having a floor area larger than 1,000 square feet (93 m<sup>2</sup>), 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.

## MEANS OF EGRESS

Travel distance shall be determined as specified in Section 1016.1, but all portions of a refrigerated room or space shall be within 150 feet (45 720 mm) of an exit or exit access doorway where such rooms are not protected by an approved automatic sprinkler system. Egress is allowed through adjoining refrigerated rooms or spaces.

**Exception:** Where using refrigerants in quantities limited to the amounts based on the volume set forth in the *California Mechanical Code*.

**1015.6 Day care means of egress.** Day care facilities, rooms or spaces where care is provided for more than 10 children that are 2 years of age or less, shall have access to not less than two exits or exit access doorways.

**1015.7 Large family day-care home.** Every story or basement of a large family day-care home shall be provided with two exits which are remotely located from each other. Every required exit shall be of a size to permit the installation of a door not less than 32 inches (813 mm) in clear width and not less than 6 feet 8 inches (2,032 mm) in height. A manually operated horizontal sliding door may be used as one of the two required exits.

Where basements are used for day-care purposes, one of the two required exits shall provide access directly to the exterior without entering the first story. The second exit from the basement may either pass through the story above or exit directly to the exterior.

Rooms used for day-care purposes shall not be located above the first story.

**Exception:** Buildings equipped with an automatic sprinkler system throughout and which have at least one of the required exits providing access directly to the exterior. NFPA 13R may be used in large family day-care homes. The sprinkler omissions of NFPA 13R shall not apply unless approved by the enforcing agency.

Exit doors, including manually operated horizontal sliding doors, shall be openable from the inside without use of a key or any special knowledge or effort.

Tables 1021.1 and 1021.2 are not applicable to this occupancy classification.

### SECTION 1016 EXIT ACCESS TRAVEL DISTANCE

**1016.1 General.** Travel distance within the exit access portion of the means of egress system shall be in accordance with this section.

**1016.2 Limitations.** Exit access travel distance shall not exceed the values given in Table 1016.2.

**1016.2.1 Exterior egress balcony increase.** Exit access travel distances specified in Table 1016.2 shall be increased up to an additional 100 feet (30 480 mm) provided the last portion of the exit access leading to the exit occurs on an exterior egress balcony constructed in accor-

**TABLE 1016.2  
EXIT ACCESS TRAVEL DISTANCE<sup>a</sup>**

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200	250 <sup>b</sup>
R-2.1	Not Permitted	250 <sup>c</sup>
B	200	300 <sup>c</sup>
F-2, S-2, U	300	400 <sup>c</sup>
H-1	Not Permitted	75 <sup>c</sup>
H-2	Not Permitted	100 <sup>c</sup>
H-3	Not Permitted	150 <sup>c</sup>
H-4	Not Permitted	175 <sup>c</sup>
H-5	Not Permitted	200 <sup>c</sup>
I-2, I-2.1, I-3 <sup>d</sup> , I-4	Not Permitted	200 <sup>c</sup>
L	Not Permitted	200 <sup>c</sup>

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to exit access travel distance requirements:

Section 402.8: For the distance limitation in malls.

Section 404.9: For the distance limitation through an atrium space.

Section 407.4: For the distance limitation in Group I-2 or I-2.1.

Section 408.3.10: For increased limitation in Group I-3

Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.

Section 411.4: For the distance limitation in special amusement buildings.

Section 1015.4: For the distance limitation in refrigeration machinery rooms.

Section 1015.5: For the distance limitation in refrigerated rooms and spaces.

Section 1016.2.2: For increased limitation in Groups F-1 and S-1.

Section 1021.2: For buildings with one exit.

Section 1028.7: For increased limitation in assembly seating.

Section 1028.7: For increased limitation for assembly open-air seating.

Section 3103.4: For temporary structures.

Section 3104.9: For pedestrian walkways.

b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.

c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

d. Not permitted in nonsprinklered Group I-3 Occupancies.

dance with Section 1019. The length of such balcony shall not be less than the amount of the increase taken.

**1016.2.2 Group F-1 and S-1 increase.** The maximum exit access travel distance shall be 400 feet (122 m) in Group F-1 or S-1 occupancies where all of the following are met:

1. The portion of the building classified as Group F-1 or S-1 is limited to one story in height,
2. The minimum height from the finished floor to the bottom of the ceiling or roof slab or deck is 24 feet (7315 mm), and
3. The building is equipped throughout with an automatic fire sprinkler system in accordance with Section 903.3.1.1.

**1016.3 Measurement.** Exit access travel distance shall be measured from the most remote point within a story along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit.

**Exceptions:**

1. In open parking garages, exit access travel distance is permitted to be measured to the closest riser of an exit access stairway or the closest slope of an exit access ramp.
2. In outdoor facilities with open exit access components, exit access travel distance is permitted to be measured to the closest riser of an exit access stairway or the closest slope of an exit access ramp.

**1016.3.1 Exit access stairways and ramps.** Travel distance on exit access stairways or ramps shall be included in the exit access travel distance measurement. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stair and landings. The measurement along ramps shall be made on the walking surface in the center of the ramp and landings.

## SECTION 1017 AISLES

*[DSA-AC] In addition to the requirements of this section, means of egress, which provide access to, or egress from, buildings or facilities where accessibility is required for applications listed in Section 1.9.1 regulated by the Division of the State Architect-Access Compliance, shall also comply with Chapter 11A or Chapter 11B, Section 11B-403, as applicable.*

**1017.1 General.** Aisles and aisle accessways serving as a portion of the exit access in the means of egress system shall comply with the requirements of this section. Aisles or aisle accessways shall be provided from all occupied portions of the exit access which contain seats, tables, furnishings, displays and similar fixtures or equipment. The required width of aisles shall be unobstructed.

**Exception:** Encroachments complying with Section 1005.7.

**1017.2 Aisles in assembly spaces.** Aisles and aisle accessways serving a room or space used for assembly purposes shall comply with Section 1028.

**1017.3 Aisles in Groups B and M.** In Group B and M occupancies, the minimum clear aisle width shall be determined by Section 1005.1 for the occupant load served, but shall not be less than 36 inches (914 mm).

**Exception:** Nonpublic aisles serving less than 50 people and not required to be accessible by Chapter 11B, (see Section 11B-403) need not exceed 28 inches (711 mm) in width.

**1017.4 Aisle accessways in Group M.** An aisle accessway shall be provided on at least one side of each element within

the merchandise pad. The minimum clear width for an aisle accessway not required to be accessible shall be 30 inches (762 mm). The required clear width of the aisle accessway shall be measured perpendicular to the elements and merchandise within the merchandise pad. The 30-inch (762 mm) minimum clear width shall be maintained to provide a path to an adjacent aisle or aisle accessway. The common path of egress travel shall not exceed 30 feet (9144 mm) from any point in the merchandise pad.

**Exception:** For areas serving not more than 50 occupants, the common path of egress travel shall not exceed 75 feet (22 860 mm).

**1017.5 Aisles in other than assembly spaces and Groups B and M.** In other than rooms or spaces used for assembly purposes and Group B and M occupancies, the minimum clear aisle width shall be determined by Section 1005.1 for the occupant load served, but shall not be less than 36 inches (914 mm).

## SECTION 1018 CORRIDORS

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

**Exceptions:**

1. A fire-resistance rating is not required for corridors in an occupancy in Group E where each room that is used for instruction has at least one door opening directly to the exterior and rooms for assembly purposes have at least one-half of the required means of egress doors opening directly to the exterior. Exterior doors specified in this exception are required to be at ground level.
2. A fire-resistance rating is not required for corridors contained within a dwelling or sleeping unit in an occupancy in Group R.
3. A fire-resistance rating is not required for corridors in open parking garages.
4. A fire-resistance rating is not required for corridors in an occupancy in Group B which is a space requiring only a single means of egress complying with Section 1015.1.
5. Corridors adjacent to the exterior walls of buildings shall be permitted to have unprotected openings on unrated exterior walls where unrated walls are permitted by Table 602 and unprotected openings are permitted by Table 705.8.
6. A fire-resistance rating is not required for corridors within suites in a Group I-2 or I-2.1 occupancy provided with an automatic sprinkler system throughout and constructed in accordance with Section 407.4.3.5 or 407.4.3.6.

**TABLE 1018.1  
CORRIDOR FIRE-RESISTANCE RATING**

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)	
		Without sprinkler system	With sprinkler system <sup>c</sup>
H-1, H-2, H-3, <i>L</i>	All	Not Permitted	1
H-4, H-5, <i>L</i>	Greater than 30	Not Permitted	1
A <sup>d</sup> , B, F, M, S, U	Greater than 30	1	0
R-1, R-2, R-3, R-3.1, R-4	Greater than 10	Not Permitted	1
I-2 <sup>a</sup> , I-2.1, I-4	Greater than 6	Not Permitted	1
I-3, R-2.1	Greater than 6	Not Permitted	1 <sup>b</sup>
<i>E</i>	Greater than 10	1	1

- a. For requirements for occupancies in Group I-2 and I-2.1, see Sections 407.2 and 407.3.
- b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Sections 408.1.2 and 408.8.
- c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.
- d. [SFM] See Section 1028.

**1018.2 Width.** The minimum width of corridors specified in Table 1018.2 shall be as determined in Section 1005.1.

**TABLE 1018.2  
MINIMUM CORRIDOR WIDTH**

OCCUPANCY	WIDTH (minimum)
Any facilities not listed below	44 inches
Access to and utilization of mechanical, plumbing or electrical systems or equipment	24 inches
With a required occupancy capacity less than 50	36 inches
Within a dwelling unit	36 inches
In Group E with a corridor having a required capacity of 100 or more	72 inches
In corridors and areas serving gurney traffic in occupancies where patients receive outpatient medical care, which causes the patient to be incapable of self-preservation	72 inches
Group I-2 in areas where required for bed movement	96 inches
Corridors in Group I-2 and I-3 occupancies serving any area caring for one or more nonambulatory persons.	96 inches

For SI: 1 inch = 25.4 mm.

**1018.3 Obstruction.** The required width of corridors shall be unobstructed.

**Exception:** Encroachments complying with Section 1005.7.

**1018.4 Dead ends.** Where more than one exit or exit access doorway is required, the exit access shall be arranged such that there are no dead ends in corridors more than 20 feet (6096 mm) in length.

**Exceptions:**

1. In occupancies in Group I-3 of Occupancy Condition 2, 3 or 4 (see Section 308.5), the dead end in a corridor shall not exceed 50 feet (15 240 mm).

2. In occupancies in Groups B, E, F, I-1, M, R-1, R-2, R-4, S and U, where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the length of the dead-end corridors shall not exceed 50 feet (15 240 mm).
3. A dead-end corridor shall not be limited in length where the length of the dead-end corridor is less than 2.5 times the least width of the dead-end corridor.

**1018.5 Air movement in corridors.** Corridors shall not serve as supply, return, exhaust, relief or ventilation air ducts.

**Exceptions:**

1. Use of a corridor as a source of makeup air for exhaust systems in rooms that open directly onto such corridors, including toilet rooms, bathrooms, dressing rooms, and janitor closets, shall be permitted, provided that each such corridor is directly supplied with outdoor air at a rate greater than the rate of makeup air taken from the corridor.
2. Where located within a dwelling unit, the use of corridors for conveying return air shall not be prohibited.
3. Where located within tenant spaces of 1,000 square feet (93 m<sup>2</sup>) or less in area, utilization of corridors for conveying return air is permitted.
4. Incidental air movement from pressurized rooms within health care facilities, provided that the corridor is not the primary source of supply or return to the room.
5. For health care facilities under the jurisdiction of the Office of Statewide Health Planning and Development (OSHPD), see the California Mechanical Code.

**1018.5.1 Corridor ceiling.** Use of the space between the corridor ceiling and the floor or roof structure above as a return air plenum is permitted for one or more of the following conditions:

1. The corridor is not required to be of fire-resistance-rated construction;
2. The corridor is separated from the plenum by fire-resistance-rated construction;
3. The air-handling system serving the corridor is shut down upon activation of the air-handling unit smoke detectors required by the California Mechanical Code;
4. The air-handling system serving the corridor is shut down upon detection of sprinkler waterflow where the building is equipped throughout with an automatic sprinkler system; or
5. The space between the corridor ceiling and the floor or roof structure above the corridor is used as a component of an approved engineered smoke control system.

**TABLE 1021.2(1) (CFC [B] TABLE 1021.2(1))  
STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2, R-3 OCCUPANCIES**

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STORY	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
Basement, first, second or third story <i>above grade plane</i>	R-2 <sup>a,b</sup> R-3 <sup>a</sup>	4 dwelling units NA	125 feet NA
Fourth story <i>above grade plane</i> and <i>higher above</i>	R-3 <sup>a</sup>	NA	125 feet

For SI: 1 foot = 304.8 mm.

NP – Not Permitted

NA – Not Applicable

- a. Buildings classified as Group R-2 or R-3 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1029.
- b. This table is used for R-2 occupancies consisting of dwelling units. For R-2 occupancies consisting of sleeping units, use Table 1021.2(2).

**TABLE 1021.2(2)  
STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES**

STORY	OCCUPANCY	MAXIMUM OCCUPANTS PER STORY	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
First story <i>above or below grade plane</i> basement	A, B <sup>b</sup> , E, F <sup>b</sup> , M, U, S <sup>b</sup>	49 occupants	75 feet
	H-2, H-3	3 occupants	25 feet
	H-4, H-5, I, R-1, R-2 <sup>a,c</sup> , R-4	10 occupants	75 feet
	I-2, I-2.1	29 occupants	100 feet
	S	7 occupants	50 feet
Second story <i>above grade plane</i>	B, F, M, S	29 occupants	75 feet
Third story <i>above grade plane</i> and <i>above higher</i>	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP – Not Permitted

NA – Not Applicable

- a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1029.
- b. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall have a maximum travel distance of 100 feet.
- c. This table is used for R-2 occupancies consisting of sleeping units. For R-2 occupancies consisting of dwelling units, use Table 1021.2(1).

**1022.6 Ventilation.** Equipment and ductwork for interior exit stairway and ramp ventilation as permitted by Section 1022.5 shall comply with one of the following items:

1. Such equipment and ductwork shall be located exterior to the building and shall be directly connected to the interior exit stairway and ramp by ductwork enclosed in construction as required for shafts.
2. Where such equipment and ductwork is located within the interior exit stairway and ramp, the intake air shall be taken directly from the outdoors and the exhaust air shall be discharged directly to the outdoors, or such air shall be conveyed through ducts enclosed in construction as required for shafts.
3. Where located within the building, such equipment and ductwork shall be separated from the remainder of the building, including other mechanical equipment, with construction as required for shafts.

In each case, openings into the fire-resistance-rated construction shall be limited to those needed for maintenance and

operation and shall be protected by opening protectives in accordance with Section 716 for shaft enclosures.

The interior exit stairway and ramp ventilation systems shall be independent of other building ventilation systems.

**1022.7 Interior exit stairway and ramp exterior walls.** Exterior walls of the interior exit stairway and ramp shall comply with the requirements of Section 705 for exterior walls. Where nonrated walls or unprotected openings enclose the exterior of the stairway and the walls or openings are exposed by other parts of the building at an angle of less than 180 degrees (3.14 rad), the building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening shall have a fire-resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than 3/4 hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the topmost landing of the stairway or to the roof line, whichever is lower.

**1022.8 Discharge identification.** An interior exit stairway and ramp shall not continue below its level of exit discharge unless an approved barrier is provided at the level of exit discharge to prevent persons from unintentionally continuing into levels below. Directional exit signs shall be provided as specified in Section 1011.

**1022.9 Stairway identification signs.** A sign shall be provided at each floor landing in an interior exit stairway and ramp connecting more than three stories designating the floor level, the terminus of the top and bottom of the interior exit stairway and ramp and the identification of the stair or ramp. The signage shall also state the story of, and the direction to, the exit discharge and the availability of roof access from the interior exit stairway and ramp for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions.

*In addition to the stairway identification sign, raised characters and braille floor identification signs that comply with Chapter 11A, Section 1143A or Chapter 11B, Sections 11B-703.1, 11B-703.2, 11B-703.3 and 11B-703.5 shall be located at the landing of each floor level, placed adjacent to the door on the latch side, in all enclosed stairways in buildings two or more stories in height to identify the floor level. At the exit discharge level, the sign shall include a raised five pointed star located to the left of the identifying floor level. The outside diameter of the star shall be the same as the height of the raised characters.*

**1022.9.1 Signage requirements.** Stairway identification signs shall comply with all of the following requirements:

1. The signs shall be a minimum size of 18 inches (457 mm) by 12 inches (305 mm).
2. The letters designating the identification of the stair enclosure, *such as STAIR NO. 1 or WEST STAIR*, shall be placed at the top of the sign and shall be a minimum of 1½ inches (38 mm) in height *block lettering with ¼-inch (6 mm) strokes*.
3. The number designating the floor level shall be a minimum of 5 inches (127 mm) in height *with ¾-inch (19 mm) strokes and located in the center of the sign. The mezzanine levels shall have the letter "M" preceding the floor level. Basement levels shall have the letter "B" preceding the floor number.*
4. All other lettering and numbers shall be a minimum of 1 inch (25 mm) in height.
5. *The stairway's upper terminus, such as ROOF ACCESS or NO ROOF ACCESS, shall be placed under the stairway identification in 1-inch-high (25 mm) block lettering with ¼-inch (6 mm) strokes.*
6. *The lower and upper terminus of the stairway shall be placed at the bottom of the sign in 1-inch-high (25 mm) block lettering with ¼-inch (6 mm) strokes.*
7. Characters and their background shall have a non-glare finish. Characters shall contrast with their background, with either light characters on a dark background or dark characters on a light background.

8. When signs required by Section 1022.9 are installed in interior exit stairways and ramps of buildings subject to Section 1024, the signs shall be made of the same materials as required by Section 1024.4.

**1022.10 Smokeproof enclosures.** Where required by Section 403.5.4 or 405.7.2, interior exit stairways and ramps shall be smokeproof enclosures in accordance with Section 909.20.

**1022.10.1 Termination and extension.** A smokeproof enclosure shall terminate at an exit discharge or a public way. The smokeproof enclosure shall be permitted to be extended by an exit passageway in accordance with Section 1022.3. The exit passageway shall be without openings other than the fire door assembly required by Section 1022.3.1 and those necessary for egress from the exit passageway. The exit passageway shall be separated from the remainder of the building by 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both.

**Exceptions:**

1. Openings in the exit passageway serving a smokeproof enclosure are permitted where the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure, and openings are protected as required for access from other floors.
2. The fire barrier separating the smokeproof enclosure from the exit passageway is not required, provided the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure.
3. A smokeproof enclosure shall be permitted to egress through areas on the level of exit discharge or vestibules as permitted by Section 1027.

**1022.10.2 Enclosure access.** Access to the stairway within a smokeproof enclosure shall be by way of a vestibule or an open exterior balcony.

## SECTION 1023 EXIT PASSAGEWAYS

**1023.1 Exit passageway.** Exit passageways serving as an exit component in a means of egress system shall comply with the requirements of this section. An exit passageway shall not be used for any purpose other than as a means of egress.

**1023.2 Width.** The minimum width of exit passageways shall be determined as specified in Section 1005.1 but such width shall not be less than 44 inches (1118 mm), except that exit passageways serving an occupant load of less than 50 shall not be less than 36 inches (914 mm) in width. The required width of exit passageways shall be unobstructed.

**Exceptions:**

1. *Encroachment complying with Section 1005.7.*
2. *Doors complying with Section 1005.2.*

*The clear width of exit passageways in a Group I-2 occupancy used for the movement of beds and litters shall be 44-inch (1118) minimum.*

# CHAPTER 11A

## HOUSING ACCESSIBILITY

**NOTE 1:** Covered multifamily dwellings may be subject to the requirements of more than one jurisdiction or law, which would require compliance with each law. Where federal, state, or local laws differ, the more stringent requirements apply. For additional information, see the Joint Statement of the Department of Housing and Urban Development and the Department of Justice issued April 30, 2013 ([www.hud.gov](http://www.hud.gov)).

**NOTE 2:** Dwelling units constructed as senior citizen housing may also be subject to the Unruh Civil Rights Act. Refer to Division 1, Part 2 of the California Civil Code. For additional information regarding application, interpretation and enforcement, contact the California Department of Fair Employment and Housing.

### Division I – APPLICATION, GENERAL PROVISIONS, AND DEFINITIONS

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### SECTION 1101A APPLICATION

**1101A.1 Scope.** The application and authority of this chapter are identified and referenced in Sections 1.8.2.1.2 and 1102A for the Department of Housing and Community Development. Applicable sections are identified in the Matrix Adoption Tables of this code under the abbreviation HCD 1-AC. The provisions of this chapter shall apply to the following:

1. All newly-constructed covered multifamily dwellings.
2. New common use areas serving existing covered multifamily dwellings.
3. Additions to existing buildings, where the addition alone meets the definition of a covered multifamily dwelling.
4. New common-use areas serving new covered multifamily dwellings.
5. Where any portion of a building's exterior is preserved, but the interior of the building is removed, including all structural portions of floors and ceilings, the building is considered a new building for determining the application of this chapter.

Chapter 11A generally does not apply to public accommodations such as hotels and motels, and public housing. Public use areas, public accommodations, and public housing as defined in Chapter 2 of this code are subject to provisions of the Division of the State Architect (DSA-AC) in Chapter 11B, and are referenced in Section 1.9.1.

Newly constructed covered multifamily dwellings, which can also be defined as public housing, shall be subject to the requirements of Chapter 11A and Chapter 11B.

### SECTION 1102A BUILDING ACCESSIBILITY

**1102A.1 Where required.** Buildings or portions of buildings and facilities within the scope of this chapter shall be accessible to persons with disabilities. Each building on a building site shall be considered separately when determining the requirements contained in this chapter, except when calculating the number of units which must comply with Section 1102A.3.1. Dwelling units within a single structure separated by firewalls do not constitute separate buildings.

Newly-constructed covered multifamily dwellings as defined in this chapter, include, but are not limited to, the following:

1. Apartment buildings with 3 or more dwelling units including timeshare apartments not considered a place of public accommodation or transient lodging as defined in Health and Safety Code Section 19955 (a), and Chapter 2 of the California Building Code.
2. Condominiums with 4 or more dwelling units including timeshare condominiums not considered a place of public accommodation or transient lodging as defined in Health and Safety Code Section 19955 (a), and Chapter 2 of the California Building Code.
3. Lodging houses, as defined in Chapter 2 of the California Building Code, used as a residence with more than 3 but not more than 5 guest rooms.
4. Congregate residences, as defined in Chapter 2 of the California Building Code, with 3 or more sleeping units.
5. Dwellings with 3 or more efficiency units, as defined in Chapter 2 of this code, or Section 17958.1 of the California Health and Safety Code.
6. Shelters for homeless persons, not otherwise subject to the disabled access provisions of the Division of the State Architect-Access Compliance (DSA-AC).
7. Dormitories, as defined in Chapter 2 of this code, with 3 or more guest rooms as defined in Chapter 2 of the California Building Code.
8. Timeshare dwellings with 3 or more units, not considered a place of public accommodations or transient lodging as defined in Health and Safety Code Section 19955 (a), and Chapter 2 of the California Building Code.
9. Other Group R occupancies in covered multifamily dwellings which are regulated by the Office of the State Fire Marshal. See Section 1.11.

10. Public housing as defined in Chapter 2 of this code is subject to provisions of the Division of the State Architect (DSA-AC) in Chapter 11B. Newly constructed covered multifamily dwellings, which can also be defined as public housing, shall be subject to the requirements of Chapter 11A and Chapter 11B.

**1102A.2 Existing buildings.** The building standards contained in this chapter do not apply to the alteration, repair, rehabilitation or maintenance of multifamily dwellings constructed for first occupancy prior to March 13, 1991.

Covered multifamily dwellings shall be maintained in compliance with the accessibility standards in effect at the time of construction. Apartments constructed prior to March 13, 1991 shall be maintained in compliance with the accessibility standards in effect at the time of construction.

Additions shall be subject to the requirements of this chapter, provided the addition, when considered alone, meets the definition of a covered multifamily dwelling, as defined in Chapter 2. New common use spaces serving existing covered multifamily dwellings shall be subject to the requirements of this chapter.

**Note:** For all existing public use areas, public accommodations, and public housing, see Chapter 11B for provisions of the Division of the State Architect-Access Compliance (DSA-AC).

### 1102A.3 Multistory dwellings.

**1102A.3.1 Multistory apartment or condominium dwellings in buildings with no elevator.** This section shall apply to multistory dwelling units on the ground floor of buildings without elevators for which an application for a construction permit is submitted on or after July 1, 2005.

**Exception:** Carriage units as defined in Chapter 2 and regulated only by the Department of Housing and Community Development as referenced in Section 1.8.2.1.2.

At least 10 percent but not less than one of the multistory dwellings in apartment buildings with 3 or more dwelling units and/or condominiums with 4 or more dwelling units shall comply with the following:

1. The primary entry to the dwelling unit shall be on an accessible route unless exempted by site impracticality tests in Section 1150A.
2. At least one powder room or bathroom shall be located on the primary entry level, served by an accessible route and shall comply with the provisions in Division IV.
3. All rooms or spaces located on the primary entry level shall be served by an accessible route and shall comply with the provisions in Division IV. Rooms and spaces located on the primary entry level and subject to this chapter may include but are not limited to kitchens, powder rooms, bathrooms, living rooms, bedrooms or hallways.
4. Common use areas covered by this section shall be accessible as required by this chapter. Public use areas as defined in Chapter 2 of this code are sub-

ject to provisions of the Division of the State Architect (DSA-AC) and are referenced in Section 1.9.1.1.

The minimum number of multifamily dwelling units which must comply with this section shall be calculated using the total number of all multistory dwelling units in buildings on a site which are subject to this section. Any fraction thereof shall be rounded to the next highest whole number.

**1102A.3.2 Multistory dwelling units in buildings with one or more elevators.** Multistory dwelling units contained in buildings with elevators shall comply with this section. For multistory dwelling units in buildings with elevators, the story of the unit that is served by the building elevator is considered a ground floor and the primary entry floor to the unit and shall comply with the following:

1. At least 1 powder room or bathroom shall be located on the primary entry level.
2. At least 1 kitchen shall be located on the primary entry level.
3. All rooms or spaces located on the primary entry level shall be served by an accessible route and shall comply with Division IV.

**1102A.4 Temporary restrictions.** During periods of partial or restricted use of a building or facility, the entrances used for primary access shall be accessible to and usable by persons with disabilities.

## SECTION 1103A DESIGN AND CONSTRUCTION

**1103A.1 General.** When buildings are required to be accessible, they shall be designed and constructed as provided in this chapter.

## SECTION 1104A COVERED MULTIFAMILY DWELLINGS

**1104A.1 General.** All ground-floor dwelling units in nonelevator buildings shall be adaptable and on an accessible route, unless an accessible route is not required as determined by site impracticality provisions in Section 1150A. For buildings with elevators, see Section 1106A.

Multistory dwelling units shall comply with Section 1102A.3.

**1104A.2 Ground floors above grade.** Where the first floor containing dwelling units in a building is above grade, all units on that floor shall be served by an accessible route. This floor will be considered a ground floor and all dwelling units are considered covered multifamily dwelling units.

**Exception:** Carriage units as defined in Chapter 2 and regulated only by the Department of Housing and Community Development as referenced in Section 1.8.2.1.2.

Multistory dwelling units shall comply with Section 1102A.3.

**SECTION 1105A****GARAGES, CARPORTS AND PARKING FACILITIES**

**1105A.1 General.** Garages, carports and other parking facilities, which are accessory to covered multifamily dwelling units, shall be accessible as required in Section 1109A.

**SECTION 1106A****SITE AND BUILDING CHARACTERISTICS**

**1106A.1 General.** Covered multifamily dwellings with elevators shall be designed and constructed to provide at least one accessible entrance on an accessible route, regardless of terrain or unusual characteristics of the site. Covered multifamily dwellings without elevators shall be designed and constructed to provide at least one accessible entrance on an accessible route unless terrain or unusual characteristics of the site prevent an accessible route based on the conditions listed below:

1. **Accessible entrance.** Regardless of site considerations described in Section 1150A, an accessible entrance on an accessible route is required when there is an elevator connecting the parking area with the dwelling units on a ground floor. (In this case, those dwelling units on the ground floor served by an elevator, and at least one of each type of public- and common-use areas, would be subject to these requirements.)
2. **Elevator building.** When a building elevator or elevators are provided as a means of access to dwelling units other than dwelling units on a ground floor (see Section 1104A.2), the building is an elevator building. All dwelling units become covered multifamily dwellings in

that building. The elevator in that building must provide accessibility to all dwelling units in the building, regardless of the slope of the natural terrain. For multistory dwelling units in buildings with one or more elevators, see Section 1102A.3.2.

**Note:** Where a building elevator is provided only as means of creating an accessible route to covered multifamily dwelling units on a ground floor, the building is not considered to be an elevator building, only dwelling units located on the ground floor shall be required to comply with this chapter.

3. **Elevated walkway.** When an elevated walkway is planned between a building entrance and a vehicular or pedestrian arrival point, and the planned walkway has a slope no greater than 10 percent (1 unit vertical in 10 units horizontal), the floor being served by the elevated walkway becomes a ground floor and accessibility to all dwellings on that ground floor is required.

**Note:** Since the planned walkway meets the 10 percent slope criterion, it is required to provide an accessible route to the entrance, and the slope of the walkway must be reduced to 1 unit vertical in 12 units horizontal (8.33 percent slope) maximum.

**1106A.2 Site impracticality.** For tests to determine site impracticality due to terrain considerations in nonelevator buildings, see Section 1150A.

**SECTION 1107A  
DEFINITIONS**

All definitions are located in Chapter 2.

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**SECTION 1108A  
GENERAL REQUIREMENTS FOR ACCESSIBLE  
PARKING AND EXTERIOR ROUTES OF TRAVEL**

**Note:** In addition to provisions of this division, exterior routes of travel that provide access to, or egress from, buildings for persons with disabilities shall also comply with Chapter 10.

**SECTION 1109A  
PARKING FACILITIES**

**1109A.1 Accessible parking required.** Each parking facility provided for covered multifamily dwellings and facilities (e.g., swimming pools, club houses, recreation areas and laundry rooms) that serve covered multifamily dwellings shall provide accessible parking as required by this section.

**1109A.2 Parking facilities.** Parking facilities shall include, but not be limited to, the following:

1. Garages
2. Private garages
3. Carports
4. Off-street parking (parking lots/spaces)

**1109A.2.1 Private garages.** Private garages accessory to covered multifamily dwelling units, shall be accessible as required in Section 1109A. Private garages include individual garages and multiple individual garages grouped together.

**Exception:** A private garage attached to and directly serving a single covered multifamily dwelling unit providing at least one of the following options:

1. A door leading directly from the covered dwelling unit, which immediately enters the garage. The door shall comply on both sides with Sections 1132A.3 through 1132A.9.
2. An accessible route of travel from the covered dwelling unit to an exterior door entering the garage. See Section 1132A.1 for requirements at both exit doors.
3. An accessible route of travel from the dwelling unit's primary entry door to the vehicular entrance at the garage. See Section 1132A.1 for requirements at the primary entry door.

**1109A.3 Required accessible parking spaces.** Accessible parking spaces shall be provided at a minimum rate of 2 percent of the covered multifamily dwelling units. At least one space of each type of parking facility shall be made accessible even if the total number exceeds 2 percent.

**1109A.4 Assigned accessible parking spaces.** When assigned parking spaces are provided for a resident or a group of residents, at least 2 percent of the assigned parking spaces serving covered multifamily dwelling units shall be accessible in each type of parking facility. At least one space of each type of parking facility shall be made accessible even if the total number exceeds 2 percent. When assigned parking is provided, signage as required by Section 1109A.8.8 shall not be required.

**1109A.5 Unassigned and visitor parking spaces.** When parking is provided for covered multifamily dwellings and is not assigned to a resident or a group of residents at least 5 percent of the parking spaces shall be accessible and provide access to grade-level entrances of covered multifamily dwellings and facilities (e.g., swimming pools, club houses, recreation areas, and laundry rooms) that serve covered multifamily dwellings. Accessible parking spaces shall be provided with signage as required by Section 1109A.8.8. Such signage shall not be blocked from view by a vehicle parked in the space.

**1109A.6 Requests for accessible parking spaces.** When assigned parking is provided, designated accessible parking for the dwelling unit shall be provided on request of residents with disabilities on the same terms and with the full range of choices (e.g., off-street parking, carport or garage) that are available for other residents.

**1109A.7 Location of accessible parking spaces.** The location of accessible parking spaces shall comply with the following:

1. Accessible parking spaces shall be located on the shortest possible accessible route to an accessible building, or covered multifamily dwelling unit entrance. All van accessible spaces may be grouped on one level of a multilevel parking facility.
2. When parking facilities are located adjacent to a building with multiple accessible entrances, accessible parking spaces shall be dispersed and located near the accessible building entrances.
3. When practical, the accessible route shall not cross lanes for vehicular traffic. When crossing vehicle traffic lanes is necessary, the accessible route shall be designated and marked as a crosswalk.
4. Parking facilities that do not serve a particular building shall have accessible parking spaces located on the shortest possible accessible route to an accessible pedestrian entrance of the parking facility.
5. Accessible parking spaces shall be located so that persons with disabilities are not compelled to wheel or walk behind parked cars other than their own.

**Exception:** When the enforcement agency determines that compliance with this section or providing equivalent facilitation would create an unreasonable hardship, parking spaces may be provided which would require a person with physical disabilities to wheel or walk behind other than accessible parking spaces.

**1109A.8 Design and construction.** Accessible parking required by this section shall be designed and constructed in accordance with Section 1109A.

**1109A.8.1 Vertical clearances.** All entrances, exits and vehicular passageways to and from required accessible parking spaces within parking facilities, shall have a minimum vertical clearance of 8 feet 2 inches (2489 mm) from the floor to the lowest projection of the ceiling. Reflective warning signs complying with Section 1143A for character height shall be installed at transitions from the 8 feet 2 inch ceiling to lower ceiling heights in vehicular passageways in the same parking level.

**1109A.8.2 Arrangement of parking spaces.** Parking spaces shall be arranged to comply with the following:

1. In each parking area, a bumper or curb shall be provided and located to prevent encroachment of cars over the required width of walkways.
2. Ramps, including curb ramps, shall not encroach into any accessible parking space or the adjacent loading and unloading access aisle.

**1109A.8.3 Slope of accessible parking spaces and access aisles.** Surface slopes of accessible parking spaces and access aisles shall be the minimum possible and shall not exceed  $\frac{1}{4}$  inch (6.35 mm) per foot (2.083-percent gradient) in any direction.

**1109A.8.4 Accessible parking space size.** Accessible parking spaces shall comply with Sections 1109A.8.5 and 1109A.8.6.

**1109A.8.5 Accessible single parking space.** Where accessible single spaces are provided, they shall be constructed in accordance with the following:

1. Single spaces shall be 14 feet (4267 mm) wide minimum, and shall provide a 9-foot (2743 mm) wide parking area and a 5-foot (1524 mm) wide loading and unloading access aisle. Access aisles shall be permitted to be located on either side of the vehicle, and shall extend the full required length of the parking spaces they serve.
2. When more than one space is provided, two 9-foot (2743 mm) wide parking spaces may be lined on each side of a 5-foot (1524 mm) wide loading and unloading access aisle.
3. The minimum length of each parking space shall be 18 feet (5486 mm).
4. The loading and unloading access aisle shall be marked by a border painted blue. Within the blue border, hatched lines a maximum of 36 inches (914 mm) on center shall be painted a color contrasting with the parking surface, preferably blue or white. The words "NO PARKING" shall be painted on the ground within each 5-foot (1524 mm) wide loading and unloading access aisle. This notice shall be painted in white letters no less than 12 inches (305 mm) high and located so that it is visible from the adjacent vehicular way.

**Note:** See Figures 11A-2A, 11A-2B and 11A-2C.

**1109A.8.6 Van accessible parking space.** One in every eight accessible spaces, but not less than one, shall be van

accessible and shall be constructed in accordance with the following:

1. Each van-accessible parking space shall be 17 feet (5181 mm) wide minimum, and shall provide either of the following:
  - 1.1. A 12-foot (3658 mm) wide minimum parking area and a 5-foot (1524 mm) wide minimum loading and unloading access aisle.
  - 1.2. A 9-foot (2743 mm) wide minimum parking area and an 8-foot (2438 mm) wide minimum loading and unloading access aisle.

Access aisles shall be located on the passenger side of the vehicle with the vehicle parked in the forward position, and shall extend the full required length of the parking spaces they serve.
2. The minimum length of each space shall be 18 feet (5486 mm).
3. Each space shall be designated "van accessible" as required by Section 1109A.8.8.
4. All van accessible spaces may be grouped on one level of a multilevel parking facility.
5. The loading and unloading access aisle shall be marked by a border painted blue. Within the blue border, hatched lines a maximum of 36 inches (914 mm) on center shall be painted a color contrasting with the parking surface, preferably blue or white. The words "NO PARKING" shall be painted on the ground within each loading and unloading access aisle. This notice shall be painted in white letters no less than 12 inches (305 mm) high and located so that it is visible from the adjacent vehicular way.

**Note:** See Figures 11A-2A, 11A-2B and 11A-2C.

**1109A.8.7 Adjacent parking.** Parking spaces adjacent to accessible parking spaces shall not be considered as loading and unloading access aisles.

**1109A.8.8 Identification.** Each accessible parking space shall be identified with signage and surface marking in accordance with Sections 1109A.8.8.1 and 1109A.8.8.2.

**1109A.8.8.1 Parking signage.** Each accessible parking space reserved for persons with disabilities shall be identified by a reflective sign consisting of the "International Symbol of Accessibility" complying with Section 1143A.8. The sign shall not be smaller than 70 square inches (4516 mm<sup>2</sup>) in area, and shall be posted 60 inches minimum above the finish floor or ground surface, measured to the bottom of the sign. Signs located on accessible routes shall be posted at a minimum height of 80 inches (2032 mm) above the finish floor or ground surface of the accessible route, measured to the bottom of the sign.

Signs identifying accessible parking spaces shall be visible from each parking space they serve, and shall be permanently posted immediately adjacent to the parking space or within the projected parking space width at the head end of the parking space. Signs may also be permanently posted on a wall at the interior end of the parking space.

Van accessible spaces shall comply with Section 1109A.8.6 and shall have an additional sign or additional language stating "Van Accessible" below the symbol of accessibility.

An additional sign shall also be posted in a conspicuous place at each entrance to off-street parking facilities or immediately adjacent to and visible from each accessible stall or space. The sign shall not be less than 17 inches (432 mm) by 22 inches (559 mm) in size with lettering not less than 1 inch (25.4 mm) in height, and shall clearly and conspicuously state the following:

"Unauthorized vehicles parked in designated accessible spaces not displaying distinguishing placards or special license plates issued for persons with disabilities will be towed away at the owner's expense. Towed vehicles may be reclaimed at \_\_\_\_\_ or by telephoning \_\_\_\_\_."

Blank spaces are to be filled in with appropriate information as a permanent part of the sign.

**1109A.8.8.2 Parking space marking.** In addition to the signage requirements, each accessible parking space shall have a surface identification complying with either of the following:

1. The parking space shall be outlined or painted blue, and shall be marked with the "International Symbol of Accessibility" in white or a suitable contrasting color. The "International Symbol of Accessibility" shall be 36 inches (914 mm) wide by 36 inches (914 mm) high minimum, with the centerline 6 inches (152 mm) maximum from the centerline of the parking space, its sides parallel to the length of the parking space, and its lower side aligned with the end of the parking space.
2. The parking space shall be marked with the "International Symbol of Accessibility", in white on a blue background, 36 inches (914 mm) wide by 36 inches (914 mm) high minimum in size. The centerline of the "International Symbol of Accessibility" shall be 6 inches (152 mm) maximum from the centerline of the parking space, its sides shall be parallel to the length of the parking space, and its lower side shall be aligned with the end of the parking space length.

**Note:** See Figures 11A-2A, 11A-2B and 11A-2C.

## SECTION 1110A EXTERIOR ACCESSIBLE ROUTES

**1110A.1 General.** When a building or portion of a building is required to be accessible or adaptable, an accessible route shall be provided to all portions of the building, accessible building entrances and between the building and the public way. The accessible route shall be the most practical direct route and to the maximum extent feasible, coincide with the route for the general public and building residents.

Exterior accessible routes shall be provided as follows:

1. At least one accessible route within the boundary of the site shall be provided from public transportation stops, accessible parking and accessible passenger loading

and unloading zones, and public streets or sidewalks to the accessible building entrance they serve. Where more than one route of travel is provided, all routes shall be accessible.

2. At least one accessible route shall connect accessible buildings, facilities, elements and spaces that are on the same site. Accessible routes shall be provided between accessible buildings and accessible site facilities when more than one building or facility is located on a site.
3. At least one accessible route shall connect accessible building or facility entrances with all accessible spaces, elements, and covered multifamily dwelling units.
4. An accessible route shall connect at least one accessible entrance of each covered multifamily dwelling unit with exterior spaces and facilities that serve the dwelling unit.
5. Where elevators are provided for vertical access, all elevators shall be accessible. See Section 1124A.

**Note:** If the slope of the finished grade between covered multifamily dwellings and site arrival points, public use or common use facilities (including parking) exceeds 1 unit vertical in 12 units horizontal (8.33-percent slope), or where other physical barriers (natural or artificial) or legal restrictions, all of which are outside the control of the owner, prevent the installation of an accessible route, an acceptable alternative is to provide access by a vehicular route, provided:

1. There is accessible parking on an accessible route for at least 2 percent of the covered multifamily dwelling units, and
2. Necessary site provisions such as parking spaces and curb ramps are provided at the public use or common use facility.

**1110A.2 Signs.** At every primary public entrance and at every major junction where the accessible route diverges from the circulation path along or leading to an accessible route, entrance or facility, there shall be a sign displaying the "International Symbol of Accessibility." Signs shall indicate the direction to accessible building entrances and facilities and shall comply with the requirements found in Section 1143A.

**1110A.3 Floor and ground surfaces.** Floor and ground surfaces shall be stable, firm, and slip resistant. If carpet or carpet tile is used in a common-use area or public-use area on a ground or floor surface, it shall have firm backing or no backing. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. The maximum pile height shall be 1/2 inch (12.7 mm). Exposed edges of carpet shall be fastened to floor surfaces and have trim along the entire length of the exposed edge. Carpet edge trim shall comply with Section 1111A requirements for changes in level.

**1110A.3.1 Recessed doormats.** Recessed doormats shall be adequately anchored to prevent interference with wheelchair traffic.

**1110A.4 Exterior accessible routes over 200 feet.** Exterior accessible routes that exceed 200 feet (60 960 mm) in length shall comply with Section 1138A.1.2. (See Figure 11A-1L)

## SECTION 1111A CHANGES IN LEVEL ON ACCESSIBLE ROUTES

**1111A.1 Changes in level not exceeding  $\frac{1}{2}$  inch.** Abrupt changes in level along any accessible route shall not exceed  $\frac{1}{2}$  inch (12.7 mm). When changes in level do occur, they shall be beveled with a slope no greater than 1 unit vertical in 2 units horizontal (50-percent slope). Changes in level not exceeding  $\frac{1}{4}$  inch (6.35 mm) may be vertical.

**1111A.2 Changes greater than  $\frac{1}{2}$  inch.** Changes in level greater than  $\frac{1}{2}$  inch (12.7 mm) shall be made by means of a sloped surface not greater than 1 unit vertical in 20 units horizontal (5-percent slope), or a curb ramp, ramp, elevator or platform (wheelchair) lift. Stairs shall not be part of an accessible route. When stairs are located along or adjacent to an accessible route they shall comply with Section 1115A for exterior stairways.

## SECTION 1112A CURB RAMPS ON ACCESSIBLE ROUTES

**1112A.1 General.** Curb ramps within the boundary of the site shall be constructed at each corner of street intersections and where a pedestrian way crosses a curb. The preferred and recommended location for curb ramps is in the center of the crosswalk of each street corner. Where it is necessary to locate a curb ramp in the center of the curb return, the street surfaces shall be marked to identify pedestrian crosswalks, and the lower end of the curb ramp shall terminate within such crosswalk areas. Curb ramps do not require handrails.

**1112A.2 Obstructions.** Curb ramps shall be located or protected to prevent obstruction by parked cars. Built-up curb ramps shall be located so that they do not project into vehicular traffic lanes, parking spaces, or the adjacent loading and unloading access aisle.

**1112A.3 Width of curb ramps.** Curb ramps shall be a minimum of 48 inches (1219 mm) in width.

**1112A.4 Diagonal curb ramps.** If diagonal (or corner-type) curb ramps have returned curbs or other well-defined edges, such edges shall be parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have a 48-inch (1219 mm) minimum clear space as shown in Figures 11A-3A through 11A-3M. If diagonal curb ramps are provided at marked crossings, the 48-inch (1219 mm) clear space shall be within the markings (see Figures 11A-3A through 11A-3M). If diagonal curb ramps have flared sides, they shall also have at least a 24-inch-long (610 mm) segment of straight curb located on each side of the curb ramp and within the marked crossing. See Figures 11A-3A through 11A-3M.

**1112A.5 Slope of curb ramps.** The slope of curb ramps shall not exceed 1 unit vertical to 12 units horizontal (8.33-percent slope) and shall lie, generally, in a single sloped plane. Transitions from ramps to walks, gutters or streets shall be flush and free of abrupt changes. Maximum slopes of adjoining gutters, road surface immediately adjacent to the curb ramp, or accessible route shall not exceed 1 unit vertical to 20 units horizontal (5-percent slope) within 4 feet (1219 mm) of the top and bottom of the curb ramp.

If a curb ramp is located where pedestrians must walk across the ramp, then it shall have flared sides; the maximum slope of the flare shall be 1 unit vertical in 10 units horizontal (10-percent slope). Curb ramps with returned curbs may be

used where pedestrians would not normally walk across the ramp. See Figures 11A-3A through 11A-3M.

**1112A.6 Level landing.** A level landing 48 inches (1219 mm) deep shall be provided at the upper end of each curb ramp over its full width to permit safe egress from the ramp surface, or the slope of the flared or flared sides of the curb ramp, shall not exceed 1 unit vertical to 12 units horizontal (8.33-percent slope).

**1112A.7 Finish.** The surface of each curb ramp and its flared sides shall be stable, firm and slip-resistant and shall be of contrasting finish from that of the adjacent sidewalk.

**1112A.8 Border.** All curb ramps shall have a grooved border 12 inches (305 mm) wide at the level surface of the sidewalk along the top and each side approximately  $\frac{3}{4}$  inch (19 mm) on center. All curb ramps constructed between the face of the curb and the street shall have a grooved border at the level surface of the sidewalk. See Figures 11A-3A through 11A-3K.

**1112A.9 Detectable warnings.** See Chapter 11B.

## SECTION 1113A WALKS AND SIDEWALKS ON ACCESSIBLE ROUTES

**1113A.1 Width and continuous surface.** Walks and sidewalks subject to this chapter shall have a continuous common surface, not interrupted by steps or by abrupt changes in level exceeding  $\frac{1}{2}$  inch (12.7 mm). (See Section 1111A).

Walking surfaces shall be stable, firm, and slip resistant, and shall comply with Section 1110A.3.

**1113A.1.1 Width.** Walks and sidewalks shall be a minimum of 48 inches (1219 mm) in width, except that walks serving an individual dwelling unit in covered multifamily buildings may be reduced to 36 inches (914 mm) in clear width except at doors.

**1113A.1.2 Surface cross slopes.** Surface cross slopes shall not exceed 1 unit vertical in 48 units horizontal (2.083-percent slope).

**1113A.2 Walks with continuous gradients.** All walks on an accessible route with continuous gradients shall have level areas at least 60 inches (1524 mm) in length at intervals of at least every 400 feet (122 m).

**1113A.3 Five percent gradient.** When the slope in the direction of travel of any walk on an accessible route exceeds 1 unit vertical in 20 units horizontal (5-percent slope), it shall comply with the ramp provisions of Section 1114A.

**1113A.4 Level areas.** Walks on an accessible route shall be provided with a level area at each side of a door or gate. Level areas shall comply with the applicable requirements for maneuvering clearances in Section 1126A.3.

**1113A.5 Gratings.** Walks, sidewalks and pedestrian ways on an accessible route shall be free of gratings whenever possible. Gratings located in the surface of any of these areas, grid openings in gratings shall be limited to  $\frac{1}{2}$  inch (12.7 mm) in the direction of traffic. Elongated openings in gratings shall be placed so that the long dimension is perpendicular to the dominant direction of traffic.

### Exceptions:

1. Where the enforcement agency determines that compliance with this section would create an unreason-

able hardship, an exception may be granted when equivalent facilitation is provided.

2. This section shall not apply in those conditions where, due to legal or physical constraints, all or portions of the site of the project will not allow compliance with these building standards or equivalent facilitation on all or portions of one site without creating an unreasonable hardship.

**1113A.6 Handrails.** Handrails provided along walking surfaces with running slopes not steeper than one unit vertical in 20 units horizontal (5-percent slope) shall comply with Section 1114A.6.

**SECTION 1114A  
EXTERIOR RAMPS AND LANDINGS  
ON ACCESSIBLE ROUTES**

**1114A.1 Width.** The clear width of ramps shall be consistent with the requirements in Chapter 10 of this code, but in no case shall be less than 48 inches (1219 mm)

Handrails may project into the required clear width of the ramp at each side 3 1/2 inches (89 mm) maximum at the handrail height. Curbs, wheel guides and/or appurtenances shall not project into the required clear width of ramps.

**Exception:** The clear width of ramps serving accessible entrances to covered multifamily dwellings with an occupant load of 10 or less may be 36 inches (914 mm) minimum between handrails.

**Note:** See Section 1114A.6.2.4 for handrail projections.

**1114A.2 Slope.** The maximum slope of ramps on an accessible route shall be no greater than 1 unit vertical in 12 units horizontal (8.33-percent slope). Transitions from ramps to walks, gutters or streets shall be flush and free of abrupt changes.

**Exception:** Ramps serving decks, patios or balconies as specified in Section 1132A.4.

**1114A.2.1 Cross slope.** The cross slope of ramp surfaces shall be no greater than 1 unit vertical in 48 units horizontal (2.083-percent slope).

**1114A.3 Outdoor ramps.** Outdoor ramps, ramp landings and their approaches shall be designed so that water will not accumulate on the walking surface.

**1114A.4 Landings.** Ramp landings shall be level and comply with this section.

**1114A.4.1 Location of landings.** Landings shall be provided at the top and bottom of each ramp. Intermediate landings shall be provided at intervals not exceeding 30 inches (762 mm) of vertical rise and at each change of direction. Landings are not considered in determining the maximum horizontal distance of each ramp.

**Note:** Examples of ramp dimensions are:

SLOPE (Grading %)	MAXIMUM RISE (Inches)	MAXIMUM HORIZONTAL PROJECTION (Feet)
	(x 25.4 for mm)	(x 304.8 for mm)
1:12 (8.33%)	30	30
1:15 (6.67%)	30	37.5
1:16 (6.25%)	30	40
1:20 (5.00%)	30	50

**1114A.4.2 Size of top landings.** Top landings shall not be less than 60 inches (1524 mm) wide. Top landings shall have a minimum length of not less than 60 inches (1524 mm) in the direction of the ramp run. See Section 1126A.3 for maneuvering clearances at doors.

**1114A.4.3 Size of bottom and intermediate landings.** The minimum width of bottom and intermediate landings shall not be less than the width of the ramp.

Intermediate landings shall have a length in the direction of ramp run of not less than 60 inches (1524 mm). Bottom landings shall have a length in the direction of ramp run of not less than 72 inches (1829 mm).

**1114A.4.4 Encroachment of doors.** Doors in any position shall not reduce the minimum dimension of the landing to less than 42 inches (1067 mm) and shall not reduce the required width by more than 3 inches (76.2 mm) when fully open. (See Figure 11A-6D).

**1114A.4.5 Strike edge extension.** The width of the landing shall comply with Section 1126A.3 for strike edge extension and maneuvering clearance at doors.

Where doorways are located adjacent to a ramp landing, maneuvering clearance required by Section 1126A.3 shall be permitted to overlap the required landing area.

**1114A.4.6 Change of direction.** Intermediate landings at a change of direction shall be sized to provide 60 inches turning space complying with Section 1138A.1.3. Intermediate landings at a change of direction in excess of 30 degrees shall have a length in the direction of ramp run of not less than 72 inches (1829 mm). (See Figures 11A-6C and 11A-6D.)

**1114A.5 Ramp height.** Ramps more than 30 inches (762 mm) above the adjacent floor or ground and open on one or both sides shall be provided with guardrails as required by Section 1013. Guardrails shall be continuous from the top of the ramp to the bottom of the ramp.

**1114A.6 Ramp handrails.**

**1114A.6.1 Where required.** Handrails shall be provided at each side of ramps when the slope exceeds 1 unit vertical in 20 units horizontal (5-percent slope).

**Exceptions:**

1. Curb ramps.
2. Ramps that serve an individual dwelling unit may have one handrail, except that ramps open on one or both sides shall have handrails provided on the open side or sides.
3. Ramps at exterior door landings with less than 6 inches (152 mm) rise or less than 72 inches (1829 mm) in length.

**1114A.6.2 Handrail configuration.**

**1114A.6.2.1 Handrail heights.** The top of handrails shall be 34 to 38 inches (864 to 965 mm) above the ramp surface.

**1114A.6.2.2 Handrail continuity.** Handrails on all ramps shall be continuous within the full length of each ramp run. Inside handrails on switchback or dogleg ramps shall be continuous between ramp runs.

**1114A.6.2.3 Handrail extensions.** Handrails shall extend a minimum of 12 inches (305 mm) horizontally above landings, beyond the top and bottom of the ramp runs. Extensions shall return to a wall, guard, or the walking surface, or shall be continuous to the handrail of an adjacent ramp run. Handrail extensions shall be in the same direction as the ramp runs. (See Figure 11A-5A.)

**1114A.6.2.4 Handrail projections.** Handrails projecting from a wall shall have a space of 1½ inches (38.1 mm) minimum between the wall and the handrail.

Handrails may be located in a recess if the recess is a maximum of 3 inches (76.2 mm) deep and extends at least 18 inches (457 mm) above the top of the rail. Any wall or other surface adjacent to the handrail shall be free of sharp or abrasive elements. (See Figure 11A-6B.)

**1114A.6.2.5 Handrail gripping surfaces.** Handrail gripping surfaces shall be continuous along their length, and shall not be obstructed along their tops or sides. The bottoms of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. When provided, horizontal projections shall occur 1½ inches (38 mm) minimum below the bottom of the handrail gripping surface. The distance between horizontal projections and the bottom of the gripping surface shall be permitted to be reduced by ⅛ inch (3.2 mm) for each ½ inch (12.7 mm) of additional handrail perimeter dimension that exceeds 4 inches (102 mm).

Handrail gripping surfaces and any surfaces adjacent to them shall be free of sharp or abrasive elements, and shall have rounded edges.

**Exception:** Where handrails are provided along walking surfaces with slopes not steeper than 1 unit vertical in 20 units horizontal, the bottoms of handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper guards.

**1114A.6.2.6 Cross section.** Handrail gripping surfaces shall comply with this section, or the shape shall provide equivalent gripping surface.

- 1. Circular cross section.** The handrail gripping surfaces with a circular cross section shall not be less than 1¼ inches (31.75 mm) nor more than 2 inches (50.8 mm) in cross-sectional dimension.
- 2. Noncircular cross section.** Handrail gripping surfaces with a noncircular cross section shall have a perimeter dimension of 4 inches (102 mm) minimum and 6¼ inches (159 mm) maximum, and a cross-section dimension of 2¼ inches (57 mm) maximum.

**1114A.6.2.7 Fittings.** Handrails shall not rotate within their fittings.

**1114A.7 Edge protection.** Ramps and ramp landings shall be provided with a continuous and uninterrupted barrier on each side along the entire length in compliance with Sections 1010.10 and 1010.10.1. (See Figure 11A-5A.)

**Note:** Extended floors or ground surfaces, as permitted in Section 1010.10.2, are not allowed for ramps and ramp landings part of an accessible route.

## SECTION 1115A EXTERIOR STAIRWAYS

**1115A.1 General.** Exterior stairways serving buildings on a site containing covered multifamily dwelling units shall comply with this section.

**1115A.2 Open risers.** Open risers are not permitted on exterior stairways.

### Exceptions:

1. An opening of not more than ½ inch (12.7 mm) may be permitted between the base of the riser and the tread.
2. Risers constructed of grating containing openings of not more than ½ inch (12.7 mm) may be permitted.

**1115A.3 Treads.** All tread surfaces shall be stable, firm and slip resistant, and shall comply with Section 1110A.3. Treads shall have smooth, rounded or chamfered exposed edges, and no abrupt edges at the nosing (lower front edge).

**1115A.4 Nosing.** Nosing shall not project more than 1¼ inches (31.8 mm) past the face of the riser below. Risers shall be sloped or the underside of the nosing shall have an angle not more than 30 degrees (0.52 rad) from the vertical. (See Figure 11A-6A).

**1115A.5 Striping for the visually impaired.** Exterior stairs serving buildings on a site containing multifamily dwelling units shall have the upper approach and all treads marked by a stripe providing clear visual contrast.

The stripe shall be a minimum of 2 inches (50.8 mm) wide to a maximum of 4 inches (101.6 mm) wide placed parallel to, and not more than 1 inch (25.4 mm) from, the nose of the step or upper approach. The stripe shall extend the full width of the step or upper approach and shall be of material that is at least as slip resistant as the other treads of the stair. A painted stripe shall be acceptable. Grooves shall not be used to satisfy this requirement.

### 1115A.6 Exterior stairway handrails.

**1115A.6.1 Where required.** Stairways shall have handrails on each side. Intermediate handrails shall be located equidistant from the sides of the stairway and comply with Section 1012.9.

**Exception:** Stairways serving an individual dwelling unit may have one handrail, except that stairways open on one or both sides shall have handrails on the open side or sides.

### 1115A.6.2 Handrail configuration.

**1115A.6.2.1 Handrail heights.** The top of handrails shall be 34 to 38 inches (864 to 965 mm) above the nosing of the treads.

**1115A.6.2.2 Handrail continuity.** Handrails on all stairways shall be continuous within the full length of each stair flight. Inside handrails on switchback or dogleg stairs shall be continuous between stair flights.

**1115A.6.2.3 Handrail extensions.** At the top of stair flights, handrails shall extend a minimum of 12 inches (305 mm) horizontally above landings, beginning directly above the first riser nosing. Extensions shall return to a wall, guard, or the walking surface, or shall be continuous to the handrail of an adjacent stair flight.

At the bottom of stair flights, handrails shall extend at the slope of the stair flight for a distance equal to one tread depth beyond the last riser nosing. Such extension shall continue with 12 inches (305 mm) minimum horizontal extension, shall be continuous to the handrail of an adjacent stair flight, or shall return to a wall, guard, or the walking surface. Handrail horizontal extensions shall be in the same direction as the stair flights. (See Figures 11A-6A and 11A-6E.)

**1115A.6.2.4 Handrail projections.** Handrails projecting from a wall shall have a space of 1½ inches (38.1 mm) minimum between the wall and the handrail.

Handrails may be located in a recess if the recess is a maximum of 3 inches (76.2 mm) deep and extends at least 18 inches (457 mm) above the top of the rail. Any wall or other surface adjacent to the handrail shall be free of sharp or abrasive elements. (See Figure 11A-6B.)

**1115A.6.2.5 Handrail gripping surfaces.** Handrail gripping surfaces shall be continuous along their length, and shall not be obstructed along their tops or sides. The bottoms of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. When provided, horizontal projections shall occur 1½ inches (38.1 mm) minimum below the bottom of the handrail gripping surface. The distance between horizontal projections and the bottom of the gripping surface shall be permitted to be reduced by ⅛ inch (3.2 mm) for each ½ inch (12.7 mm) of additional handrail perimeter dimension that exceeds 4 inches (102 mm).

Handrail gripping surfaces and any surfaces adjacent to them shall be free of sharp or abrasive elements, and shall have rounded edges.

**1115A.6.2.6 Cross section.** Handrail gripping surfaces shall comply with this section, or the shape shall provide equivalent gripping surface.

- 1. Circular cross section.** Handrail gripping surfaces with a circular cross section shall not be less than 1¼ inches (31.75 mm) nor more than 2 inches (50.8 mm) in cross-sectional dimension.
- 2. Noncircular cross section.** Handrail gripping surfaces with a noncircular cross section shall have a perimeter dimension of 4 inches (102 mm) minimum and 6¼ inches (159 mm) maximum, and a cross-section dimension of 2¼ inches (57 mm) maximum.

**1115A.6.2.7 Fittings.** Handrails shall not rotate within their fittings.

## SECTION 1116A HAZARDS ON ACCESSIBLE ROUTES

**1116A.1 Warning curbs.** Abrupt changes in level exceeding 4 inches (101.6 mm) in vertical dimension, such as changes

in level at planters or fountains located in or adjacent to walks, sidewalks or other pedestrian ways shall be identified by curbs or other approved barriers projecting at least 6 inches (152.4 mm) in height above the walk or sidewalk surface to warn the blind of a potential drop-off.

### Exceptions:

- Between a walk or sidewalk and an adjacent street or driveway.
- When a guardrail or handrail is provided with edge protection in accordance with Section 1010.10.1.

**1116A.2 Headroom clearance.** Walks, pedestrian ways, and other circulation spaces, which are part of the required egress system, shall have a minimum clear headroom as required in Section 1003.2. Other walks, pedestrian ways, and circulation spaces shall have a minimum clear headroom of 80 inches (2032 mm). If the vertical clearance of an area adjoining an accessible route is reduced to less than 80 inches (2032 mm), a guardrail or other barrier having its leading edge at or below 27 inches (686 mm) above the finished floor shall be provided.

**Exception:** Doorways and archways less than 24 inches (610 mm) in depth may have a minimum clear headroom of 80 inches (2032 mm). (See Section 1126A for door requirements.)

**1116A.3 Overhanging obstructions.** Any obstruction that overhangs a pedestrian way shall be a minimum of 80 inches (2032 mm) above the walking surface as measured from the bottom of the obstruction. (See Figure 11A-1B.) Where a guy support is used parallel to a path of travel, including, but not limited to, sidewalks, a guy brace, sidewalk guy or similar device shall be used to prevent an overhanging obstruction. (See Section 1116A.2 for required headroom clearance.)

**Exception:** Door closers and door stops shall be permitted to be 78 inches (1981 mm) minimum above the finish floor or ground.

**1116A.4 Free-standing signs.** Wherever signs mounted on posts or pylons protrude from the post or pylons and the bottom edge of the sign is less than 80 inches (2032 mm) above the finished floor or ground level, the edges of such signs shall be rounded or eased and the corners shall have a minimum radius of 0.125 inches (see Section 1116A.2 for required headroom clearance).

**1116A.5 Detectable warnings at vehicular areas.** When a walk crosses or adjoins a vehicular way, the walking surface shall be separated from the vehicular area by curbs, railings or other elements, or the boundary between the pedestrian areas and the vehicular areas shall be defined by a continuous detectable warning 36 inches (914 mm) wide minimum, complying with Chapter 11B, Section 11B-705.

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**SECTION 1117A****GENERAL REQUIREMENTS FOR ACCESSIBLE ENTRANCES, EXITS, INTERIOR ROUTES OF TRAVEL AND FACILITY ACCESSIBILITY**

**Note:** In addition to provisions of this division, interior routes of travel that provide access to, or egress from, buildings for persons with disabilities shall also comply with Chapter 10.

**1117A.1 General.** When buildings are required to be accessible, building facilities shall be accessible as provided in this division. Where specific floors of a building are required to be accessible, the requirements of this division shall apply only to the facilities located on accessible floors.

**1117A.2 Primary entrances and exterior exit doors.** All primary entrances and exterior ground floor exit doors to buildings and facilities on accessible routes shall be accessible to persons with disabilities.

**1117A.3 Separate dwelling unit entrances.** When a ground-floor dwelling unit of a building has a separate entrance, each such ground-floor dwelling unit shall be served by an accessible route, except where the terrain or unusual characteristics of the site prohibit an accessible route (see Section 1150A for site impracticality tests).

**1117A.4 Multiple entrances.** Only one entrance to covered multifamily buildings is required to be accessible to any one ground floor of a building, except in cases where an individual dwelling unit has a separate exterior entrance. Where the building contains clusters of dwelling units with each cluster sharing a different exterior entrance, more than one entrance may be required to be accessible, as determined by analysis of the site. In every case, the accessible entrance shall be on an accessible route to the covered dwelling units it serves.

**1117A.5 Entrances from parking structures, tunnels or elevated walkways.** Where direct access for pedestrians is provided from a parking structure to a building or facility, each direct access to the building or facility entrance shall be accessible.

Where direct access for pedestrians is provided from a pedestrian tunnel or elevated walkway to a building or facility, all entrances to the building or facility from each tunnel or walkway shall be accessible.

**SECTION 1118A  
EGRESS AND AREAS OF REFUGE**

**1118A.1 General.** Including but not limited to the requirements contained in this chapter for accessible routes, signage and emergency warning systems in buildings or portions of buildings required to be accessible shall be provided with accessible means of egress as required by Chapter 10. (See Section 1007.)

**SECTION 1119A  
INTERIOR ACCESSIBLE ROUTES**

**1119A.1 General.** When a building or portion of a building is required to be accessible or adaptable, an accessible route shall be provided to all portions of the building, accessible building entrances and to covered multifamily dwelling units. The accessible route shall, to the maximum extent feasible, coincide with the route for the general public and other building residents. Accessible routes shall not pass through kitchens, storage rooms, restrooms, closets or other spaces used for similar purposes except within an individual dwelling unit.

Interior accessible routes shall be provided as follows:

1. Where more than one route of travel is provided, all routes shall be accessible.
2. At least one accessible route shall connect accessible building or facility entrances with all accessible spaces, elements and covered multifamily dwelling units.
3. An accessible route shall connect at least one accessible primary entrance of each covered multifamily dwelling unit with interior and exterior spaces and facilities that serve the unit.
4. Where elevators are provided for vertical access, all elevators shall be accessible.

**1119A.2 Floor and ground surfaces.** Floor and ground surfaces shall be stable, firm, and slip resistant. If carpet or carpet tile is used in a common use area or public use area on a ground or floor surface, it shall have firm backing or no backing. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. The maximum pile height shall be  $\frac{1}{2}$  inch (12.7 mm). Exposed edges of carpet shall be fastened to floor surfaces and have trim along the entire length of the exposed edge. Carpet edge trim shall comply with Section 1121A requirements for changes in level.

**1119A.2.1 Recessed doormats.** Recessed doormats shall be adequately anchored to prevent interference with wheelchair traffic.

**1119A.3 Widths.** Interior accessible routes serving an occupant load of 10 or more shall not be less than 44 inches (1118 mm) in width. Interior accessible routes serving an occupant load of less than 10 shall not be less than 36 inches (914 mm) in width.

If a person in a wheelchair must make a turn around a corner or an obstruction, the minimum clear width of the accessible route shall be as specified in Section 1138A.1.5.

**1119A.4 Interior accessible routes over 200 feet.** Interior accessible routes that exceed 200 feet (60 960 mm) in length shall comply with Section 1138A.1.2. (See Figure 11A-1L.)

**1119A.5 Changes in elevation.** Interior accessible routes which have changes in elevation shall be transitioned and comply with Sections 1121A or 1122A.

**Exception:** Doors and thresholds as provided in Section 1126A.

**SECTION 1120A  
RESERVED**

**SECTION 1121A  
CHANGES IN LEVEL ON ACCESSIBLE ROUTES**

**1121A.1 Changes in level not exceeding 1/2 inch.** Abrupt changes in level along any accessible route shall not exceed 1/2 inch (12.7 mm). When changes in level do occur, they shall be beveled with a slope no greater than 1 unit vertical in 2 units horizontal (50-percent slope). Changes in level not exceeding 1/4 inch (6.35 mm) may be vertical.

**1121A.2 Changes greater than 1/2 inch.** Changes in level greater than 1/2 inch (12.7 mm) shall be made by means of a sloped surface not greater than 1 unit vertical in 20 units horizontal (5-percent slope), or a curb ramp, ramp, elevator or platform (wheelchair) lift. Stairs shall not be part of an accessible route. When stairs are located along or adjacent to an accessible route they shall comply with Section 1123A for interior stairways.

**SECTION 1122A  
INTERIOR RAMPS AND LANDINGS  
ON ACCESSIBLE ROUTES**

**1122A.1 Width.** The clear width of ramps shall be consistent with the requirements in Chapter 10 of this code, but in no case shall be less than 48 inches (1219 mm).

Handrails may project into the required clear width of the ramp at each side 3 1/2 inches (89 mm) maximum at the hand-rail height. Curbs, wheel guides and/or appurtenances shall not project into the required clear width of ramps.

**Exception:** The clear width of ramps serving accessible entrances to covered multifamily dwellings with an occupant load of 10 or less may be 36 inches (914 mm) minimum between handrails.

**Note:** See Section 1122A.5.2.4 for handrail projections.

**1122A.2 Slope.** The maximum slope of ramps on an accessible route shall be no greater than 1 unit vertical in 12 units horizontal (8.33-percent slope).

**1122A.2.1 Cross slope.** The cross slope of ramp surfaces shall be no greater than 1 unit vertical in 48 units horizontal (2.083-percent slope).

**1122A.3 Landings.** Ramp landings shall be level and comply with this section. (See Figure 11A-6C.)

**1122A.3.1 Location of landings.** Landings shall be provided at the top and bottom of each ramp. Intermediate landings shall be provided at intervals not exceeding 30 inches (762 mm) of vertical rise and at each change of direction. Landings are not considered in determining the maximum horizontal distance of each ramp.

**Note:** Examples of ramp dimensions are:

SLOPE (Grading %)	MAXIMUM RISE (Inches)	MAXIMUM HORIZONTAL PROJECTION (Feet)
	(x 25.4 for mm)	(x 304.8 for mm)
1:12 (8.33%)	30	30
1:15 (6.67%)	30	37.5
1:16 (6.25%)	30	40
1:20 (5.00%)	30	50

**1122A.3.2 Size of top landings.** Top landings shall not be less than 60 inches (1524 mm) wide. Top landings shall

have a minimum length of not less than 60 inches (1524 mm) in the direction of the ramp run. See Section 1126A.3 for maneuvering clearances at doors. (See Figure 11A-6C.)

**1122A.3.3 Size of bottom and intermediate landings.** The minimum width of bottom and intermediate landings shall not be less than the width of the ramp.

Intermediate landings shall have a length in the direction of ramp run of not less than 60 inches (1524 mm).

Bottom landings shall have a length in the direction of ramp run of not less than 72 inches (1829 mm).

**1122A.3.4 Encroachment of doors.** Doors in any position shall not reduce the minimum dimension of the landing to less than 42 inches (1067 mm) and shall not reduce the required width by more than 3 inches (76.2 mm) when fully open. (See Figure 11A-6D.)

**1122A.3.5 Strike edge extension.** The width of the landing shall comply with Section 1126A.3 for maneuvering clearance at doors.

Where doorways are located adjacent to a ramp landing, maneuvering clearance required by Section 1126A.3 shall be permitted to overlap the required landing area.

**1122A.3.6 Change of direction.** Intermediate landings at a change of direction shall be sized to provide 60 inches turning space complying with Section 1138A.1.3. Intermediate landings at a change of direction in excess of 30 degrees shall have a length in the direction of ramp run of not less than 72 inches (1829 mm). (See Figures 11A-6C and 11A-6D.)

**1122A.4 Ramp height.** Ramps more than 30 inches (762 mm) above the adjacent floor or ground and open on one or both sides shall be provided with a guard as required by Section 1013. Guardrails shall be continuous from the top of the ramp to the bottom of the ramp.

**1122A.5 Ramp handrails.**

**1122A.5.1 Where required.** Handrails shall be provided at each side of ramps when the slope exceeds 1 unit vertical in 20 units horizontal (5-percent slope).

**Exceptions:**

1. Curb ramps.
2. Ramps that serve an individual dwelling unit may have one handrail, except that ramps open on one or both sides shall have handrails provided on the open side or sides.

**1122A.5.2 Handrail configuration.**

**1122A.5.2.1 Handrail heights.** The top of handrails shall be 34 to 38 inches (864 to 965 mm) above the ramp surface.

**1122A.5.2.2 Handrail continuity.** Handrails on all ramps shall be continuous within the full length of each ramp run. Inside handrails on switchback or dogleg ramps shall be continuous between ramp runs.

**1122A.5.2.3 Handrail extensions.** Handrails shall extend a minimum of 12 inches (305 mm) horizontally above landings, beyond the top and bottom of the ramp runs. Extensions shall return to a wall, guard, or the walking surface, or shall be continuous to the handrail of an adja-

cent ramp run. Handrail extensions shall be in the same direction as the ramp runs. (See Figure 11A-5A.)

**1122A.5.2.4 Handrail projections.** Handrails projecting from a wall shall have a space of 1½ inches (38.1 mm) minimum between the wall and the handrail.

Handrails may be located in a recess if the recess is a maximum of 3 inches (76.2 mm) deep and extends at least 18 inches (457 mm) above the top of the rail. Any wall or other surface adjacent to the handrail shall be free of sharp or abrasive elements. (See Figure 11A-6B.)

**1122A.5.2.5 Handrail gripping surfaces.** Handrail gripping surfaces shall be continuous along their length, and shall not be obstructed along their tops or sides. The bottoms of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. When provided, horizontal projections shall occur 1½ inches (38 mm) minimum below the bottom of the handrail gripping surface. The distance between horizontal projections and the bottom of the gripping surface shall be permitted to be reduced by ⅛ inch (3.2 mm) for each ½ inch (12.7 mm) of additional handrail perimeter dimension that exceeds 4 inches (102 mm).

Handrail gripping surfaces and any surfaces adjacent to them shall be free of sharp or abrasive elements, and shall have rounded edges.

**Exception:** Where handrails are provided along walking surfaces with slopes not steeper than 1 unit vertical in 20 units horizontal, the bottoms of handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper guards.

**1122A.5.2.6 Cross section.** Handrail gripping surfaces shall comply with this section, or the shape shall provide equivalent gripping surface.

1. **Circular cross section.** The handrail gripping surfaces with a circular cross section shall not be less than 1¼ inches (31.75 mm) nor more than 2 inches (50.8 mm) in cross-sectional dimension.
2. **Noncircular cross section.** Handrail gripping surfaces with a noncircular cross section shall have a perimeter dimension of 4 inches (102 mm) minimum and 6¼ inches (159 mm) maximum, and a cross-section dimension of 2¼ inches (57 mm) maximum.

**1122A.5.2.7 Fittings.** Handrails shall not rotate within their fittings.

**1122A.6 Edge protection.** Ramps and ramp landings shall be provided with a continuous and uninterrupted barrier on each side along the entire length in compliance with Sections 1010.10 and 1010.10.1. (See Figure 11A-5A.)

**Note:** Extended floors or ground surfaces, as permitted in Section 1010.10.2, are not allowed for ramps and ramp landings providing access to, or egress from, buildings or facilities where accessibility is required.

## SECTION 1123A INTERIOR STAIRWAYS

**1123A.1 General.** Interior stairways serving buildings containing covered multifamily dwelling units shall comply with this section.

**1123A.2 Open risers.** Open risers shall not be permitted on interior stairways.

**Exception:** Stairways within an individual dwelling unit.

**1123A.3 Treads.** All tread surfaces shall be stable, firm and slip resistant, and shall comply with Section 1119A.2. Treads shall have smooth, rounded or chamfered exposed edges and no abrupt edges at the nosing (lower front edge).

**1123A.4 Nosing.** Nosing shall not project more than 1¼ inches (31.8 mm) past the face of the riser below. Risers shall be sloped or the underside of the nosing shall have an angle not more than 30 degrees (0.52 rad) from the vertical. (See Figure 11A-6A.)

**1123A.5 Striping for the visually impaired.** Interior stairs shall have the upper approach and lower tread marked by a stripe providing clear visual contrast.

The stripe shall be a minimum of 2 inches (50.8 mm) wide to a maximum of 4 inches (101.6 mm) wide placed parallel to, and not more than 1 inch (25.4 mm) from, the nose of the step or upper approach. The stripe shall extend the full width of the step or upper approach and shall be of material that is at least as slip resistant as the other treads of the stair. A painted stripe shall be acceptable. Grooves shall not be used to satisfy this requirement.

**Exception:** Striping is not required for stairways within individual dwelling units.

**1123A.6 Interior stairway handrails.**

**1123A.6.1 Where required.** Stairways shall have handrails on each side. Intermediate handrails shall be located equidistant from the sides of the stairway and comply with Section 1012.9.

**Exception:** Stairways serving an individual dwelling unit may have one handrail, except that stairways open on one or both sides shall have handrails on the open side or sides.

**1123A.6.2 Handrail configuration.**

**1123A.6.2.1 Handrail heights.** The top of handrails shall be 34 to 38 inches (864 to 965 mm) above the nosing of the treads.

**1123A.6.2.2 Handrail continuity.** Handrails on all stairways shall be continuous within the full length of each stair flight. Inside handrails on switchback or dogleg stairs shall be continuous between stair flights.

**1123A.6.2.3 Handrail extensions.** At the top of stair flights, handrails shall extend a minimum of 12 inches (305 mm) horizontally above landings, beginning directly above the first riser nosing. Extensions shall return to a wall, guard, or the walking surface, or shall be continuous to the handrail of an adjacent stair flight.

At the bottom of stair flights, handrails shall extend at the slope of the stair flight for a distance equal to one tread depth beyond the last riser nosing. Such extension shall continue with 12 inches (305 mm) minimum horizontal extension, shall be continuous to the handrail of an adjacent stair flight, or shall return to a wall, guard, or the walking surface. Handrail horizontal extensions shall be in the same direction as the stair flights. (See Figures 11A-6A and 11A-6E.)

**Exception:** Stairways within an individual dwelling unit.

**1123A.6.2.4 Handrail projections.** Handrails projecting from a wall shall have a space of 1½ inches (38.1 mm) minimum between the wall and the handrail.

Handrails may be located in a recess if the recess is a maximum of 3 inches (76.2 mm) deep and extends at least 18 inches (457 mm) above the top of the rail. Any wall or other surface adjacent to the handrail shall be free of sharp or abrasive elements. (See Figure 11A-6B.)

**1123A.6.2.5 Handrail gripping surfaces.** Handrail gripping surfaces shall be continuous along their length, and shall not be obstructed along their tops or sides. The bottoms of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. When provided, horizontal projections shall occur 1½ inches (38 mm) minimum below the bottom of the handrail gripping surface. The distance between horizontal projections and the bottom of the gripping surface shall be permitted to be reduced by 1/8 inch (3.2 mm) for each ½ inch (12.7 mm) of additional handrail perimeter dimension that exceeds 4 inches (102 mm).

Handrail gripping surfaces and any surfaces adjacent to them shall be free of sharp or abrasive elements, and shall have rounded edges.

**1122A.6.2.6 Cross section.** Handrail gripping surfaces shall comply with this section, or the shape shall provide equivalent gripping surface.

1. **Circular cross section.** The handrail gripping surfaces with a circular cross section shall not be less than 1¼ inches (31.75 mm) nor more than 2 inches (50.8 mm) in cross-sectional dimension.
2. **Noncircular cross section.** Handrail gripping surfaces with a noncircular cross section shall have a perimeter dimension of 4 inches (102 mm) minimum and 6¼ inches (159 mm) maximum, and a cross-section dimension of 2¼ inches (57 mm) maximum.

**1122A.6.2.7 Fittings.** Handrails shall not rotate within their fittings.

## SECTION 1124A ELEVATORS AND PLATFORM (WHEELCHAIR) LIFTS

**1124A.1 General.** Elevators provided in covered multifamily buildings shall be accessible. Elevators required to be accessible shall comply with this chapter, ASME A17.1 (Safety Code for Elevators and Escalators), Title 8 of the California Code of Regulations, under "Elevator Safety Orders," and any other applicable safety regulations of other administrative authorities having jurisdiction.

**Exception:** Private elevators serving only one dwelling unit.

**1124A.2 Location.** Passenger elevators shall be located on a major accessible route and provisions shall be made to ensure that they remain accessible and usable at all times that the building is occupied.

**1124A.3 Size of cab and control locations.**

**1124A.3.1 General.** Elevators serving covered multifamily buildings shall be sized to accommodate a wheelchair in accordance with this section.

**Exception:** When the enforcing agency determines that compliance with any requirement of this section would create an unreasonable hardship, an exception to the requirement shall be granted when equivalent facilitation is provided, and where it can be demonstrated that a person using a wheelchair can enter and operate the elevator.

**1124A.3.2 Car inside.** The elevator car shall be designed to comply with one of the following:

1. **Door centered on the wall.** When the door is centered on the car wall, it shall provide a clear width of 42 inches (1067 mm) minimum, and the clear distance between car side walls shall be 80 inches (2032 mm) minimum. The clear distance between the back wall and the return panel shall be 51 inches (1295 mm) minimum. The clear distance between the back wall and the inside face of the door shall be 54 inches (1372 mm) minimum.
2. **Door not centered on the wall.** When the door is not centered on the car wall, it shall provide a clear width of 36 inches (914 mm) minimum, and the clear distance between car side walls shall be 68 inches (1727 mm) minimum. The clear distance between the back wall and the return panel shall be 51 inches (1295 mm) minimum. The clear distance between the back wall and the inside face of the door shall be 54 inches (1372 mm) minimum.
3. **Door at any location.** An elevator door with 36 inches (914 mm) minimum clear width may be installed at any location if one of the following is met:
  - 3.1. The car inside, with the door closed, shall provide a turning clear space at least 60 inches (1524 mm) in diameter to allow for the turning of a wheelchair.
  - 3.2. The clear distance between car side walls shall be 54 inches (1372 mm) minimum. The clear distance between the back wall and the return panel shall be 80 inches (2032 mm) minimum. The clear distance between the back wall and the inside face of the door shall be 80 inches (2032 mm) minimum.

**Note:** See Table 1124A.3.2 and Figure 11A-7A.

**1124A.3.3 Car controls.**

**1124A.3.3.1 Car control location.** Elevator floor buttons shall be located within one of the reach ranges specified in Section 1138A.3. Except for photoelectric tube bypass switches, emergency controls, including the emergency stop and alarm, shall be grouped in or adjacent to the bottom of the panel and shall be no lower than 35 inches (889 mm) from the floor. For multiple controls, only one set must comply with these height requirements. Floor buttons shall be provided with visual indicators to show when each call is registered. The visual indicators shall be extinguished when each call is answered.

**1124A.3.3.2 Car control buttons.** Passenger elevator car controls shall have a minimum dimension of ¾ inch

(19.1 mm) and shall be raised  $\frac{1}{8}$  inch (3.2 mm) plus or minus  $\frac{1}{32}$  inch (0.8 mm) above the surrounding surface.

Control buttons shall be illuminated, shall have square shoulders and shall be activated by a mechanical motion that is detectable.

All control buttons shall be designated by a  $\frac{5}{8}$ -inch-minimum (15.9 mm) raised characters and standard raised symbols that comply with Sections 1143A.6 and 1143A.7 immediately to the left of the control button. Contracted Grade 2 Braille that conforms to Section 1143A.7 shall be located immediately below the numeral, character or symbol. A minimum clear space of  $\frac{3}{8}$  inch (9.5 mm) or other suitable means of separation shall be provided between rows of control buttons. (See Figure 11A-7B.)

The raised characters and symbols shall be white on a black background. Controls and emergency equipment identified by raised symbols shall include, but not be limited to, "door open," "door close," "alarm bell," "emergency stop" and "telephone." The call button for the main entry floor shall be designated by a raised star at the left of the floor designation.

**1124A.3.4 Emergency telephone.** When an emergency telephone system is installed, the emergency telephone handset shall be positioned no higher than 48 inches (1219 mm) above the floor, and the handset cord shall be a minimum of 29 inches (737 mm) in length. If the telephone system is located in a closed compartment, the compartment door hardware shall conform to the provisions of Section 1138A.4.4. Emergency intercommunication shall not require voice communication.

**1124A.4 Hall call buttons.** Call operation buttons and keypads shall be located within one of the reach ranges specified in Section 1138A.3, measured to the centerline of the highest operable part. Buttons shall have square shoulders, shall be a minimum of  $\frac{3}{4}$  inch (19.1 mm) in size, and shall be raised  $\frac{1}{8}$  inch (3.2 mm) plus or minus  $\frac{1}{32}$  inch (0.8 mm) above the surrounding surface. The button designating the "Up" direction shall be on top. A clear floor or ground space complying with Section 1138A.1.4 shall be provided at call controls.

Visual indication shall be provided to show each call registered and extinguished when answered. Objects adjacent to, and below, hall call buttons shall not project more than 4 inches (101.6 mm) from the wall. Hall call buttons shall be

internally illuminated with a white light over the entire surface of the button.

**1124A.5 Minimum illumination.** The minimum illumination at the car controls threshold and the landing when the car and landing doors are open shall not be less than 5 foot-candles (54 lx).

**1124A.6 Hall lantern.** A visual and audible signal shall be provided at each hoistway entrance indicating to the prospective passenger the car answering the call and its direction of travel as follows:

1. The visual signal for each direction shall be a minimum of  $2\frac{1}{2}$  inches (63.5 mm) high by  $2\frac{1}{2}$  inches (63.5 mm) wide, and visible from the proximity of the hall call button.
2. The audible signal shall sound once for the "up" direction and twice for the "down" direction or of a configuration which distinguishes between up and down elevator travel. Audible signals shall have a frequency of 1500 Hz maximum. Verbal annunciators shall have a frequency of 300 Hz minimum and 3000 Hz maximum. The audible signal and verbal annunciator shall be 10 dB minimum above ambient, but shall not exceed 80 dB, measured at the hall call button.
3. The center line of the fixture shall be located a minimum of 6 feet (1829 mm) in height above the finish floor.
4. The use of in-car lanterns, located in or on the car doorjamb, visible from the proximity of the hall call buttons and conforming to the above requirements of this section, shall be acceptable.

**Note:** The use of arrow shapes are preferred for visible signals.

**1124A.7 Door delay.**

**1124A.7.1 Hall call.** The minimum acceptable time from notification that a car is answering a call (lantern and audible signal) until the doors of the car start to close shall be calculated by the following equations, but shall be no less than 5 seconds:

$$T = D / (1.5 \text{ ft/s}) \text{ or } T = D / (445 \text{ mm/s})$$

Where T is the total time in seconds and D is the distance from a point in the lobby or landing area 60 inches (1524 mm) directly in front of the farthest call button controlling that car to the centerline of its hoistway door (see Figure 11A-7D). For cars with in-car lanterns, T begins

**TABLE 1124A.3.2  
ELEVATOR CAR DIMENSIONS**

DOOR LOCATION	MINIMUM DIMENSIONS			
	DOOR CLEAR WIDTH	INSIDE CAR, SIDE TO SIDE	INSIDE CAR, BACK WALL TO FRONT RETURN	INSIDE CAR, BACK WALL TO INSIDE FACE OF DOOR
Centered	42 inches (1067 mm)	80 inches (2032 mm)	51 inches (1295 mm)	54 inches (1372 mm)
Side (off-centered)	36 inches (914 mm) <sup>1</sup>	68 inches (1727 mm)	51 inches (1295 mm)	54 inches (1372 mm)
Any	36 inches (914 mm) <sup>1</sup>	54 inches (1372 mm)	80 inches (2032 mm)	80 inches (2032 mm)
Any	36 inches (914 mm) <sup>2</sup>	60 inches (1524 mm) <sup>2</sup>	60 inches (1524 mm) <sup>2</sup>	60 inches (1524 mm) <sup>2</sup>

1. A tolerance of minus  $\frac{3}{8}$  inch (15.9 mm) is permitted.

2. Other car configurations that provide a turning space complying with Section 1138A.1.3 with the door closed shall be permitted.

when the lantern is visible from the vicinity of hall call buttons and an audible signal is sounded.

**1124A.7.2 Door delay for car calls.** The minimum acceptable time for the door to remain fully open after receiving a call shall not be less than 5 seconds.

**1124A.8 Doorjamb marking.** The floor level at all elevator hoistway entrances shall be designated by raised characters provided on both jambs. Characters shall be 2 inches (50.8 mm) in height located 48 inches (1219 mm) minimum above the finish floor, measured from the baseline of the lowest Braille cells, and 60 inches (1524 mm) maximum above the finish floor, measured from the baseline of the highest line of raised characters.

On the main entry level, a raised five-pointed star shall be placed to the left of the raised character. The outside diameter of the star shall be 2 inches (50.8 mm) and all points shall be of equal length. The raised characters and the star shall be white on a black background. Contracted Grade 2 Braille, conforming to Section 1143A.7, shall be placed below the corresponding raised characters and the star. The Braille translation for the star shall state "MAIN". The raised characters shall comply with Section 1143A.6. (See Figure 11A-7C.)

**1124A.9 Door protective and reopening devices.** Doors closed by automatic means shall be provided with a door-reopening device that will function to stop and reopen a car door and adjacent hoistway door in case the car door is obstructed while closing.

This reopening device shall also be capable of sensing an object or person in the path of a closing door without requiring contact for activation at a nominal 5 inches and 29 inches (127 mm and 737 mm) above the floor.

Door-reopening devices shall remain effective for a period of not less than 20 seconds. After such an interval, the doors may close in accordance with the requirements of ASME A17.1.

**1124A.10 Operation and leveling.** The elevator shall be automatic and be provided with a self-leveling feature that will automatically bring the car to the floor landings within a tolerance of plus or minus  $\frac{1}{2}$  inch (12.7 mm) under rated loading to zero loading conditions. This self-leveling shall, within its zone, be entirely automatic and independent of the operating device and shall correct the overtravel or undertravel. The car shall also be maintained approximately level with the landing, irrespective of load.

The clearance between the car platform sill and the edge of the hoistway landing shall be no greater than  $1\frac{1}{4}$  inches (31.75 mm).

**1124A.11 Platform (wheelchair) lifts.**

**1124A.11.1 General.** Platform (wheelchair) lifts may be provided between levels, in lieu of passenger elevators, when the vertical distance between landings, as well as the structural design and safeguards are as allowed by ASME A18.1 (Safety Standard for Platform Lifts and Stairway Chair Lifts), California Code of Regulations, Title 8 (Elevator Safety Orders), and any applicable safety regulations of other administrative authorities having jurisdiction.

If lifts are provided, they shall be designed and constructed to facilitate unassisted entry, operation and exit from the lift, and shall comply with restrictions and enhancements of this section in conjunction with Title 8 of the California Code of Regulations.

**1124A.11.2 Size and clear floor space.** Platform (wheelchair) lifts shall be of sufficient size to accommodate a wheelchair in accordance with Section 1138A.1.4.

**1124A.11.3 Lift access.** There shall be a level and clear floor area or landing at each floor or level served by platform (wheelchair) lifts. Clear floor areas or landings shall meet the applicable "accessible route" requirements.

**1124A.11.4 Standby power.** To ensure continued operation in case of primary power loss, platform (wheelchair) lifts shall be provided with standby power or with self-rechargeable battery power that provides sufficient power to operate all platform lift functions for a minimum of five upward and downward trips.

**1124A.11.5 Openness.** Platform (wheelchair) lifts on an accessible means of egress shall not be installed in a fully enclosed hoistway.

**1124A.11.6 Doors and gates.** Lifts shall have low energy power-operated doors or gates, which shall remain open for 20 seconds minimum. End doors shall have 32 inches (813 mm) minimum clear opening width. Side doors clear opening width shall be 42 inches (1067 mm) minimum.

**Exception:** Lifts having doors or gates on opposite sides shall be permitted to have self-closing manual doors or gates.

**1124A.11.7 Restriction sign.** A sign complying with Section 1143A shall be securely fastened in a conspicuous place at each landing and on the platform. The sign shall state "No Freight" in letters not less than  $\frac{5}{8}$  inch (16 mm) high and include the "International Symbol of Accessibility."

## SECTION 1125A HAZARDS ON ACCESSIBLE ROUTES

**1125A.1 Warning curbs.** Abrupt changes in level exceeding 4 inches (101.6 mm) in vertical dimension, such as changes in level at planters or fountains located in or adjacent to walks, halls, corridors, passageways, aisles, pedestrian ways and other circulation spaces shall be identified by curbs projecting at least 6 inches (152.4 mm) in height above the walk or sidewalk surface to warn the blind of a potential drop-off.

**Exception:** When a guardrail or handrail is provided with edge protection in accordance with Section 1010.10.1.

**1125A.2 Headroom clearance.** Walks, halls, corridors, passageways, aisles, pedestrian ways and other circulation spaces which are part of the required egress system shall have a minimum clear headroom as required in Section 1003.2. Other walks, pedestrian ways and circulation spaces shall have a minimum clear headroom of 80 inches (2032 mm). If the vertical clearance of an area adjoining an accessible route is reduced to less than 80 inches (2032 mm), a guardrail or other barrier having its leading edge at or below 27 inches (686 mm) above the finished floor shall be provided.

**Exception:** Doorways and archways less than 24 inches (610 mm) in depth may have a minimum clear headroom of 80 inches (2032 mm). (See Section 1126A for door requirements.)

**1125A.3 Overhanging obstructions.** Any obstruction that overhangs a pedestrian way shall be a minimum of 80 inches (2032 mm) above the walking surface as measured from the bottom of the obstruction. (See Figure 11A-1B.) Where a guy

support is used parallel to a path of travel, including, but not limited to, sidewalks, a guy brace, sidewalk guy or similar device shall be used to prevent an overhanging obstruction (see Section 1125A.2 for required headroom clearance).

**Exception:** Door closers and door stops shall be permitted to be 78 inches (1981 mm) minimum above the finish floor or ground.

**1125A.4 Free-standing signs.** Wherever signs mounted on posts or pylons protrude from the posts or pylons and the bottom edge of the sign is less than 80 inches (2032 mm) above the finished floor or ground level, the edges of such signs shall be rounded or eased and the corners shall have a minimum radius of 0.125 inches. (See Section 1125A.2 for required headroom clearance).

## SECTION 1126A DOORS, GATES AND WINDOWS

**1126A.1 Width and height of doors and gates.** Doorways which provide access to common use areas or covered multifamily dwellings shall comply with the following:

1. Permit the installation of a door or gate not less than 36 inches (914 mm) in width, not less than 80 inches (2032 mm) in height, and provide a clear opening of not less than 32 inches (813 mm), measured with the door positioned at an angle of 90 degrees from its closed position.
2. Doors or gates shall be capable of opening at least 90 degrees.
3. A pair of doors or gates, manual or automatic, shall have at least one leaf which provides a clear width of not less than 32 inches (813 mm), measured with the door or gate positioned at an angle of 90 degrees from its closed position.
4. The width of any component in the egress system shall not be less than the minimum width required by Section 1005.
5. Revolving doors or gates shall not be used as required entrances for persons with disabilities, and shall not be part of an accessible route.

**1126A.2 Level floor or landing.** The floor or landing on each side of an exit door or gate shall be level. (See Chapter 10.)

**1126A.2.1 Thresholds and changes in elevation.** The floor or landing shall not be more than  $\frac{1}{2}$  inch (12.7 mm) lower than the top of the threshold of the doorway. (See Figure 11A-8I.)

Changes in level between  $\frac{1}{4}$  inch (6.35 mm) and  $\frac{1}{2}$  inch (12.7 mm) shall be beveled with a slope no greater than 1 unit vertical in 2 units horizontal (50-percent slope). Changes in level greater than  $\frac{1}{2}$  inch (12.7 mm) shall be accomplished by means of a ramp. (See Section 1122A.)

**1126A.3 Maneuvering clearances.**

**1126A.3.1 General.** The minimum maneuvering clearance at doors or gates shall comply with Sections 1126A.3.2, 1126A.3.3, and 1126A.3.4. The floor or landing area within the required maneuvering clearance shall be level and clear. The required length shall be measured at right angles to the plane of the door or gate in its closed position. Maneuvering clearances shall extend the full width of the doorway and the required latch side or hinge side clearances (strike edge maneuvering clearances).

**1126A.3.2 Swinging doors and gates.**

**1126A.3.2.1 Front approach.** The following provisions shall apply to swinging doors or gates with front approach:

1. **Pull side approach.** The level floor or landing shall extend in the direction of the door or gate swing at least 60 inches (1524 mm). (See Figure 11A-8A(a).)
2. **Push side approach.** The level floor or landing shall extend in the direction of the door or gate swing at least 48 inches (1219 mm). (See Figure 11A-8A(a).)
3. **Doors and gates with push side approach having both a closer and a latch.** Doors or gates with push side approach having both a closer and a latch shall be provided with a clear and level area extending a minimum of 12 inches (305 mm) past the strike edge on the approach side of the door or gate. (See Figure 11A-8A(a).)
4. **Strike edge maneuvering space.** The width of the level area on the side to which the door or gate swings shall extend at least 24 inches (610 mm) past the strike edge for exterior doors or gates and at least 18 inches (457 mm) past the strike edge for interior doors or gates. (See Figure 11A-8A(a).)

**Note:** See Section 1132A.5 for maneuvering clearances at primary entry doors and all required exit doors to covered multifamily dwellings.

**1126A.3.2.2 Hinge side approach.** The following provisions shall apply to swinging doors or gates with hinge side approach:

1. **Pull side approach.** Doors or gates with pull side approach shall be provided with a level floor or landing not less than 60 inches (1524 mm) in depth. A clear and level area shall extend a minimum of 36 inches (914 mm) past the strike edge on the approach side of the door or gate. (See Figure 11A-8A(b).)
2. **Push side approach.** Doors or gates with push side approach shall have a level floor or landing not less than 44 inches (1118 mm) in depth, and shall be provided with a clear and level area extending a minimum of 54 inches (1372 mm) from the strike edge of the door or gate jamb past the hinge side of the door or gate. Doors or gates with a latch and closer shall have a level floor or landing not less than 48 inches (1219 mm) depth at the push side of the door or gate. (See Figure 11A-8A(b).)

**1126A.3.2.3 Latch side approach.** The following provisions shall apply to swinging doors or gates with latch side approach:

1. **Pull side approach.** Doors or gates with pull side approach shall have a level floor or landing not less than 60 inches (1524 mm) in depth, and shall be provided with a clear and level area extending a minimum of 24 inches (610 mm) past the strike edge on the approach side of the door or gate. (See Figure 11A-8A(c).)
2. **Push side approach.** Doors or gates with push side approach shall have a level floor or landing not less than 44 inches (1118 mm) in depth, and shall be provided with a clear and level area

extending a minimum of 24 inches (610 mm) past the strike edge on the approach side of the door or gate. Doors or gates with a closer shall have a level floor or landing not less than 48 inches (1219 mm) depth at the push side of the door or gate. (See Figure 11A-8A(c).)

**1126A.3.3 Space between consecutive doors or gates.** The minimum space between two hinged or pivoted doors or gates in series, serving other than a required exit stairway, shall provide a minimum of 48 inches (1219 mm) plus the width of the door or gate swinging into the space. Doors or gates in a series shall swing either in the same direction or away from the space between the doors or gates. (See Figures 11A-8G and 11A-8H.)

Where the door or gate opens into a stair or smokeproof enclosure, the landing need not have a minimum length of 60 inches (1524 mm). (See Figure 11A-8H.)

**1126A.3.4 Doorways without doors or gates, sliding doors, and folding doors.** Doorways less than 36 inches (914 mm) wide without doors or gates, sliding doors, or folding doors shall have maneuvering clearances complying with this section.

**1126A.3.4.1 Front approach.** The level floor or landing shall extend at least 48 inches (1219 mm) on each side, perpendicular to the doorway. Strike edge maneuvering clearance for front approach is not required. (See Figure 11A-8B(a).)

**1126A.3.4.2 Side approach.** Doorways without doors or gates, and side approach, shall be provided with level floor or landing extending 42 inches (1067 mm) minimum on each side, perpendicular to the doorway. Strike edge maneuvering clearance is not required. (See Figure 11A-8B(d).)

**1126A.3.4.3 Pocket/ hinge side approach.** Doors with pocket or hinge approach shall be provided with a level floor or landing not less than 42 inches (1067 mm) in depth. The level floor or landing shall extend a minimum of 22 inches (559 mm) beyond the pocket/hinge side. (See Figure 11A-8B(b).)

**1126A.3.4.4 Stop/latch side approach.** Doors with stop or latch approach shall have a level floor or landing not less than 42 inches (1067 mm) in depth. The level floor or landing shall extend a minimum of 24 inches (610 mm) beyond the stop/latch side. (See Figure 11A-8B(c).)

**1126A.3.4.5 Recessed doors or gates.** Maneuvering clearances for forward approach shall be provided when any obstruction within 18 inches (457 mm) of the latch side of an interior doorway, or within 24 inches (610 mm) of the latch side of an exterior doorway, projects more than 8 inches (203 mm) beyond the face of the door or gate, measured perpendicular to the face of the door or gate. (See Figure 11A-8C.)

**1126A.4 Closer-effort to operate doors or gates.** Maximum effort to operate doors or gates shall not exceed 8½ pounds (38 N) for exterior doors or gates and 5 pounds (22 N) for interior doors or gates, such pull or push effort being applied at right angles to hinged doors or gates and at the center plane of sliding or folding doors. Compensating devices or automatic door or gate operators may be utilized to meet these standards. When fire doors are required, the maximum effort to operate the door may be increased to the minimum

allowable by the appropriate enforcement agency, not to exceed 15 pounds (66.7 N).

**1126A.4.1 Door or gate closer.** If a door or gate has a closer, the sweep period of the closer shall be adjusted so that from an open position of 90 degrees, the door or gate will take 5 seconds minimum to move to a position of 12 degrees from the latch.

**1126A.4.2 Spring hinges.** Spring hinges shall be adjusted so that from the open position of 70 degrees, the door or gate shall move to the closed position in 1.5 seconds minimum.

**1126A.5 Type of latch and lock.** The type of latch and lock required for all doors or gates shall be in accordance with Section 1126A.6 and Chapter 10, Section 1008.

**1126A.6 Hand-activated door or gate hardware.** Hand-activated door or gate latching, locking and opening hardware shall be centered between 30 inches (762 mm) and 44 inches (1118 mm) above the floor. Latching and locking doors or gates that are hand-activated and on an accessible route shall be operable with a single effort by lever type hardware, panic bars, push-pull activating bars or other hardware designed to provide passage without requiring the ability to grasp the opening hardware. Locked exit doors or gates shall operate consistent with Section 1126A.4, in the direction of egress. When sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides.

**Exception:** Access gates in barrier walls and fences protecting pools, spas, and hot tubs shall be permitted to have operable parts of the release of latch on self-latching devices at 54 inches (1372 mm) maximum above the finish floor or ground provided the self-latching devices are not also self-locking devices operated by means of a key, electronic opener, or integral combination lock.

**1126A.6.1 Lever type hardware.** The lever or lever of actuated latches or locks shall be curved with a return to within ½ inch (12.7 mm) of the door or gate to prevent catching on the clothing of persons during egress.

**Exception:** Group R and U occupancies with an occupant load of 10 or less.

**1126A.7 Smooth surface.** Swinging door or gate surfaces within 10 inches (254 mm) of the finish floor or ground measured vertically shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in these surfaces shall be within 1/16 inch (1.6 mm) of the same plane as the other and be free of sharp or abrasive edges. Cavities created by added kick plates shall be capped.

**Exceptions:**

1. Automatic doors or gates.
2. Tempered glass doors without stiles and having a bottom rail or shoe with the top leading edge tapered at 60 degrees minimum from the horizontal.
3. Doors or gates that do not extend to within 10 inches (254 mm) of the finish floor or ground.

**1126A.8 Windows.** Where glazed openings are provided in accessible rooms or spaces for operation by occupants, at least one opening shall comply with Section 1138A.4.

Each glazed opening required by the enforcing agency to be operable shall comply with Section 1138A.4.

## SECTION 1127A COMMON USE FACILITIES

**Note:** For public use facilities, see Chapter 11B of this code.

**1127A.1 General.** When provided, common use areas and facilities in covered multifamily housing developments shall be accessible to persons with disabilities. Common use facilities include, but are not limited to, lobbies, toilet and bathing facilities, laundry facilities, community rooms, clubhouses, health and fitness facilities, game rooms and portions of common use tenant storage. All entrances, doors, fixtures and controls shall be on an accessible route. Facilities and fixtures required to be accessible shall comply with the following provisions:

1. **Doors.** Doors to accessible bathrooms shall comply with Section 1126A. Doors shall not swing into the floor space required for any fixture.
2. **Clear floor space.** All fixtures and controls shall be on an accessible route. Clear floor spaces at fixtures and controls, the accessible route and the turning space may overlap. This clear space shall comply with Sections 1138A.1.4 and 1138A.3.
3. **Water closets.** Where a toilet stall is provided, it shall comply with Section 1127A.2.1 or 1127A.2.2, and its water closet shall comply with Section 1127A.2.3.
4. **Lavatory and mirrors.** Where a lavatory and/or mirror is provided, it shall comply with Sections 1127A.3 and/or 1127A.8.3.
5. **Controls and dispensers.** Where controls, dispensers, receptacles or other types of equipment are provided, at least one of each shall be on an accessible route and shall comply with Sections 1127A.8 and 1138A.3.
6. **Bathing and shower facilities.** Where bathtubs or showers are provided, at least one fixture of each type provided shall be accessible per room. For bathtubs, see Section 1127A.5.2. For shower compartments, see Section 1127A.5.3.
7. **Toilet facilities.** Toilet facilities shall comply with Section 1127A.2.
8. **Laundry facilities.** Laundry facilities shall comply with Section 1127A.10.
9. **Storage facilities.** Storage facilities shall comply with Section 1127A.11.
10. **Fixed or built-in seating, tables and counters.** Fixed or built-in seating, tables and counters shall comply with Section 1127A.12.

**1127A.2 Toilet facilities.** When common use toilet facilities are provided for residents or guests, at least one percent of the total number of fixtures but not less than one of each type shall comply with this section.

**1127A.2.1 Multiple-accommodation toilet facilities.** Multiple-accommodation toilet facilities shall have the following:

**Note:** (See Figures 11A-9A and 11A-9B.)

1. **Wheelchair turning space.** Turning space of sufficient size to inscribe a circle with a diameter not less than 60 inches (1524 mm) or a T-shaped space shall be provided within the toilet facility. The wheelchair turning space shall comply with Section 1138A.1.3. Other than the door to the accessible water closet compartment, a door, in any position, may encroach into this space by not more than 12 inches (305 mm).

2. **Clear space at fixtures.** Doors shall not swing into the clear floor space required for any fixture. Required clear floor space, clearance at fixtures, and turning space shall be permitted to overlap.
3. **Accessible water closet compartment.** Accessible water closet compartments shall be 60 inches (1524 mm) wide minimum measured perpendicular to the side wall, 56 inches (1422 mm) deep minimum for wall hung water closets and 59 inches (1499 mm) deep minimum for floor mounted water closets measured perpendicular to the rear wall. (See Figure 11A-9A(c).)

Water closet fixtures located in accessible water closet compartments shall be positioned with a wall or partition to the rear and to one side. The centerline of the water closet shall be 17 inches (432 mm) minimum to 18 inches (457 mm) maximum from the side wall or partition.

In ambulatory accessible toilet compartments specified in Item 6 of this section, the water closet shall be 17 inches (432 mm) minimum and 19 inches (483 mm) maximum from the side wall or partition. (See Figure 11A-9A (d).)

Clearance around a water closet shall be 60 inches (1524 mm) minimum measured perpendicular from the side wall and 56 inches (1422 mm) minimum measured perpendicular from the rear wall. The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, dispensers, sanitary napkin disposal units, coat hooks, shelves, accessible routes, clear floor space and clearances required at other fixtures, and the turning space. No other fixtures or obstructions shall be located within the required water closet clearance.

A minimum 48 inches (1219 mm) deep and 60 inches (1524 mm) wide clear maneuvering space shall be provided in front of the water closet if the compartment has an end-opening door (facing the water closet). A minimum 60 inches (1524 mm) deep and 60 inches (1524 mm) wide clear maneuvering space shall be provided in a compartment with the door located at the side. (See Figure 11A-9A.)

4. **Grab bars.** Grab bars shall be provided on the side wall closest to the water closet and on the rear wall. Grab bars shall comply with this section and Section 1127A.4.

The side wall grab bar shall be 42 inches (1067 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extend 54 inches (1372 mm) minimum from the rear wall. The front end of the side grab bar shall be positioned 24 inches (610 mm) minimum in front of the water closet.

The rear wall grab bar shall be 36 inches (914 mm) long minimum and extend from the centerline of the water closet 12 inches (305 mm) minimum on one side and 24 inches (610 mm) minimum on the other side.

### Exceptions:

1. The rear grab bar shall be permitted to be 24 inches (610 mm) long minimum, centered on the water closet, when wall space does not permit a length of 36 inches (914 mm) mini-

imum due to the location of a recessed fixture adjacent to the water closet.

2. When the enforcing agency requires flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, then the rear grab bar shall be permitted to be split or shifted to the open side of the toilet area.
5. **Compartment doors.** Compartment doors shall comply with Section 1126A and the following:
- 5.1. The water closet compartment shall be equipped with a door that has an automatic-closing device, and shall have a clear, unobstructed opening width of 32 inches (813 mm) when located at the end and 34 inches (864 mm) when located at the side with the door positioned at an angle of 90 degrees from its closed position.
  - 5.2. When standard compartment doors are used, with a minimum 9-inch (228.6 mm) clearance for footrests underneath and a self-closing device, clearance at the strike edge as specified in Section 1126A.3.2 is not required.
  - 5.3. The inside and outside of the compartment door shall be equipped with a loop or U-shaped handle immediately below the latch. The latch shall be flip-over style, sliding or other hardware not requiring the user to grasp or twist.
  - 5.4. Except for door-opening widths and door swings, a clear, unobstructed access of not less than 44 inches (1118 mm) shall be provided to water closet compartments designed for use by persons with disabilities, and the space immediately in front of a water closet compartment shall not be less than 48 inches (1219 mm) as measured at right angles to compartment door in its closed position.
  - 5.5. Doors shall be located in the front or in the side wall or partition farthest from the water closet. Where located in the front partition, the door opening shall be 4 inches (102 mm) maximum from the side wall or partition. Where located in the side wall or partition, the door opening shall be 4 inches (102 mm) maximum from the front wall or partition.
6. **Ambulatory accessible compartments.** When six or more toilet compartments are provided within a multiple-accommodation toilet room, or when the combination of urinals and water closets totals six or more fixtures, at least one compartment shall comply with Section 1127A.2.1, Items 2 and 3. At least one additional ambulatory compartment shall have a depth of 60 inches (1524 mm) minimum, and a width of 35 inches (890 mm) minimum and 37 inches (940 mm) maximum.

The ambulatory accessible compartment shall have a self-closing door, which shall not swing into the minimum required compartment area. Grab bars, complying with Sections 1127A.4.2, 1127A.4.3, 1127A.4.4 and 1127A.4.5, shall be installed on each compartment side wall. (See Figure 11A-9A (d).)

**1127A.2.2 Single-accommodation toilet facilities.** Single-accommodation toilet facilities shall comply with the following:

**Note:** See Figures 11A-9A and 11A-9B.

1. **Wheelchair clearance.** There shall be sufficient space in the toilet room for a wheelchair measuring 30 inches (762 mm) wide by 48 inches (1219 mm) long to enter the room and permit the door to close. There shall be in the room a clear turning space of at least 60 inches (1524 mm) in diameter or a T-shaped space complying with Section 1138A.1.3.  
Required clear floor space, clearance at fixtures, and turning space shall be permitted to overlap.
2. **Encroachment of doors.** Doors shall not encroach into the turning space specified in Item 1 of this section by more than 12 inches (305 mm).
3. **Accessible water closet.** A water closet fixture located in a single-accommodation toilet facility shall be positioned with a wall or partition to the rear and to one side. The centerline of the water closet shall be 17 inches (432 mm) minimum to 18 inches (457 mm) maximum from the side wall or partition.

Clearance around a water closet shall be 60 inches (1524 mm) minimum measured perpendicular from the side wall and 56 inches (1422 mm) minimum measured perpendicular from the rear wall. The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, dispensers, sanitary napkin disposal units, coat hooks, shelves, accessible routes, clear floor space and clearances required at other fixtures, and the turning space. No other fixtures or obstructions shall be located within the required water closet clearance.

A minimum 48 inches (1219 mm) deep and 60 inches (1524 mm) wide clear maneuvering space shall be provided in front of the water closet.

4. **Grab bars.** Grab bars shall be provided on the side wall closest to the water closet and on the rear wall. Grab bars shall comply with this section and Section 1127A.4.

The side wall grab bar shall be 42 inches (1067 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extend 54 inches (1372 mm) minimum from the rear wall. The front end of the side grab bar shall be positioned 24 inches (610 mm) minimum in front of the water closet.

The rear wall grab bar shall be 36 inches (914 mm) long minimum and extend from the centerline of the water closet 12 inches (305 mm) minimum on one side and 24 inches (610 mm) minimum on the other side.

**Exceptions:**

1. The rear grab bar shall be permitted to be 24 inches (610 mm) long minimum, centered on the water closet, when wall space does not permit a length of 36 inches (914 mm) minimum due to the location of a recessed fixture adjacent to the water closet.
2. When the enforcing agency requires flush controls for flush valves to be located in a position that conflicts with the location of the rear

grab bar, then the rear grab bar shall be permitted to be split or shifted to the open side of the toilet area.

5. **Accessible route.** All doors, fixtures and controls shall be on an accessible route. The minimum clear width of an accessible route shall be 36 inches (914 mm) except at doors (See Section 1126A). If a person in a wheelchair must make a turn around an obstruction, the minimum clear width of the accessible route shall be as specified in Section 1138A.1.5.

**1127A.2.3 Water closets.** Water closets required to be accessible shall comply with the following:

**Note:** See Figure 11A-9B.

1. **Height.** The height of accessible water closets shall be a minimum of 17 inches (432 mm) to a maximum of 19 inches (483 mm) measured to the top of a maximum 2-inch-high (50.8 mm) toilet seat.
2. **Controls.** Flush controls shall be hand operated or automatic. Hand operated controls shall be operable with one hand and shall not require tight grasping, pinching or twisting. Controls for the flush valves shall be mounted on the open side of the water closet no more than 44 inches (1118 mm) above the floor. The force required to activate controls shall be no greater than 5 pounds (22.2 N).
3. **Toilet seats.** Seats shall not be sprung to return to a lifted position.

**1127A.2.4 Accessible urinals.** When urinals are provided, at least one shall comply with the following:

1. **Height and wall projection.** Urinals shall be floor mounted (stall type) or wall hung. The rim of the wall hung urinals shall be 17 inches (432 mm) maximum above the finish floor. Urinals (floor mounted and wall hung) shall be 13<sup>1</sup>/<sub>2</sub> inches (343 mm) deep minimum measured from the outer face of the rim to the back of the fixture.
2. **Flush controls.** Flush controls shall be hand operated or automatic. Hand operated controls shall be operable with one hand, shall not require tight grasping, pinching or twisting of the wrist and shall be mounted no more than 44 inches (1118 mm) above the floor. The force required to activate controls shall be no greater than 5 pounds (22.2 N). Electronic automatic flushing controls are preferable.
3. **Clear floor space.** A clear floor space 30 inches by 48 inches (762 mm by 1219 mm) shall be provided in front of the urinal to allow forward approach. The clear floor space shall comply with Section 1138A.1.4.

**1127A.3 Accessible lavatories.** When common use lavatories are provided for residents or guests, at least one, and not less than 1 percent of all lavatories, shall comply with the following:

1. **Location.** Lavatories shall be installed with the centerline of the fixture a minimum of 18 inches (457 mm) horizontally from an adjoining wall, partition or fixture. The top of the fixture rim shall be a maximum of 34 inches (864 mm) above the finished floor.
2. **Floor space.** A clear floor space at least 30 inches by 48 inches (762 mm by 1219 mm) shall be provided in front of accessible lavatories to allow forward

approach. Such clear floor space shall adjoin or overlap an accessible route or another clear floor space.

3. **Knee and toe space.** A clear and obstructed knee and toe space, complying with Section 1138A.2, shall be provided underneath the lavatory. The knee and toe space shall be centered on the fixture. The clear floor space required by Item 2 shall not extend into the knee and toe space more than 19 inches (483 mm). (See Figure 11A-9D.)
4. **Finished floor.** The finished floor beneath the lavatory shall be extended to the wall.
5. **Plumbing protection.** Water supply and drain pipes under lavatories shall be insulated or otherwise covered to protect against contact. There shall be no sharp or abrasive surfaces under lavatories.
6. **Lavatory faucet controls.** Faucet controls and operation mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist. The force required to activate controls shall be no greater than 5 pounds (22.2N). Lever operated, push type and electronically controlled mechanisms are examples of acceptable designs. Hand operated metering faucets are allowed if the faucet remains open for at least 10 seconds.

**1127A.4 Grab bars, tub and shower seats, fasteners and mounting devices.**

**1127A.4.1 General.** Grab bars, tub and shower seats, fasteners and mounting devices required by this chapter shall comply with this section.

**1127A.4.2 Location.** Grab bars shall be installed in a horizontal position, 33 inches (838 mm) minimum and 36 inches (914 mm) maximum above the finish floor measured to the top of the gripping surface.

**Exception:** The height of the lower grab bar on the back wall of a bathtub shall comply with Section 1127A.5.2.

**1127A.4.3 Diameter or width.** The diameter or width of the gripping surfaces of a grab bar shall comply with the following:

**Note:** See Figure 11A-9C.

1. **Circular cross section.** Grab bars with circular cross section shall have an outside diameter of 1<sup>1</sup>/<sub>4</sub> inches (32 mm minimum and 2 inches (51 mm) maximum).
2. **Noncircular cross section.** Grab bars with noncircular cross section shall have a cross-section dimension of 2 inches (51 mm) maximum. The perimeter dimension of grab bars with non-circular cross section shall be 4 inches (102 mm) minimum and 4.8 inches (122 mm) maximum.
3. **Alternate configuration.** L-shaped or U-shaped grab bars shall be permitted.

**1127A.4.4 Structural strength.** The structural strength of grab bars, tub and shower seats, fasteners and mounting devices shall meet the following specifications:

1. Bending stress in a grab bar or seat induced by the maximum bending moment from the application of a 250-pound (1112 N) point load shall be less than the allowable stress for the material of the grab bar or seat.
2. Shear stress induced in a grab bar or seat by the application of a 250-pound (1112N) point load shall

be less than the allowable shear stress for the material of the grab bar or seat, and if its mounting bracket or other support is considered to be fully restrained, then direct and torsional shear stresses shall not exceed the allowable shear stress.

3. Shear force induced in a fastener or mounting device from the application of a 250-pound (1112 N) point load shall be less than the allowable lateral load of either the fastener or mounting device or the supporting structure, whichever is the smaller allowable load.
4. Tensile force induced in a fastener by a direct tension force of a 250-pound (1112 N) point load, plus the maximum moment from the application of a 250-pound (1112 N) point load, shall be less than the allowable withdrawal load between the fastener and supporting structure.
5. Grab bars shall not rotate within their fittings.

**1127A.4.5 Surface.** A grab bar and any wall or other surface adjacent to it shall be free of any sharp or abrasive elements and shall have rounded edges.

**1127A.4.6 Spacing.** When grab bars are mounted adjacent to a wall, the space between the wall and the grab bars shall be 1½ inches (38 mm). (See Figure 11A-9C.) The space between the grab bar and projecting objects below and at the ends shall be 1½ inches (38 mm) minimum. The space between the grab bar and projecting objects above shall be 12 inches (305 mm) minimum.

**Exceptions:**

1. The space between the grab bars and shower controls, shower fittings, and other grab bars above shall be permitted to be 1½ inches (38 mm) minimum.
2. For L-shaped or U-shaped grab bars the space between the walls and the grab bar shall be 1½ inches (38 mm) minimum for a distance of 6 inches (152 mm) on either side of the inside corner between two adjacent wall surfaces.

**1127A.5 Bathing facilities.**

**1127A.5.1 General.** When common use bathing facilities are provided for residents or guests, including showers, bathtubs or lockers, at least one of each type of fixture in each facility, and not less than 1 percent of all fixtures, shall comply with this section.

**1127A.5.2 Bathtubs.** Bathtubs required to be accessible shall comply with the following:

**1127A.5.2.1 Floor space.** Clearance in front of bathtubs shall extend the length of the bathtub and shall be 48 inches (1219 mm) wide minimum for forward approach and 30 inches (762 mm) wide minimum for parallel approach. A lavatory complying with Section 1127A.3 shall be permitted at the control end of the clearance. When a permanent seat is provided at the head end of the bathtub, the clearance shall extend 12 inches (305 mm) minimum beyond the wall at the head end of the bathtub. (See Figure 11A-9E.)

**1127A.5.2.2 Seat.** A removable in-tub seat or a permanent seat at the head end of the tub shall be provided. The structural strength of seats and their attachments shall comply with Section 1127A.4.4. Seats shall be mounted securely and shall not slip during use.

The top of bathtub seats shall be 17 inches (432 mm) minimum and 19 inches (483 mm) maximum above the bathroom finish floor. The depth of a removable in-tub seat shall be 15 inches (381 mm) minimum and 16 inches (406 mm) maximum. Permanent seats at the head end of the bathtub shall be 15 inches (381 mm) deep minimum and shall extend from the back wall to or beyond the outer edge of the bathtub. (See Figure 11A-9E.)

**1127A.5.2.3 Grab bars.** Grab bars complying with Section 1127A.4 shall be provided in accordance with this section. (See Figure 11A-9F.) When separate grab bars are required on adjacent walls at a common mounting height, an L-shaped or U-shaped grab bar meeting the dimensional requirements of this section shall be permitted.

1. **Bathtubs with permanent seats.** Two horizontal grab bars shall be installed on the back wall. One shall be located 33 inches (838 mm) minimum and 36 inches (914 mm) maximum above the finish floor measured to the top of the gripping surface, and the other shall be located 8 inches (203 mm) minimum and 10 inches (254 mm) maximum above the rim of the bathtub. Each grab bar shall be 48 inches (1219 mm) long minimum, and shall be installed 15 inches (381 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the control end wall.

A grab bar 24 inches (610 mm) long minimum shall be installed on the control end wall at the front edge of the bathtub.

2. **Bathtubs with removable seats.** Two horizontal grab bars shall be installed on the back wall. One shall be located 33 inches (838 mm) minimum and 36 inches (914 mm) maximum above the finish floor measured to the top of the gripping surface, and the other shall be located 8 inches (203 mm) minimum and 10 inches (254 mm) maximum above the rim of the bathtub. Each grab bar shall be 24 inches (610 mm) long minimum and shall be installed 24 inches (610 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the control end wall.

A grab bar 24 inches (610 mm) long minimum shall be installed on the control end wall at the front edge of the bathtub. A grab bar 12 inches (305 mm) long minimum shall be installed on the head end wall at the front edge of the bathtub.

**1127A.5.2.4. Controls.** Faucets and controls (other than drain stoppers) shall be located on an end wall between the bathtub rim and grab bar, and between the open side of the bathtub and the centerline of the width of the bathtub. (See Figure 11A-9F.)

Controls shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist. The force required to activate controls shall be no greater than 5 pounds (22.2 N).

**1127A.5.2.5 Shower spray unit.** A shower spray unit with a hose at least 59 inches (1524 mm) long that can be used both as a fixed shower head and as a hand-held shower shall be provided.

The shower spray unit shall have an on/off control with a non-positive shut-off. If an adjustable-height

shower head on a vertical bar is used, the bar shall be installed so as not to obstruct the use of the grab bars.

**1127A.5.2.6 Bathtub enclosures.** When provided, enclosures for bathtubs shall not obstruct controls, faucets, shower and spray units, or obstruct transfer from wheelchairs onto bathtub seats or into bathtubs. Enclosures on bathtubs shall not have tracks installed on the rim of the open face of the bathtub.

**1127A.5.3 Shower compartments.** Shower compartments required to be accessible shall comply with this section. (See Figures 11A-9H, 11A-9I, 11A-9J and 11A-9K.)

**1127A.5.3.1 Size and clearance.**

1. **Standard roll-in shower compartments.** Standard roll-in shower compartments shall meet one of the following:

1.1 30 inches (762 mm) minimum in depth and 60 inches (1524 mm) minimum in width between wall surfaces measured at center points of opposing sides, with a full opening width on the long side.

A clear floor space 30 inches (914 mm) minimum by 60 inches (1524 mm) minimum shall be provided adjacent to the open face of the shower compartment.

1.2 42 inches (1067 mm) in width between wall surfaces, and 48 inches (1219 mm) minimum in depth with an entrance opening of 42 inches (1067 mm).

2. **Alternate roll-in shower compartments.** Alternate roll-in shower compartments shall be 36 inches (914 mm) minimum in depth and 60 inches (1524 mm) minimum in width between wall surfaces measured at center points of opposing sides. A 36-inch (914 mm) wide minimum entry shall be provided at one end of the long side of the compartment.

**1127A.5.3.2 Thresholds.** Thresholds in roll-in shower compartments shall be  $\frac{1}{2}$  inch (12.7 mm) maximum in height and shall be beveled with a slope no greater than one unit vertical in two units horizontal (50-percent slope). (See Figure 11A-1F.)

**Exception:** Changes in level not exceeding  $\frac{1}{4}$  inch (6.35 mm) shall be permitted to be vertical.

**1127A.5.3.3 Enclosures.** Enclosures, when provided for shower compartments, shall not obstruct controls, faucets, shower spray units, and transfer from wheelchairs onto shower seats.

**1127A.5.3.4 Floor.** Shower compartment floor surfaces shall be stable, firm and slip resistant. The maximum slope of the floor shall be  $\frac{1}{4}$  inch (6.35 mm) per foot (2.083 percent slope) in any direction. When drains are provided, grate openings shall be  $\frac{1}{4}$  inch (6.35 mm) maximum and located flush with the floor surface.

**1127A.5.3.5 Controls.** Controls, faucets and shower spray units in shower compartments shall be operable with one hand, and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum. All controls and faucets shall be of a single-lever design.

**1127A.5.3.5.1 Standard roll-in shower compartments.** In standard roll-in shower compartments, operable parts of controls and faucets shall be

installed on the back wall of the compartment adjacent to the seat wall, 19 inches (483 mm) minimum and 27 inches (686 mm) maximum from the seat wall.

Operable parts of controls and faucets shall be located above the grab bar, but no higher than 48 inches (1219 mm) above the shower floor, with their centerline at 39 inches (991 mm) minimum and 41 inches (1041 mm) maximum above the shower floor.

Operable parts of the shower spray unit, including the handle, shall be installed on the back wall adjacent to the seat wall, 19 inches (483 mm) minimum and 27 inches (686 mm) maximum from the seat wall.

Operable parts of the shower spray unit, including the handle, shall be located above the grab bar, but no higher than 48 inches (1219 mm) above the shower floor (measured to the top of the mounting bracket).

**1127A.5.3.5.2 Alternate roll-in shower compartments.** In alternate roll-in shower compartments, operable parts of controls and faucets shall be installed on the side wall of the compartment adjacent to the seat wall, 19 inches (483 mm) minimum and 27 inches (686 mm) maximum from the seat wall.

Operable parts of controls and faucets shall be located above the grab bar, but no higher than 48 inches (1219 mm) above the shower floor, with their centerline at 39 inches (991 mm) minimum and 41 inches (1041 mm) maximum above the shower floor.

Operable parts of the shower spray unit, including the handle, shall be installed on the following locations:

1. On the side wall of the compartment adjacent to the seat wall, 17 inches (432 mm) minimum and 19 inches (483 mm) maximum from the seat wall; or
2. On the back wall opposite the seat, 15 inches (381 mm) maximum, left or right, of the centerline of the seat.

Operable parts of the shower spray unit, including the handle, shall be located above the grab bar, but no higher than 48 inches (1219 mm) above the shower floor.

**1127A.5.3.6 Hand-held shower sprayer unit.** A flexible hand-held shower spray unit with a hose at least 59 inches (1524 mm) long that can be used both as a fixed shower head and as a hand-held shower shall be provided.

The shower spray unit shall have an on/off control with a non-positive shut-off. If an adjustable-height shower head on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars.

**1127A.5.3.6.1 Sprayer unit alternative.** When accessible shower facilities are provided in areas subject to excessive vandalism, in lieu of providing the fixed flexible hose, two wall-mounted shower heads shall be installed. Each shower head shall be installed so that it can be operated independently of the other and shall have swivel angle adjustments, both vertically and horizontally. One shower head shall be located at a height of 48 inches (1219 mm) maximum above the floor.

**1127A.5.3.7 Shower compartment seats.** A seat in a standard roll-in shower compartment shall be a folding type, installed on the side wall adjacent to the controls.

The seat shall extend from the back wall to a point within 3 inches (76 mm) of the compartment entry. A seat in an alternate roll-in type shower compartment shall be a folding type, installed on the front wall opposite the back wall, and shall extend from the adjacent side wall to a point within 3 inches (76 mm) of the compartment entry.

Shower compartment seats shall comply with Section 1127A.4.4 and shall be located within 27 inches (686 mm) of the shower controls. The top of the seat shall be 17 inches (432 mm) minimum and 19 inches (483 mm) maximum above the bathroom finish floor. When folded, the seat shall not extend more than 6 inches (152 mm) from the mounting wall.

**1127A.5.3.7.1 Rectangular seats.** The rear edge of a rectangular seat shall be 2½ inches (64 mm) maximum from the seat wall. The front edge of a rectangular seat shall be 15 inches (381 mm) minimum and 16 inches (406 mm) maximum from the seat wall. The side edge of the seat shall be 1½ inches (38 mm) maximum from the adjacent wall.

**1127A.5.3.7.2 L-shaped seats.** The rear edge of an L-shaped seat shall be 2½ inches (64 mm) maximum from the seat wall. The front edge of an L-shaped seat shall be 15 inches (381 mm) minimum and 16 inches (406 mm) maximum from the seat wall. The rear edge of the “L” portion of the seat shall be 1½ inches (38 mm) maximum from the wall. The front edge shall be 14 inches (356 mm) minimum and 15 inches (381 mm) maximum from the wall. The end of the “L” shall be 22 inches (559 mm) minimum and 23 inches (584 mm) maximum from the main seat wall.

**1127A.5.3.8 Grab bars.** Accessible shower compartments shall be provided with grab bars, installed in accordance with Section 1127A.5.3.8.1 or Section 1127A.5.3.8.2. Grab bars shall also comply with Section 1127A.4.

When multiple grab bars are used, required horizontal grab bars shall be installed at the same height above the finish floor. When separate grab bars are required on adjacent walls at a common mounting height, L-shaped or U-shaped grab bars meeting the dimensional requirements of Section 1127A.5.3.8.1 or Section 1127A.5.3.8.2 shall be permitted. (See Figure 11A-9H or Figure 11A-9I.)

**1127A.5.3.8.1 Standard roll-in shower compartments.** Grab bars shall be installed on the back wall and on the side wall opposite the seat. Grab bars above the seat are not permitted. Grab bars shall be installed 6 inches (152 mm) maximum from adjacent walls.

**1127A.5.3.8.2 Alternate roll-in shower compartments.** Grab bars shall be installed on the back wall and the side wall farthest from the compartment entry. Grab bars above the seat are not permitted. Grab bars shall be installed 6 inches (152 mm) maximum from adjacent walls.

**1127A.5.3.9 Soap dish.** When a soap dish is provided, it shall be located on the control wall at a maximum height of 40 inches (1016 mm) above the shower floor, and within the reach limits from the seat.

**1127A.5.3.10 Open showers.** When no separate shower compartments are provided, the shower for persons with disabilities shall be located in a corner with L-shaped grab bars extending along two adjacent walls

with a folding seat adjacent to the shower controls. (See Figure 11A-9J.)

**1127A.5.3.11. Multiple showers.** When two or more accessible showers are provided within the same functional area, there shall be at least one shower constructed opposite hand from the other or others (i.e., one left-hand control versus right-hand controls).

#### **1127A.6 Lockers.**

**1127A.6.1 General.** Where lockers are provided for residents or guests, at least one locker and not less than 1 percent of all lockers shall be accessible to persons with disabilities. An accessible route not less than 36 inches (914 mm) in clear width shall be provided to these lockers. See Section 1138A for required clear space, allowable reach ranges and requirements for control and operating mechanisms.

#### **1127A.7 Signs.**

**1127A.7.1 General.** All accessible toilet and bathing facilities shall be identified by the “International Symbol of Accessibility.” Signs need not be provided for facilities within a dwelling unit or guestroom.

**1127A.7.2 Identification symbols.** Doorways leading to sanitary facilities (toilet or bathing rooms) shall be identified by a geometric symbol in compliance with this section. Geometric symbols shall be centered horizontally on the door at a height of 58 inches (1473 mm) minimum and 60 inches (1524 mm) maximum above the finish floor measured to the center of the symbol. When a door is provided, the symbol shall be mounted within 1 inch (25 mm) of the vertical centerline of the door. Directional signs indicating the location of the nearest accessible toilet or bathing rooms shall be provided. Such directional signs shall comply with Section 1143.5 and shall include the International Symbol of Accessibility.

Edges of accessibility signage shall be rounded, chamfered or eased. Corners shall have a minimum radius of 1/8 inch (3.2 mm). See Section 1143A for additional signage requirements applicable to sanitary facilities.

**1127A.7.2.1 Men’s sanitary facilities.** Men’s sanitary facilities shall be identified by an equilateral triangle, 1/4 inch (6.4 mm) thick with edges 12 inches (305 mm) long and a vertex pointing upward. The triangle symbol shall contrast with the door, either light on a dark background or dark on a light background.

**1127A.7.2.2 Women’s sanitary facilities.** Women’s sanitary facilities shall be identified by a circle, 1/4 inch (6.4 mm) thick and 12 inches (305 mm) in diameter. The circle symbol shall contrast with the door, either light on a dark background or dark on a light background.

**1127A.7.2.3 Unisex sanitary facilities.** Unisex sanitary facilities shall be identified by a circle, 1/4 inch (6.4 mm) thick and 12 inches (305 mm) in diameter with a 1/4 inch (6.4 mm) thick triangle superimposed on the circle and within the 12-inch (305 mm) diameter. The triangle symbol shall contrast with the circle symbol, either light on a dark background or dark on a light background. The circle symbol shall contrast with the door, either light on a dark background or dark on a light background.

#### **1127A.8 Toilet room fixtures and accessories.**

**1127A.8.1 Towel, sanitary napkins, waste receptacles.** Where towel, sanitary napkins, waste receptacles and other similar dispensing and disposal fixtures are pro-

vided, at least one of each type shall be located with all operable parts, including coin slots, within 40 inches (1016 mm) from the finished floor. Controls and operating mechanisms shall comply with Section 1138A.4.

**1127A.8.2 Toilet tissue dispensers.** Toilet tissue dispensers shall be located on the wall or partition closest to the water closet, 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be below the grab bar, 19 inches (483 mm) minimum above the finish floor. The outlet of the dispenser shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow. (See Figure 11A-9B.)

**1127A.8.3 Mirrors.** Where mirrors are provided, at least one shall be accessible. Mirrors located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 40 inches (1016 mm) maximum above the finish floor. Mirrors not located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 35 inches (889 mm) maximum above the finish floor.

**1127A.9 Space allowances and reach ranges in common use areas.**

Space allowances and reach ranges in common use areas shall comply with Section 1138A.

**1127A.10 Common accessible laundry rooms.**

**1127A.10.1 General.** Where common use laundry rooms are provided, at least one of each type of appliance provided in each laundry area shall be accessible, shall be on an accessible route and shall comply with this section. Such appliances include clothes washing machines, dryers, soap dispensers and any related features such as wash sinks, tables and storage areas.

Where laundry rooms are provided on floors of an elevator building, each laundry room shall be accessible. Where there is one laundry room on a ground floor in each building, each laundry room shall be accessible. Where there is a laundry room on the ground floor of a building and another located in the basement, it is acceptable to have only the ground floor laundry room accessible.

**1127A.10.2 Clear floor space.** There shall be a minimum clear space 30 inches perpendicular by 48 inches parallel (762 mm by 1219 mm) in front of clothes washers and dryers required to be accessible. There shall be a minimum clear space 30 inches by 48 inches (762 mm by 1219 mm) provided for at least one of each type of fixture or appliance provided in the laundry room (e.g., soap dispensers, wash sinks, tables, storage areas).

**1127A.10.3 Controls and operating mechanisms.** Clothes washers and dryers including stacked clothes washers and dryers required to be accessible shall have controls and operating mechanisms (including doors, coin slots, lint screens, detergent and bleach compartments) within the reach range of a seated user. Controls and operating mechanisms shall be located no higher than 48 inches (1219 mm), and no lower than 15 inches (381 mm), above the finished floor measured to the center of the grip. If the reach is over an obstruction (for example, washer or dryer), operating mechanisms shall be located within the reach ranges specified in Section 1138A.3. Controls and

operating mechanisms that do not satisfy these specifications are acceptable, provided that comparable mechanisms, controls or outlets that perform the same functions are provided within the same area and are accessible.

Controls and operating mechanisms shall be operable with one hand and not require tight grasping, pinching or twisting of the wrist. The force required to activate controls and operating mechanisms shall be no greater than 5 pounds (22.2N).

**1127A.10.4 Washing machines and clothes dryers.** Washing machines and clothes dryers in accessible common use laundry rooms shall be front loading.

The bottom of the opening to the laundry compartment shall be located 15 inches (381 mm) minimum and 36 inches (914 mm) maximum above the finish floor.

**1127A.11 Storage.**

**1127A.11.1 General.** If fixed storage facilities such as cabinets, shelves, closets or drawers are provided where access is required by Sections 1.8.2.1.2 and 1102A, at least one of each type of facility provided shall comply with this section. Additional storage may be provided outside of the reach ranges specified in Section 1138A.3.

**1127A.11.2 Clear floor space.** A clear floor space at least 30 inches by 48 inches (762 mm by 1219 mm) complying with Section 1138A.1.4 that allows either a forward or parallel approach by a person using a wheelchair shall be provided at accessible storage facilities.

**1127A.11.3 Height.** Accessible storage spaces and clothes rods shall be within at least one of the reach ranges specified in Section 1138A.3. (See Figure 11A-1J and Figure 11A-1I.)

**1127A.11.4 Hardware.** Hardware for accessible storage facilities shall comply with Section 1138A.4. Touch latches and U-shaped pulls are acceptable.

**1127A.12 Fixed or built-in seating, tables and counters.**

**1127A.12.1 Minimum seating.** Where fixed or built-in seating, tables or counters are provided for residents or guests, 5 percent, but not less than one, shall be accessible as provided in this section.

**1127A.12.2 Clear floor space.** When seating spaces for persons in wheelchairs are provided at fixed tables or counters, clear floor space complying with Section 1138A.1.4 positioned for a forward approach shall be provided. Such clear floor space shall not overlap the required knee and toe space by more than 19 inches (483 mm). (See Figure 11A-1K.)

**1127A.12.3 Knee and toe space.** When seating for persons in wheelchairs is provided at fixed tables or counters, knee and toe space complying with Section 1138A.2 shall be provided. (See Figure 11A-1K.)

**1127A.12.4 Height of work surfaces.** The tops of tables and counters shall be 28 inches to 34 inches (711 mm to 864 mm) from the finish floor.

**Exception:** When food or drink is served for consumption at a counter exceeding 34 inches (864 mm) in height, only a portion of the main counter, 60 inches (1524 mm) minimum in length, shall be provided in compliance with this section.

**1127A.13 Electric vehicle charging stations. (Reserved)**

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**SECTION 1128A  
COVERED DWELLING UNITS**

**1128A.1 General.** Covered multifamily dwelling units shall be adaptable and accessible into and throughout the dwelling unit as provided in this division.

**Note:** See Sections 1101A “Application” and 1102A “Building Accessibility” for dwelling units required to comply with this division.

**SECTION 1129A  
Reserved**

**SECTION 1130A  
ACCESSIBLE ROUTE WITHIN COVERED  
MULTIFAMILY DWELLING UNITS**

**1130A.1 General.** An accessible route shall be provided through all rooms and spaces of the dwelling unit. The accessible route shall pass through the primary entry door, and shall connect with all additional exterior doors, required clear floor spaces at kitchen appliances and bathroom fixtures. For the purpose of this section, “accessible routes” may include hallways, corridors and ramps.

**Exception:** An accessible route is not required from the interior of the unit into a basement or garage, except as provided in Section 1105A.1.

**1130A.2 Width.** The accessible route into and throughout covered multifamily dwelling units shall be at least 36 inches (914 mm) wide.

**SECTION 1131A  
CHANGES IN LEVEL ON ACCESSIBLE ROUTES**

**1131A.1 Changes in level not exceeding  $\frac{1}{2}$  inch.** Abrupt changes in level along any accessible route shall not exceed  $\frac{1}{2}$  inch (12.7 mm). When changes in level do occur, they shall be beveled with a slope no greater than 1 unit vertical in 2 units horizontal (50-percent slope). Changes in level not exceeding  $\frac{1}{4}$  inch (6.35 mm) may be vertical.

**1131A.2 Changes greater than  $\frac{1}{2}$  inch.** Changes in level greater than  $\frac{1}{2}$  inch (12.7 mm) shall be made by means of a sloped surface not greater than 1 unit vertical in 20 units horizontal (5-percent slope), or a ramp, elevator or platform

(wheelchair) lift. See Section 1122A for ramps and Section 1124A.11 for platform (wheelchair) lifts.

**SECTION 1132A  
DOORS**

**1132A.1 Primary entry doors and required exit doors.** The width and height of primary entry doors and all required exit doors shall comply with Section 1126A.1. The requirements of Sections 1126A.3 shall apply to maneuvering clearances at the side of the door exposed to common or public use spaces (e.g., entry or exit doors which open from the covered multifamily dwelling unit into a corridor, hallway or lobby, or directly to the outside).

**1132A.2 Interior doors and secondary exterior doors.** Except as allowed by Section 1109A.2, interior doors intended for user passage and secondary exterior doors shall comply with this section. The provisions of this section shall apply to the dwelling unit side of doors leading from the interior of the dwelling unit to an unfinished basement or an attached garage.

**1132A.3 Width and height of interior doors and secondary exterior doors.** Doors shall comply with the following:

1. Doors shall not be less than 6 feet 8 inches (2032 mm) in height.
2. Swinging doors shall provide a net clear opening width of not less than 32 inches (813 mm), measured with the door or doors positioned at an angle of 90 degrees from the closed position.
3. Swinging doors shall be capable of opening at least 90 degrees.
4. A nominal 32-inch (813 mm) clear opening provided by a standard 6-foot wide (1829 mm) sliding patio door assembly is acceptable.
5. A pair of doors, manual or automatic, must have at least one leaf which provides a clear width of not less than 32 inches (813 mm), measured with the door positioned at an angle of 90 degrees from its closed position.
6. The width of any component in the means of egress system shall not be less than the minimum width required by Section 1005.

**1132A.4 Level floor or landing.** See also Chapter 10. The floor or landing on each side of a door shall be level. Primary entry doors, required exit doors or secondary exterior doors with changes in height between the interior surface or floor level and the exterior surface or floor level shall comply with the following:

1. Exterior landings of impervious construction (e.g., concrete, brick, flagstone) serving primary entry doors and required exit doors are limited to not more than  $\frac{1}{2}$  inch (12.7 mm) of change in height between floor surfaces. Changes in level shall comply with Section 1131A.
2. Exterior landings of pervious construction (e.g., wood decking with spaces) shall be the same level as the interior landing, except that secondary exterior doors may have no more than  $\frac{1}{2}$  inch (12.7 mm) of change in height between floor surfaces. Changes in level shall comply with Section 1131A.

3. Secondary exterior doors onto decks, patios or balcony surfaces constructed of impervious materials (e.g., concrete, brick, flagstone) may have a maximum change in height from the interior landing of 4 inches (101.6 mm). Changes in height greater than  $\frac{1}{2}$  inch (12.7 mm) shall be accomplished by means of a ramp complying with Section 1114A or by means of a platform constructed to the level of the floor as illustrated in Figure 11A-8J.
4. Secondary exterior doors onto decks, patios or balcony surfaces constructed of impervious materials (e.g., concrete, brick, flagstone) may have a maximum change in height from the interior landing of 1 inch (25.4 mm), provided a ramp with a maximum slope of 1:8 is permanently installed. (See Figure 11A-8K.)
5. In buildings containing covered multifamily dwelling units, the floor or landing immediately outside the entry may be sloped up to  $\frac{1}{4}$  inch (6.35 mm) per foot (12 inches) (305 mm), in a direction away from the primary entrance of the dwelling unit for drainage.

**1132A.4.1 Thresholds.** Thresholds at the primary entry and required exit doors shall be no higher than  $\frac{1}{2}$  inch (12.7 mm). Thresholds at secondary exterior doors, including sliding door tracks, shall be no higher than  $\frac{3}{4}$  inch (19.05 mm). Changes in height at interior door thresholds (e.g., floor material changes at door thresholds) shall not exceed  $\frac{1}{2}$  inch (12.7 mm). Thresholds shall comply with the following:

1. Thresholds with a change in height of not more than  $\frac{1}{4}$  inch (6.35 mm) may be vertical.
2. Thresholds with a change in height between  $\frac{1}{4}$  inch (6.35 mm) and  $\frac{3}{4}$  inch (19.05 mm) shall be beveled with a slope no greater than 1 unit vertical in 2 units horizontal (50-percent slope).

#### 1132A.5 Maneuvering clearances at doors.

**1132A.5.1 General.** The floor or landing on the dwelling unit side of the primary entry door and any required exit door shall have a minimum length of not less than 44 inches (1118 mm). Section 1126A.3 shall apply to maneuvering clearances at the side of the door exposed to common or public use spaces.

Maneuvering clearances at interior doors shall provide a minimum length on both sides of the door of at least 42 inches (1067 mm) measured at a right angle to the plane of the door in its closed position.

**Exception:** A 39-inch (991 mm) length is acceptable at interior doors when a minimum clear opening width of 34 inches (864 mm) is provided.

**1132A.5.2 Strike edge maneuvering space at doors.** The width of the level area on the side to which the door swings shall extend 18 inches (457 mm) past the strike edge for all doors. The width of the level area at the exterior side of the primary entry door and any required exit doors shall comply with Section 1126A.

#### Notes:

1. See Section 1134A for bathrooms that are required to be accessible.
2. Twenty-four inches (610 mm) is preferred for strike edge clearance.

**1132A.6 Closer-effort to operate doors.** Maximum effort to operate doors shall not exceed  $8\frac{1}{2}$  pounds (38 N) for exterior doors and 5 pounds (22 N) for interior doors, such pull or push effort being applied at right angles to hinged doors and at the center plane of sliding or folding doors. Compensating devices or automatic door operators may be utilized to meet these standards. When fire doors are required, the maximum effort to operate the door may be increased to the minimum allowable by the appropriate enforcement agency, not to exceed 15 pounds (66.7 N).

**1132A.7 Type of lock or latch.** The type of latch and lock required for all doors shall be in accordance with Section 1132A.8 and Chapter 10, Section 1008.

**1132A.8 Hand-activated door hardware.** Hand-activated door latching, locking and opening hardware shall be centered between 30 inches (762 mm) and 44 inches (1118 mm) above the floor. Latching and locking doors that are hand-activated and on an accessible route shall be operable with a single effort by lever-type hardware, panic bars, push-pull activating bars or other hardware designed to provide passage without requiring the ability to grasp the opening hardware. Locked exit doors shall operate consistent with Section 1132A.6, in the direction of egress.

**1132A.8.1 Lever-type hardware.** The lever or lever of actuated latches or locks shall be curved with a return to within  $\frac{1}{2}$  inch (12.7 mm) of the door to prevent catching on the clothing of persons during egress in Group R and U occupancies with an occupant load greater than 10.

**1132A.9 Smooth surface.** Swinging door or gate surfaces within 10 inches (254 mm) of the finish floor or ground measured vertically shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in these surfaces shall be within  $\frac{1}{16}$  inch (1.6 mm) of the same plane as the other and be free of sharp or abrasive edges. Cavities created by added kick plates shall be capped.

#### Exceptions:

1. Automatic doors.
2. Tempered glass doors without stiles and having a bottom rail or shoe with the top leading edge tapered at 60 degrees minimum from the horizontal.
3. Doors or gates that do not extend to within 10 inches (254 mm) of the finish floor.

**1132A.10 Door signal devices.** Every primary entrance to a covered multifamily dwelling unit shall be provided with a door buzzer, bell, chime or equivalent. The activating mechanism shall be mounted a maximum of 48 inches (1219 mm) above the floor and connected to permanent wiring.

## SECTION 1133A KITCHENS

**1133A.1 General.** Kitchens shall be on an accessible route and shall comply with this section. (See Figure 11A-10A.)

**1133A.2 Clear floor space.** Clear floor space at kitchens shall comply with the following:

1. A clear floor space at least 30 inches (762 mm) by 48 inches (1219 mm) that allows a parallel approach by a

person in a wheelchair shall be provided at the range or cooktop.

2. A clear floor space at least 30 inches (762 mm) by 48 inches (1219 mm) that allows either a parallel or forward approach shall be provided at the kitchen sink and all other fixtures or appliances including the oven, dishwasher, refrigerator/freezer and trash compactor.
3. A clear floor space at least 30 inches (762 mm) by 48 inches (1219 mm) that allows either a parallel or a forward approach shall be provided at the work surface required by Section 1133A.4.
4. The centerline of the 30-inch (762 mm) by 48-inch (1219 mm) clear floor space provided for parallel or forward approach shall be aligned with the centerline of the work space, appliance or fixture.

**1133A.2.1 Clear width.** Kitchens shall have a minimum clear width measured between any cabinet, countertop or the face of any appliance (excluding handles and controls) that projects into the kitchen and the opposing cabinet, countertop, appliance or wall as follows:

1. U-shaped kitchens, designed with parallel approach at a range or cooktop located at the base of the U, shall have a minimum clear width of at least 60 inches (1524 mm). (See Figure 11A-10A.)
2. U-shaped kitchens, designed with a cooktop or sink located at the base of the U, which provides a knee and toe space in accordance with Section 1133A.7 to allow for a forward approach, shall have a clear width of at least 48 inches (1219 mm). (See Figure 11A-10A.)
3. All other kitchen designs shall provide a minimum clear width of at least 48 inches (1219 mm). (See Figure 11A-10A.)

**1133A.3 Removable base cabinets.** Sinks and work surfaces required by Section 1133A.4 (see Item 1 and Item 2) shall be provided with knee and toe space complying with Section 1133A.7. Base cabinets (including toeboard and shelving) directly under kitchen sinks and work surfaces shall be removable without the use of specialized tools or specialized knowledge in order to provide knee and toe space. The finish floor beneath kitchen sinks and work surfaces shall be extended to the wall.

**1133A.4 Countertops.** Kitchen countertops shall comply with this section and shall be provided with the following:

1. A minimum linear length of 30 inches (762 mm) of countertop shall be provided for the kitchen sink installation.
2. A minimum linear length of 30 inches (762 mm) of countertop shall be provided for a work surface.
3. Sinks and work surfaces may be a single integral unit a minimum of 60 inches (1524 mm) in length, or be separate components.

**Exception:** Two 15-inch (381 mm) wide minimum breadboards may be provided in lieu of the required 30 inches (762 mm) of countertop work surface.

**1133A.4.1 Repositionable countertops.** Repositionable countertops shall be provided in a minimum of 5 percent of the covered multifamily dwelling units. Repositionable countertops shall comply with the following:

1. Sinks and work surfaces required by Section 1133A.4 shall be designed to enable repositioning to a minimum height of 28 inches (711 mm).
2. Base cabinets directly under sinks and work surfaces shall be removable as required in Section 1133A.3.
3. The sides of adjacent cabinets and the back wall, which may become exposed to moisture or food handling when a countertop is lowered, shall be constructed of durable, nonabsorbent materials appropriate for such uses.
4. Finished flooring shall be extended to the wall beneath the sink and work surface.

**Exceptions:**

1. Stone, cultured stone and tiled countertops may be used without meeting the repositioning requirements.
2. Two 15-inch (381 mm) wide minimum breadboards may be provided in lieu of the required 30 inches (762 mm) of countertop work surface, and used without meeting the repositioning requirements.

**1133A.5 Lower shelving.** Lower shelving and/or drawer space shall be provided in the kitchen at a height of no more than 48 inches (1219 mm) above the floor.

**1133A.6 Kitchen sink faucet controls.** Faucet controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist.

The force required to activate controls shall be no greater than 5 pounds (22.2N). Lever-operated, push-type and electronically controlled mechanisms are examples of acceptable designs. Self-closing valves are allowed if the faucet remains open for at least 10 seconds.

**1133A.7 Knee and toe space.** Knee and toe space, when required by Section 1133A, shall comply with Section 1138A.2 and the following:

1. The knee and toe space shall be clear and unobstructed, or removable base cabinets in compliance with Section 1133A.3 shall be provided.
2. The knee and toe space shall be 30 inches (762 mm) wide minimum, centered on the sink, countertop or appliance.
3. A clear floor space shall not extend into the knee and toe space more than 19 inches (483 mm).

**1133A.7.1 Plumbing protection.** Water supply and drain pipes under kitchen sinks shall be insulated or otherwise covered to protect against contact. There shall be no sharp or abrasive surfaces under kitchen sinks.

## SECTION 1134A BATHING AND TOILET FACILITIES

**1134A.1 General.** All bathrooms, bathing and toilet facilities within covered multifamily dwelling units shall comply with this section.

**1134A.2 Number of complying bathrooms.** Bathrooms shall be designed to comply with one of the following options:

**Option 1.** All bathrooms within the dwelling unit shall be designed to comply with the following:

1. Toilet, bathing and shower facilities shall comply with Section 1134A.4.
2. Bathtubs shall comply with Section 1134A.5.
3. Showers shall comply with Section 1134A.6.
4. Water closets shall comply with Section 1134A.7.
5. Lavatories, vanities, mirrors and towel fixtures shall comply with Section 1134A.8.
6. Bathrooms shall be provided with an accessible route into and through the bathroom.
7. If a door is provided, it shall comply with the requirements of Section 1132A.5.
8. A minimum 18-inch (457 mm) clear maneuvering space shall be provided on the swing side of the door at the strike edge of the door.
9. Switches, outlets and controls shall comply with Section 1142A.
10. Reinforced walls to allow for the future installation of grab bars around the toilet, tub and shower shall comply with Sections 1134A.5 for bathtubs, 1134A.6 for showers and 1134A.7 for water closets. Grab bars shall comply with Sections 1127A.4- and 1127A.2.2, Item 4.

**Option 2.** Only one bathroom within the dwelling unit shall be designed to comply with the following:

1. Toilet, bathing and shower facilities shall comply with Section 1134A.4.
2. Bathtubs shall comply with Section 1134A.5.
3. Showers shall comply with Section 1134A.6.
4. Water closets shall comply with Section 1134A.7.
5. Lavatories, vanities, mirrors and towel fixtures shall comply with Section 1134A.8.
6. Where both a tub and shower are provided in the bathroom, at least one shall be made accessible. Additional requirements apply to dwelling units containing two or more bathrooms when a bathtub is provided as the accessible bathing fixture.

Where two or more bathrooms are provided within the same dwelling unit and a bathtub is installed to comply with Option 2, Item 6 in one bathroom and a shower stall is provided in a subsequent bathroom, both the bathtub selected to comply with Option 2, Item 6 and at least one shower stall within the dwelling unit shall meet all the applicable accessibility requirements provided

in Section 1134A. (See Section 1134A.5 for bathtubs, or Section 1134A.6 for showers.)

7. When two or more lavatories are provided, at least one shall be made accessible and comply with Section 1134A.8.
8. Bathrooms shall be provided with an accessible route into and through the bathroom.
9. If a door is provided, it shall comply with the requirements of Section 1132A.5.
10. A minimum 18-inch (457 mm) clear maneuvering space shall be provided on the swing side of the door at the strike edge of the door.
11. Switches, outlets and controls shall comply with Section 1142A.
12. Reinforced walls to allow for the future installation of grab bars around the toilet, tub and shower shall comply with Sections 1134A.5 for bathtubs, 1134A.6 for showers and 1134A.7 for water closets. Grab bars shall comply with Sections 1127A.4 and 1127A.2.2, Item 4.

When Option 2 is used, all additional bathrooms must comply with Items 8 through 12 above.

**1134A.3 Powder rooms.** All powder rooms shall be designed to comply with Section 1134A.2, Option 2, Items 8 through 12. When the powder room is the only toilet facility located on an accessible level, it shall comply with the Option 2 items listed above, plus all additional requirements located in Sections 1134A.4, 1134A.7 and 1134A.8.

**1134A.4 Sufficient maneuvering space.** Bathing and toilet facilities required to be adaptable shall provide sufficient maneuvering space for a person using a wheelchair or other mobility aid to enter and close the door, use the fixtures, reopen the door and exit.

Where the door swings into the bathroom or powder room, there shall be a clear maneuvering space outside the swing of the door of at least 30 inches by 48 inches (762 mm by 1219 mm) within the room. The clear maneuvering space shall allow the user to position a wheelchair or other mobility aid clear of the path of the door as it is closed and to permit use of fixtures.

Doors may swing into the required clear space at any fixture when a clear maneuvering space is provided outside the swing arc of the door so it can be closed.

Maneuvering spaces may include any knee space or toe space available below bathroom fixtures.

**1134A.5 Bathtubs.** Bathtubs required to be accessible shall comply with this section.

1. **Floor space.** There shall be a minimum clear floor space 48 inches parallel by 30 inches perpendicular (1219 mm by 762 mm) to the side of a bathtub or bathtub-shower combination to provide for the maneuvering of a wheelchair and transfer to and from the bathing facilities. The controls shall be on the wall at the foot of the bathtub. The edge of the clear floor space shall be flush with the control wall surface. The

area under a lavatory, located at the control end of the tub, may be included in the clear floor space provided the lavatory is 19 inches (483 mm) maximum deep, and the knee and toe space comply with Section 1134A.8. Cabinets under lavatories and toilets shall not encroach into the clear floor space.

2. **Reinforced walls for grab bars.** A bathtub installed without surrounding walls shall provide reinforced areas for the installation of floor-mounted grab bars.

Where a bathtub is installed with surrounding walls, grab bar reinforcement shall be located on each end of the bathtub, 32 inches to 38 inches (813 mm to 965 mm) above the floor, extending a minimum of 24 inches (610 mm) from the front edge of the bathtub toward the back wall of the bathtub. The grab bar reinforcement shall be a minimum of 6 inches (152.4 mm) nominal in height. (See Figure 11A-9G.)

Grab bar reinforcement shall be installed on the back wall of the bathtub a maximum of 6 inches (152.4 mm) above the bathtub rim extending upward to at least 38 inches (965 mm) above the floor. Grab bar backing shall be installed horizontally to permit the installation of a 48-inch (1219 mm) grab bar with each end a maximum of 6 inches (152.4 mm) from the end walls of the bathtub. The grab bar reinforcement shall be a minimum of 6 inches (152.4 mm) nominal in height.

3. **Bathtub controls.** Faucet controls and operation mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist.

The force required to activate controls shall be no greater than 5 pounds (22.2 N). Lever operated, push type and electronically controlled mechanisms are examples of acceptable designs.

4. **Shower unit.** A shower spray unit is not required in bathtubs.
5. **Bathtub enclosures.** Doors and panels of bathtub enclosures shall be substantially constructed from approved, shatter-resistant materials. Hinged doors shall open outward. Glazing used in doors and panels of bathtub enclosures shall be fully tempered, laminated safety glass or approved plastic. When glass is used, it shall have minimum thickness of not less than 1/8 inch (3.17 mm) when fully tempered, or 1/4 inch (6.35 mm) when laminated, and shall pass the test requirements of this part, Chapter 24, Glass and Glazing. Plastics used in doors and panels of bathtub enclosures shall be of a shatter-resistant type.

**1134A.6 Showers.** Showers required to be accessible shall comply with this section.

1. **Size.** When one or more shower stalls are provided within the same dwelling units, at least one shower stall comply with one of the following requirements.

1.1. The shower stall shall measure at least 42 inches wide by 48 inches deep (1067 mm by 1219 mm) with an entrance opening of at least 36 inches (914 mm); or

1.2. The shower stall shall measure at least 30 inches deep by 60 inches wide (762 mm by 1524 mm) with an entrance opening of at least 60 inches (1524 mm). A water closet may project a maximum of 12 inches (305 mm) into the opening, provided that a minimum of 36 inches (914 mm) clear space is maintained between the water closet and the shower wall as illustrated in Figure 11A-9L or;

1.3. Other shower stall configurations shall measure at least 36 inches deep by 60 inches wide (914 mm by 1524 mm) with an entrance opening of at least 36 inches (914 mm) when a wall is installed on the opening side.

2. **Slope.** The maximum slope of the shower floor shall be 1/2 inch (12.7 mm) per foot in any direction and shall slope to a drain. The floor surfaces shall be of Carborundum or grit-faced tile or of material providing equivalent slip resistance.
3. **Floor space.** A clear maneuvering space at least 30 inches in width by 48 inches in length (762 mm by 1219 mm) shall be located outside the shower, flush and parallel to the control wall.
4. **Reinforced walls for grab bars.** Grab bar reinforcement shall be installed continuous in the walls of showers 32 inches to 38 inches (813 mm to 965 mm) above the floor. The grab bar reinforcement shall be a minimum of 6 inches (152.4 mm) nominal in height.

Glass-walled shower stalls shall provide reinforcement for installation of floor-mounted or ceiling-mounted grab bars.

5. **Thresholds.** When a threshold is used, it shall be a maximum of 2 inches (50.8 mm) in height and have a beveled or sloped angle not exceeding 1 unit vertical in 2 units horizontal (26.6 degrees from the horizontal). Thresholds 1/2 inch (12.7 mm) or less in height may have a beveled or sloped angle not exceeding 1 unit vertical in 1 unit horizontal (45 degrees from the horizontal).
6. **Shower controls.** Faucet controls and operation mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist. The force required to activate controls shall be no greater than 5 pounds (22.2N). Lever operated, push-type and electronically controlled mechanisms are examples of acceptable designs.
7. **Shower enclosures.** Doors and panels of shower enclosures shall be substantially constructed from approved, shatter-resistant materials. Hinged shower doors shall

open outward. Glazing used in doors and panels of shower enclosures shall be fully tempered, laminated safety glass or approved plastic. When glass is used, it shall have minimum thickness of not less than  $\frac{1}{8}$  inch (3.17 mm) when fully tempered, or  $\frac{1}{4}$  inch (6.35 mm) when laminated, and shall pass the test requirements of this part, Chapter 24, Glass and Glazing. Plastics used in doors and panels of shower enclosures shall be of a shatter-resistant type.

**1134A.7 Water closets.** Water closets in bathrooms or powder rooms required to be accessible shall comply with this section.

- 1. Floor space and location.** The minimum floor space provided at a water closet shall be 48 inches (1219 mm) in clear width. The clear floor space shall extend past the front edge of the water closet at least 36 inches (914 mm). See Figure 11A-9M.

**Exception:** The 48-inch (1219 mm) minimum clear width may be reduced to 36 inches (914 mm) for lavatories, cabinets, wing walls or privacy walls located immediately adjacent to a water closet which extend no more than 24 inches (610 mm) in depth.

Water closets shall be located within bathrooms in a manner that permits a grab bar to be installed on at least one side of the fixture. The centerline of the water closet shall be 17 inches (432 mm) minimum to 18 inches (457 mm) maximum from a grab bar wall or partition. In locations where water closets are adjacent to non-grab bar walls, vanities, lavatories or bathtubs, the centerline of the fixture shall be a minimum of 18 inches (457 mm) from the obstacle.

- 2. Reinforced walls for grab bars.** Where the water closet is not placed adjacent to a side wall capable of accommodating a grab bar, the bathroom shall have provisions for installation of floor-mounted, foldaway or similar alternative grab bars.

Where the water closet is placed adjacent to a side wall, reinforcement shall be installed on both sides or one side and the back. If reinforcement is installed at the back, it shall be installed between 32 inches (813 mm) and 38 inches (965 mm) above the floor. The grab bar reinforcement shall be a minimum of 6 inches (152.4 mm) nominal in height. The backing shall be a minimum of 40 inches (1016 mm) in length.

Reinforcement installed at the side of the water closet shall be installed 32 inches to 38 inches (813 mm to 965 mm) above the floor. The reinforcement shall be installed a maximum of 12 inches (305 mm) from the rear wall and shall extend a minimum of 26 inches (660 mm) in front of the water closet. The grab bar reinforcement shall be a minimum of 6 inches (152.4 mm) nominal in height.

- 3. Seat height.** The minimum height of water closet seats shall be 15 inches (381 mm) above the floor.

- 4. Water closet controls.** Water closet controls shall be mounted no more than 44 inches (1118 mm) above the floor. The force required to activate controls shall be no greater than 5 pounds (22.2 N).

**1134A.8 Lavatories, vanities, mirrors and towel fixtures.** Bathrooms or powder rooms required to be accessible shall have at least one accessible lavatory. Where mirrors and towel fixtures are provided, at least one of each shall be accessible.

- 1. Location.** Vanities and lavatories shall be installed with the centerline of the fixture a minimum of 18 inches (457 mm) horizontally from an adjoining wall or fixture to allow for forward approach. When parallel approach is provided, lavatories shall be installed with the centerline of the fixture a minimum of 24 inches (610 mm) horizontally from an adjoining wall or fixture. The top of the fixture rim shall be a maximum of 34 inches (864 mm) above the finished floor.
- 2. Floor space.** A clear maneuvering space at least 30 inches by 48 inches (762 mm by 1219 mm) shall be provided at lavatories and shall be centered on the lavatory.
- 3. Cabinets.** Cabinets under lavatories are acceptable provided the bathroom has space to allow a parallel approach by a person in a wheelchair and the lavatory cabinets are designed with adaptable knee and toe space.
- 4. Knee and toe space.** Knee and toe space shall be provided by one of the following:

4.1. The space beneath the lavatory shall be left clear and unobstructed;

4.2. Any cabinet beneath the lavatory shall be removable without the use of specialized knowledge or specialized tools; or

4.3. Doors to the cabinet beneath the lavatory shall be removable or openable to provide the required unobstructed knee and toe space.

The knee and toe space shall be centered on the fixture, and shall comply with Section 1138A.2. The clear floor space required by Item 2 shall not extend into the knee and toe space more than 19 inches (483 mm). (See Figure 11A-9D.)

- 5. Finished floor.** The finished floor beneath the lavatory shall be extended to the wall.
- 6. Plumbing protection.** Water supply and drain pipes under lavatories shall be insulated or otherwise covered to protect against contact. There shall be no sharp or abrasive surfaces under lavatories.
- 7. Lavatory faucet controls.** Faucet controls and operation mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist.

The force required to activate controls shall be no greater than 5 pounds (22.2 N). Lever operated, push-type and electronically controlled mechanisms are examples of acceptable designs. Self-closing valves are allowed if the faucet remains open for at least 10 seconds.

8. Mirrors and towel fixtures. Where mirrors or towel fixtures are provided they shall be mounted with the bottom edge no higher than 40 inches (1016 mm) from the floor.

### SECTION 1135A LAUNDRY ROOMS

**1135A.1 General.** If clothes washing machines and clothes dryers are provided in covered multifamily dwelling units, one of each type of appliance shall be provided. Where front-loading clothes washers are not provided, management shall provide assistive devices, on request of the occupant, to permit the use of top-loading clothes washers.

### SECTION 1136A ELECTRICAL RECEPTACLE, SWITCH AND CONTROL HEIGHTS

**1136A.1 Receptacle heights.** Electrical receptacle outlets on branch circuits of 30 amperes or less and communication system receptacles shall be located no more than 48 inches (1219 mm) measured from the top of the receptacle outlet box nor less than 15 inches (381 mm) measured from the bottom of the receptacle outlet box to the level of the finished floor or working platform. If the reach is over a physical barrier or an obstruction (for example, a kitchen base cabinet), receptacles shall be located within the reach ranges specified in Section 1138A.3. Physical barriers and obstructions shall not extend more than 25 inches (635 mm) from the wall beneath the receptacle.

Receptacle outlets that do not satisfy these specifications are acceptable provided that comparable receptacle outlets,

that perform the same functions, are provided within the same area and are accessible.

#### Exceptions:

1. Receptacle outlets installed as part of permanently installed baseboard heaters are exempt.
2. Required receptacle outlets shall be permitted in floors when adjacent to sliding panels or walls.
3. Baseboard electrical outlets used in relocatable partitions, window walls or other electrical convenience floor outlets are not subject to the minimum height requirements.
4. This section shall not apply to existing buildings when the enforcing agency determines that compliance with these standards would create an unreasonable hardship.

**1136A.2 Switch and control heights.** Controls or switches intended to be used by the occupant of the room or area to control lighting and receptacle outlets, appliances, alarms or cooling, heating and ventilating equipment shall be located no more than 48 inches (1219 mm) measured from the top of the outlet box nor less than 15 inches (381 mm) measured from the bottom of the outlet box to the level of the finished floor or working platform. If the reach is over a physical barrier or an obstruction (for example, a kitchen base cabinet) switches and controls shall be located within the reach ranges specified in Section 1138A.3. Physical barriers or obstructions shall not extend more than 25 inches (635 mm) from the wall beneath a control.

Switches and controls that do not satisfy these specifications are acceptable provided that comparable controls or outlets, that perform the same functions, are provided within the same area and are accessible.

**Exception:** Appliances (e.g., kitchen stoves, dishwashers, range hoods, microwave ovens and similar appliances) which have controls located on the appliance.

above the finish floor. (See Figures 11A-1J(a) and 11A-1J(b).)

**Exceptions:**

1. An obstruction shall be permitted between the clear floor space and the element when the depth of the obstruction is 10 inches (254 mm) maximum.
  2. Bookshelves shall be permitted to be 54 inches (1372 mm) maximum above the finish floor. Bookshelves may be greater than 54 inches (1372 mm) above the finish floor when an attendant is available to assist persons with disabilities.
2. **Obstructed high reach.** When a clear floor space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (864 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum.

The high side reach shall be 48 inches (1219 mm) maximum for a reach depth of 10 inches (254 mm) maximum. When the reach depth exceeds 10 inches (254 mm), but no more than 24 inches (610 mm), the high side reach shall be 46 inches (1168 mm) maximum. (See Figure 11A-1J(c).)

**Exception:** Kitchen countertops in dwelling units, and the top of washing machines and clothes dryers shall be permitted to be 36 inches (914 mm) maximum above the finish floor.

**1138A.4 Controls and operating mechanisms.**

**Note:** See also Section 1142A for receptacle, switch and control installation.

**1138A.4.1 General.** Controls and operating mechanisms in accessible spaces, along accessible routes or as part of accessible elements shall comply with this section.

**1138A.4.2 Clear floor space.** Clear floor space complying with Section 1138A.1.4 that allows a forward or parallel approach by a person using a wheelchair shall be provided at all controls and operating mechanisms.

**1138A.4.3 Height.** Controls and operating mechanisms shall be located no higher than 48 inches (1219 mm), and no lower than 15 inches (381 mm), above the finished floor measured to the center of the grip. If the reach is over an obstruction (for example, washer or dryer), controls and operating mechanisms shall be located within the reach ranges specified in Section 1138A.3. Controls and operating mechanisms that do not satisfy these specifications are acceptable, provided that comparable mechanisms, controls or outlets, that perform the same functions, are provided within the same area and are accessible.

**1138A.4.4 Operation.** Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist. The force required to activate controls and operating mechanisms shall be no greater than 5 pounds (22.2 N).

**SECTION 1139A  
ACCESSIBLE DRINKING FOUNTAINS**

**1139A.1 General.** Drinking fountains and water coolers in common use areas and/or sites shall comply with this section. A side approach drinking fountain is not acceptable. (See Figure 11A-11A.)

**1139A.2 Accessible route.** Drinking fountains and water coolers shall be on an accessible route.

**1139A.3 Depth.** Drinking fountains shall be a minimum of 18 inches (457 mm) and a maximum of 19 inches (483 mm) in depth.

**1139A.4 Clear floor space.** Drinking fountains shall be provided with 30 inches by 48 inches (762 mm by 1219 mm) clear floor space, centered on the unit. The clear floor space shall be positioned for a forward approach.

**1139A.4.1 Knee and toe space.** Drinking fountains shall be provided with a clear and unobstructed knee and toe space. Knee and toe space shall comply with Section 1138A.2.

**1139A.5 Spout location.** The spout shall be located 15 inches (381 mm) minimum from the vertical support and 5 inches (127 mm) maximum from the front edge of the drinking fountain, including bumpers. Spout outlets shall be 36 inches (914 mm) maximum above the finish floor.

**1139A.6 Water flow.** The spout shall provide a flow of water at least 4 inches (101.6 mm) high to allow the insertion of a cup or glass under the flow of water. The angle of the water stream shall be measured horizontally relative to the front face of the unit. When spouts are located less than 3 inches (76 mm) from the front of the unit, the angle of the water stream shall be 30 degrees maximum. When spouts are located between 3 inches (76 mm) and 5 inches (127 mm) maximum from the front of the unit, the angle of the water stream shall be 15 degrees maximum.

**1139A.7 Controls and operating mechanisms.** The flow of water shall be activated by manually or electronically operated controls. The manually operated controls shall be front mounted or side mounted, located within 6 inches (152 mm) of the front edge of the fountain. The force required to activate controls shall be no greater than 5 pounds (22.2 N).

**1139A.8 Location.** Drinking fountains shall be located completely within alcoves, between wing walls or otherwise positioned so as not to encroach into pedestrian ways. The alcove or otherwise protected area in which the drinking fountain is located shall not be less than 32 inches (813 mm) in width and 18 inches (457 mm) in depth. When the depth of the protected area where the drinking fountain is located exceeds 24 inches (610 mm), additional maneuvering clearance shall be provided in accordance with Section 1138A.1.4.2 and Figure 11A-1H.

When provided, wing walls shall project out from the supporting wall at least as far as the drinking fountain to within 6 inches (152.4 mm) vertically from the finish floor.

Protruding objects located in alcoves or otherwise positioned so as to limit encroachment into pedestrian ways are permitted to project 4 inches (101.6 mm) into walks, halls, corridors, passageways or aisles. (See Figure 11A-11A.)

## SECTION 1140A ACCESSIBLE TELEPHONES

**1140A.1 General.** When public telephones are provided, they shall comply with this section. On floors where public telephones are provided, at least one telephone shall be accessible. On any floor where two or more banks of multiple telephones are provided, at least one telephone in each bank shall be accessible.

**1140A.2 Clear floor or ground space.** A clear floor or ground space at least 30 inches by 48 inches (762 mm by 1219 mm) that allows either a forward or parallel approach by a person using a wheelchair shall be provided at telephones. The clear floor or ground space shall comply with Section 1138A.1.4. Bases, enclosures and fixed seats shall not impede approaches to telephones by people who use wheelchairs. (See Figure 11A-11B.)

Clear floor or ground space for wheelchairs may be part of the knee space required under some objects.

**1140A.3 Relationship of maneuvering clearances to wheelchair spaces.** One full unobstructed side of the clear floor or ground space for a wheelchair shall adjoin another wheelchair clear floor space. If a clear floor space is located in an alcove or otherwise confined on all or part of three sides, additional maneuvering clearances shall be provided. (See Section 1138A.1.4.)

**1140A.4 Mounting height.** The highest operable part of the telephone shall be within the reach ranges specified in Section 1138A.3 (See Figure 11A-11B.)

**1140A.5 Enclosures.** If telephone enclosures are provided, they shall comply with Sections 1140A.5.1 and 1140A.5.2. (See Figure 11A-11B.)

**1140A.5.1 Parallel approach.** Where a parallel approach is provided, the distance from the edge of the telephone enclosure to the face of the telephone unit shall be 10 inches (254 mm) maximum.

**1140A.5.2 Forward approach.** Where a forward approach is provided, the counter may extend beyond the face of the telephone 20 inches (508 mm) maximum into the required clear floor or ground space and the enclosure may extend beyond the face of the telephone 24 inches (610 mm) maximum. If an additional 6 inches (152 mm) in width of clear floor space is provided, creating a clear floor space of 36 inches by 48 inches (914 mm by 1219 mm), the enclosure may extend more than 24 inches (610 mm) beyond the face of the telephone.

**1140A.6 Equipment for hearing impaired people.** Telephones shall be equipped with a receiver that generates a magnetic field in the area of the receiver cap. A reasonable number of the public telephones provided, but always at least one on each floor or in each bank, whichever is more, in a building or facility, shall be equipped with a volume control. Such telephones shall be capable of providing a gain adjustable up to 20 dB minimum. For incremental volume control, at least one intermediate step of 12 dB of gain minimum shall be provided. An automatic reset shall also be provided. Public telephones with volume control shall be hearing aid compatible and shall be identified by a sign containing a depiction of a telephone handset with radiating sound waves. (See Figure 11A-11D.)

**1140A.7 Text telephones (TTY).** If a total of four or more public pay telephones are provided at the interior and exterior of a site, and if at least one of the total number provided is located in an interior location, at least one interior public text telephone shall be provided. TTYS provided at a public pay telephone shall be permanently affixed within, or adjacent to, the telephone enclosure. Where an acoustic coupler is used, the telephone cord shall be sufficiently long to allow connection of the TTY and the telephone receiver.

**1140A.7.1 Signage.** Text telephones shall be identified by the International TTY symbol (see Figure 11A-11C). If a facility has a public text telephone, directional signage indicating the location of the nearest such telephone shall be placed adjacent to all banks of telephones that do not contain a text telephone. Such directional signage shall include the International TTY symbol. If a facility has no banks of telephones, the directional signage shall be provided at the entrance or in a building directory.

**1140A.7.2 Height.** When in use, the touch surface of TTY keypads shall be 34 inches (864 mm) minimum above the finish floor.

**1140A.8 Controls.** Telephones shall have push-button controls where service for such equipment is available. Controls and operating mechanisms shall comply with Section 1138A.4.

**1140A.9 Cord length.** The cord from the telephone to the handset shall be at least 29 inches (737 mm) long.

**1140A.10 Telephone books.** If telephone books are provided, they shall be located in a position that complies with the reach ranges in Section 1138A.3.

**1140A.11 Shelf.** Public pay telephones required to accommodate a portable TTY shall be equipped with a shelf and an electrical outlet within or adjacent to the telephone enclosure. The telephone handset shall be capable of being placed flush on the surface of the shelf. The shelf shall be capable of accommodating a TTY and shall have 6 inches (152 mm) minimum vertical clearance above the area where the TTY is to be placed.

## SECTION 1141A ACCESSIBLE SWIMMING POOLS

**1141A.1 General.** Swimming pools in common use areas shall comply with the provisions of this section and Chapter 31B.

**1141A.2 Swimming pool deck areas.** Swimming pool deck areas must be accessible, and a mechanism to assist persons with disabilities gain entry into the pool and exit from the pool shall be provided. Such a mechanism may consist of a swimming pool lift device as long as the device meets all of the following criteria:

1. Has a seat that meets all of the following:
  - 1.1. The seat must be rigid;
  - 1.2. The seat must be not less than 17 inches (432 mm) and not more than 19 inches (483 mm), inclusive of any cushioned surface that might be provided, above the pool deck;
  - 1.3. The seat must have two armrests. The armrest on the side of the seat by which access is gained shall be either removable or fold clear of the seat;
  - 1.4. The seat must have a back support that is at least 12 inches (305 mm) tall; and

on the nearest adjacent wall. Signs containing tactile characters shall be located so that a clear floor space of 18 inches (457 mm) minimum by 18 inches (457 mm) minimum, centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45 degree open position. When permanent identification signage is provided for rooms and spaces they shall be located on the approach side of the door as one enters the room or space. Signs that identify exits shall be located on the approach side of the door as one exits the room or space.

- 9. **Height.** Signs with raised characters shall be located 48 inches (1219 mm) minimum above the finish floor, measured from the baseline of the lowest Braille cells and 60 inches (1524 mm) maximum above the finish floor, measured from the baseline of the highest line of raised characters.

**Exception:** Tactile characters for elevator car controls shall not be required to comply with this section.

- 10. **Pictorial symbol signs (pictograms).** Pictorial symbol signs (pictograms) shall be accompanied by a text description located directly below the pictogram field. The text description shall comply with Sections 1143A.6 and 1143A.7. The outside dimension of the pictogram field shall be a minimum of 6 inches (152 mm) in height. Characters and Braille shall not be located in the pictogram field.

**1143A.7 Braille.** Contracted Grade 2 Braille shall be used wherever Braille is required in other portions of these standards.

**1143A.7.1 Dimensions and capitalization.** Braille dots shall have a domed or rounded shape and shall comply with Table 1143A.7.1. The indication of an uppercase letter or letters shall only be used before the first word of sentences, proper nouns and names, individual letters of the alphabet, initials, and acronyms.

**TABLE 1143A.7.1 BRAILLE DIMENSIONS**

MEASUREMENT RANGE	MINIMUM IN INCHES MAXIMUM IN INCHES
Dot base diameter	0.059 (1.5 mm) to 0.063 (1.6 mm)
Distance between two dots in the same cell <sup>1</sup>	0.100 (2.5 mm)
Distance between corresponding dots in adjacent cells <sup>1</sup>	0.300 (7.6 mm)
Dot height	0.025 (0.6 mm) to 0.037 (0.9 mm)
Distance between corresponding dots from one cell directly below <sup>1</sup>	0.395 (10 mm) to 0.400 (10.2 mm)

1. Measured center to center.

**1143A.7.2 Position.** Braille shall be positioned below the corresponding text in a horizontal format, flush left or centered. If text is multi-lined, braille shall be placed below the entire text. Braille shall be separated <sup>3</sup>/<sub>8</sub> inch (9.5 mm) minimum and <sup>1</sup>/<sub>2</sub> inch (12.7 mm) maximum from any other tactile characters and <sup>3</sup>/<sub>8</sub> inch (9.5 mm) minimum from raised borders and decorative elements.

**Exception:** Braille provided on elevator car controls shall be separated <sup>3</sup>/<sub>16</sub> inch (4.8 mm) minimum and shall be located directly below the corresponding raised characters or symbols.

**1143A.8 Symbols of accessibility.** Symbols of accessibility and their background shall have a non-glare finish. Symbols of accessibility shall contrast with their background with either a light symbol on a dark background or a dark symbol on a light background. Symbols of accessibility shall comply with the following:

1. **International Symbol of Accessibility.** The “International Symbol of Accessibility” shall consist of a white figure on a blue background. The color blue shall approximate FS 15090 in Federal Standard 595C. (See Figure 11A-1A.)
2. **International Symbol of TTY.** (See Figure 11A-11C.)
3. **Volume Control Telephones.** (See Figure 11A-11D.)
4. **Assistive Listening Systems.** (See Figure 11A-11E.)
5. **Cleaner Air Symbol.** (See Chapter 11B.)
6. **Toilet and Bathing Facilities Geometric Symbols.** (See Section 1127A.7.)

**SECTION 1144A  
Reserved**

**SECTION 1145A  
Reserved**

**SECTION 1146A  
Reserved**

**SECTION 1147A  
Reserved**

**SECTION 1148A  
Reserved**

**SECTION 1149A  
Reserved**

**Division VI – SITE IMPRACTICALITY TESTS****Division VI Table of Contents**

Section 1150A Site Impracticality Tests

Test No. 1—Individual Building Test

Test No. 2—Site Analysis Test

Test No. 3—Unusual Characteristics Test

**SECTION 1150A  
SITE IMPRACTICALITY TESTS**

**1150A.1 General.** Covered multifamily dwellings in buildings without an elevator, located on sites with difficult terrain conditions or unusual characteristics, may employ the site impracticality tests in this division for determining the accessibility and adaptability provisions required by this chapter.

Except as provided for in Section 1102A.3.1, the provisions of this section do not apply to multistory dwelling units in nonelevator buildings.

**SINGLE BUILDING WITH  
ONE COMMON (LOBBY) ENTRANCE**

The following may only be used for determining required access to covered multifamily dwelling units, in a single building with one common (lobby) entrance, located on a site with difficult terrain conditions or unusual characteristics:

All ground floor units in nonelevator buildings shall be adaptable and on an accessible route unless an accessible route to the common (lobby) entrance is not required as determined by Test No. 1, Individual Building Test, or Test No. 3, Unusual Characteristics Test, as described in this section.

Sites where either Test No. 1 or Test No. 3 is used and it is determined that an accessible route to the common (lobby) entrance is not required, at least 20 percent of the ground floor dwelling units shall comply with Division IV, and all remaining ground floor dwelling units shall comply with the features listed in Section 1150A.2 unless exempted by Test No. 3, Unusual Characteristics Test.

Test No. 1—Individual Building Test may only be used if the site has terrain over 15 percent slope.

Test No. 3—Unusual Characteristics Test may be used if applicable.

**Provisions to Test Nos. 1 and 2.** Where a building elevator is provided only as means of creating an accessible route to covered multifamily dwelling units on a ground floor, the building is not considered to be an elevator building for purposes of this code; hence, only the ground floor dwelling units would be covered.

**TEST NO. 1—INDIVIDUAL BUILDING TEST**

It is not required by this code to provide an accessible route when the terrain of the site is such that both of the following apply:

1. The slopes of the undisturbed site measured between the planned entrance and all vehicular or pedestrian arrival points within 50 feet (15 240 mm) of the planned entrance exceed 15 percent; and
2. The slopes of the planned finished grade measured between the entrance and all vehicular or pedestrian arrival points within 50 feet (15 240 mm) of the planned entrance also exceed 15 percent.

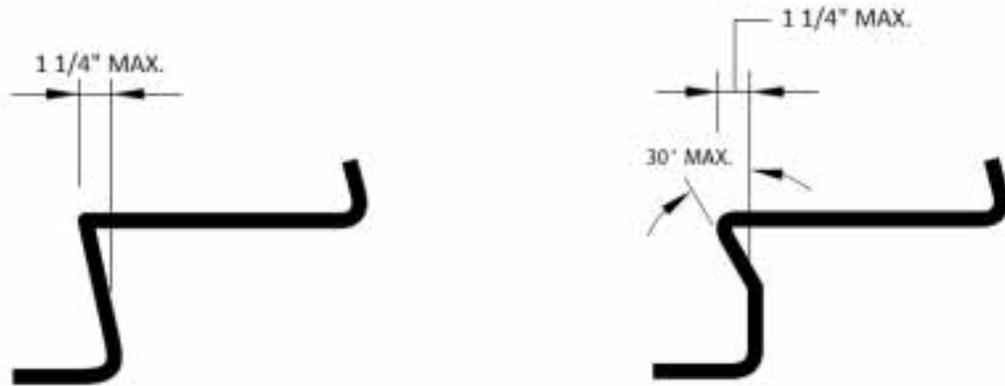
If there are no vehicular or pedestrian arrival points within 50 feet (15 240 mm) of the planned entrance, the slope for the purposes of Test No. 1 will be measured to the closest vehicular or pedestrian arrival point.

For purposes of these requirements, vehicular or pedestrian arrival points include public or resident parking areas, public transportation stops, passenger loading zones and public streets or sidewalks. To determine site impracticality, the slope would be measured at ground level from the point of the planned entrance on a straight line to (1) each vehicular or pedestrian arrival point that is within 50 feet (15 240 mm) of the planned entrance, or (2) if there are no vehicular or pedestrian arrival points within the specified area, the vehicular or pedestrian arrival point closest to the planned entrance. In the case of sidewalks, the closest point to the entrance will be where a public sidewalk entering the site intersects with the walk to the entrance. In the case of resident parking areas, the closest point to the planned entrance will be measured from the entry point to the parking area that is located closest to the planned entrance.

**TEST NO. 2—SITE ANALYSIS TEST**

For a site having multiple buildings, or a site with a single building with multiple entrances, it is not required to provide an accessible route to all ground floor units under the following conditions:

1. Calculate the percentage of the total buildable area of the undisturbed site with a natural grade less than 10-percent slope. The analysis of the existing slope (before grading) shall be done on a topographic survey with 2-foot (610 mm) contour intervals with slope determination made between each successive interval. The accuracy of the slope analysis shall be certified by a licensed engineer, landscape architect, architect or surveyor.
2. Determine the requirement of providing an accessible route to planned multifamily dwellings based on the topography of the existing natural terrain. The minimum percentage of ground floor units required



STAIRS

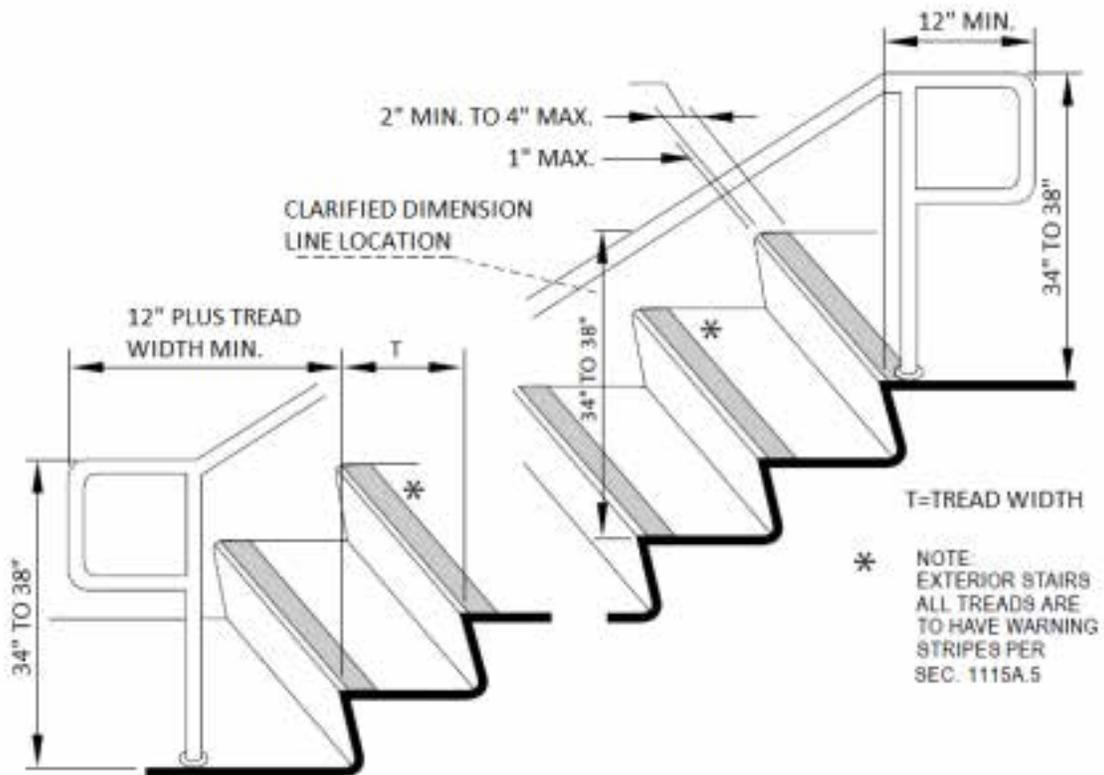
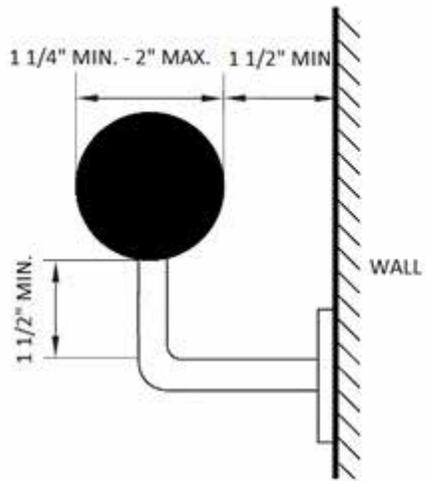
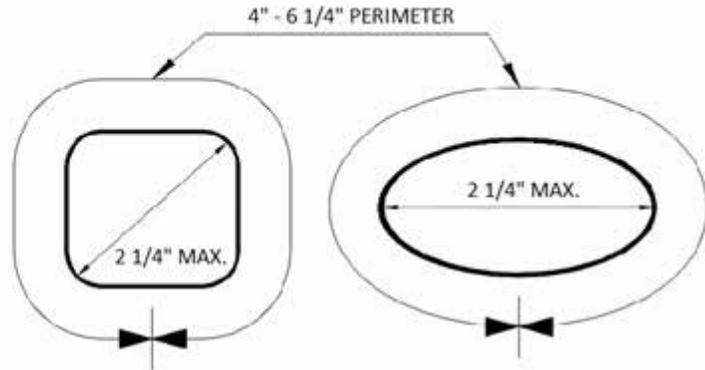


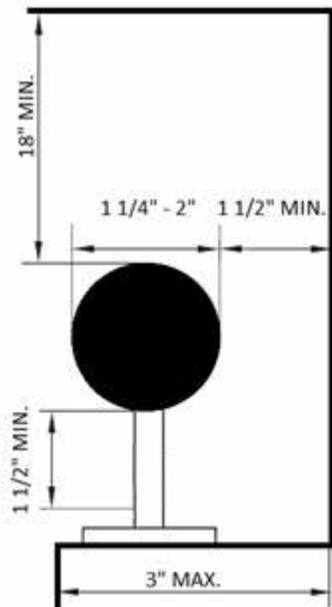
FIGURE 11A-6A  
WARNING STRIPING AND HANDRAIL EXTENSIONS



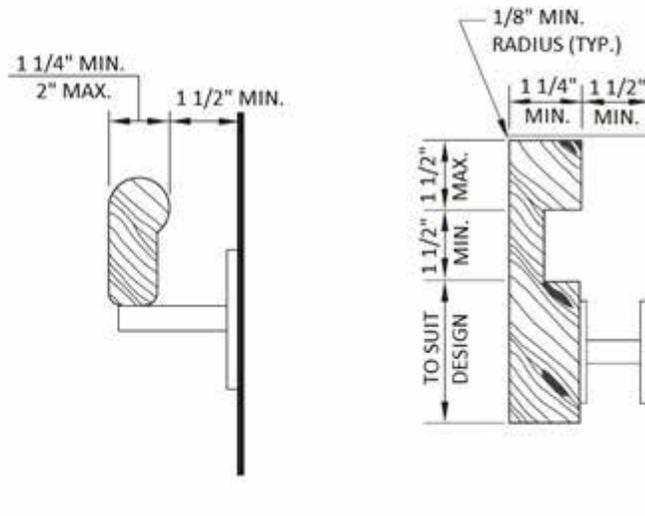
(a) HANDRAILS WITH CIRCULAR CROSS SECTION



(b) HANDRAILS WITH NON-CIRCULAR CROSS SECTION

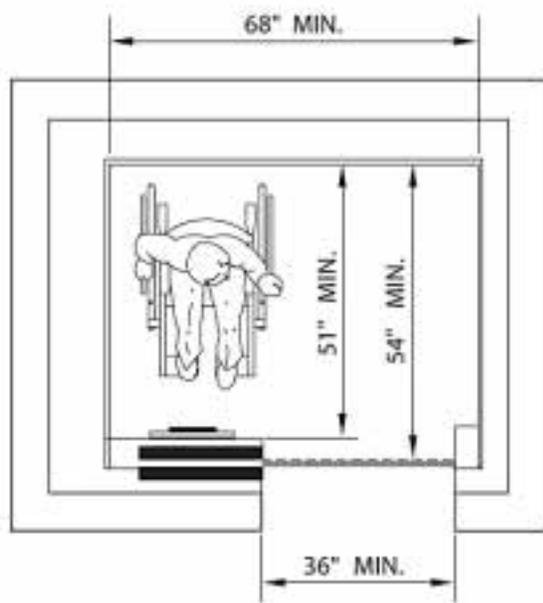


(c) HANDRAILS LOCATED IN A RECESS

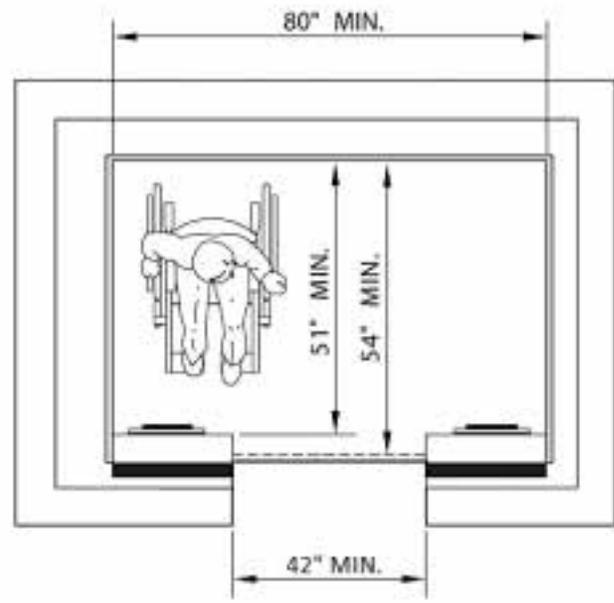


(d) HANDRAILS WITH EQUIVALENT GRIPPING SURFACES

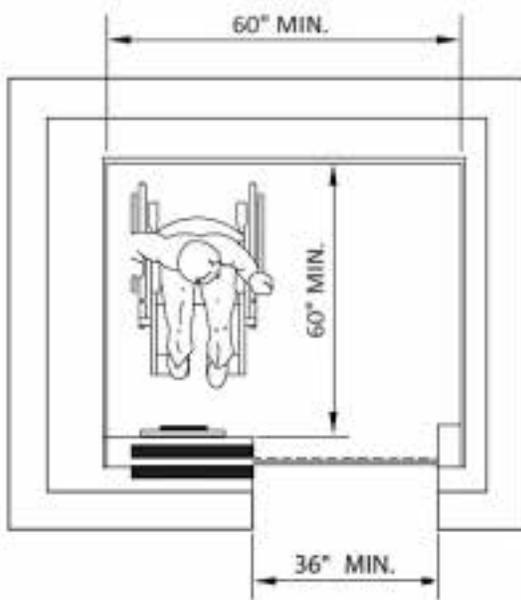
FIGURE 11A-6B  
HANDRAILS



(a) SIDE OPENING DOOR



(b) CENTER OPENING DOOR



(c) DOOR AT ANY LOCATION

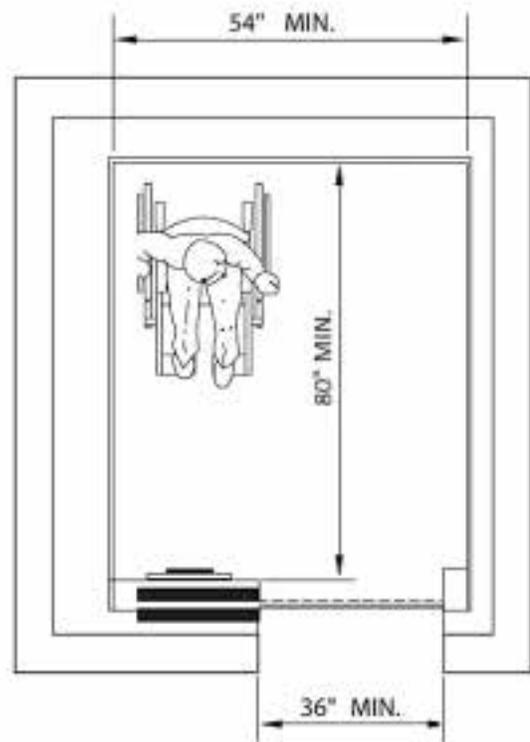


FIGURE 11A-7A  
MINIMUM DIMENSIONS OF ELEVATOR CARS

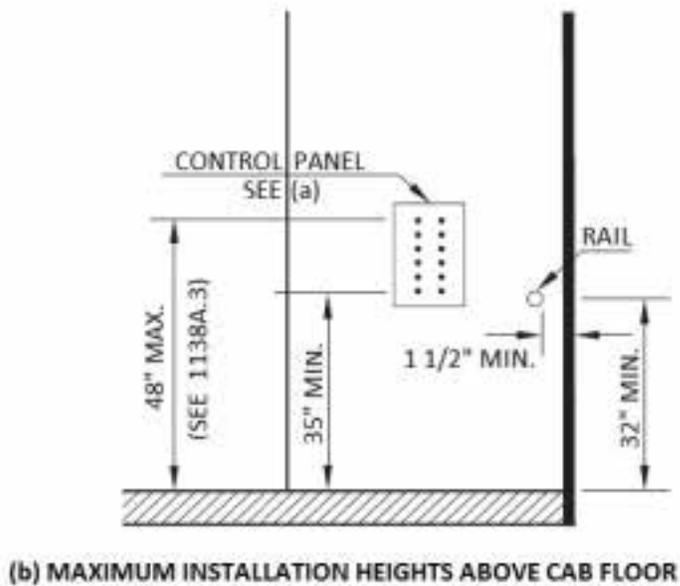
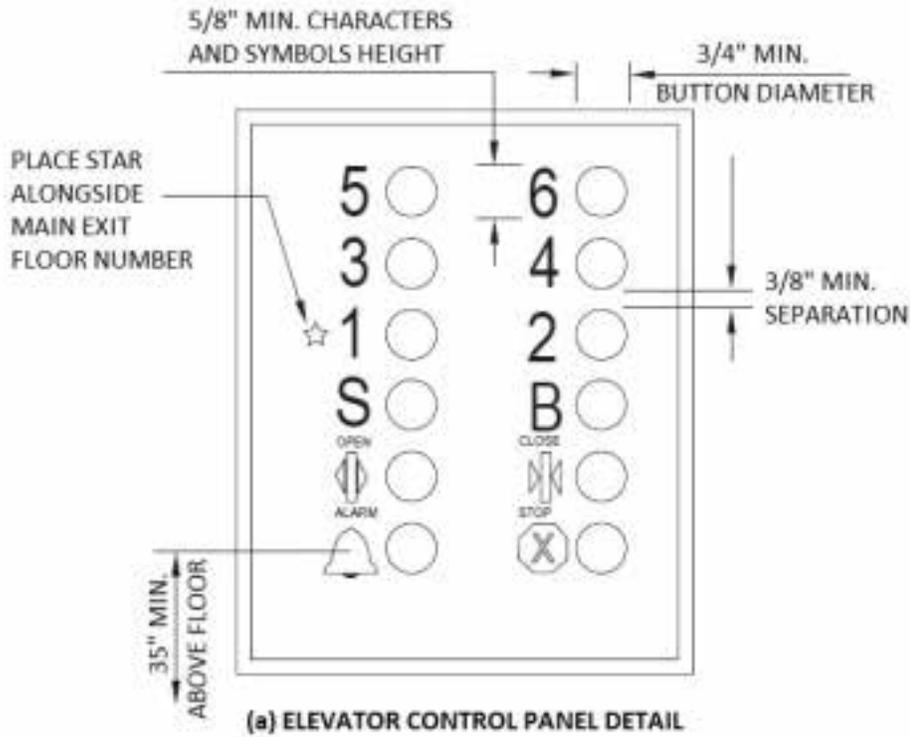
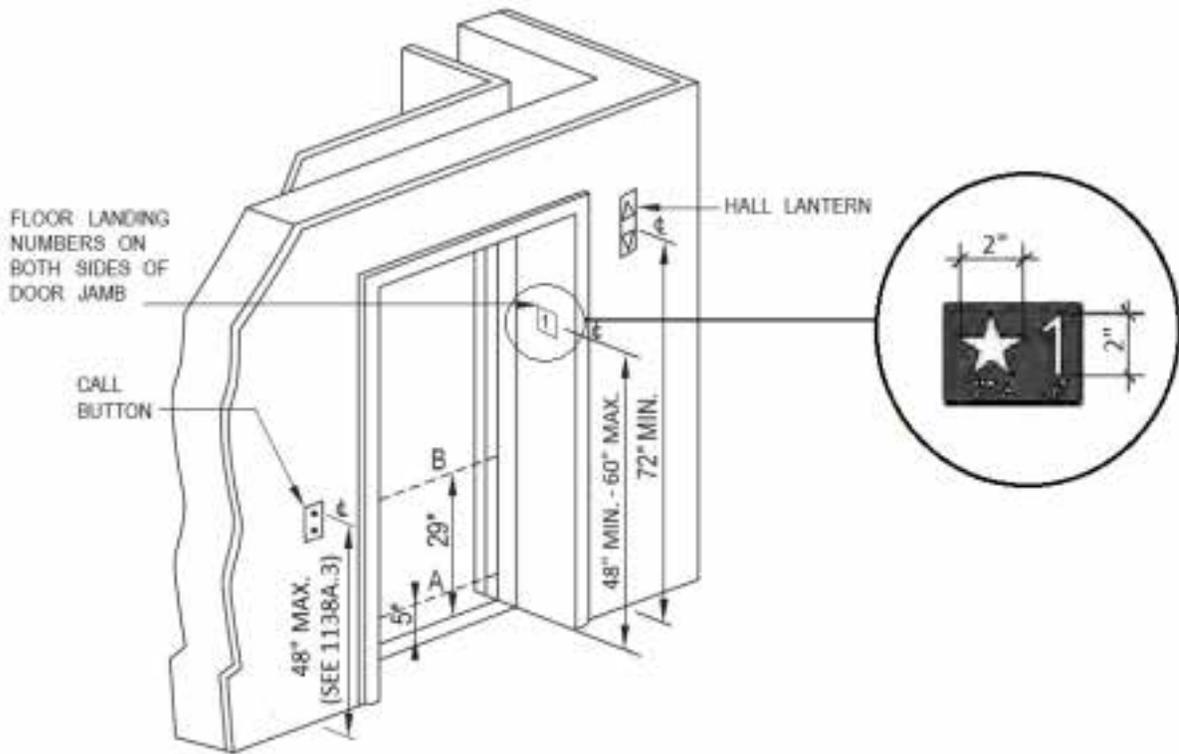
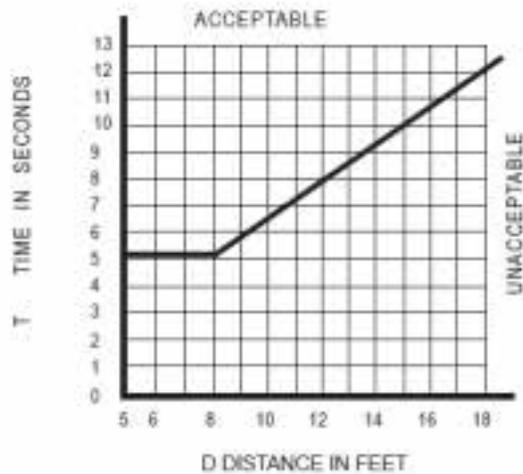


FIGURE 11A-7B  
ELEVATOR CONTROL PANEL

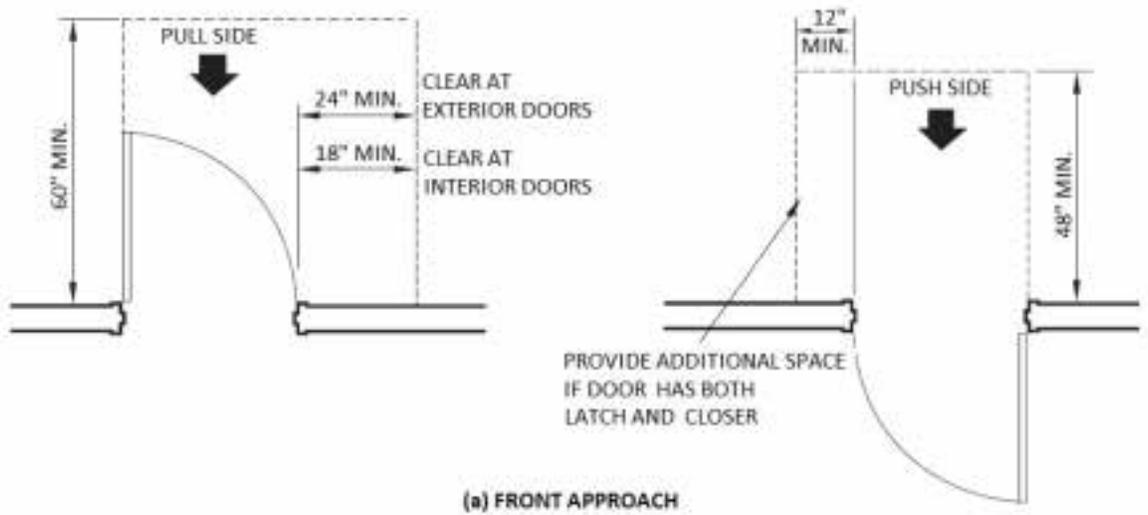


**NOTE:**  
 THE AUTOMATIC DOOR REOPENING DEVICE IS ACTIVATED IF AN OBJECT PASSES THROUGH EITHER LINE A OR LINE B. LINE A AND LINE B REPRESENT THE VERTICAL LOCATION OF THE DOOR REOPENING DEVICE NOT REQUIRING CONTACT.

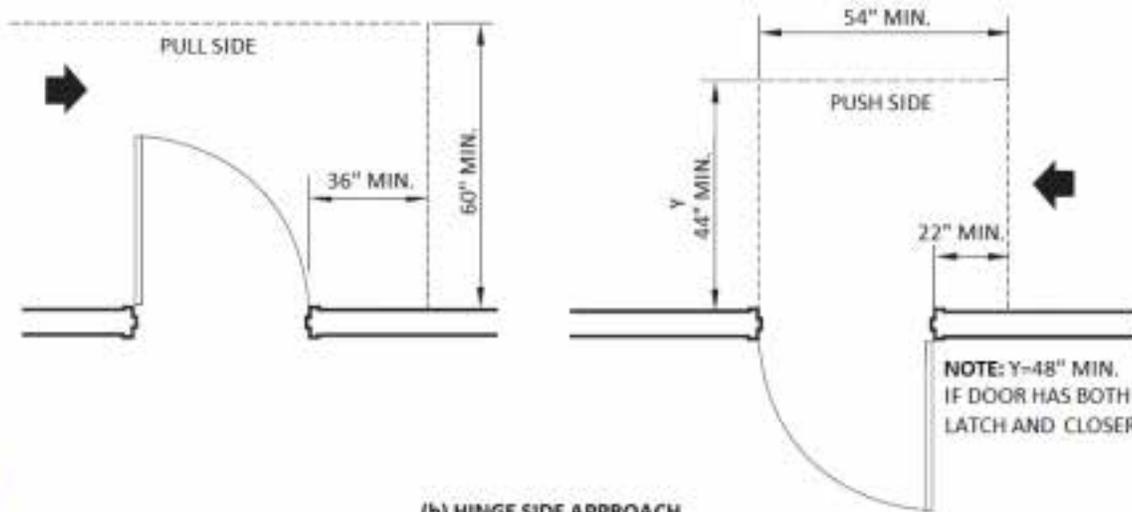
**FIGURE 11A-7C  
 HOISTWAY AND ELEVATOR ENTRANCES**



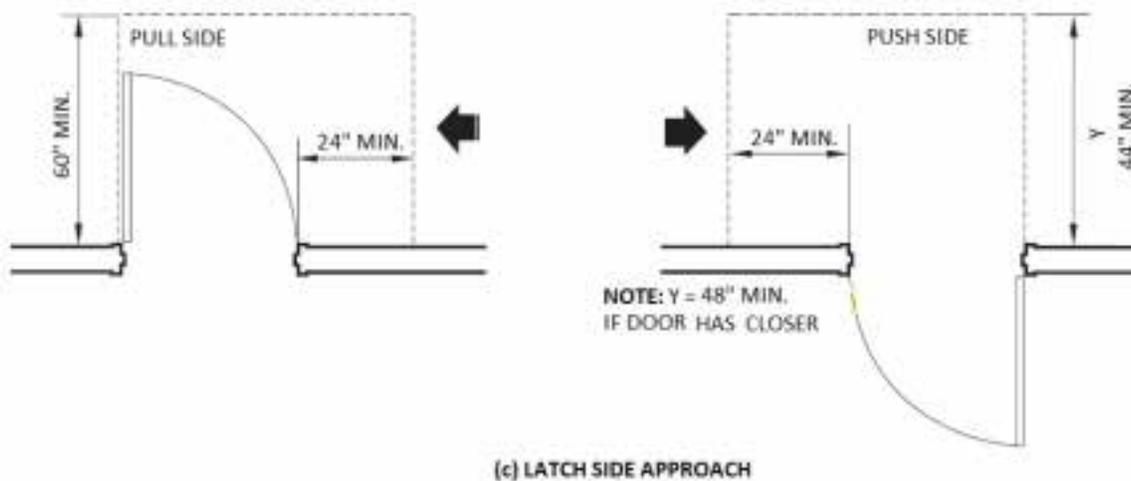
**FIGURE 11A-7D  
 GRAPH OF TIMING EQUATION**



(a) FRONT APPROACH



(b) HINGE SIDE APPROACH



(c) LATCH SIDE APPROACH

FIGURE 11A-8A  
MANEUVERING CLEARANCE AT SWINGING DOORS

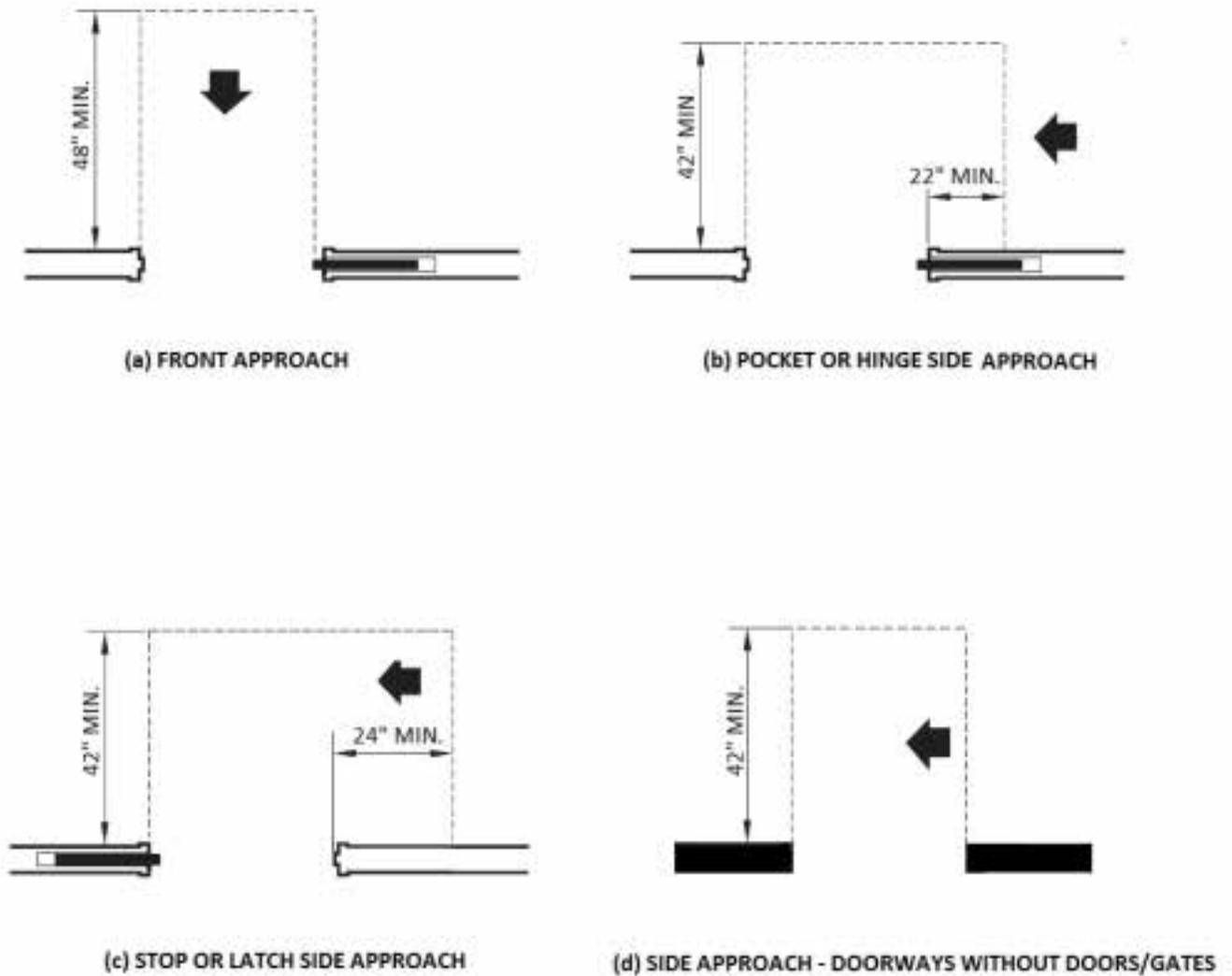


FIGURE 11A-8B  
MANEUVERING CLEARANCE AT DOORWAYS, SLIDING DOORS, AND FOLDING DOORS

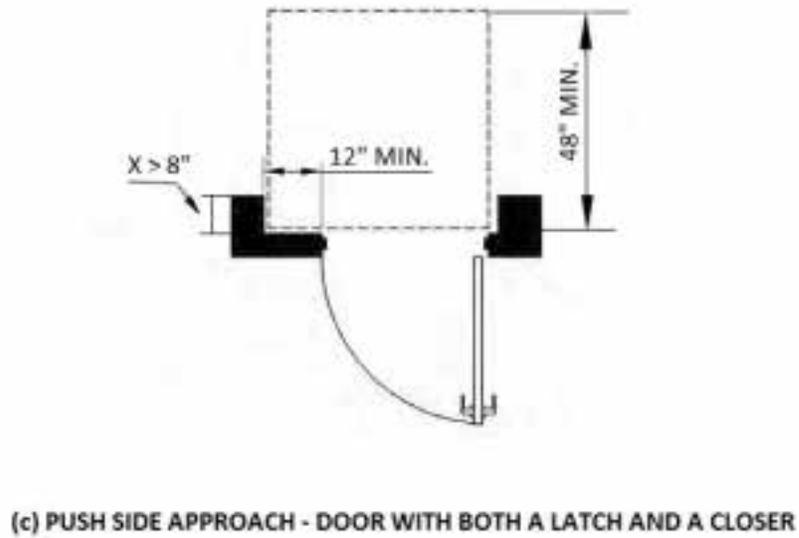
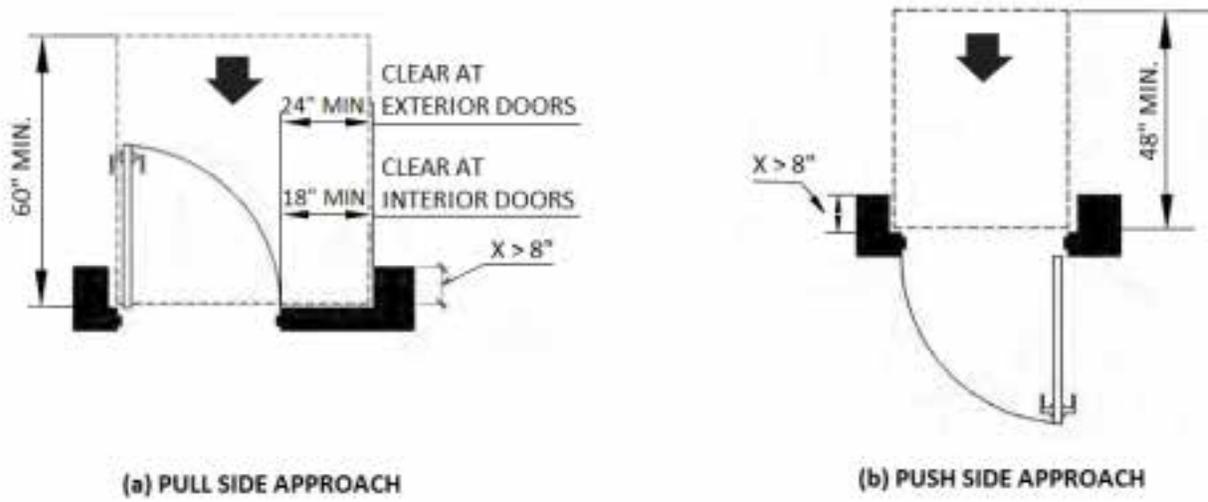
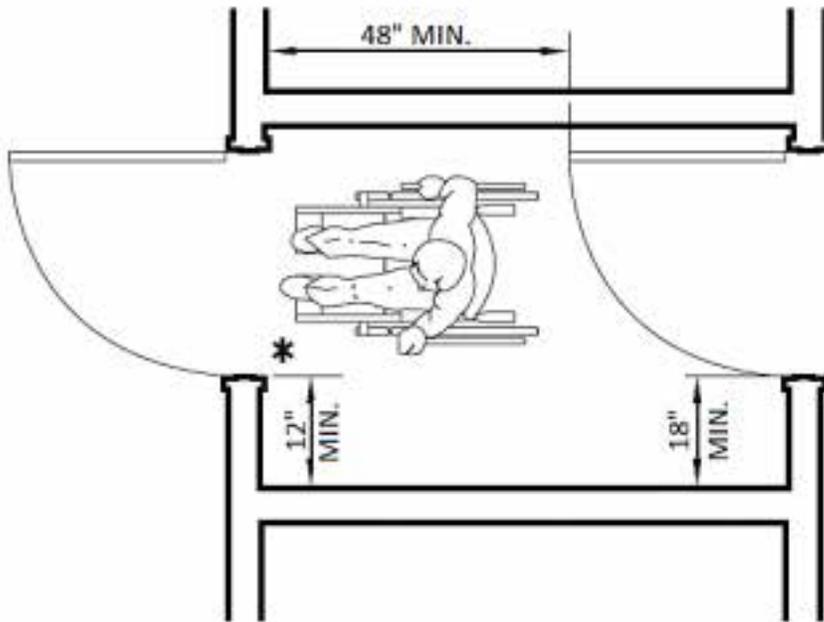


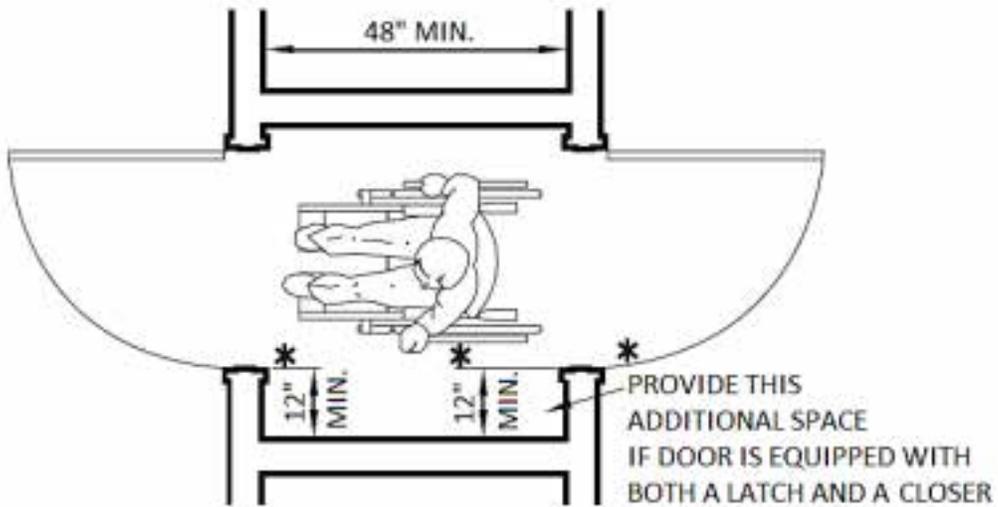
FIGURE 11A-8C  
MANEUVERING CLEARANCES AT RECESSED DOORS

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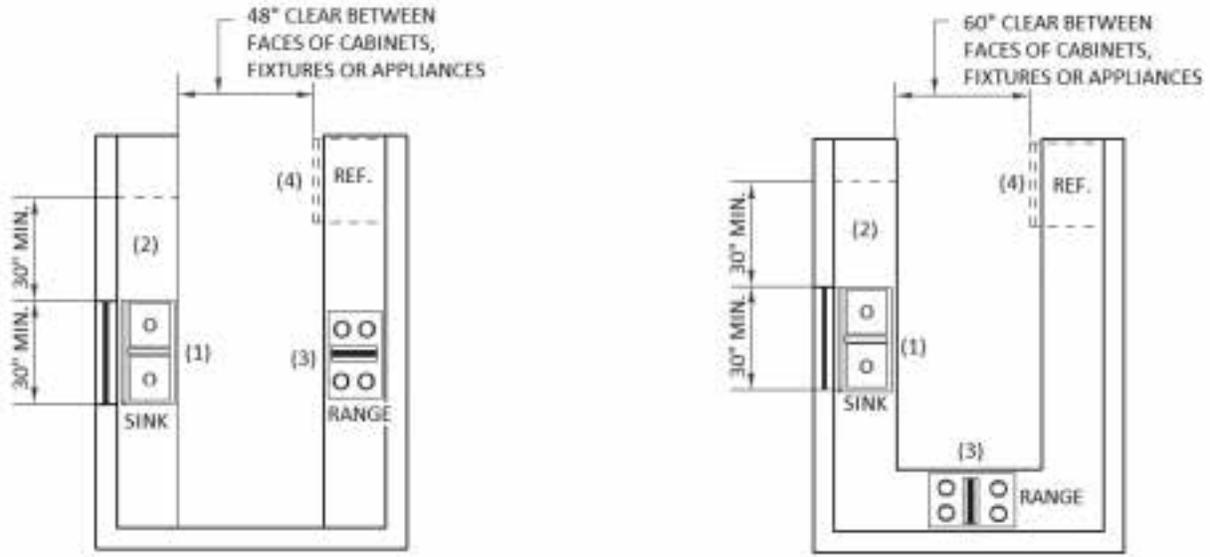
(a) DOORS IN SERIES



(b) BOTH DOORS OPEN OUT

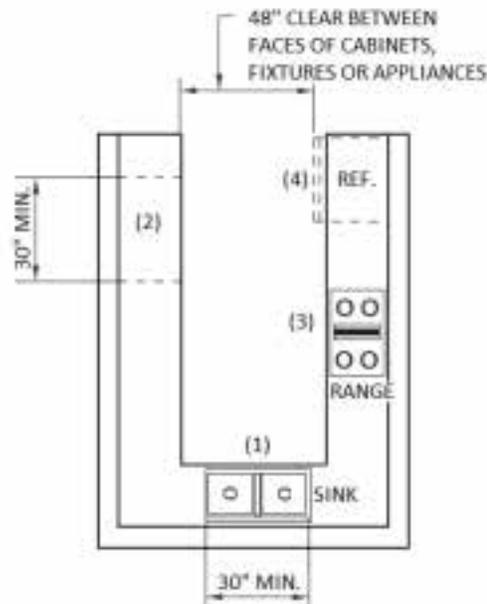
(SERVING OTHER THAN A REQUIRED EXIT STAIRWAY)

FIGURE 11A-8G  
VESTIBULE



(a) TYPICAL KITCHEN

(b) "U" SHAPED KITCHEN WITH RANGE AT THE BASE



(c) "U" SHAPED KITCHEN WITH SINK AT THE BASE

- (1) 30" minimum countertop space for sink installation with removable base cabinet and finish flooring beneath the sink; 30" x 48" minimum clear floor space to allow parallel or forward approach.
- (2) 30" minimum countertop for work surface with removable base cabinet and finish flooring beneath; 30" x 48" minimum clear floor space to allow parallel or forward approach.
- (3) 30" x 48" minimum clear floor space adjacent to range to allow parallel approach.
- (4) 30" x 48" clear floor space at refrigerator, dishwasher, trash compactor or other appliances to allow parallel or forward approach.

FIGURE 11A-10A  
KITCHEN SPECIFICATIONS

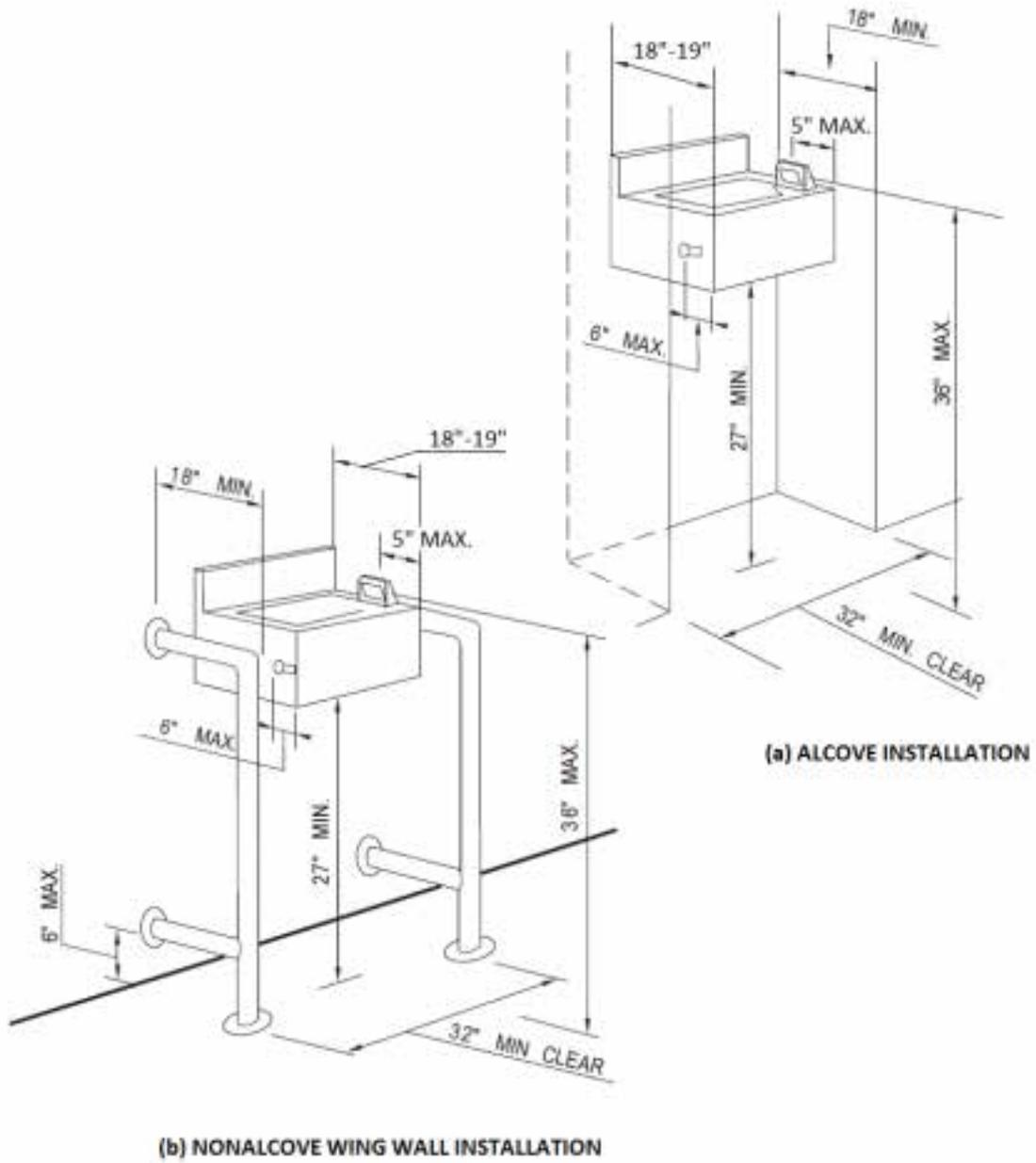
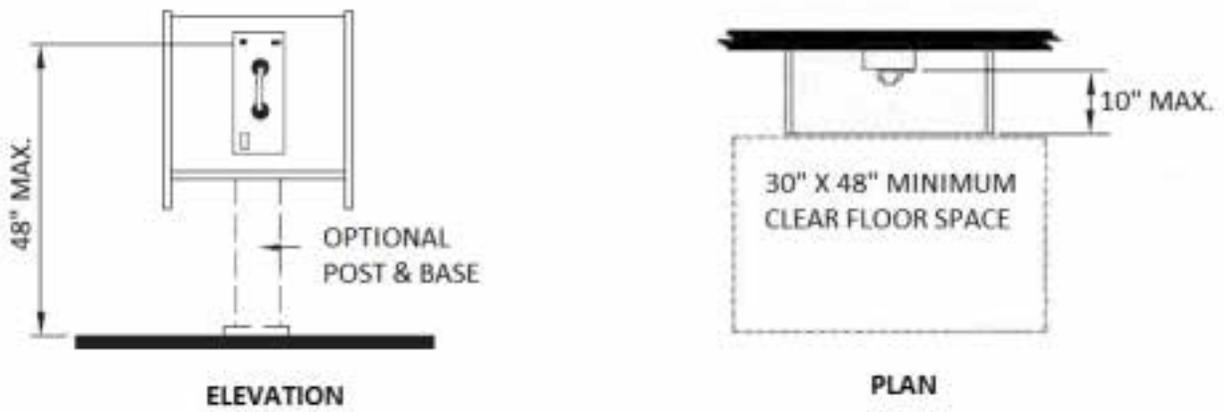
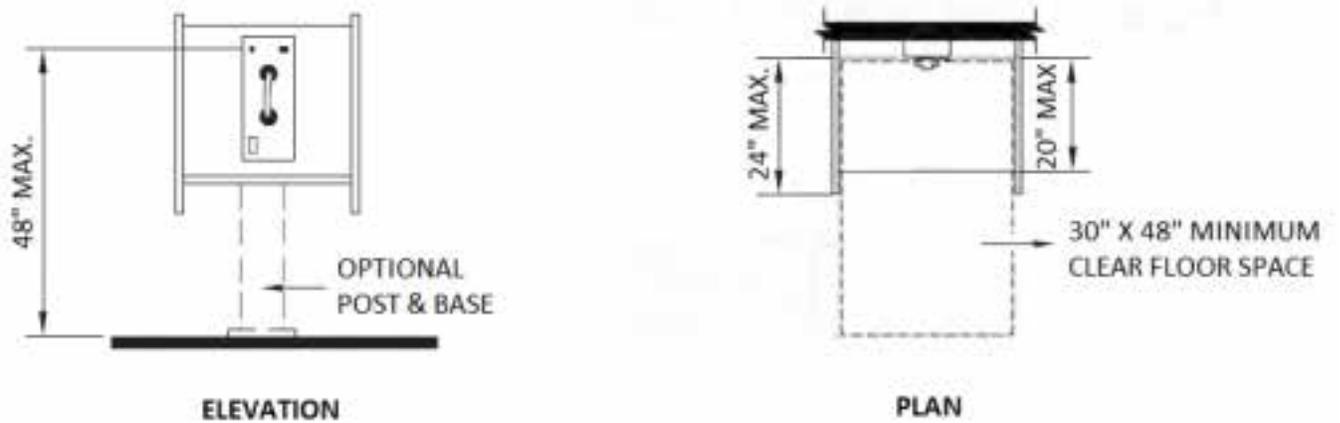


FIGURE 11A-11A  
DRINKING FOUNTAINS



(a) PARALLEL APPROACH



(b) FORWARD APPROACH

FIGURE 11A-11B  
TELEPHONES



**FIGURE 11A-11C**  
**INTERNATIONAL TTY SYMBOL**



**FIGURE 11A-11D**  
**VOLUME CONTROL TELEPHONES**



**FIGURE 11A-11E**  
**INTERNATIONAL SYMBOL OF ACCESS FOR HEARING LOSS**

3. Altering existing elevators.
4. Altering existing steps.
5. Altering existing handrails.
4. Alterations solely for the purpose of barrier removal undertaken pursuant to the requirements of the Americans with Disabilities Act (Public Law 101-336, 28 C.F.R., Section 36.304) or the accessibility requirements of this code as those requirements or regulations now exist or are hereafter amended consisting of one or more of the following items shall be limited to the actual scope of work of the project and shall not be required to comply with Section 11B-202.4:
  1. Installing ramps.
  2. Making curb cuts in sidewalks and entrance.
  3. Repositioning shelves.
  4. Rearranging tables, chairs, vending machines, display racks, and other furniture.
  5. Repositioning telephones.
  6. Adding raised markings on elevator control buttons.
  7. Installing flashing alarm lights.
  8. Widening doors.
  9. Installing offset hinges to widen doorways.
  10. Eliminating a turnstile or providing an alternative accessible route.
  11. Installing accessible door hardware.
  12. Installing grab bars in toilet stalls.
  13. Rearranging toilet partitions to increase maneuvering space.
  14. Insulating lavatory pipes under sinks to prevent burns.
  15. Installing a raised toilet seat.
  16. Installing a full-length bathroom mirror.
  17. Repositioning the paper towel dispenser in a bathroom.
  18. Creating designated accessible parking spaces.
  19. Removing high-pile, low-density carpeting.
5. Alterations of existing parking lots by resurfacing and/or restriping shall be limited to the actual scope of work of the project and shall not be required to comply with Section 11B-202.4.
6. The addition or replacement of signs and/or identification devices shall be limited to the actual scope of work of the project and shall not be required to comply with Section 11B-202.4.
7. Projects consisting only of heating, ventilation, air conditioning, reroofing, electrical work not involving placement of switches and receptacles, cosmetic work that does not affect items regulated by this code, such

as painting, equipment not considered to be a part of the architecture of the building or area, such as computer terminals and office equipment shall not be required to comply with Section 11B-202.4 unless they affect the usability of the building or facility.

8. When the adjusted construction cost is less than or equal to the current valuation threshold, as defined in Chapter 2, Section 202, the cost of compliance with Section 11B-202.4 shall be limited to 20 percent of the adjusted construction cost of alterations, structural repairs or additions. When the cost of full compliance with Section 11B-202.4 would exceed 20 percent, compliance shall be provided to the greatest extent possible without exceeding 20 percent.

When the adjusted construction cost exceeds the current valuation threshold, as defined in Chapter 2, Section 202, and the enforcing agency determines the cost of compliance with Section 11B-202.4 is an unreasonable hardship, as defined in Chapter 2, Section 202, full compliance with Section 11B-202.4 shall not be required. Compliance shall be provided by equivalent facilitation or to the greatest extent possible without creating an unreasonable hardship; but in no case shall the cost of compliance be less than 20 percent of the adjusted construction cost of alterations, structural repairs or additions. The details of the finding of unreasonable hardship shall be recorded and entered into the files of the enforcing agency and shall be subject to Chapter 1, Section 1.9.1.5, Special Conditions for Persons with Disabilities Requiring Appeals Action Ratification.

For the purposes of this exception, the adjusted construction cost of alterations, structural repairs or additions shall not include the cost of alterations to path of travel elements required to comply with Section 11B-202.4.

In choosing which accessible elements to provide, priority should be given to those elements that will provide the greatest access in the following order:

1. An accessible entrance;
2. An accessible route to the altered area;
3. At least one accessible restroom for each sex or a single accessible unisex restroom;
4. Accessible telephones;
5. Accessible drinking fountains; and
6. When possible, additional accessible elements such as parking, signs, storage and alarms.

If an area has been altered without providing an accessible path of travel to that area, and subsequent alterations of that area or a different area on the same path of travel are undertaken within three years of the original alteration, the total cost of alterations to the areas on that path of travel during the preceding three-year period shall be considered in determining whether the cost of making that path of travel accessible is disproportionate.

9. *Certain types of privately funded, multistory buildings and facilities were formerly exempt from accessibility requirements above and below the first floor under this code, but as of April 1, 1994 are no longer exempt due to more restrictive provisions in the federal Americans with Disabilities Act. In alteration projects involving buildings and facilities previously approved and built without elevators, areas above and below the ground floor are subject to the 20-percent disproportionately provisions described in Exception 8, above, even if the value of the project exceeds the valuation threshold in Exception 8. The types of buildings and facilities are:*

1. *Office buildings and passenger vehicle service stations of three stories or more and 3,000 or more square feet (279 m<sup>2</sup>) per floor.*
2. *Offices of physicians and surgeons.*
3. *Shopping centers.*
4. *Other buildings and facilities three stories or more and 3,000 or more square feet (279 m<sup>2</sup>) per floor if a reasonable portion of services sought and used by the public is available on the accessible level.*

*For the general privately funded multistory building exception applicable to new construction and alterations, see Section 11B-206.2.3, Exception 1.*

*The elevator exception set forth in this section does not obviate or limit in any way the obligation to comply with the other accessibility requirements in this code. For example, floors above or below the accessible ground floor must meet the requirements of this section except for elevator service. If toilet or bathing facilities are provided on a level not served by an elevator, then toilet or bathing facilities must be provided on the accessible ground floor.*

**11B-202.5 Alterations to qualified historic buildings and facilities.** Alterations to a qualified historic building or facility shall comply with the *State Historical Building Code, Part 8, Title 24, of the California Code of Regulations.*

**Exception: Reserved.**

### **11B-203 General exceptions**

**11B-203.1 General.** Sites, buildings, facilities, and elements are exempt from these requirements to the extent specified by 11B-203.

**11B-203.2 Construction sites.** Structures and sites directly associated with the actual processes of construction, including but not limited to, scaffolding, bridging, materials hoists, materials storage and construction trailers shall not be required to comply with these requirements or to be on an accessible route. Portable toilet units provided for use exclusively by construction personnel on a construction site shall not be required to comply with Section 11B-213 or to be on an accessible route.

**11B-203.3 Raised areas.** Areas raised primarily for purposes of security, life safety, or fire safety, including but not limited to, observation or lookout galleries, prison guard towers, fire

towers or life guard stands shall not be required to comply with these requirements or to be on an accessible route.

**11B-203.4 Limited access spaces.** Spaces *not customarily occupied and accessed only by ladders, catwalks, crawl spaces or very narrow passageways* shall not be required to comply with these requirements or to be on an accessible route.

**11B-203.5 Machinery spaces.** Spaces frequented only by service personnel for maintenance, repair or occasional monitoring of equipment shall not be required to comply with these requirements or to be on an accessible route. Machinery spaces include, but are not limited to, elevator pits or elevator penthouses; mechanical, electrical or communications equipment rooms; piping or equipment catwalks; water or sewage treatment pump rooms and stations; electric substations and transformer vaults; and highway and tunnel utility facilities.

**11B-203.6 Single occupant structures.** Single occupant structures accessed only by passageways below grade or elevated above standard curb height, including but not limited to, toll booths that are accessed only by underground tunnels, shall not be required to comply with these requirements or to be on an accessible route.

**11B-203.7 Detention and correctional facilities.** In detention and correctional facilities, common use areas that are used only by inmates or detainees and security personnel and that do not serve holding cells or housing cells required to comply with Section 11B-232, shall not be required to comply with these requirements or to be on an accessible route.

**11B-203.8 Residential facilities.** In *public housing* residential facilities, common use areas that do not serve residential dwelling units required to provide mobility features complying with Sections 11B-809.2 through 11B-809.4 and *adaptable features complying with Chapter 11A, Division IV* shall not be required to comply with these requirements or to be on an accessible route.

**11B-203.9 Employee workstations.** *Employee workstations shall be on an accessible route complying with Division 4. Spaces and elements within employee workstations shall only be required to comply with Sections 11B-207.1, 11B-215.3, 11B-302, 11B-303, and 11B-404.2.3. Common use circulation paths within employee workstations shall comply with Section 11B-206.2.8.*

**11B-203.10 Raised refereeing, judging and scoring areas.** Raised structures used solely for refereeing, judging or scoring a sport shall not be required to comply with these requirements or to be on an accessible route. *An accessible route complying with Division 4 shall be provided to the ground- or floor-level entry points, where provided, of stairs, ladders, or other means of reaching the raised elements or areas.*

**11B-203.11 Water slides.** Water slides shall not be required to comply with these requirements or to be on an accessible route. *An accessible route complying with Division 4 shall be provided to the ground- or floor-level entry points, where provided, of stairs, ladders or other means of reaching the raised elements or areas.*

**11B-203.12 Animal containment areas.** Animal containment areas that are not for public use shall not be required to comply with these requirements or to be on an accessible

route. *Animal containment areas for public use shall be on an accessible route.*

**11B-203.13 Raised boxing or wrestling rings.** Raised boxing or wrestling rings shall not be required to comply with these requirements or to be on an accessible route. *An accessible route complying with Division 4 shall be provided to the ground- or floor-level entry points, where provided, of stairs, ladders or other means of reaching the raised elements or areas.*

**11B-203.14 Raised diving boards and diving platforms.** Raised diving boards and diving platforms shall not be required to comply with these requirements or to be on an accessible route. *An accessible route complying with Division 4 shall be provided to the ground- or floor-level entry points, where provided, of stairs, ladders or other means of reaching the raised elements or areas.*

#### **11B-204 Protruding objects**

**11B-204.1 General.** Protruding objects on circulation paths shall comply with *Section 11B-307*.

##### **Exceptions:**

1. Within areas of sport activity, protruding objects on circulation paths shall not be required to comply with *Section 11B-307*.
2. Within play areas, protruding objects on circulation paths shall not be required to comply with *Section 11B-307* provided that ground level accessible routes provide vertical clearance in compliance with *Section 11B-1008.2*.

#### **11B-205 Operable parts**

**11B-205.1 General.** Operable parts on accessible elements, accessible routes, and in accessible rooms and spaces shall comply with *Section 11B-309*.

##### **Exceptions:**

1. Operable parts that are intended for use only by service or maintenance personnel shall not be required to comply with *Section 11B-309*.
2. Electrical or communication receptacles serving a dedicated use shall not be required to comply with *Section 11B-309*.
3. **Reserved.**
4. Floor electrical receptacles shall not be required to comply with *Section 11B-309*.
5. HVAC diffusers shall not be required to comply with *Section 11B-309*.
6. Except for light switches, where redundant controls are provided for a single element, one control in each space shall not be required to comply with *Section 11B-309*.
7. Cleats and other boat securement devices shall not be required to comply with *Section 11B-309.3*.
8. Exercise machines and exercise equipment shall not be required to comply with *Section 11B-309*.

#### **11B-206 Accessible routes**

**11B-206.1 General.** Accessible routes shall be provided in accordance with *Section 11B-206* and shall comply with *Division 4*.

**11B-206.2 Where required.** Accessible routes shall be provided where required by *Section 11B-206.2*.

**11B-206.2.1 Site arrival points.** At least one accessible route shall be provided within the site from accessible parking spaces and accessible passenger loading zones; public streets and sidewalks; and public transportation stops to the accessible building or facility entrance they serve. *Where more than one route is provided, all routes must be accessible.*

##### **Exceptions:**

1. **Reserved.**
2. An accessible route shall not be required between site arrival points and the building or facility entrance if the only means of access between them is a vehicular way not providing pedestrian access.
3. *General circulation paths shall be permitted when located in close proximity to an accessible route.*

**11B-206.2.2 Within a site.** At least one accessible route shall connect accessible buildings, accessible facilities, accessible elements, and accessible spaces that are on the same site.

**Exception:** An accessible route shall not be required between accessible buildings, accessible facilities, accessible elements, and accessible spaces if the only means of access between them is a vehicular way not providing pedestrian access.

**11B-206.2.3 Multi-story buildings and facilities.** At least one accessible route shall connect each story and mezzanine in multi-story buildings and facilities.

##### **Exceptions:**

1. *The following types of privately funded multi-story buildings do not require a ramp or elevator above and below the first floor:*
  - 1.1. *Multi-storied office buildings (other than the professional office of a health care provider) and passenger vehicle service stations less than three stories high or less than 3,000 square feet (279 m<sup>2</sup>) per story.*
  - 1.2. *Any other privately funded multi-storied building that is not a shopping center, shopping mall or the professional office of a health care provider, or a terminal, depot or other station used for specified public transportation, or an airport passenger terminal and that is less than three stories high or less than 3,000 square feet (279 m<sup>2</sup>) per story if a rea-*

sonable portion of all facilities and accommodations normally sought and used by the public in such a building are accessible to and usable by persons with disabilities.

2. **Reserved.**

3. In detention and correctional facilities, an accessible route shall not be required to connect stories where cells with mobility features required to comply with *Section 11B-807.2*, all common use areas serving cells with mobility features required to comply with *Section 11B-807.2*, and all public use areas are on an accessible route.

4. In residential facilities, an accessible route shall not be required to connect stories where residential dwelling units with mobility features required to comply with *Sections 11B-809.2 through 11B-809.4*, residential dwelling units with adaptable features complying with *Chapter 11A, Division IV*, all common use areas serving residential dwelling units with mobility features required to comply with *Sections 11B-809.2 through 11B-809.4*, all common use areas serving residential dwelling units with adaptable features complying with *Chapter 11A, Division IV*, and public use areas serving residential dwelling units are on an accessible route.

5. Within multi-story transient lodging guest rooms with mobility features required to comply with *Section 11B-806.2*, an accessible route shall not be required to connect stories provided that spaces complying with *Section 11B-806.2* are on an accessible route and sleeping accommodations for two persons minimum are provided on a story served by an accessible route.

6. In air traffic control towers, an accessible route shall not be required to serve the cab and the equipment areas on the floor immediately below the cab.

7. **Reserved.**

**11B-206.2.3.1 Stairs and escalators in existing buildings.** In alterations and additions, where an escalator or stair is provided where none existed previously and major structural modifications are necessary for the installation, an accessible route shall be provided between the levels served by the escalator or stair unless exempted by *Section 11B-206.2.3* Exceptions 1 through 7.

**11B-206.2.3.2 Distance to elevators.** In new construction of buildings where elevators are required by *Section 11B-206.2.3*, and which exceed 10,000 square feet (929 m<sup>2</sup>) on any floor, an accessible means of vertical access via ramp, elevator or lift shall be provided within 200 feet (60,960 mm) of travel of each stair and each escalator. In existing buildings that exceed 10,000 square feet (929 m<sup>2</sup>) on any floor and in which elevators are required by *Section 11B-206.2.3*, whenever a

newly constructed means of vertical access is provided via stairs or an escalator, an accessible means of vertical access via ramp, elevator or lift shall be provided within 200 feet (60,960 mm) of travel of each new stair or escalator.

**Exception:** Stairs used solely for emergency egress. | |

**11B-206.2.4 Spaces and elements.** At least one accessible route shall connect accessible building or facility entrances with all accessible spaces and elements within the building or facility, including mezzanines, which are otherwise connected by a circulation path unless exempted by *Section 11B-206.2.3* Exceptions 1 through 7.

**Exceptions:**

1. **Reserved.**

2. In assembly areas with fixed seating required to comply with *Section 11B-221*, an accessible route shall not be required to serve fixed seating where wheelchair spaces required to be on an accessible route are not provided.

3. **Reserved.**

**11B-206.2.5. Restaurants, cafeterias, banquet facilities and bars.** In restaurants, cafeterias, banquet facilities, bars, and similar facilities, an accessible route shall be provided to all functional areas, including raised or sunken areas, and outdoor areas.

**Exceptions:**

1. In alterations of buildings or facilities not required to provide an accessible route between stories, an accessible route shall not be required to a mezzanine dining area where the mezzanine contains less than 25 percent of the total combined area for seating and dining and where the same decor and services are provided in the accessible area.

2. **Reserved.**

3. In sports facilities, tiered dining areas providing seating required to comply with *Section 11B-221* shall be required to have accessible routes serving at least 25 percent of the dining area provided that accessible routes serve seating complying with *Section 11B-221* and each tier is provided with the same services.

**11B-206.2.6 Performance areas.** Where a circulation path directly connects a performance area to an assembly seating area, an accessible route shall directly connect the assembly seating area with the performance area. An accessible route shall be provided from performance areas to ancillary areas or facilities used by performers unless exempted by *Section 11B-206.2.3* Exceptions 1 through 7.

**11B-206.2.7 Press boxes.** Press boxes in assembly areas shall be on an accessible route.

**Exceptions:**

1. An accessible route shall not be required to press boxes in bleachers that have points of entry at only

one level provided that the aggregate area of all press boxes is 500 square feet (46 m<sup>2</sup>) maximum.

2. An accessible route shall not be required to free-standing press boxes that are elevated above grade 12 feet (3660 mm) minimum provided that the aggregate area of all press boxes is 500 square feet (46 m<sup>2</sup>) maximum.

**11B-206.2.8 Employee work areas.** Common use circulation paths within employee work areas shall comply with *Section 11B-402*.

**Exceptions:**

1. *Reserved.*
2. Common use circulation paths located within employee work areas that are an integral component of work area equipment shall not be required to comply with *Section 11B-402*.
3. Common use circulation paths located within exterior employee work areas that are fully exposed to the weather shall not be required to comply with *Section 11B-402*.

**11B-206.2.9 Amusement rides.** Amusement rides required to comply with *Section 11B-234* shall provide accessible routes in accordance with *Section 11B-206.2.9*. Accessible routes serving amusement rides shall comply with *Division 4* except as modified by *Section 11B-1002.2*.

**11B-206.2.9.1 Load and unload areas.** Load and unload areas shall be on an accessible route. Where load and unload areas have more than one loading or unloading position, at least one loading and unloading position shall be on an accessible route.

**11B-206.2.9.2 Wheelchair spaces, ride seats designed for transfer, and transfer devices.** When amusement rides are in the load and unload position, wheelchair spaces complying with *Section 11B-1002.4*, amusement ride seats designed for transfer complying with *Section 11B-1002.5*, and transfer devices complying with *Section 11B-1002.6* shall be on an accessible route.

**11B-206.2.10 Recreational boating facilities.** Boat slips required to comply with *Section 11B-235.2* and boarding piers at boat launch ramps required to comply with *Section 11B-235.3* shall be on an accessible route. Accessible routes serving recreational boating facilities shall comply with *Division 4*, except as modified by *Section 11B-1003.2*.

**11B-206.2.11 Bowling lanes.** Where bowling lanes are provided, at least 5 percent, but no fewer than one of each type of bowling lane, shall be on an accessible route.

**11B-206.2.12 Court sports.** In court sports, at least one accessible route shall directly connect both sides of the court.

**11B-206.2.13 Exercise machines and equipment.** Exercise machines and equipment required to comply with *11B-236* shall be on an accessible route.

**11B-206.2.14 Fishing piers and platforms.** Fishing piers and platforms shall be on an accessible route. Accessible routes serving fishing piers and platforms shall comply with *Division 4* except as modified by *Section 11B-1005.1*.

**11B-206.2.15 Golf facilities.** At least one accessible route shall connect accessible elements and spaces within the boundary of the golf course. In addition, accessible routes serving golf car rental areas; bag drop areas; course weather shelters complying with *Section 11B-238.2.3*; course toilet rooms; and practice putting greens, practice teeing grounds, and teeing stations at driving ranges complying with *Section 11B-238.3* shall comply with *Division 4* except as modified by *Section 11B-1006.2*.

**Exception:** Golf car passages complying with *Section 11B-1006.3* shall be permitted to be used for all or part of accessible routes required by *Section 11B-206.2.15*.

**11B-206.2.16 Miniature golf facilities.** Holes required to comply with *Section 11B-239.2*, including the start of play, shall be on an accessible route. Accessible routes serving miniature golf facilities shall comply with *Division 4* except as modified by *Section 11B-1007.2*.

**11B-206.2.17 Play areas.** Play areas shall provide accessible routes in accordance with *Section 11B-206.2.17*. Accessible routes serving play areas shall comply with *Division 4* except as modified by *Section 11B-1008.2*.

**11B-206.2.17.1 Ground level and elevated play components.** At least one accessible route shall be provided within the play area. The accessible route shall connect ground level play components required to comply with *Section 11B-240.2.1* and elevated play components required to comply with *Section 11B-240.2.2*, including entry and exit points of the play components.

**11B-206.2.17.2 Soft contained play structures.** Where three or fewer entry points are provided for soft contained play structures, at least one entry point shall be on an accessible route. Where four or more entry points are provided for soft contained play structures, at least two entry points shall be on an accessible route.

**11B-206.2.18 Area of sport activity.** An accessible route shall be provided to the boundary of each area of sport activity.

**11B-206.3 Location.** Accessible routes shall coincide with or be located in the same area as general circulation paths. Where circulation paths are interior, required accessible routes shall also be interior. An accessible route shall not pass through kitchens, storage rooms, restrooms, closets or other spaces used for similar purposes, except as permitted by *Chapter 10*.

**11B-206.4 Entrances.** Entrances shall be provided in accordance with *Section 11B-206.4*. Entrance doors, doorways, and gates shall comply with *Section 11B-404* and shall be on an accessible route complying with *Section 11B-402*.

**Exceptions:**

1. *Reserved.*
2. *Reserved.*

**11B-206.4.1 Entrances and exterior ground floor exits.** All entrances and exterior ground-floor exits to buildings and facilities shall comply with Section 11B-404.

**Exceptions:**

1. Exterior ground floor exits serving smoke-proof enclosures, stairwells, and exit doors serving stairs only shall not be required to comply with Section 11B-404.
2. Exits in excess of those required by Chapter 10, and which are more than 24 inches (610 mm) above grade shall not be required to comply with Section 11B-404. Directional signage shall comply with Chapter 10, Section 1007.10.

**11B-206.4.2 Parking structure entrances.** Where direct access is provided for pedestrians from a parking structure to a building or facility entrance, each direct access to the building or facility entrance shall comply with Section 11B-404.

**11B-206.4.3 Entrances from tunnels or elevated walkways.** Where direct access is provided for pedestrians from a pedestrian tunnel or elevated walkway to a building or facility, all entrances to the building or facility from each tunnel or walkway shall comply with Section 11B-404.

**11B-206.4.4 Transportation facilities.** In addition to the requirements of Sections 11B-206.4.2, 11B-206.4.3, and 11B-206.4.5 through 11B-206.4.9, transportation facilities shall provide entrances in accordance with Section 11B-206.4.4.

**11B-206.4.4.1 Location.** In transportation facilities, where different entrances serve different transportation fixed routes or groups of fixed routes, entrances serving each fixed route or group of fixed routes shall comply with Section 11B-404.

**Exception:** Entrances to key stations and existing intercity rail stations retrofitted in accordance with 49 CFR 37.49 or 49 CFR 37.51 shall not be required to comply with Section 11B-206.4.4.1.

**11B-206.4.4.2 Direct connections.** Direct connections to other facilities shall provide an accessible route complying with Section 11B-404 from the point of connection to boarding platforms and all transportation system elements required to be accessible. Any elements provided to facilitate future direct connections shall be on an accessible route connecting boarding platforms and all transportation system elements required to be accessible.

**Exception:** In key stations and existing intercity rail stations, existing direct connections shall not be required to comply with Section 11B-404.

**11B-206.4.4.3 Key stations and intercity rail stations.** Key stations and existing intercity rail stations required by Subpart C of 49 CFR part 37 to be altered, shall have entrances complying with Section 11B-404.

**11B-206.4.5 Tenant spaces.** All entrances to each tenancy in a facility shall comply with Section 11B-404.

**Exception:** Self-service storage facilities not required to comply with Section 11B-225.3 shall not be required to be on an accessible route.

**11B-206.4.6 Residential dwelling unit primary entrance.** In residential dwelling units, at least one primary entrance

shall comply with Section 11B-404. The primary entrance to a residential dwelling unit shall not be to a bedroom.

**11B-206.4.7 Restricted entrances.** Where restricted entrances are provided to a building or facility, all restricted entrances to the building or facility shall comply with Section 11B-404.

**11B-206.4.8 Service entrances.** If a service entrance is the only entrance to a building or to a tenancy in a facility, that entrance shall comply with Section 11B-404. In existing buildings and facilities, a service entrance shall not be the sole accessible entrance unless it is the only entrance to a building or facility.

**11B-206.4.9 Entrances for inmates or detainees.** Where entrances used only by inmates or detainees and security personnel are provided at judicial facilities, detention facilities, or correctional facilities, at least one such entrance shall comply with Section 11B-404.

**11B-206.4.10 Medical care and long-term care facilities.** Weather protection by a canopy or roof overhang shall be provided at a minimum of one accessible entrance to licensed medical care and licensed long-term care facilities where the period of stay may exceed twenty-four hours. The area of weather protection shall include the passenger loading zone complying with Section 11B-209.3 and the accessible route from the passenger loading zone to the accessible entrance it serves.

**11B-206.5 Doors, doorways, and gates.** Doors, doorways and gates providing user passage shall be provided in accordance with Section 11B-206.5.

**11B-206.5.1 Entrances.** Each entrance to a building or facility required to comply with Section 11B-206.4 shall comply with Section 11B-404.

**11B-206.5.2 Rooms and spaces.** Within a building or facility, every door, doorway or gate serving rooms and spaces complying with this chapter shall comply with Section 11B-404.

**11B-206.5.3 Transient lodging facilities.** In transient lodging facilities, entrances, doors, and doorways providing user passage into and within guest rooms that are not required to provide mobility features complying with Section 11B-806.2 shall comply with Section 11B-404.2.3.

**Exception:** Shower and sauna doors in guest rooms that are not required to provide mobility features complying with Section 11B-806.2 shall not be required to comply with Section 11B-404.2.3.

**11B-206.5.4 Residential dwelling units.** In residential dwelling units required to provide mobility features complying with Sections 11B-809.2 through 11B-809.4, all doors and doorways providing user passage shall comply with Section 11B-404.

**11B-206.6 Elevators.** Elevators provided for passengers shall comply with Section 11B-407. Where multiple elevators are provided, each elevator shall comply with Section 11B-407.

**Exceptions:**

1. In a building or facility permitted to use the exceptions to Section 11B-206.2.3 or permitted by Section

11B-206.7 to use a platform lift, elevators complying with Section 11B-408 shall be permitted.

2. Elevators complying with Section 11B-408 or 11B-409 shall be permitted in multi-story residential dwelling units. *Elevators provided as a means of access within a private residence shall be installed so that they are not accessible to the general public or to other occupants of the building.*

3. *Destination-oriented elevators complying with Section 11B-411 shall be permitted.*

**11B-206.6.1 Existing elevators.** Where elements of existing elevators are altered, the same element shall also be altered in all elevators that are programmed to respond to the same hall call control as the altered elevator and shall comply with the requirements of Section 11B-407 for the altered element.

**Exception:** *Where a group of existing elevators are altered into a destination-oriented elevator system, or where elements of existing destination-oriented elevators are altered, the same elements shall also be altered in all elevators that are programmed to respond to the same call console or group of call consoles and shall comply with the requirements of Section 11B-411 for the altered elements.*

**11B-206.7 Platform lifts.** Platform lifts shall comply with Section 11B-410. Platform lifts shall be permitted as a component of an accessible route in new construction in accordance with Section 11B-206.7. Platform lifts shall be permitted as a component of an accessible route in an existing building or facility.

**11B-206.7.1 Performance areas and speakers' platforms.** Platform lifts shall be permitted to provide accessible routes to performance areas and speakers' platforms.

**11B-206.7.2 Wheelchair spaces.** Platform lifts shall be permitted to provide an accessible route to comply with the wheelchair space dispersion and line-of-sight requirements of Sections 11B-221 and 11B-802.

**11B-206.7.3 Incidental spaces.** Platform lifts shall be permitted to provide an accessible route to incidental spaces which are not public use spaces and which are occupied by five persons maximum.

**11B-206.7.4 Judicial spaces.** Platform lifts shall be permitted to provide an accessible route to: jury boxes and witness stands; raised courtroom stations including, judges' benches, clerks' stations, bailiffs' stations, deputy clerks' stations, and court reporters' stations; and to depressed areas such as the well of a court.

**11B-206.7.5 Existing site constraints.** Platform lifts shall be permitted where existing exterior site constraints make use of a ramp or elevator infeasible.

**11B-206.7.6 Guest rooms and residential dwelling units.** Platform lifts shall be permitted to connect levels within transient lodging guest rooms required to provide mobility features complying with Section 11B-806.2 or residential dwelling units required to provide mobility features complying with Sections 11B-809.2 through 11B-

809.4 and adaptable features complying with Chapter 11A, Division IV.

**11B-206.7.7 Amusement rides.** Platform lifts shall be permitted to provide accessible routes to load and unload areas serving amusement rides.

**11B-206.7.8 Play areas.** Platform lifts shall be permitted to provide accessible routes to play components or soft contained play structures.

**11B-206.7.9 Team or player seating.** Platform lifts shall be permitted to provide accessible routes to team or player seating areas serving areas of sport activity.

**11B-206.7.10 Recreational boating facilities and fishing piers and platforms.** Platform lifts shall be permitted to be used instead of gangways that are part of accessible routes serving recreational boating facilities and fishing piers and platforms.

**11B-206.8 Security barriers.** Security barriers, including but not limited to, security bollards and security check points, shall not obstruct a required accessible route or accessible means of egress.

**Exception:** Where security barriers incorporate elements that cannot comply with these requirements such as certain metal detectors, fluoroscopes, or other similar devices, the accessible route shall be permitted to be located adjacent to security screening devices. The accessible route shall permit persons with disabilities passing around security barriers to maintain visual contact with their personal items to the same extent provided others passing through the security barrier.

## 11B-207 Accessible means of egress

**11B-207.1 General.** Means of egress shall comply with Chapter 10, Section 1007.

### Exceptions:

1. Where means of egress are permitted by local building or life safety codes to share a common path of egress travel, accessible means of egress shall be permitted to share a common path of egress travel.
2. Areas of refuge shall not be required in detention and correctional facilities.

**11B-207.2 Platform lifts.** Standby power shall be provided for platform lifts permitted by Chapter 10, Section 1007.5 to serve as a part of an accessible means of egress. *To ensure continued operation in case of primary power loss, platform lifts shall be provided with standby power or with self-rechargeable battery power that provides sufficient power to operate all platform lift functions for a minimum of five upward and downward trips.*

## 11B-208 Parking spaces

**11B-208.1 General.** Where parking spaces are provided, parking spaces shall be provided in accordance with Section 11B-208.

**Exception:** Parking spaces used exclusively for buses, trucks, other delivery vehicles, or vehicular impound shall not be required to comply with Section 11B-208 provided

**TABLE 11B-208.2  
PARKING SPACES**

TOTAL NUMBER OF PARKING SPACES PROVIDED IN PARKING FACILITY	MINIMUM NUMBER OF REQUIRED ACCESSIBLE PARKING SPACES
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2 percent of total
1001 and over	20, plus 1 for each 100, or fraction thereof, over 1000

that lots accessed by the public are provided with a passenger loading zone complying with *Section 11B-503*.

**11B-208.2 Minimum number.** Parking spaces complying with *Section 11B-502* shall be provided in accordance with Table 11B-208.2 except as required by *Sections 11B-208.2.1, 11B-208.2.2, and 11B-208.2.3*. Where more than one parking facility is provided on a site, the number of accessible spaces provided on the site shall be calculated according to the number of spaces required for each parking facility.

**11B-208.2.1 Hospital outpatient facilities.** Ten percent of patient and visitor parking spaces provided to serve hospital outpatient facilities, and free-standing buildings providing outpatient clinical services of a hospital, shall comply with *Section 11B-502*.

**11B-208.2.2 Rehabilitation facilities and outpatient physical therapy facilities.** Twenty percent of patient and visitor parking spaces provided to serve rehabilitation facilities specializing in treating conditions that affect mobility and outpatient physical therapy facilities shall comply with *Section 11B-502*.

**11B-208.2.3 Residential facilities.** Parking spaces provided to serve residential facilities shall comply with *Section 11B-208.2.3*.

**11B-208.2.3.1 Parking for residents.** Where at least one parking space is provided for each residential dwelling unit, at least one parking space complying with *Section 11B-502* shall be provided for each residential dwelling unit required to provide mobility features complying with *Sections 11B-809.2 through 11B-809.4*.

**11B-208.2.3.2 Additional parking spaces for residents.** Where the total number of parking spaces provided for each residential dwelling unit exceeds one parking space per residential dwelling unit, 2 percent, but no fewer than one space, of all the parking spaces not covered by *Section 11B-208.2.3.1* shall comply with *Section 11B-502*.

**11B-208.2.3.3 Parking for guests, employees, and other non-residents.** Where parking spaces are provided for persons other than residents, parking shall be provided in accordance with Table 11B-208.2.

*Note:* When assigned parking is provided, Chapter 11A indicates designated accessible parking for the adaptable residential dwelling units shall be provided on requests of residents with disabilities on the same terms and with the full range of choices (e.g., off-street parking, carport or garage) that are available to other residents.

**11B-208.2.4 Van parking spaces.** For every six or fraction of six parking spaces required by *Section 11B-208.2* to comply with *Section 11B-502*, at least one shall be a van parking space complying with *Section 11B-502*.

**11B-208.3 Location.** Parking facilities shall comply with *Section 11B-208.3*.

**11B-208.3.1 General.** Parking spaces complying with *Section 11B-502* that serve a particular building or facility shall be located on the shortest accessible route from parking to an entrance complying with *Section 11B-206.4*. Where parking serves more than one accessible entrance, parking spaces complying with *Section 11B-502* shall be dispersed and located on the shortest accessible route to the accessible entrances. In parking facilities that do not serve a particular building or facility, parking spaces complying with *Section 11B-502* shall be located on the shortest accessible route to an accessible pedestrian entrance of the parking facility.

**Exceptions:**

1. All van parking spaces shall be permitted to be grouped on one level within a multi-story parking facility.
2. Parking spaces shall be permitted to be located in different parking facilities if substantially equivalent or greater accessibility is provided in terms of distance from an accessible entrance or entrances, parking fee, and user convenience.

**11B-208.3.2 Residential facilities.** In residential facilities containing residential dwelling units required to provide mobility features complying with *Sections 11B-809.2 through 11B-809.4, and adaptable features complying with Chapter 11A, Division IV*, parking spaces provided in accordance with *Section 11B-208.2.3.1* shall be located on the shortest accessible route to the residential dwelling unit entrance they serve. Spaces provided in accordance with *Section 11B-208.2.3.2* shall be dispersed throughout all types of parking provided for the residential dwelling units.

**Exception:** Parking spaces provided in accordance with *Section 11B-208.2.3.2* shall not be required to be dispersed throughout all types of parking if substantially equivalent or greater accessibility is provided in terms of distance from an accessible entrance, parking fee, and user convenience.

**11B-208.3.3 Private garages accessory to residential dwelling units.** *Private garages accessory to residential dwelling units shall comply with Section 11B-208.3. Private garages include individual garages and multiple individual garages grouped together.*

**11B-208.3.3.1 Detached private garages accessory to residential dwelling units shall be accessible as required by Section 11B-208.3.**

**11B-208.3.3.2 Attached private garages directly serving a single residential dwelling unit shall provide at least one of the following options:**

1. A door leading directly from the residential dwelling unit which immediately enters the garage.
2. An accessible route from the residential dwelling unit to an exterior door entering the garage.
3. An accessible route from the residential dwelling unit's primary entry door to the vehicular entrance at the garage.

### **11B-209 Passenger loading zones and bus stops**

**11B-209.1 General.** Passenger loading zones shall be provided in accordance with *Section 11B-209*.

**11B-209.2 Type.** Where provided, passenger loading zones shall comply with *Section 11B-209.2*.

**11B-209.2.1 Passenger loading zones.** Passenger loading zones, except those required to comply with *Sections 11B-209.2.2 and 11B-209.2.3*, shall provide at least one passenger loading zone complying with *Section 11B-503* in every continuous 100 linear feet (30480 mm) of loading zone space, or fraction thereof.

**11B-209.2.2 Bus loading zones.** In bus loading zones restricted to use by designated or specified public transportation vehicles, each bus bay, bus stop, or other area designated for lift or ramp deployment shall comply with *Section 11B-810.2*.

**11B-209.2.3 On-street bus stops.** On-street bus stops shall comply with *Section 11B-810.2* to the maximum extent practicable.

**11B-209.3 Medical care and long-term care facilities.** At least one passenger loading zone complying with *Section 11B-503* shall be provided at an accessible entrance to licensed medical care and licensed long-term care facilities where the period of stay may exceed twenty-four hours.

**11B-209.4 Valet parking.** Parking facilities that provide valet parking services shall provide at least one passenger loading zone complying with *Section 11B-503*. *The parking requirements of Section 11B-208.1 apply to facilities with valet parking.*

**11B-209.5 Mechanical access parking garages.** Mechanical access parking garages shall provide at least one passenger loading zone complying with *Section 11B-503* at vehicle drop-off and vehicle pick-up areas.

### **11B-210 Stairways**

**11B-210.1 General.** Interior and exterior stairs shall comply with *Section 11B-504*.

#### **Exceptions:**

1. In detention and correctional facilities, stairs that are not located in public use areas shall not be required to comply with *Section 11B-504*.
2. In alterations, stairs between levels that are connected by an accessible route shall not be required to comply with *Section 11B-504*, except that *striping complying with Section 11B-504.4.1* and handrails complying with *Section 11B-505* shall be provided when the stairs are altered.
3. In assembly areas, aisle stairs shall not be required to comply with *Section 11B-504* except that *striping complying with Section 11B-504.4.1* shall be provided.
4. Stairs that connect play components shall not be required to comply with *Section 11B-504* except that *striping complying with Section 11B-504.4.1* shall be provided.

### **11B-211 Drinking fountains**

**11B-211.1 General.** Where drinking fountains are provided on an exterior site, on a floor, or within a secured area they shall be provided in accordance with *Section 11B-211*.

**Exception:** In detention or correctional facilities, drinking fountains only serving holding or housing cells not required to comply with *Section 11B-232* shall not be required to comply with *Section 11B-211*.

**11B-211.2 Minimum number.** No fewer than two drinking fountains shall be provided. *When provided, one drinking fountain shall comply with Sections 11B-602.1 through 11B-602.6, 11B-602.8 and 11B-602.9 and one drinking fountain shall comply with Sections 11B-602.7 and 11B-602.9.*

**Exception:** Where a single drinking fountain complies with *Sections 11B-602.1 through 11B-602.9*, it shall be permitted to be substituted for two separate drinking fountains.

**11B-211.3 More than minimum number.** Where more than the minimum number of drinking fountains specified in *Section 11B-211.2* are provided, 50 percent of the total number of drinking fountains provided shall comply with *Sections*

11B-602.1 through 11B-602.6, 11B-602.8 and 11B-602.9, and 50 percent of the total number of drinking fountains provided shall comply with Sections 11B-602.7 and 11B-602.9.

**Exception:** Where 50 percent of the drinking fountains yields a fraction, 50 percent shall be permitted to be rounded up or down provided that the total number of drinking fountains complying with Section 11B-211 equals 100 percent of drinking fountains.

**11B-212 Kitchens, kitchenettes, wet bars and sinks**

**11B-212.1 General.** Where provided, kitchens, kitchenettes, wet bars and sinks shall comply with Section 11B-212.

**11B-212.2 Kitchens, kitchenettes, and wet bars.** Kitchens, kitchenettes and wet bars shall comply with Section 11B-804.

**11B-212.3 Sinks.** Where sinks are provided, at least 5 percent, but no fewer than one, of each type provided in each accessible room or space shall comply with Section 11B-606.

**Exceptions:**

1. Mop, service or scullery sinks shall not be required to comply with Section 11B-212.3.
2. Scrub sinks, as defined in California Plumbing Code Section 221.0, shall not be required to comply with Section 11B-606.

**11B-213 Toilet facilities and bathing facilities**

**11B-213.1 General.** Where toilet facilities and bathing facilities are provided, they shall comply with Section 11B-213. Where toilet facilities and bathing facilities are provided in facilities permitted by Section 11B-206.2.3 Exception 1 not to connect stories by an accessible route, toilet facilities and bathing facilities shall be provided on a story connected by an accessible route to an accessible entrance.

**11B-213.1.1 Toilet facilities for designated user groups.** Where separate toilet facilities are provided for the exclusive use of separate user groups, the toilet facilities serving each user group shall comply with Section 11B-213.

**11B-213.2 Toilet rooms and bathing rooms.** Where toilet rooms are provided, each toilet room shall comply with Section 11B-603. Where bathing rooms are provided, each bathing room shall comply with Section 11B-603.

**Exceptions:**

1. In alterations where it is technically infeasible to comply with Section 11B-603, altering existing toilet or bathing rooms shall not be required where a single unisex toilet room or bathing room complying with Section 11B-213.2.1 is provided and located in the same area and on the same floor as existing inaccessible toilet or bathing rooms.
2. **Reserved.**
3. Where multiple single user portable toilet or bathing units are clustered at a single location 5 percent, but no fewer than one, of the toilet units and bathing units at each cluster shall comply with Section 11B-603. Portable toilet units and bathing units complying with Section 11B-603 shall be identified by the International Symbol of Accessibility complying with Section 11B-703.7.2.1.

4. Where multiple single user toilet rooms are clustered at a single location, 50 percent, but no fewer than one, of the single user toilet rooms for each use at each cluster shall comply with Section 11B-603.
5. Where toilet and bathing rooms are provided in guest rooms that are not required to provide mobility features complying with Section 11B-806.2, toilet and bathing fixtures shall only be required to comply with Section 11B-603.6.

**11B-213.2.1 Unisex (single-use or family) toilet and unisex bathing rooms.** Unisex toilet rooms shall contain not more than one lavatory, and not more than two water closets without urinals or one water closet and one urinal. Unisex bathing rooms shall contain one shower or one shower and one bathtub, one lavatory, and one water closet. Doors to unisex toilet rooms and unisex bathing rooms shall have privacy latches.

**11B-213.2.2 Unisex (Patient) toilet rooms in medical care and long-term care facilities.** Common-use unisex toilet rooms for exclusive patient use not located within patient bedrooms shall contain a lavatory and one water closet.

**11B-213.2.3 Unisex (Patient) bathing rooms in medical care and long-term care facilities.** Common-use unisex bathing rooms for exclusive patient use not located within patient bedrooms shall contain one shower or one bathtub, one lavatory, and one water closet.

**11B-213.3 Plumbing fixtures and accessories.** Plumbing fixtures and accessories provided in a toilet room or bathing room required to comply with Section 11B-213.2 shall comply with Section 11B-213.3.

**11B-213.3.1 Toilet compartments.** Where toilet compartments are provided, at least 5 percent but no fewer than one toilet compartment shall comply with Section 11B-604.8.1. In addition to the compartments required to comply with Section 11B-604.8.1, where six or more toilet compartments are provided, or where the combination of urinals and water closets totals six or more fixtures, toilet compartments complying with Section 11B-604.8.2 shall be provided in the same quantity as the toilet compartments required to comply with Section 11B-604.8.1.

**11B-213.3.2 Water closets.** Where water closets are provided, at least 5 percent but no fewer than one shall comply with Section 11B-604.

**11B-213.3.3 Urinals.** Where one or more urinals are provided, at least 10 percent but no fewer than one shall comply with Section 11B-605.

**11B-213.3.4 Lavatories.** Where lavatories are provided, at least 10 percent but no fewer than one shall comply with Section 11B-606 and shall not be located in a toilet compartment.

**11B-213.3.5 Mirrors.** Where mirrors are provided, at least one shall comply with Section 11B-603.3.

**11B-213.3.6 Bathing facilities.** Where bathtubs or showers are provided, at least one bathtub complying with Section 11B-607 or at least one shower complying with Section 11B-608 shall be provided. Where two or more accessible showers are provided within the same func-

tional area, at least one shower shall be opposite hand from the other or others (that is, one left-hand controls versus right-hand controls).

**11B-213.3.7 Coat hooks and shelves.** Where coat hooks or shelves are provided in toilet rooms without toilet compartments, at least one of each type shall comply with *Section 11B-603.4*. Where coat hooks or shelves are provided in toilet compartments, at least one of each type complying with *Section 11B-604.8.3* shall be provided in toilet compartments required to comply with *Section 11B-213.3.1*. Where coat hooks or shelves are provided in bathing facilities, at least one of each type complying with *Section 11B-603.4* shall serve fixtures required to comply with *Section 11B-213.3.6*.

**11B-214 Washing machines and clothes dryers**

**11B-214.1 General.** Where provided, washing machines and clothes dryers shall comply with *Section 11B-214*.

**11B-214.2 Washing machines.** Where three or fewer washing machines are provided, at least one shall comply with *Section 11B-611*. Where more than three washing machines are provided, at least two shall comply with *Section 11B-611*.

**11B-214.3 Clothes dryers.** Where three or fewer clothes dryers are provided, at least one shall comply with *Section 11B-611*. Where more than three clothes dryers are provided, at least two shall comply with *Section 11B-611*.

**11B-215 Fire alarm systems and carbon monoxide alarm systems**

**11B-215.1 General.** Where fire alarm systems and carbon monoxide alarm systems provide audible alarm coverage, alarms shall comply with *Section 11B-215*.

**Exception:** In existing facilities, visible alarms for fire alarm systems shall not be required except where an existing fire alarm system is upgraded or replaced, or a new fire alarm system is installed.

**11B-215.2 Public and common use areas.** Alarms in public use areas and common use areas shall comply with *Chapter 9, Section 907.5.2.3.1*.

**11B-215.3 Employee work areas.** Where employee work areas have audible alarm coverage, the wiring system shall be designed so that visible alarms complying with *Chapter 9, Section 907.5.2.3.2* can be integrated into the alarm system.

**11B-215.4 Transient lodging.** Guest rooms required to comply with *Section 11B-224.4* shall provide fire alarms complying with *Chapter 9, Section 907.5.2.3.3*, and carbon monoxide alarms, where provided, complying with *Chapter 4*.

**11B-215.5 Residential facilities.** Where provided in residential dwelling units required to comply with *Section 11B-809.5*, fire alarms shall comply with *Chapter 9, Section 907.5.2.3.4* and carbon monoxide alarms shall comply with *Chapter 4*.

**11B-216 Signs**

**11B-216.1 General.** New or altered signs shall be provided in accordance with *Section 11B-216* and shall comply with

*Section 11B-703*. The addition of or replacement of signs shall not trigger any additional path of travel requirements.

**Exceptions:**

1. Building directories, menus, seat and row designations in assembly areas, occupant names, building addresses, and company names and logos shall not be required to comply with *Section 11B-216*.
2. *Reserved.*
3. Temporary, 7 days or less, signs shall not be required to comply with *Section 11B-216*.
4. In detention and correctional facilities, signs not located in public use areas shall not be required to comply with *Section 11B-216*.

**11B-216.2 Designations.** Interior and exterior signs identifying permanent rooms and spaces shall comply with *Sections 11B-703.1, 11B-703.2, 11B-703.3* and *11B-703.5*. Where pictograms are provided as designations of permanent rooms and spaces, the pictograms shall comply with *Section 11B-703.6* and shall have text descriptors complying with *Sections 11B-703.2* and *11B-703.5*.

**Exception:** Exterior signs that are not located at the door to the space they serve shall not be required to comply with *Section 11B-703.2*.

**11B-216.3 Directional and informational signs.** Signs that provide direction to or information about interior and exterior spaces and facilities of the site shall comply with *Section 11B-703.5*.

**11B-216.4 Means of egress.** Signs for means of egress shall comply with *Section 11B-216.4*.

**11B-216.4.1 Exit doors.** Signs required by *Chapter 10, Section 1011.4* at doors to exit passageways, exit discharge, and exit stairways shall comply with *Sections 11B-703.1, 11B-703.2, 11B-703.3* and *11B-703.5*.

**11B-216.4.2 Areas of refuge and exterior areas for assisted rescue.** Signs required by *Chapter 10, Section 1007.11* to provide instructions in areas of refuge shall comply with *Section 11B-703.5*. Signs required by *Chapter 10, Section 1007.9* at doors to areas of refuge and exterior areas for assisted rescue shall comply with *Sections 11B-703.1, 11B-703.2, 11B-703.3* and *11B-703.5* and include an International Symbol of Accessibility complying with *Section 11B-703.7.2.1*.

**11B-216.4.3 Directional signs.** Signs required by *Chapter 10, Section 1007.10* to provide directions to accessible means of egress shall comply with *Section 11B-703.5*.

**11B-216.4.4 Delayed egress locks.** Signs required by *Chapter 10, Section 1008.1.9.7, Item 5.1* at doors with delayed egress locks shall comply with *Sections 11B-703.1, 11B-703.2, 11B-703.3* and *11B-703.5*.

**11B-216.5 Parking.** Signs identifying parking spaces and signs within parking facilities shall comply with *Section 11B-216.5*.

**11B-216.5.1 Parking spaces.** Parking spaces complying with *Section 11B-502* shall be identified by signs complying with *Section 11B-502.6*.

**Exceptions:**

1. *Reserved.*
2. In residential facilities, where parking spaces are assigned to specific residential dwelling units, identification of accessible parking spaces shall not be required.

**11B-216.5.2 Parking facilities.** Signs intended for use by pedestrians within parking facilities, including directional or informational signs indicating parking sections or levels, shall comply with the requirements of *Section 11B-216*.

**11B-216.6 Entrances.** In existing buildings and facilities where not all entrances comply with *Section 11B-404*, entrances complying with *Section 11B-404* shall be identified by the International Symbol of Accessibility complying with *Section 11B-703.7.2.1*. Directional signs complying with *Section 11B-703.5* that indicate the location of the nearest entrance complying with *Section 11B-404* shall be provided at entrances that do not comply with *Section 11B-404*. Directional signs complying with *Section 11B-703.5*, including the International Symbol of Accessibility complying with *Section 11B-703.7.2.1*, indicating the accessible route to the nearest accessible entrance shall be provided at junctions when the accessible route diverges from the regular circulation path.

**Exceptions:**

1. An International Symbol of Accessibility is not required at entrances to individual rooms, suites, offices, sales or rental establishments, or other such spaces when all entrances to the building or facility are accessible and persons entering the building or facility have passed through one or more entrances with signage complying with this section.
2. An International Symbol of Accessibility is not required at entrances to machinery spaces frequented only by service personnel for maintenance, repair, or occasional monitoring of equipment; for example, elevator pits or elevator penthouses; mechanical, electrical or communications equipment rooms; piping or equipment catwalks; electric substations and transformer vaults; and highway and tunnel utility facilities.

**11B-216.7 Elevators.** Where existing elevators do not comply with *Section 11B-407*, elevators complying with *Section 11B-407* shall be clearly identified with the International Symbol of Accessibility complying with *Section 11B-703.7.2.1*. Existing buildings that have been remodeled to provide specific elevators for public use that comply with these building standards shall have the location of and the directions to these elevators posted in the building lobby on a sign complying with *Section 11B-703.5*, including the International Symbol of Accessibility complying with *Section 11B-703.7.2.1*.

**11B-216.8 Toilet rooms and bathing rooms.** Entrances to toilet rooms and bathing rooms shall be identified by a geometric symbol complying with *Section 11B-703.7.2.6*. Where existing toilet rooms or bathing rooms do not comply with

*Section 11B-603*, directional signs indicating the location of the nearest toilet room or bathing room complying with *Section 11B-603* within the facility shall be provided. Signs shall comply with *Section 11B-703.5* and shall include the International Symbol of Accessibility complying with *Section 11B-703.7.2.1*. Where existing toilet rooms or bathing rooms do not comply with *Section 11B-603*, the toilet rooms or bathing rooms complying with *Section 11B-603* shall be identified by the International Symbol of Accessibility complying with *Section 11B-703.7.2.1*. Where clustered single user toilet rooms or bathing facilities are permitted to use exceptions to *Section 11B-213.2*, toilet rooms or bathing facilities complying with *Section 11B-603* shall be identified by the International Symbol of Accessibility complying with *Section 11B-703.7.2.1* unless all toilet rooms and bathing facilities comply with *Section 11B-603*. Existing buildings that have been remodeled to provide specific toilet rooms or bathing rooms for public use that comply with these building standards shall have the location of and the directions to these rooms posted in or near the building lobby or entrance on a sign complying with *Section 11B-703.5*, including the International Symbol of Accessibility complying with *Section 11B-703.7.2.1*.

**11B-216.9 TTYs.** Identification and directional signs for public TTYs shall be provided in accordance with *Section 11B-216.9*.

**11B-216.9.1 Identification signs.** Public TTYs shall be identified by the International Symbol of TTY complying with *Section 11B-703.7.2.2*.

**11B-216.9.2 Directional signs.** Directional signs indicating the location of the nearest public TTY shall be provided at all banks of public pay telephones not containing a public TTY. In addition, where signs provide direction to public pay telephones, they shall also provide direction to public TTYs. If a facility has no banks of telephones, the directional signage shall be provided at the entrance or in a building directory. Directional signs shall comply with *Section 11B-703.5* and shall include the International Symbol of TTY complying with *Section 11B-703.7.2.2*.

**11B-216.10 Assistive listening systems.** Each assembly area required by *Section 11B-219* to provide assistive listening systems shall provide signs informing patrons of the availability of the assistive listening system. The sign shall include wording that states "Assistive-Listening System Available" and shall be posted in a prominent place at or near the assembly area entrance. Assistive listening signs shall comply with *Section 11B-703.5* and shall include the International Symbol of Access for Hearing Loss complying with *Section 11B-703.7.2.4*.

**Exception:** Where ticket offices or windows are provided, signs shall not be required at each assembly area provided that signs are displayed at each ticket office or window informing patrons of the availability of assistive listening systems.

**11B-216.11 Check-out aisles.** Where more than one check-out aisle is provided, check-out aisles complying with *Section 11B-904.3* shall be identified by a sign complying with *Section 11B-904.3.4*. Where check-out aisles are identified by numbers, letters, or functions, signs identifying check-out

aisles complying with Section 11B-904.3 shall be located in the same location as the check-out aisle identification.

**Exception:** Where all check-out aisles comply with Section 11B-904.3, signs complying with Section 11B-703.7.2.1 shall not be required.

**11B-216.12 Amusement rides.** Signs identifying the type of access provided on amusement rides shall be provided at entries to queues and waiting lines. In addition, where accessible unload areas also serve as accessible load areas, signs indicating the location of the accessible load and unload areas shall be provided at entries to queues and waiting lines. Signs shall comply with Section 11B-703.5 and shall include the International Symbol of Accessibility complying with Section 11B-703.7.2.1.

**11B-216.13 Cleaner Air Symbol**

**11B-216.13.1 Use of Cleaner Air Symbol.** Use of the Cleaner Air Symbol is voluntary. Where publicly funded facilities or any facilities leased or rented by the State of California, not including concessionaires, comply with the conditions of use identified in Section 11B-216.13.3, a Cleaner Air Symbol complying with Section 11B-703.7.2.5 is permitted to be posted in compliance with Section 11B-216.3 to indicate rooms, facilities, and paths of travel that are accessible to and usable by people who are adversely impacted by airborne chemicals or particulates and/or the use of electrical fixtures and/or devices.

**11B-216.13.2 Removal of Cleaner Air Symbol.** If the path of travel, room and/or facility identified by the Cleaner Air Symbol should temporarily or permanently cease to meet the minimum conditions of use identified in Section 11B-216.13.3, the Cleaner Air Symbol shall be removed and shall not be replaced until the minimum conditions are again met.

**11B-216.13.3 Conditions of use.** The Cleaner Air Symbol shall be permitted for use to identify a path of travel, and a room or a facility when the following is met:

1. Floor or wall coverings, floor or wall covering adhesives, carpets, formaldehyde-emitting particle-board cabinetry, cupboards or doors have not been installed or replaced in the previous 12 months.
2. Incandescent lighting provided in lieu of fluorescent or halogen lighting, and electrical systems and equipment shall be operable by or on behalf of the occupant or user of the room, facility or path of travel.
3. Heating, ventilation, air conditioning and their controls shall be operable by or on behalf of the occupant or user.
4. To maintain "cleaner air" designation only nonirritating, nontoxic products will be used in cleaning,

*maintenance, disinfection, pest management or for any minimal touch-ups that are essential for occupancy of the area. Deodorizers or Fragrance Emission Devices and Systems (FEDS) shall not be used in the designated area. Pest control practices for cleaner air areas shall include the use of bait stations using boric acid, sticky traps and silicon caulk for sealing cracks and crevices. Areas shall be routinely monitored for pest problems. Additional nontoxic treatment methods, such as temperature extremes for termites, may be employed in the event of more urgent problems. These pest control practices shall not be used 48 hours prior to placement of the sign, and the facility shall be ventilated with outside air for a minimum of 24 hours following use or application.*

5. Signage shall be posted requesting occupants or users not to smoke or wear perfumes, colognes or scented personal care products. Fragranced products shall not be used in the designated cleaner-air room, facility or path of travel.
6. A log shall be maintained on site, accessible to the public either in person or by telephone, e-mail, fax or other accessible means as requested. One or more individuals shall be designated to maintain the log. The log shall record any product or practice used in the cleaner air designated room, facility or path of travel, as well as scheduled activities, that may impact the cleaner air designation. The log shall also include the product label as well as the Material Safety Data Sheets (MSDS).

**11B-216.14 Variable message signs.** Where provided in transportation facilities, variable message signs conveying transportation-related information shall comply with Section 11B-703.8. Where provided in buildings that are designed as emergency shelters, variable message signs conveying emergency-related information shall comply with Section 11B-703.8.

**11B-217 Telephones**

**11B-217.1 General.** Where coin-operated public pay telephones, coinless public pay telephones, public closed-circuit telephones, public courtesy phones, or other types of public telephones are provided, public telephones shall be provided in accordance with Section 11B-217 for each type of public telephone provided. For purposes of this section, a bank of telephones shall be considered to be two or more adjacent telephones.

**11B-217.2 Wheelchair accessible telephones.** Where public telephones are provided, wheelchair accessible telephones complying with Section 11B-704.2 shall be provided in accordance with Table 11B-217.2.

**TABLE 11B-217.2  
WHEELCHAIR ACCESSIBLE TELEPHONES**

NUMBER OF TELEPHONES PROVIDED ON A FLOOR, LEVEL, OR EXTERIOR SITE	MINIMUM NUMBER OF REQUIRED WHEELCHAIR ACCESSIBLE TELEPHONES
1 or more single units	At least 50 percent of telephone units, but not less than 1 per floor, level, and exterior site
1 bank	At least 50 percent of telephone units per bank, but not less than 1 per floor, level, and exterior site
2 or more banks	At least 50 percent of telephone units per bank, but not less than 1 per bank At least 1 telephone per floor shall meet the requirements for a forward reach telephone.

**Exception:** Drive-up only public telephones shall not be required to comply with *Section 11B-217.2*.

**11B-217.3 Volume controls.** All public telephones shall have volume controls complying with *Section 11B-704.3*.

**11B-217.4 TTYs.** TTYs complying with *Section 11B-704.4* shall be provided in accordance with *Section 11B-217.4*.

**11B-217.4.1 Bank requirement.** Where four or more public pay telephones are provided at a bank of telephones, at least one public TTY complying with *Section 11B-704.4* shall be provided at that bank.

**Exception: Reserved.**

**11B-217.4.2 Floor requirement.** TTYs in public buildings shall be provided in accordance with *Section 11B-217.4.2.1*. TTYs in private buildings shall be provided in accordance with *Section 11B-217.4.2.2*.

**11B-217.4.2.1 Public buildings.** Where at least one public pay telephone is provided on a floor of a public building, at least one public TTY shall be provided on that floor.

**11B-217.4.2.2 Private buildings.** Where four or more public pay telephones are provided on a floor of a private building, at least one public TTY shall be provided on that floor.

**11B-217.4.3 Building requirement.** TTYs in public buildings shall be provided in accordance with *Section 11B-217.4.3.1*. TTYs in private buildings shall be provided in accordance with *Section 11B-217.4.3.2*.

**11B-217.4.3.1 Public buildings.** Where at least one public pay telephone is provided in a public building, at least one public TTY shall be provided in the building. Where at least one public pay telephone is provided in a public use area of a public building, at least one public TTY shall be provided in the public building in a public use area.

**11B-217.4.3.2 Private buildings.** Where four or more public pay telephones are provided in a private building, at least one public TTY shall be provided in the building.

**Exception:** *In a stadium or arena, in a convention center, in a hotel with a convention center or in a covered mall, if an interior public pay telephone is provided at least one interior public TTY shall be provided in the facility.*

**11B-217.4.4 Exterior site requirement.** Where four or more public pay telephones are provided on an exterior site, at least one public TTY shall be provided on the site.

**11B-217.4.5 Rest stops, emergency roadside stops, and service plazas.** Where at least one public pay telephone is provided at a public rest stop, emergency roadside stop, or service plaza, at least one public TTY shall be provided.

**11B-217.4.6 Hospitals.** Where at least one public pay telephone is provided serving a hospital emergency room, hospital recovery room, or hospital waiting room, at least one public TTY shall be provided at each location.

**11B-217.4.7 Transportation facilities.** In transportation facilities, in addition to the requirements of *Sections 11B-*

*217.4.1 through 11B-217.4.4*, where at least one public pay telephone serves a particular entrance to a bus or rail facility, at least one public TTY shall be provided to serve that entrance. In airports, in addition to the requirements of *Sections 11B-217.4.1 through 11B-217.4.4*, where four or more public pay telephones are located in a terminal outside the security areas, a concourse within the security areas, or a baggage claim area in a terminal, at least one public TTY shall be provided in each location.

**11B-217.4.8 Detention and correctional facilities.** In detention and correctional facilities, where at least one pay telephone is provided in a secured area used only by detainees or inmates and security personnel, at least one TTY shall be provided in at least one secured area.

**11B-217.5 Shelves for portable TTYs.** Where a bank of telephones in the interior of a building consists of three or more public pay telephones, at least one public pay telephone at the bank shall be provided with a shelf and an electrical outlet in accordance with *Section 11B-704.5*.

**Exceptions:**

1. Secured areas of detention and correctional facilities where shelves and outlets are prohibited for purposes of security or safety shall not be required to comply with *Section 11B-217.5*.
2. The shelf and electrical outlet shall not be required at a bank of telephones with a TTY.

**11B-218 Transportation facilities.**

**11B-218.1 General.** Transportation facilities shall comply with *Section 11B-218*.

**11B-218.2 New and altered fixed guideway stations.** New and altered stations in rapid rail, light rail, commuter rail, intercity rail, high speed rail, and other fixed guideway systems shall comply with *Sections 11B-810.5 through 11B-810.10*.

**11B-218.3 Key stations and existing intercity rail stations.** Key stations and existing intercity rail stations shall comply with *Sections 11B-810.5 through 11B-810.10*.

**11B-218.4 Bus shelters.** Where provided, bus shelters shall comply with *Section 11B-810.3*.

**11B-218.5 Other transportation facilities.** In other transportation facilities, public address systems shall comply with *Section 11B-810.7* and clocks shall comply with *Section 11B-810.8*.

**11B-219 Assistive listening systems**

**11B-219.1 General.** Assistive listening systems shall be provided in accordance with *Section 11B-219* and shall comply with *Section 11B-706*.

**11B-219.2 Required systems.** *An assistive listening system shall be provided in assembly areas, including conference and meeting rooms.*

**Exception:** *This section does not apply to systems used exclusively for paging, background music, or a combination of these two uses.*

**11B-219.3 Receivers.** *The minimum number of receivers to be provided shall be equal to 4 percent of the total number of*

*increase seating for an event, wheelchair spaces may be placed in that section.*

>|| **Note:** When required wheelchair spaces are not occupied by persons eligible for those spaces, individual, removable seats may be placed in those spaces.

|| **11B-221.3 Companion seats.** At least one companion seat complying with Section 11B-802.3 shall be provided immediately adjacent to each wheelchair space required by Section 11B-221.2.1.

**11B-221.4 Designated aisle seats.** At least 5 percent of the total number of aisle seats provided shall comply with Section 11B-802.4 and shall be the aisle seats located closest to accessible routes.

**Exception:** Team or player seating areas serving areas of sport activity shall not be required to comply with Section 11B-221.4.

**11B-221.5 Lawn seating.** Lawn seating areas and exterior overflow seating areas, where fixed seats are not provided, shall connect to an accessible route.

**11B-221.6 Semi-ambulant seats.** At least 1 percent of the total number of seats, and no fewer than two, shall be semi-ambulant seats complying with Section 11B-802.5.

**11B-222 Dressing, fitting, and locker rooms**

**11B-222.1 General.** Where dressing rooms, fitting rooms, or locker rooms are provided, at least 5 percent, but no fewer than one, of each type of use in each cluster provided shall comply with Section 11B-803.

**Exception:** In alterations, where it is technically infeasible to provide rooms in accordance with Section 11B-222.1, one room for each sex on each level shall comply with Section 11B-803. Where only unisex rooms are provided, unisex rooms shall be permitted.

**11B-222.2 Coat hooks and shelves.** Where coat hooks or shelves are provided in dressing, fitting or locker rooms without individual compartments, at least one of each type shall comply with Section 11B-803.5. Where coat hooks or shelves are provided in individual compartments at least one of each type complying with Section 11B-803.5 shall be provided in individual compartments in dressing, fitting, or locker rooms required to comply with Section 11B-222.1.

**11B-222.3 Mirrors.** Where mirrors are provided in dressing, fitting or locker rooms without individual compartments, at least one of each type shall comply with Section 11B-803.6. Where mirrors are provided in individual compartments at least one of each type complying with Section 11B-803.6 shall be provided in individual compartments in dressing, fitting or locker rooms required to comply with Section 11B-222.1.

**11B-223 Medical care and long-term care facilities**

**11B-223.1 General.** In licensed medical care facilities and licensed long-term care facilities where the period of stay exceeds twenty-four hours, patient bedrooms or resident

sleeping rooms shall be provided in accordance with Sections 11B-223 and 11B-805.

**Exception:** Toilet rooms that are part of critical or intensive care patient sleeping rooms shall not be required to comply with Section 11B-603.

**11B-223.1.1 Alterations.** Where patient bedrooms or resident sleeping rooms are altered or added, the requirements of Section 11B-223 shall apply only to the patient bedrooms or resident sleeping rooms being altered or added until the number of patient bedrooms or resident sleeping rooms complies with the minimum number required for new construction.

**11B-223.1.1.1 Area alterations.** Patient bedrooms or resident sleeping rooms added or altered as part of a planned renovation of an entire wing, a department, or other discrete area of an existing medical facility shall comply with Section 11B-805.2 until the number of patient bedrooms or resident sleeping rooms provided within the area of renovation complies with the minimum number required for new construction by Section 11B-223.2 or 11B-223.3.

**11B-223.1.1.2 Individual alterations.** Patient bedrooms or resident sleeping rooms added or altered individually, and not as part of an alteration of an entire area, shall comply with Section 11B-805.2, until either: a) the number of patient bedrooms or resident sleeping rooms provided in the department or area containing the individually altered or added patient bedrooms or resident sleeping rooms complies with the minimum number required if the percentage requirements of Section 11B-223.2 or 11B-223.3 were applied to that department or area; or b) the overall number of patient bedrooms or resident sleeping rooms in the facility complies with the minimum number required for new construction by Section 11B-223.2 or 11B-223.3.

**11B-223.1.1.3 Toilet and bathing facilities.** Toilet/bathing rooms which are part of patient bedrooms added or altered and required to be accessible shall comply with Section 11B-805.2.4.

**11B-223.2 Hospitals, rehabilitation facilities, psychiatric facilities and detoxification facilities.** Hospitals, rehabilitation facilities, psychiatric facilities and detoxification facilities shall comply with Section 11B-223.2. All public use and common use areas shall be accessible in compliance with this chapter.

**11B-223.2.1 Facilities not specializing in treating conditions that affect mobility.** In facilities not specializing in treating conditions that affect mobility, including hospitals, psychiatric and detoxification facilities, at least 10 percent, but no fewer than one, of the patient bedrooms or resident sleeping rooms shall provide mobility features complying with Section 11B-805. Accessible patient bedrooms or resident sleeping rooms shall be dispersed in a manner that is proportionate by type of medical specialty.

**11B-223.2.2 Facilities specializing in treating conditions that affect mobility.** In facilities specializing in treating conditions that affect mobility, 100 percent of the patient *bedrooms* shall provide mobility features complying with *Section 11B-805*.

**11B-223.2.3 On-call rooms.** Where physician or staff on-call sleeping rooms are provided, at least 10 percent, but no fewer than one, of the on-call rooms shall provide mobility features complying with *Sections 11B-806.2.3, 11B-806.2.4 and 11B-806.2.6*.

**11B-223.3 Long-term care facilities.** In licensed long-term care facilities, including skilled nursing facilities, intermediate care facilities and nursing homes, at least 50 percent, but no fewer than one, of each type of *patient bedroom* or resident sleeping room shall provide mobility features complying with *Section 11B-805*.

**11B-223.4 Professional offices of health care providers.** Professional offices of health care providers shall comply with *Section 11B-805*.

**11B-224 Transient lodging guest rooms, housing at a place of education and social service center establishments**

**11B-224.1 General.** Hotels, motels, inns, dormitories, resorts and similar transient lodging facilities shall provide guest rooms in accordance with *Sections 11B-224.1 through 11B-224.6*.

**11B-224.1.1 Alterations.** Where guest rooms are altered or added, the requirements of *Section 11B-224* shall apply only to the guest rooms being altered or added until the number of guest rooms complies with the minimum number required for new construction.

**11B-224.1.2 Guest room doors and doorways.** Entrances, doors, and doorways providing user passage into and within guest rooms that are not required to provide mobility features complying with *Section 11B-806.2* shall comply with *Section 11B-404.2.3*. *Bathrooms doors shall be either sliding or hung to swing in the direction of egress from the bathroom.*

**Exception:** Shower and sauna doors in guest rooms that are not required to provide mobility features complying with *Section 11B-806.2* shall not be required to comply with *Section 11B-404.2.3*.

**11B-224.1.3 Range of accommodations.** Accessible guest rooms or suites shall be dispersed among the various classes of sleeping accommodations to provide a range of options applicable to room sizes, costs, and amenities provided.

**11B-224.1.4 Guest room toilet and bathing rooms.** Where toilet and bathing rooms are provided in guest rooms that are not required to provide mobility features complying with *Section 11B-806.2*, toilet and bathing fixtures shall only be required to comply with *Section 11B-603.6*.

**11B-224.2 Guest rooms with mobility features.** In transient lodging facilities, guest rooms with mobility features complying with *Section 11B-806.2* shall be provided in accordance with *Table 11B-224.2*, as follows.

**11B-224.2.1 Fifty or less guest room facilities.** Facilities that are subject to the same permit application on a common site that each have fifty or fewer guest rooms may be combined

for the purposes of determining the required number of accessible rooms and type of accessible bathing facility.

**11B-224.2.2 More than fifty guest room facilities.** Facilities with more than fifty guest rooms shall be treated separately for the purposes of determining the required number of accessible rooms and type of accessible bathing facility.

**11B-224.3 Beds.** In guest rooms having more than 25 beds, 5 percent minimum of the beds shall have clear floor space complying with *Section 11B-806.2.3*.

**11B-224.4 Guest rooms with communication features.** In transient lodging facilities, guest rooms with communication features complying with *Section 11B-806.3* shall be provided in accordance with *Table 11B-224.4*.

**11B-224.5 Dispersion.** Guest rooms required to provide mobility features complying with *Section 11B-806.2* and guest rooms required to provide communication features complying with *Section 11B-806.3* shall be dispersed among the various classes of guest rooms, and shall provide choices of types of guest rooms, number of beds, and other amenities comparable to the choices provided to other guests. Where the minimum number of guest rooms required to comply with *Section 11B-806* is not sufficient to allow for complete dispersion, guest rooms shall be dispersed in the following priority: guest room type, number of beds, and amenities. At least one guest room required to provide mobility features complying with *Section 11B-806.2* shall also provide communication features complying with *Section 11B-806.3*. Not more than 10 percent of guest rooms required to provide mobility features complying with *Section 11B-806.2* shall be used to satisfy the minimum number of guest rooms required to provide communication features complying with *Section 11B-806.3*.

**11B-224.6 Storage.** Fixed or built-in storage facilities within guest rooms required to provide mobility features shall comply with *Section 11B-225*.

**11B-224.7 Housing at a place of education.** Housing at a place of education subject to this section shall comply with *Sections 11B-224.1 through 11B-224.6 and 11B-806* for transient lodging guest rooms. For the purposes of the application of this section, the term "sleeping room" is interchangeable with "guest room" as used in the transient lodging standards.

**Exceptions:**

1. Kitchens within housing units containing accessible sleeping rooms with mobility features (including suites and clustered sleeping rooms) or on floors containing accessible sleeping rooms with mobility features shall provide turning spaces that comply with *Section 11B-809.2.2* and kitchen work surfaces that comply with *Section 11B-804.3*.
2. Multi-bedroom housing units containing accessible sleeping rooms with mobility features shall have an accessible route throughout the unit in compliance with *Section 11B-809.2*.
3. Housing facilities that are provided by or on behalf of a place of education, with residential dwelling units leased on a year-round basis exclusively to graduate students or faculty, and that do not contain any public use or common use areas available for

educational programming, are not subject to Section 11B-224 and shall comply with Section 11B-233.

**11B-224.7.1 Multi-bedroom housing units with mobility features.** Multi-bedroom housing units containing accessible sleeping rooms with mobility features shall have an accessible route throughout the unit in compliance with Section 11B-809.2. Kitchens, when provided, within housing units containing accessible sleeping rooms with mobility features shall comply with Section 11B-804.

**11B-224.7.2 Multi-bedroom housing units with adaptable features.** Multi-bedroom housing units with adaptable features shall be provided as required by Section 11B-233.3.1.2. The number of required multi-bedroom housing units with adaptable features shall be reduced by the number of multi-bedroom housing units with mobility features required by Section 11B-224.2.

**11B-224.8 Social service center establishments.** Group homes, halfway houses, shelters, or similar social service center establishments that provide either temporary sleeping accommodations or residential dwelling units subject to this section shall comply with Sections 11B-224.1 through 11B-224.6 and Section 11B-233.3.

**11B-224.8.1 More than 25-bed sleeping rooms.** In sleeping rooms with more than 25 beds, a minimum of 5 percent of the beds shall have clear floor space complying with Section 11B-806.2.3.

**11B-224.8.2 More than 50-bed facilities.** Facilities with more than 50 beds that provide common use bathing facilities shall provide at least one roll-in shower with a seat that complies with Section 11B-608. When separate shower facilities are provided for men and women, at least one roll-in shower shall be provided for each group.

**11B-225 Storage**

**11B-225.1 General.** Storage facilities shall comply with Section 11B-225.

**11B-225.2 Storage.** Where storage is provided in accessible spaces, at least one of each type shall comply with Section 11B-811.

**11B-225.2.1 Lockers.** Where lockers are provided, at least 5 percent, but no fewer than one of each type, shall comply with Section 11B-811.

**11B-225.2.2 Self-service shelving.** Self-service shelves shall be located on an accessible route complying with Section 11B-402. Self-service shelving shall not be required to comply with Section 11B-308.

**TABLE 11B-224.2  
GUEST ROOMS WITH MOBILITY FEATURES**

TOTAL NUMBER OF GUEST ROOMS PROVIDED	MINIMUM NUMBER OF REQUIRED ROOMS WITHOUT ROLL-IN SHOWERS	MINIMUM NUMBER OF REQUIRED ROOMS WITH ROLL-IN SHOWERS	TOTAL NUMBER OF REQUIRED ROOMS
1 to 25	0	1	1
26 to 50	1	1	2
51 to 75	3	1	4
76 to 100	4	1	5
101 to 150	5	2	7
151 to 200	6	2	8
201 to 300	7	3	10
301 to 400	8	4	12
401 to 500	9	4	13
501 to 1000	2 percent of total	1 percent of total	3 percent of total
1001 and over	20, plus 1 for each 100, or fraction thereof, over 1000	10, plus 1 for each 100, or fraction thereof, over 1000	30, plus 2 for each 100, or fraction thereof, over 1000

**TABLE 11B-224.4  
GUEST ROOMS WITH COMMUNICATION FEATURES**

TOTAL NUMBER OF GUEST ROOMS PROVIDED	MINIMUM NUMBER OF REQUIRED GUEST ROOMS WITH COMMUNICATION FEATURES
1	1
2 to 25	2
26 to 50	4
51 to 75	7
76 to 100	9
101 to 150	12
151 to 200	14
201 to 300	17
301 to 400	20
401 to 500	22
501 to 1000	5 percent of total
1001 and over	50, plus 3 for each 100 over 1000

**11B-225.2.3 Library book stacks.** Book stacks available for public use shall be 54 inches (1372 mm) maximum above the finish floor.

**Exceptions:**

1. Book stacks available for public use may be higher than 54 inches (1372 mm) maximum above the finish floor when an attendant is available to assist persons with disabilities.
2. Book stacks restricted to employee use are not required to comply with these requirements.

**11B-225.3 Self-service storage facilities.** Self-service storage facilities shall provide individual self-service storage spaces complying with these requirements in accordance with Table 11B-225.3.

**TABLE 11B-225.3  
SELF-SERVICE STORAGE FACILITIES**

TOTAL SPACES IN FACILITY	MINIMUM NUMBER OF SPACES REQUIRED TO BE ACCESSIBLE
1 to 200	5 percent, but no fewer than 1
201 and over	10, plus 2 percent of total number of units over 200

**11B-225.3.1 Dispersion.** Individual self-service storage spaces shall be dispersed throughout the various classes of spaces provided. Where more classes of spaces are provided than the number required to be accessible, the number of spaces shall not be required to exceed that required by Table 11B-225.3. Self-service storage spaces complying with Table 11B-225.3 shall not be required to be dispersed among buildings in a multi-building facility.

**11B-226 Dining surfaces and work surfaces**

**11B-226.1 General.** Where dining surfaces are provided for the consumption of food or drink, at least 5 percent of the seating spaces and standing spaces at the dining surfaces shall comply with Section 11B-902. In addition, where work surfaces are provided for use by other than employees, at least 5 percent shall comply with Section 11B-902.

**Exceptions:**

1. Sales counters and service counters shall not be required to comply with Section 11B-902. See Section 11B-227.
2. Check writing surfaces provided at check-out aisles not required to comply with Section 11B-904.3 shall not be required to comply with Section 11B-902.

**11B-226.2 Dispersion.** Dining surfaces required to comply with Section 11B-902 shall be dispersed throughout the space or facility containing dining surfaces for each type of seating in a functional area. Work surfaces required to comply with Section 11B-902 shall be dispersed throughout the space or facility containing work surfaces.

**11B-226.3 Dining surfaces exceeding 34 inches in height.** Where food or drink is served for consumption at a counter exceeding 34 inches (864 mm) in height, a portion of the main counter 60 inches (1525 mm) minimum in length shall be provided in compliance with Section 11B-902.3.

**11B-226.4 Baby changing tables.** Baby changing tables shall comply with Sections 11B-309 and 11B-902. Baby changing tables when deployed shall not obstruct the required width of an accessible route except as allowed by Section 11B-307.2. Baby changing tables shall not be located in toilet compartments complying with Section 11B-604.8 within a multiple accommodation toilet facility.

**11B-227 Sales and service**

**11B-227.1 General.** Where provided, check-out aisles, sales counters, service counters, food service lines, queues, and waiting lines shall comply with Sections 11B-227 and 11B-904.

**11B-227.2 Check-out aisles.** Where check-out aisles are provided, check-out aisles complying with Section 11B-904.3 shall be provided in accordance with Table 11B-227.2. Where check-out aisles serve different functions, check-out aisles complying with Section 11B-904.3 shall be provided in accordance with Table 11B-227.2 for each function. Where check-out aisles are dispersed throughout the building or facility, check-out aisles complying with Section 11B-904.3 shall be dispersed. When not all check-out aisles are accessible, accessible check-out aisles shall be identified by a sign complying with Section 11B-904.3.4.

**Note:** Operational procedures are often necessary to ensure the Americans with Disabilities Act accessibility requirements are met. When check-out aisles are open for customer use, the business should ensure that a minimum of one accessible check-out aisle is always available for use by persons with disabilities. As check-out aisles are opened and closed based on fluctuating customer levels, the business should ensure that the number of accessible check-out aisles available complies with Table 11B-227.2.

**Exception:** In existing buildings, where the selling space is under 5000 square feet (465 m<sup>2</sup>) no more than one check-out aisle complying with Section 11B-904.3 shall be required.

**TABLE 11B-227.2  
CHECK-OUT AISLES**

NUMBER OF CHECK-OUT AISLES OF EACH FUNCTION	MINIMUM NUMBER OF CHECK-OUT AISLES OF EACH FUNCTION REQUIRED TO COMPLY WITH 11B-904.3
1 to 4	1
5 to 8	2
9 to 15	3
16 and over	3, plus 20 percent of additional aisles

**11B-227.2.1 Altered check-out aisles.** Where check-out aisles are altered, at least one of each check-out aisle serving each function shall comply with Section 11B-904.3 until the number of check-out aisles complies with Section 11B-227.2.

**11B-227.3 Counters.** Where provided, at least one of each type of sales counter and service counter shall comply with Section 11B-904.4. Where counters are dispersed throughout the building or facility, counters complying with Section 11B-904.4 also shall be dispersed.

**11B-227.4 Food service lines.** Food service lines shall comply with Section 11B-904.5. Where self-service shelves are

provided, at least 50 percent, but no fewer than one, of each type provided shall comply with *Section 11B-308*.

**11B-227.5 Queues and waiting lines.** Queues and waiting lines servicing counters or check-out aisles required to comply with *Sections 11B-904.3* or *11B-904.4* shall comply with *Section 11B-403*.

**11B-228 Depositories, vending machines, change machines, mail boxes, and fuel dispensers**

**11B-228.1 General.** Where provided, at least one of each type of depository, vending machine, change machine, and fuel dispenser shall comply with *Section 11B-309*.

**Exception:** Drive-up only depositories shall not be required to comply with *Section 11B-309*.

**11B-228.2 Mail boxes.** Where mail boxes are provided in an interior location, at least 5 percent, but no fewer than one, of each type shall comply with *Section 11B-309*. In residential facilities, where mail boxes are provided for each residential dwelling unit, mail boxes complying with *Section 11B-309* shall be provided for each residential dwelling unit required to provide mobility features complying with *Sections 11B-809.2* through *11B-809.4* and *adaptable features complying with Chapter 11A, Division IV*.

**11B-229 Windows**

**11B-229.1 General.** Where glazed openings are provided in accessible rooms or spaces for operation by occupants, at least one opening shall comply with *Section 11B-309*. Each glazed opening required by an administrative authority to be operable shall comply with *Section 11B-309*.

**Exception:**

1. Glazed openings in residential dwelling units required to comply with *Section 11B-809* shall not be required to comply with *Section 11B-229*.
2. Glazed openings in guest rooms required to provide communication features and in guest rooms required to comply with *Section 11B-206.5.3* shall not be required to comply with *Section 11B-229*.

**11B-230 Two-way communication systems**

**11B-230.1 General.** Where a two-way communication system is provided to gain admittance to a building or facility or to restricted areas within a building or facility, the system shall comply with *Section 11B-708*.

**11B-231 Judicial facilities**

**11B-231.1 General.** Judicial facilities shall comply with *Section 11B-231*.

**11B-231.2 Courtrooms.** Each courtroom shall comply with *Section 11B-808*.

**11B-231.3 Holding cells.** Where provided, central holding cells and court-floor holding cells shall comply with *Section 11B-231.3*.

**11B-231.3.1 Central holding cells.** Where separate central holding cells are provided for adult male, juvenile male, adult female, or juvenile female, one of each type shall comply with *Section 11B-807.2*. Where central holding cells are provided and are not separated by age or sex,

at least one cell complying with *Section 11B-807.2* shall be provided.

**11B-231.3.2 Court-floor holding cells.** Where separate court-floor holding cells are provided for adult male, juvenile male, adult female, or juvenile female, each courtroom shall be served by one cell of each type complying with *Section 11B-807.2*. Where court-floor holding cells are provided and are not separated by age or sex, courtrooms shall be served by at least one cell complying with *Section 11B-807.2*. Cells may serve more than one courtroom.

**11B-231.4 Visiting areas.** Visiting areas shall comply with *Section 11B-231.4*.

**11B-231.4.1 Cubicles and counters.** At least 5 percent, but no fewer than one, of cubicles shall comply with *Section 11B-902* on both the visitor and detainee sides. Where counters are provided, at least one shall comply with *Section 11B-904.4.2* on both the visitor and detainee sides.

**Exception:** The detainee side of cubicles or counters at non-contact visiting areas not serving holding cells required to comply with *Section 11B-231* shall not be required to comply with *Sections 11B-902* or *11B-904.4.2*.

**11B-231.4.2 Partitions.** Where solid partitions or security glazing separate visitors from detainees at least one of each type of cubicle or counter partition shall comply with *Section 11B-904.6*.

**11B-232 Detention facilities and correctional facilities**

**11B-232.1 General.** Buildings, facilities, or portions thereof, in which people are detained for penal or correction purposes, or in which the liberty of the inmates is restricted for security reasons shall comply with *Section 11B-232*.

**11B-232.2 General holding cells and general housing cells.** General holding cells and general housing cells shall be provided in accordance with *Section 11B-232.2*.

**Exception: Reserved.**

**11B-232.2.1 Cells with mobility features.** At least 3 percent, but no fewer than one, of the total number of cells in a facility shall provide mobility features complying with *Section 11B-807.2*.

**11B-232.2.1.1 Beds.** In cells having more than 25 beds, at least 5 percent of the beds shall have clear floor space complying with *Section 11B-807.2.3*.

**11B-232.2.1.2 Dispersion.** *Cells with mobility features shall be provided in each classification level.*

**11B-232.2.1.3 Substitute cells.** *When alterations are made to specific cells, detention and correctional facility operators may satisfy their obligation to provide the required number of cells with mobility features by providing the required mobility features in substitute cells (cells other than those where alterations are originally planned), provided that each substitute cell meets the following conditions:*

1. *Located within the same prison site.*
2. *Integrated with the other cells to the maximum extent feasible.*

3. *Has equal physical access as the altered cells to areas used by inmates or detainees for visitation, dining, recreation, educational programs, medical services, work programs, religious services, and participation in other programs that the facility offers to inmates or detainees.*

**11B-232.2.1.4 Technically infeasible.** *Where it is technically infeasible to locate a substitute cell within the same prison site in compliance with Section 11B-232.2.1.3, a substitute cell shall be provided at another prison site within the correctional system.*

**11B-232.2.2 Cells with communication features.** At least 2 percent, but no fewer than one, of the total number of general holding cells and general housing cells equipped with audible emergency alarm systems and permanently installed telephones within the cell shall provide communication features complying with Section 11B-807.3.

**11B-232.3 Special holding cells and special housing cells.** Where special holding cells or special housing cells are provided, at least one cell serving each purpose shall provide mobility features complying with Section 11B-807.2. Cells subject to this requirement include, but are not limited to, those used for purposes of orientation, protective custody, administrative or disciplinary detention or segregation, detoxification, and medical isolation.

**Exception: Reserved.**

**11B-232.4 Medical care facilities.** Patient bedrooms or cells required to comply with Section 11B-223 shall be provided in addition to any medical isolation cells required to comply with Section 11B-232.3.

**11B-232.5 Visiting areas.** Visiting areas shall comply with Section 11B-232.5.

**11B-232.5.1 Cubicles and counters.** At least 5 percent, but no fewer than one, of cubicles shall comply with Section 11B-902 on both the visitor and detainee sides. Where counters are provided, at least one shall comply with Section 11B-904.4.2 on both the visitor and detainee or inmate sides.

**Exception:** The inmate or detainee side of cubicles or counters at non-contact visiting areas not serving holding cells or housing cells required to comply with Section 11B-232 shall not be required to comply with Section 11B-902 or 11B-904.4.2.

**11B-232.5.2 Partitions.** Where solid partitions or security glazing separate visitors from detainees or inmates at least one of each type of cubicle or counter partition shall comply with Section 11B-904.6.

### **11B-233 Residential facilities**

**11B-233.1 General.** *Public housing facilities with residential dwelling units available for public use shall comply with Section 11B-233. See Chapter 2, Section 202 of this code for the definition of Public Housing.*

**11B-233.2 Reserved.**

**11B-233.3 Public housing facilities.** *Public housing facilities with residential dwelling units shall comply with Section 11B-233.3.*

**11B-233.3.1 Minimum number: new construction.** Newly constructed *public housing facilities* with residential dwelling units shall comply with Section 11B-233.3.1.

**Exception:** Where facilities contain 15 or fewer residential dwelling units, the requirements of Sections 11B-233.3.1.1 and 11B-233.3.1.3 shall apply to the total number of residential dwelling units that are constructed under a single contract, or are developed as a whole, whether or not located on a common site.

**11B-233.3.1.1 Residential dwelling units with mobility features.** In *public housing facilities* with residential dwelling units, at least 5 percent, but no fewer than one unit, of the total number of residential dwelling units shall provide mobility features complying with Sections 11B-809.2 through 11B-809.4 and shall be on an accessible route as required by Section 11B-206.

**11B-233.3.1.2 Residential dwelling units with adaptable features.** In *public housing facilities with residential dwelling units, adaptable residential dwelling units complying with Chapter 11A, Division IV – Dwelling Unit Features shall be provided as required by Sections 11B-233.3.1.2.1 through 11B-233.3.1.2.5. Adaptable residential dwelling units shall be on an accessible route as required by Section 11B-206.*

**Exception:** *The number of required adaptable residential dwelling units shall be reduced by the number of units required by Section 11B-233.3.1.1.*

**11B-233.3.1.2.1 Elevator buildings.** *Residential dwelling units on floors served by an elevator shall be adaptable.*

**11B-233.3.1.2.2 Non-elevator buildings.** *Ground floor residential dwelling units in non-elevator buildings shall be adaptable.*

**11B-233.3.1.2.3 Ground floors above grade.** *Where the first floor in a building containing residential dwelling units is a floor above grade, all units on that floor shall be adaptable.*

**11B-233.3.1.2.4 Multi-story residential dwelling units.** *In elevator buildings, public housing facilities*

with multi-story residential dwelling units shall comply with the following:

**Exception:** In non-elevator buildings, a minimum of 10 percent but not less than one of the ground floor multi-story residential dwelling units shall comply with Section 11B-233.3.1.2.4, calculated using the total number of multi-story residential dwelling units in buildings on a site.

1. The primary entry of the multi-story residential dwelling unit shall be on an accessible route. In buildings with elevators the primary entry shall be on the floor served by the elevator.
2. At least one powder room or bathroom shall be located on the primary entry level.
3. Rooms or spaces located on the primary entry level shall be served by an accessible route and comply with Chapter 11A, Division IV – Dwelling Unit Features.

**11B-233.3.1.2.5 Public housing facility site impracticality.** The number of adaptable residential dwelling units required in non-elevator building public housing facilities shall be determined in accordance with Chapter 11A, Section 1150A.1. The remaining ground floor residential dwelling units shall comply with the following requirements:

1. Grab bar reinforcement complying with Section 11B-609.
2. Doors complying with Section 11B-404.
3. Communication features complying with Section 11B-809.5.5.
4. Electrical receptacle and switches complying with Section 11B-308.1.
5. Toilet and bathing facilities complying with Section 11B-809.4.
6. Kitchen sink removable cabinets complying with Section 11B-606.2, Exception 3.

**11B-233.3.1.3 Residential dwelling units with communication features.** In public housing facilities with residential dwelling units, at least 2 percent, but no fewer than one unit, of the total number of residential dwelling units shall provide communication features complying with Section 11B-809.5.

**11B-233.3.2 Residential dwelling units for sale.** Residential dwelling units designed and constructed or altered by public entities that will be offered for sale to individuals shall provide accessible features to the extent required by this chapter.

**Exception:** Existing residential dwellings or residential dwelling units acquired by public entities that will be offered for resale to individuals without additions or alterations shall not be required to comply with this chapter.

**11B-233.3.3 Additions.** Where an addition to an existing public housing facility results in an increase in the number

of residential dwelling units, the requirements of Section 11B-233.3.1 shall apply only to the residential dwelling units that are added until the total number of residential dwelling units complies with the minimum number required by Section 11B-233.3.1. Residential dwelling units required to comply with Sections 11B-233.3.1.1 and 11B-233.3.1.2 shall be on an accessible route as required by Section 11B-206.

**11B-233.3.4 Alterations.** Alterations to a public housing facility shall comply with Section 11B-233.3.4.

**Exception:** Where compliance with Sections 11B-809.2, 11B-809.3, or 11B-809.4 is technically infeasible, or where it is technically infeasible to provide an accessible route to a residential dwelling unit, the entity shall be permitted to alter or construct a comparable residential dwelling unit to comply with Sections 11B-809.2 through 11B-809.4 provided that the minimum number of residential dwelling units required by Sections 11B-233.3.1.1, 11B-233.3.1.2 and 11B-233.3.1.3, as applicable, is satisfied.

**11B-233.3.4.1 Alterations to vacated buildings.**

Where a building is vacated for the purposes of alteration for use as public housing, and the altered building contains more than 15 residential dwelling units, at least 5 percent of the residential dwelling units shall comply with Sections 11B-809.2 through 11B-809.4 and shall be on an accessible route as required by Section 11B-206. Residential dwelling units with adaptable features shall be provided in compliance with Section 11B-233.3.1.2. In addition, at least 2 percent of the residential dwelling units shall comply with Section 11B-809.5.

**Exception:** Where any portion of a building's exterior is preserved, but the interior of the building is removed, including all structural portions of floors and ceilings and a new building intended for use as public housing is constructed behind the existing exterior, the building is considered a new building for determining the application of this chapter.

**11B-233.3.4.2 Alterations to individual residential dwelling units.**

In public housing facilities with individual residential dwelling units, where a bathroom or a kitchen is substantially altered, and at least one other room is altered, the requirements of Section 11B-233.3.1 shall apply to the altered residential dwelling units until the total number of residential dwelling units complies with the minimum number required by Sections 11B-233.3.1.1, 11B-233.3.1.2, and 11B-233.3.1.3. Residential dwelling units required to comply with Sections 11B-233.3.1.1 and 11B-233.3.1.2 shall be on an accessible route as required by Section 11B-206.

**Exception:** Where public housing facilities contain 15 or fewer residential dwelling units, the requirements of Sections 11B-233.3.1.1, 11B-233.3.1.2, and 11B-233.3.1.3 shall apply to the total number of residential dwelling units that are altered under a single contract, or are developed as a whole, whether or not located on a common site.

**11B-233.3.5 Dispersion.** *In public housing facilities, residential dwelling units required to provide mobility features complying with Sections 11B-809.2 through 11B-809.4 and residential dwelling units required to provide communication features complying with Section 11B-809.5, and adaptable features complying with Chapter 11A, Division IV shall be dispersed among the various types of residential dwelling units in the facility and shall provide choices of residential dwelling units comparable to, and integrated with, those available to other residents.*

**Exception:** *In public housing facilities where multi-story residential dwelling units are one of the types of residential dwelling units provided, one-story residential dwelling units shall be permitted as a substitute for multi-story residential dwelling units where equivalent spaces and amenities are provided in the one-story residential dwelling unit.*

**11B-233.3.6 Graduate student and faculty housing at a place of education.** *Housing facilities that are provided by or on behalf of a place of education, with residential dwelling units leased on a year-round basis exclusively to graduate students or faculty, and that do not contain any public use or common use areas available for educational programming, are not subject to Section 11B-224 and shall comply with Section 11B-233.*

**11B-234 Amusement rides**

**11B-234.1 General.** Amusement rides shall comply with Section 11B-234.

**Exception:** Mobile or portable amusement rides shall not be required to comply with Section 11B-234.

**11B-234.2 Load and unload areas.** Load and unload areas serving amusement rides shall comply with Section 11B-1002.3.

**11B-234.3 Minimum number.** Amusement rides shall provide at least one wheelchair space complying with Section 11B-1002.4, or at least one amusement ride seat designed for

transfer complying with Section 11B-1002.5, or at least one transfer device complying with Section 11B-1002.6.

**Exceptions:**

1. Amusement rides that are controlled or operated by the rider shall not be required to comply with Section 11B-234.3.
2. Amusement rides designed primarily for children, where children are assisted on and off the ride by an adult, shall not be required to comply with Section 11B-234.3.
3. Amusement rides that do not provide amusement ride seats shall not be required to comply with Section 11B-234.3.

**11B-234.4 Existing amusement rides.** where existing amusement rides are altered, the alteration shall comply with Section 11B-234.4.

**11B-234.4.1 Load and unload areas.** Where load and unload areas serving existing amusement rides are newly designed and constructed, the load and unload areas shall comply with Section 11B-1002.3.

**11B-234.4.2 Minimum number.** Where the structural or operational characteristics of an amusement ride are altered to the extent that the amusement ride’s performance differs from that specified by the manufacturer or the original design, the amusement ride shall comply with Section 11B-234.3.

**11B-235 Recreational boating facilities**

**11B-235.1 General.** Recreational boating facilities shall comply with Section 11B-235.

**11B-235.2 Boat slips.** Boat slips complying with Section 11B-1003.3.1 shall be provided in accordance with Table 11B-235.2. Where the number of boat slips is not identified, each 40 feet (12192 mm) of boat slip edge provided along the perimeter of the pier shall be counted as one boat slip for the purpose of this section.

**TABLE 11B-235.2  
BOAT SLIPS**

TOTAL NUMBER OF BOAT SLIPS PROVIDED IN FACILITY	MINIMUM NUMBER OF REQUIRED ACCESSIBLE BOAT SLIPS
1 to 25	1
26 to 50	2
51 to 100	3
101 to 150	4
151 to 300	5
301 to 400	6
401 to 500	7
501 to 600	8
601 to 700	9
701 to 800	10
801 to 900	11
901 to 1000	12
1001 and over	12, plus 1 for every 100, or fraction thereof, over 1000

**11B-245 Commercial facilities located in private residences**

**11B-245.1 General.** Commercial facilities located in private residences shall comply with Section 11B-245.

**11B-245.2 Application.** When a commercial facility is located in a private residence, that portion used exclusively in the operation of the commercial facility or that portion used both for the commercial facility and for residential purposes is covered by the new construction and alterations requirements of this chapter.

**Exception:** The portion of the residence used exclusively as a residence is not required to be accessible in accordance with this chapter.

**11B-245.3 Accessible elements required.** The accessible portion of the residence extends to those elements used to enter the commercial facility, including the front sidewalk, if any, the door or entryway, and hallways; and those portions of the residence, interior or exterior, available to or used by employees or visitors of the commercial facility, including restrooms.

**11B-246 Outdoor developed areas**

**11B-246.1 General.** Outdoor developed areas shall comply with Section 11B-246.

**Exceptions:**

1. Where the enforcing agency finds that, in specific areas, the natural environment would be materially damaged by compliance with these regulations, such areas shall be subject to these regulations only to the extent that such material damage would not occur.
2. Automobile access or accessible routes are not required when the enforcing agency determines compliance with this chapter would create an unreasonable hardship as defined in Chapter 2, Section 202.

**11B-246.2 Camping facilities.** In camping facilities where campsites are provided, at least two campsites and one additional campsite for each 100 campsites or fraction thereof, shall be accessed by and connected to sanitary facilities by travel routes with a maximum slope of 1:12. Permanent toilet and bathing facilities serving campsites shall comply with Section 11B-603.

**11B-246.3 Beaches.** Beaches shall be accessible.

**11B-246.4 Day use areas and vista points.** Day use areas, vista points, and similar areas shall be accessible.

**11B-246.5 Picnic areas.** Where picnic tables are provided, at least one picnic table, and one additional table for each 20 tables or fraction thereof, shall be accessible and comply with Section 11B-902.

**11B-246.6 Parking lots.** Parking lots shall comply with Sections 11B-208 and 11B-502 and shall be provided with curb cuts leading to adjacent walks, paths or trails.

**11B-246.7 Trails and paths.** Trails, paths and nature walk areas, or portions of them, shall be constructed with gradients permitting at least partial use by wheelchair occupants.

Buildings and other functional areas shall be served by paths or walks with firm and stable surfaces.

**11B-246.8 Nature trails.** Nature trails and similar educational and informational areas shall be accessible to individuals with vision impairments by the provision of rope guidelines, raised Arabic numerals and symbols, or other similar guide and assistance devices.

**11B-247 Detectable warnings and detectable directional texture****11B-247.1 Detectable warnings.**

**11B-247.1.1 General.** Detectable warnings shall be provided in accordance with Section 11B-247.1 and shall comply with Section 11B-705.1.

**11B-247.1.2 Where required.** Detectable warnings shall be provided where required by Section 11B-247.1.2.

**11B-247.1.2.1 Platform edges.** Platform boarding edges shall have detectable warnings complying with Sections 11B-705.1.1 and 11B-705.1.2.1.

**11B-247.1.2.2 Curb ramps.** Curb ramps shall have detectable warnings complying with Sections 11B-705.1.1 and 11B-705.1.2.2.

**11B-247.1.2.3 Islands or cut-through medians.** Islands or cut-through medians shall have detectable warnings complying with Sections 11B-705.1.1 and 11B-705.1.2.3.

**11B-247.1.2.4 Bus stops.** Where detectable warnings are provided at bus stop boarding and alighting areas in compliance with Section 11B-810.2.3, detectable warnings shall comply with Sections 11B-705.1.1 and 11B-705.1.2.4.

**11B-247.1.2.5 Hazardous vehicular areas.** If a walk crosses or adjoins a vehicular way, and the walking surfaces are not separated by curbs, railings or other elements between the pedestrian areas and vehicular areas, the boundary between the areas shall be defined by a continuous detectable warning complying with Sections 11B-705.1.1 and 11B-705.1.2.5.

**11B-247.1.2.6 Reflecting pools.** The edges of reflecting pools shall be protected by railings, walls, warning curbs or detectable warnings complying with Sections 11B-705.1.1 and 11B-705.1.2.6.

**11B-247.1.2.7 Track crossings.** Where it is necessary to cross tracks to reach transit boarding platforms, detectable warnings complying with Sections 11B-705.1.1 and 11B-705.1.2.7 shall be provided.

**11B-247.2 Detectable directional texture.** At transit boarding platforms, the pedestrian access shall be identified with a detectable directional texture complying with Section 11B-705.2.

## DIVISION 3: BUILDING BLOCKS

### 11B-301 General

**11B-301.1 Scope.** The provisions of *Division 3* shall apply where required by *Division 2* or where referenced by a requirement in this *chapter*.

### 11B-302 Floor or ground surfaces

**11B-302.1 General.** Floor and ground surfaces shall be stable, firm, and slip resistant and shall comply with *Section 11B-302*.

**Exceptions:**

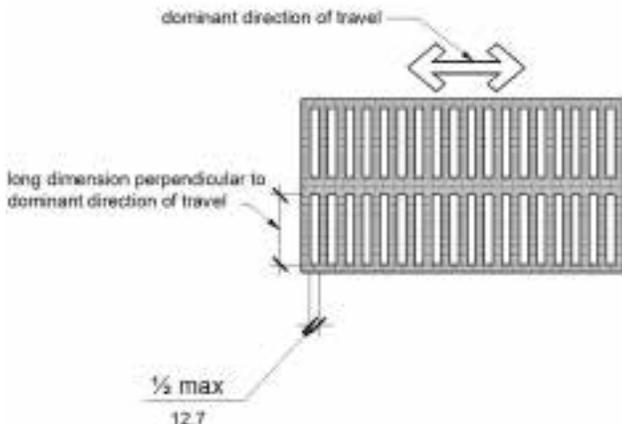
1. Within animal containment areas, floor and ground surfaces shall not be required to be stable, firm, and slip resistant.
2. Areas of sport activity shall not be required to comply with *Section 11B-302*.

**11B-302.2 Carpet.** Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, level cut/uncut pile texture. Pile height shall be  $\frac{1}{2}$  inch (12.7 mm) maximum. Exposed edges of carpet shall be fastened to floor surfaces and shall have trim on the entire length of the exposed edge. Carpet edge trim shall comply with *Section 11B-303*.



**FIGURE 11B-302.2  
CARPET PILE HEIGHT**

**11B-302.3 Openings.** Openings in floor or ground surfaces shall not allow passage of a sphere more than  $\frac{1}{2}$  inch (12.7 mm) diameter except as allowed in *Sections 11B-407.4.3, 11B-409.4.3, 11B-410.4, 11B-810.5.3 and 11B-810.10*. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.



**FIGURE 11B-302.3  
ELONGATED OPENINGS IN FLOOR OR GROUND SURFACES**

### 11B-303 Changes in level

**11B-303.1 General.** Where changes in level are permitted in floor or ground surfaces, they shall comply with *Section 11B-303*.

**Exceptions:**

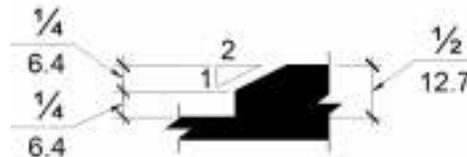
1. Animal containment areas shall not be required to comply with *Section 11B-303*.
2. Areas of sport activity shall not be required to comply with *Section 11B-303*.

**11B-303.2 Vertical.** Changes in level of  $\frac{1}{4}$  inch (6.4 mm) high maximum shall be permitted to be vertical *and without edge treatment*.



**FIGURE 11B-303.2  
VERTICAL CHANGE IN LEVEL**

**11B-303.3 Beveled.** Changes in level between  $\frac{1}{4}$  inch (6.4 mm) high minimum and  $\frac{1}{2}$  inch (12.7 mm) high maximum shall be beveled with a slope not steeper than 1:2.



**FIGURE 11B-303.3  
BEVELED CHANGE IN LEVEL**

**11B-303.4 Ramps.** Changes in level greater than  $\frac{1}{2}$  inch (12.7 mm) high shall be ramped, and shall comply with *Section 11B-405* or *11B-406*.

**11B-303.5 Warning curbs.** Abrupt changes in level exceeding 4 inches (102 mm) in a vertical dimension between walks, sidewalks or other pedestrian ways and adjacent surfaces or features shall be identified by warning curbs at least 6 inches (152 mm) in height above the walk or sidewalk surface.

**Exceptions:**

1. A warning curb is not required between a walk or sidewalk and an adjacent street or driveway.
2. A warning curb is not required when a guard or handrail is provided with a guide rail centered 2 inches (51 mm) minimum and 4 inches (102 mm) maximum above the surface of the walk or sidewalk.

### 11B-304 Turning space

**11B-304.1 General.** Turning space shall comply with *Section 11B-304*.

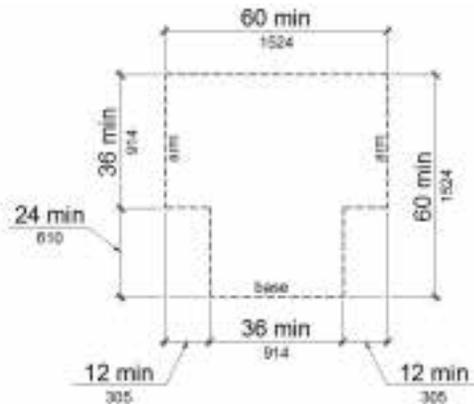
**11B-304.2 Floor or ground surfaces.** Floor or ground surfaces of a turning space shall comply with *Section 11B-302*. Changes in level are not permitted.

**Exception:** Slopes not steeper than 1:48 shall be permitted.

**11B-304.3 Size.** Turning space shall comply with *Section 11B-304.3.1* or *11B-304.3.2*.

**11B-304.3.1 Circular space.** The turning space shall be a space of 60 inches (1524 mm) diameter minimum. The space shall be permitted to include knee and toe clearance complying with *Section 11B-306*.

**11B-304.3.2 T-Shaped space.** The turning space shall be a T-shaped space within a 60 inch (1524 mm) square minimum with arms and base 36 inches (914 mm) wide minimum. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction and the base shall be clear of obstructions 24 inches (610 mm) minimum. The space shall be permitted to include knee and toe clearance complying with *Section 11B-306* only at the end of either the base or one arm.



**FIGURE 11B-304.3.2 T-SHAPED TURNING SPACE**

**11B-304.4 Door swing.** Doors shall be permitted to swing into turning spaces.

**11B-305 Clear floor or ground space**

**11B-305.1 General.** Clear floor or ground space shall comply with *Section 11B-305*.

**11B-305.2 Floor or ground surfaces.** Floor or ground surfaces of a clear floor or ground space shall comply with *Section 11B-302*. Changes in level are not permitted.

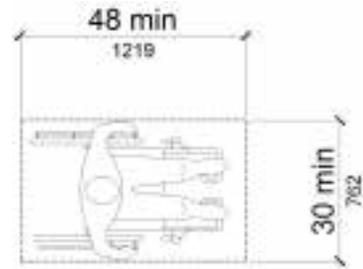
**Exception:** Slopes not steeper than 1:48 shall be permitted.

**11B-305.3 Size.** The clear floor or ground space shall be 30 inches (762 mm) minimum by 48 inches (1219 mm) minimum.

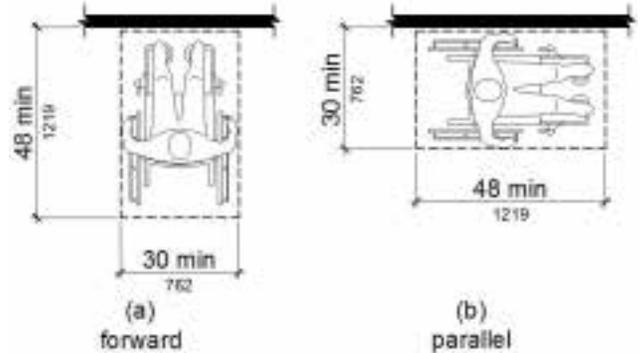
**11B-305.4 Knee and toe clearance.** Unless otherwise specified, clear floor or ground space shall be permitted to include knee and toe clearance complying with *Section 11B-306*.

**11B-305.5 Position.** Unless otherwise specified, clear floor or ground space shall be positioned for either forward or parallel approach to an element.

**11B-305.6 Approach.** One full unobstructed side of the clear floor or ground space shall adjoin an accessible route or adjoin another clear floor or ground space. *Clear floor or*



**FIGURE 11B-305.3 CLEAR FLOOR OR GROUND SPACE**



**FIGURE 11B-305.5 POSITION OF CLEAR FLOOR OR GROUND SPACE**

*ground space may overlap an accessible route, unless specifically prohibited elsewhere in this chapter.*

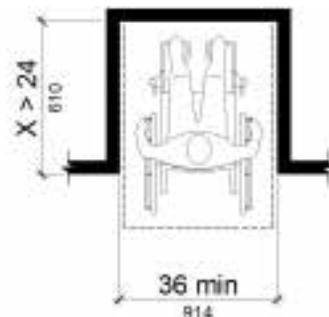
**11B-305.7 Maneuvering clearance.** Where a clear floor or ground space is located in an alcove or otherwise confined on all or part of three sides, additional maneuvering clearance shall be provided in accordance with *Sections 11B-305.7.1* and *11B-305.7.2*.

**11B-305.7.1 Forward approach.** Alcoves shall be 36 inches (914 mm) wide minimum where the depth exceeds 24 inches (610 mm).

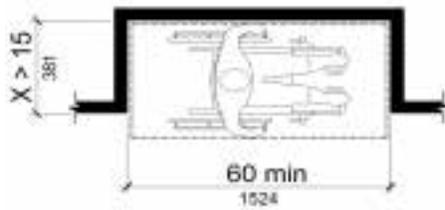
**11B-305.7.2 Parallel approach.** Alcoves shall be 60 inches (1524 mm) wide minimum where the depth exceeds 15 inches (381 mm).

**11B-306 Knee and toe clearance**

**11B-306.1 General.** Where space beneath an element is included as part of clear floor or ground space or turning space, the space shall comply with *Section 11B-306*. Addi-



**FIGURE 11B-305.7.1 MANEUVERING CLEARANCE IN AN ALCOVE, FORWARD APPROACH**



**FIGURE 11B-305.7.2**  
**MANEUVERING CLEARANCE IN**  
**AN ALCOVE, PARALLEL APPROACH**

tional space shall not be prohibited beneath an element but shall not be considered as part of the clear floor or ground space or turning space.

**11B-306.2 Toe clearance**

**11B-306.2.1 General.** Space under an element between the finish floor or ground and 9 inches (229 mm) above the finish floor or ground shall be considered toe clearance and shall comply with Section 11B-306.2.

**11B-306.2.2 Maximum depth.** Toe clearance shall extend 25 inches (635 mm) maximum under an element.

**Exception:** Toe clearance shall extend 19 inches (483 mm) maximum under lavatories required to be accessible by Section 11B-213.3.4.

**11B-306.2.3 Minimum required depth.** Where toe clearance is required at an element as part of a clear floor space, the toe clearance shall extend 17 inches (432 mm) minimum under the element.

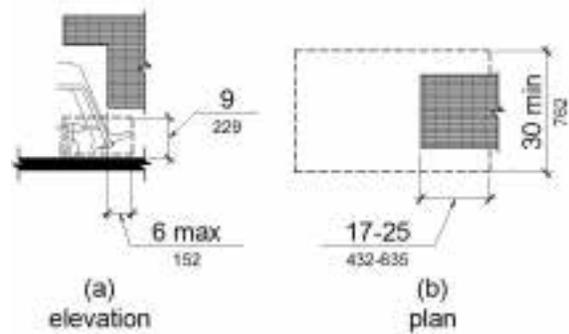
**Exceptions:**

1. The toe clearance shall extend 19 inches (483 mm) minimum under sinks required to be accessible by Section 11B-212.3.
2. The toe clearance shall extend 19 inches (483 mm) minimum under built-in dining and work surfaces required to be accessible by Section 11B-226.1.

**11B-306.2.4 Additional clearance.** Space extending greater than 6 inches (152 mm) beyond the available knee clearance at 9 inches (229 mm) above the finish floor or ground shall not be considered toe clearance.

**11B-306.2.5 Width.** Toe clearance shall be 30 inches (762 mm) wide minimum.

**11B-306.3 Knee clearance**



**FIGURE 11B-306.2**  
**TOE CLEARANCE**

**11B-306.3.1 General.** Space under an element between 9 inches (229 mm) and 27 inches (686 mm) above the finish floor or ground shall be considered knee clearance and shall comply with Section 11B-306.3.

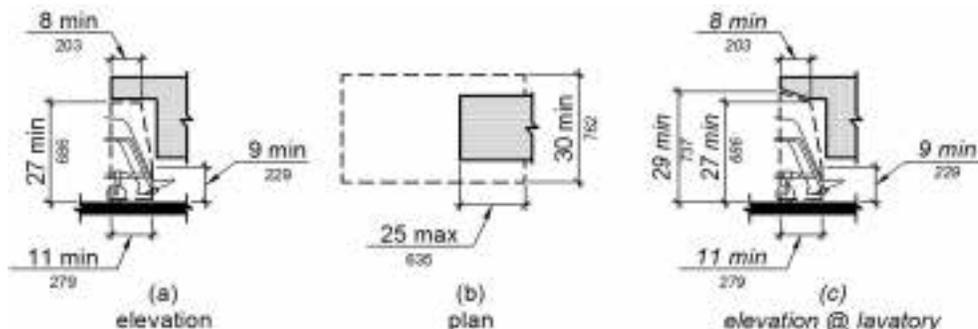
**Exception:** At lavatories required to be accessible by Section 11B-213.3.4, space between 9 inches (229 mm) and 29 inches (737 mm) above the finish floor or ground, shall be considered knee clearance.

**11B-306.3.2 Maximum depth.** Knee clearance shall extend 25 inches (635 mm) maximum under an element at 9 inches (229 mm) above the finish floor or ground.

**11B-306.3.3 Minimum required depth.** Where knee clearance is required under an element as part of a clear floor space, the knee clearance shall be 11 inches (279 mm) deep minimum at 9 inches (229 mm) above the finish floor or ground, and 8 inches (203 mm) deep minimum at 27 inches (686 mm) above the finish floor or ground.

**Exceptions:**

1. At lavatories required to be accessible by Section 11B-213.3.4, the knee clearance shall be 27 inches (686 mm) high minimum above the finish floor or ground at a depth of 8 inches (203 mm) minimum increasing to 29 inches (737 mm) high minimum above the finish floor or ground at the front edge of a counter with a built-in lavatory or at the front edge of a wall-mounted lavatory fixture.
2. At dining and work surfaces required to be accessible by Section 11B-226.1, knee clearance shall extend 19 inches (483 mm) deep minimum at 27 inches (686 mm) above the finish floor or ground.



**FIGURE 11B-306.3**  
**KNEE CLEARANCE**

**11B-306.3.4 Clearance reduction.** Between 9 inches (229 mm) and 27 inches (686 mm) above the finish floor or ground, the knee clearance shall be permitted to reduce at a rate of 1 inch (25 mm) in depth for each 6 inches (152 mm) in height.

**Exception:** The knee clearance shall not be reduced at built-in dining and work surfaces required to be accessible by Section 11B-226.1.

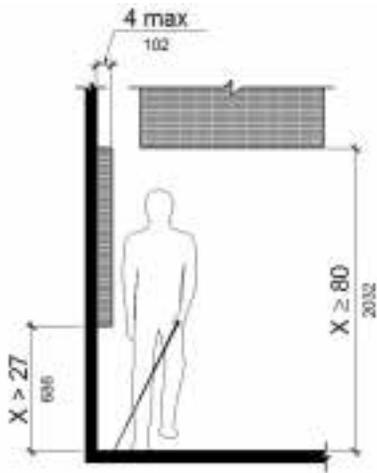
**11B-306.3.5 Width.** Knee clearance shall be 30 inches (762 mm) wide minimum.

**11B-307 Protruding objects**

**11B-307.1 General.** Protruding objects shall comply with Section 11B-307.

**11B-307.2 Protrusion limits.** Objects with leading edges more than 27 inches (686 mm) and not more than 80 inches (2032 mm) above the finish floor or ground shall protrude 4 inches (102 mm) maximum horizontally into the circulation path.

**Exception:** Handrails shall be permitted to protrude 4½ inches (114 mm) maximum.



**FIGURE 11B-307.2 LIMITS OF PROTRUDING OBJECTS**

**11B-307.3 Post-mounted objects.** Free-standing objects mounted on posts or pylons shall overhang circulation paths 12 inches (305 mm) maximum when located 27 inches (686 mm) minimum and 80 inches (2032 mm) maximum above the finish floor or ground. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (686 mm) maximum or 80 inches (2032 mm) minimum above the finish floor or ground.

**Exception:** The sloping portions of handrails serving stairs and ramps shall not be required to comply with Section 11B-307.3.

**11B-307.3.1 Edges and corners.** Where signs or other objects are mounted on posts or pylons, and their bottom edges are less than 80 inches (2032 mm) above the floor or ground surface, the edges of such signs and objects shall be rounded or eased and the corners shall have a minimum radius of 1/8 inch (3.2 mm).

**11B-307.4 Vertical clearance.** Vertical clearance shall be 80 inches (2032 mm) high minimum. Guardrails or other barriers shall be provided where the vertical clearance is less than 80 inches (2032 mm) high. The leading edge of such guardrail or barrier shall be located 27 inches (686 mm) maximum above the finish floor or ground.

**Exception:** Door closers and door stops shall be permitted to be 78 inches (1981 mm) minimum above the finish floor or ground.

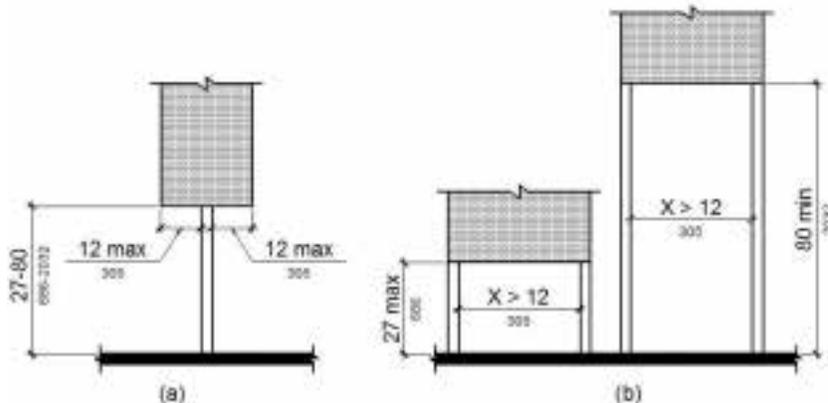
**11B-307.4.1 Guy braces.** Where a guy support is used within either the width of a circulation path or 24 inches (610 mm) maximum outside of a circulation path, a vertical guy brace, sidewalk guy or similar device shall be used to prevent a hazard or an overhead obstruction.

**11B-307.5 Required clear width.** Protruding objects shall not reduce the clear width required for accessible routes.

**11B-308 Reach ranges**

**11B-308.1 General.** Reach ranges shall comply with Section 11B-308.

**11B-308.1.1 Electrical switches.** Controls and switches intended to be used by the occupant of a room or area to



**FIGURE 11B-307.3 POST-MOUNTED PROTRUDING OBJECTS**

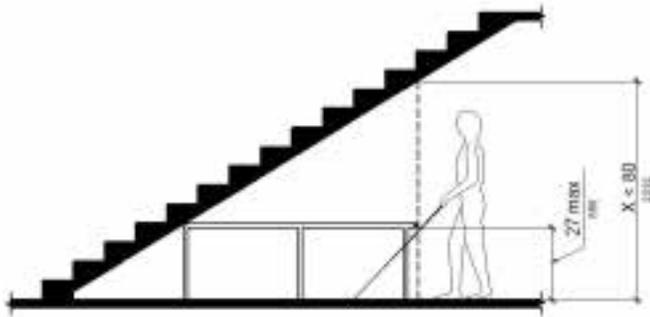


FIGURE 11B-307.4  
VERTICAL CLEARANCE

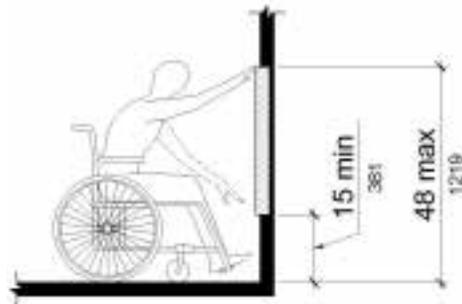


FIGURE 11B-308.2.1  
UNOBSTRUCTED FORWARD REACH

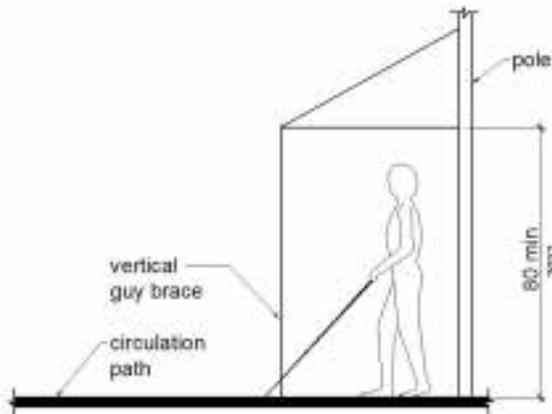


FIGURE 11B-307.4.1  
GUY BRACES

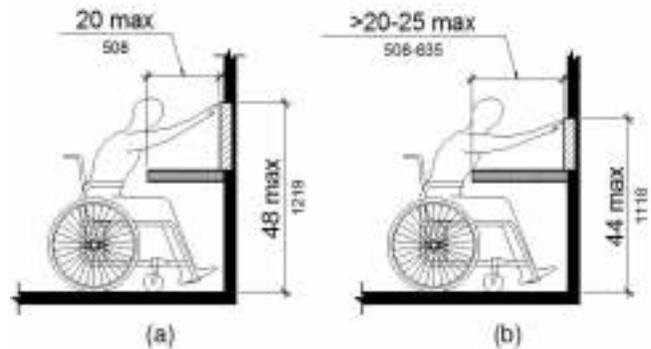


FIGURE 11B-308.2.2  
OBSTRUCTED HIGH FORWARD REACH

control lighting and receptacle outlets, appliances or cooling, heating and ventilating equipment, shall comply with Section 11B-308 except the low reach shall be measured to the bottom of the outlet box and the high reach shall be measured to the top of the outlet box.

**11B-308.1.2 Electrical receptacle outlets.** Electrical receptacle outlets on branch circuits of 30 amperes or less and communication system receptacles shall comply with Section 11B-308 except the low reach shall be measured to the bottom of the outlet box and the high reach shall be measured to the top of the outlet box.

**11B-308.2 Forward reach.**

**11B-308.2.1 Unobstructed.** Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1219 mm) maximum and the low forward reach shall be 15 inches (381 mm) minimum above the finish floor or ground.

**11B-308.2.2 Obstructed high reach.** Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1219 mm) maximum where the reach depth is 20 inches (508 mm) maximum. Where the reach depth exceeds 20 inches (508 mm), the high forward reach shall be 44 inches (1118 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

**11B-308.3 Side reach.**

**11B-308.3.1 Unobstructed.** Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches (1219 mm) maximum and the low side reach shall be 15 inches (381 mm) minimum above the finish floor or ground.

**Exceptions:**

1. An obstruction shall be permitted between the clear floor or ground space and the element where the depth of the obstruction is 10 inches (254 mm) maximum.
2. Operable parts of fuel dispensers shall be permitted to be 54 inches (1372 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

**11B-308.3.2 Obstructed high reach.** Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (864 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1219 mm) maximum for a reach depth of 10 inches (254 mm) maximum. Where the reach depth exceeds 10 inches (254 mm), the high side reach shall be 46 inches (1168 mm) maximum.

maximum for a reach depth of 24 inches (610 mm) maximum.

**Exceptions:**

1. The top of washing machines and clothes dryers shall be permitted to be 36 inches (914 mm) maximum above the finish floor.
2. Operable parts of fuel dispensers shall be permitted to be 54 inches (1372 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

**11B-308.4 Suggested reach ranges for children.** Where building elements such as coat hooks, lockers, or operable parts are designed for use primarily by children, the suggested dimensions of Table 11B-308.4 shall be permitted. These dimensions apply to either forward or side reaches.

**TABLE 11B-308.4  
SUGGESTED DIMENSIONS FOR CHILDREN'S USE**

SUGGESTED REACH RANGES FOR CHILDREN AGES 3 THROUGH 12			
Forward or Side Reach	Ages 3 and 4	Ages 5 through 8	Ages 9 through 12
High (maximum)	36 inches (914 mm)	40 inches (1016 mm)	44 inches (1118 mm)
Low (minimum)	20 inches (508 mm)	18 inches (457 mm)	16 inches (406 mm)

**11B-309 Operable parts**

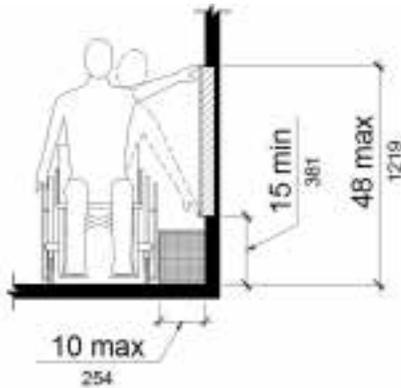
**11B-309.1 General.** Operable parts shall comply with Section 11B-309.

**11B-309.2 Clear floor space.** A clear floor or ground space complying with Section 11B-305 shall be provided.

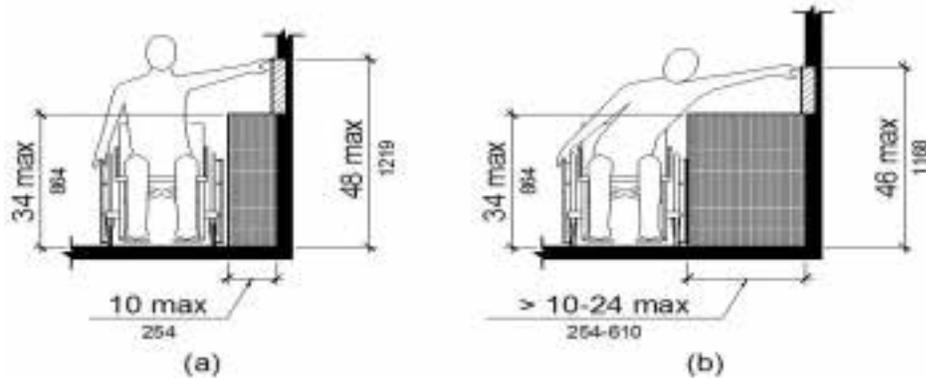
**11B-309.3 Height.** Operable parts shall be placed within one or more of the reach ranges specified in Section 11B-308.

**11B-309.4 Operation.** Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum.

**Exception:** Gas pump nozzles shall not be required to provide operable parts that have an activating force of 5 pounds (22.2 N) maximum.



**FIGURE 11B-308.3.1  
UNOBSTRUCTED SIDE REACH**



**FIGURE 11B-308.3.2  
OBSTRUCTED HIGH SIDE REACH**

## DIVISION 4: ACCESSIBLE ROUTES

### 11B-401 General

**11B-401.1 Scope.** The provisions of *Division 4* shall apply where required by *Division 2* or where referenced by a requirement in this *chapter*.

### 11B-402 Accessible routes

**11B-402.1 General.** Accessible routes shall comply with 11B-402.

**11B-402.2 Components.** Accessible routes shall consist of one or more of the following components: walking surfaces with a running slope not steeper than 1:20, doorways, ramps, curb ramps excluding the flared sides, elevators, and platform lifts. All components of an accessible route shall comply with the applicable requirements of *Division 4*.

### 11B-403 Walking surfaces

**11B-403.1 General.** Walking surfaces that are a part of an accessible route shall comply with *Section 11B-403*.

**11B-403.2 Floor or ground surface.** Floor or ground surfaces shall comply with *Section 11B-302*.

**11B-403.3 Slope.** The running slope of walking surfaces shall not be steeper than 1:20. The cross slope of walking surfaces shall not be steeper than 1:48.

**Exception:** The running slope of sidewalks shall not exceed the general grade established for the adjacent street or highway.

**11B-403.4 Changes in level.** Changes in level shall comply with *Section 11B-303*.

**11B-403.5 Clearances.** Walking surfaces shall provide clearances complying with *Section 11B-403.5*.

**Exception:** Within employee work areas, clearances on common use circulation paths shall be permitted to be decreased by work area equipment provided that the decrease is essential to the function of the work being performed.

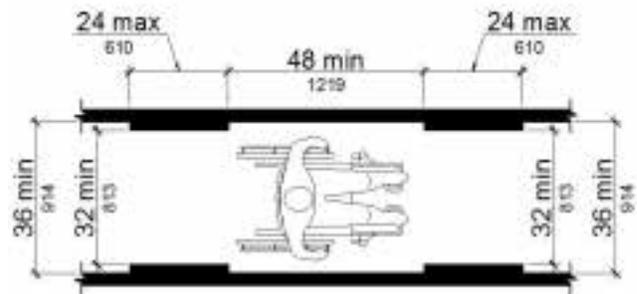
**11B-403.5.1 Clear width.** Except as provided in *Sections 11B-403.5.2* and *11B-403.5.3*, the clear width of walking surfaces shall be 36 inches (914 mm) minimum.

#### Exceptions:

1. The clear width shall be permitted to be reduced to 32 inches (813 mm) minimum for a length of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1219 mm) long minimum and 36 inches (914 mm) wide minimum.
2. The clear width for walking surfaces in corridors serving an occupant load of 10 or more shall be 44 inches (1118 mm) minimum.
3. The clear width for sidewalks and walks shall be 48 inches (1219 mm) minimum. When, because of right-of-way restrictions, natural barriers or

other existing conditions, the enforcing agency determines that compliance with the 48-inch (1219 mm) clear sidewalk width would create an unreasonable hardship, the clear width may be reduced to 36 inches (914 mm).

4. The clear width for aisles shall be 36 inches (914 mm) minimum if serving elements on only one side, and 44 inches (1118 mm) minimum if serving elements on both sides.
5. The clear width for accessible routes to accessible toilet compartments shall be 44 inches (1118 mm) except for door-opening widths and door swings.



**FIGURE 11B-403.5.1  
CLEAR WIDTH OF AN ACCESSIBLE ROUTE**

**11B-403.5.2 Clear width at turn.** Where the accessible route makes a 180 degree turn around an element which is less than 48 inches (1219 mm) wide, clear width shall be 42 inches (1067 mm) minimum approaching the turn, 48 inches (1219 mm) minimum at the turn and 42 inches (1067 mm) minimum leaving the turn.

**Exception:** Where the clear width at the turn is 60 inches (1524 mm) minimum compliance with *Section 11B-403.5.2* shall not be required.

**11B-403.5.3 Passing spaces.** An accessible route with a clear width less than 60 inches (1524 mm) shall provide passing spaces at intervals of 200 feet (60,960 mm) maximum. Passing spaces shall be either: a space 60 inches (1524 mm) minimum by 60 inches (1524 mm) minimum; or, an intersection of two walking surfaces providing a T-shaped space complying with *Section 11B-304.3.2* where the base and arms of the T-shaped space extend 48 inches (1219 mm) minimum beyond the intersection.

**11B-403.6 Handrails.** Where handrails are provided along walking surfaces with running slopes not steeper than 1:20 they shall comply with *Section 11B-505*.

**11B-403.7 Continuous gradient.** All walks with continuous gradients shall have resting areas, 60 inches (1524 mm) in length, at intervals of 400 feet (121,920 mm) maximum. The resting area shall be at least as wide as the walk. The slope of the resting area in all directions shall be 1:48 maximum.

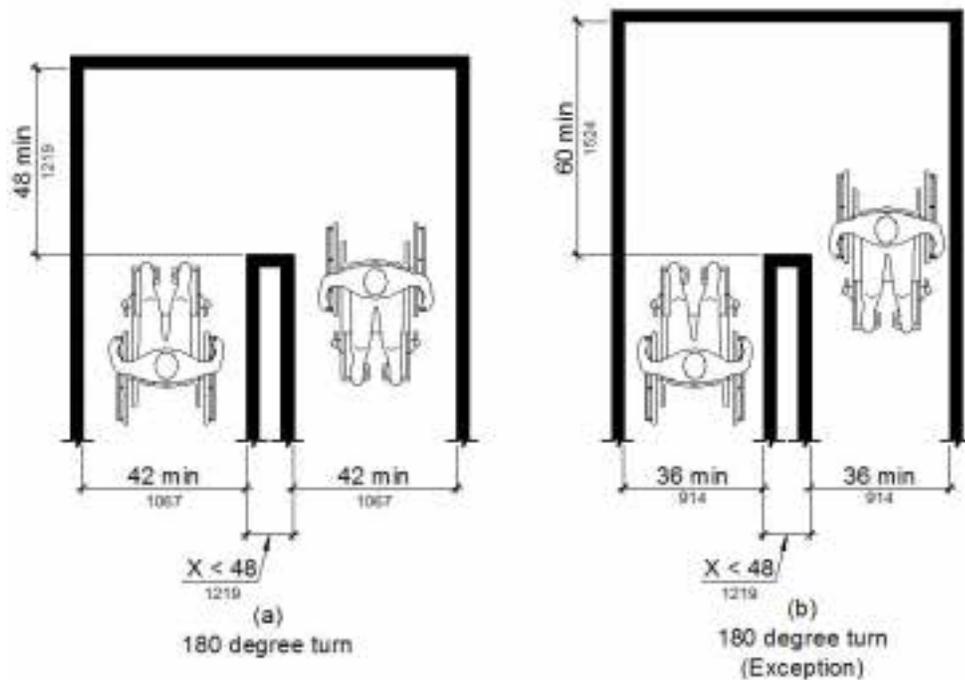


FIGURE 11B-403.5.2  
CLEAR WIDTH AT TURN

**11B-404 Doors, doorways, and gates**

**11B-404.1 General.** Doors, doorways, and gates that are part of an accessible route shall comply with Section 11B-404.

**Exceptions:**

1. Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with Sections 11B-404.2.7, 11B-404.2.8, 11B-404.2.9, 11B-404.3.2 and 11B-404.3.4 through 11B-404.3.7. A sign visible from the approach side complying with Section 11B-703.5 shall be posted stating “Entry restricted and controlled by security personnel”.
2. At detention and correctional facilities, doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with Sections 11B-404.2.7, 11B-404.2.8, 11B-404.2.9, 11B-404.3.2 and 11B-404.3.4 through 11B-404.3.7.

**11B-404.2 Manual doors, doorways, and manual gates** Manual doors and doorways and manual gates intended for user passage shall comply with Section 11B-404.2.

**11B-404.2.1 Revolving doors, gates, and turnstiles.** Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route.

**11B-404.2.2 Double-leaf doors and gates.** At least one of the active leaves of doorways with two leaves shall comply with Sections 11B-404.2.3 and 11B-404.2.4.

**11B-404.2.3 Clear width.** Door openings shall provide a clear width of 32 inches (813 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (914 mm) minimum. There shall be no projections into the required clear opening width lower than 34 inches (864 mm) above the finish floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the finish floor or ground shall not exceed 4 inches (102 mm).

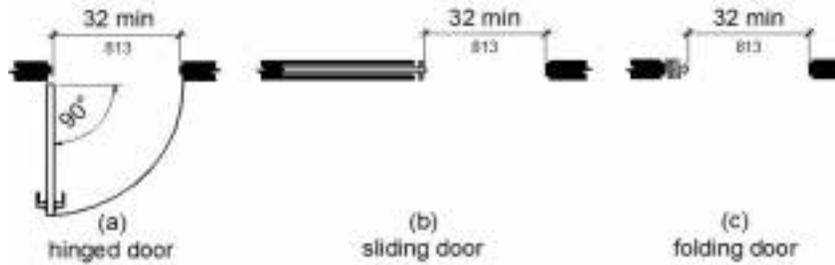
**Exceptions:**

1. In alterations, a projection of  $\frac{5}{8}$  inch (15.9 mm) maximum into the required clear width shall be permitted for the latch side stop.
2. Door closers and door stops shall be permitted to be 78 inches (1981 mm) minimum above the finish floor or ground.

**11B-404.2.4 Maneuvering clearances.** Minimum maneuvering clearances at doors and gates shall comply with Section 11B-404.2.4. Maneuvering clearances shall extend the full width of the doorway and the required latch side or hinge side clearance.

**Exception: Reserved.**

**11B-404.2.4.1 Swinging doors and gates.** Swinging doors and gates shall have maneuvering clearances complying with Table 11B-404.2.4.1.



**FIGURE 11B-404.2.3  
CLEAR WIDTH OF DOORWAYS**

**TABLE 11B-404.2.4.1  
MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS AND GATES**

TYPE OF USE		MINIMUM MANEUVERING CLEARANCE	
Approach direction	Door or gate side	Perpendicular to doorway	Parallel to doorway (beyond latch side unless noted)
From front	Pull	60 inches (1524 mm)	18 inches (457 mm) <sup>5</sup>
From front	Push	48 inches (1219 mm)	0 inches (0 mm) <sup>1</sup>
From hinge side	Pull	60 inches (1524 mm)	36 inches (914 mm)
From hinge side	Push	44 inches (1118 mm) <sup>2</sup>	22 inches (559 mm) <sup>3</sup>
From latch side	Pull	60 inches (1524 mm)	24 inches (610 mm)
From latch side	Push	44 inches (1118 mm) <sup>4</sup>	24 inches (610 mm)

1. Add 12 inches (305 mm) if closer and latch are provided.
2. Add 4 inches (102 mm) if closer and latch are provided.
3. Beyond hinge side.
4. Add 4 inches (102 mm) if closer is provided.
5. Add 6 inches (152 mm) at exterior side of exterior doors.

> **11B-404.2.9 Door and gate opening force.** The force for pushing or pulling open a door or gate shall be as follows:

1. Interior hinged doors and gates: 5 pounds (22.2 N) maximum.
2. Sliding or folding doors: 5 pounds (22.2 N) maximum.
3. *Required fire doors: the minimum opening force allowable by the appropriate administrative authority, not to exceed 15 pounds (66.7 N).*
4. *Exterior hinged doors: 5 pounds (22.2 N) maximum.*

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position.

**Exceptions:**

1. *Exterior doors to machinery spaces including, but not limited to, elevator pits or elevator penthouses; mechanical, electrical or communications equipment rooms; piping or equipment catwalks; electric substations and transformer vaults; and highway and tunnel utility facilities.*
2. *When, at a single location, one of every eight exterior door leafs, or fraction of eight, is a powered door, other exterior doors at the same location, serving the same interior space, may have a maximum opening force of 8.5 pounds (37.8 N). The powered leaf(s) shall be located closest to the accessible route.*
  - a. *Powered doors shall comply with Section 11B-404.3. Powered doors shall be fully automatic doors complying with Builders Hardware Manufacturers' Association (BHMA) A156.10 or low energy operated doors complying with BHMA A156.19.*
  - b. *Powered doors serving a building or facility with an occupancy of 150 or more shall be provided with a back-up battery or back-up generator. The back-up power source shall be able to cycle the door a minimum of 100 cycles.*
  - c. *Powered doors shall be controlled on both the interior and exterior sides of the doors by sensing devices, push plates, vertical actuation bars or other similar operating devices complying with Sections 11B-304, 11B-305 and 11B-308.*

*At each location where push plates are provided there shall be two push plates; the centerline of one push plate shall be 7 inches (178 mm) minimum and 8 inches (203 mm) maximum above the floor or ground surface and the centerline of the second push plate shall be 30 inches (762 mm) minimum and 44 inches (1118 mm) maximum above the floor or ground surface. Each push plate shall be a minimum of 4 inches (102 mm) diameter or a mini-*

*um of 4 inches by 4 inches (102 mm by 102 mm) square and shall display the International Symbol of Accessibility complying with Section 11B-703.7.*

*At each location where vertical actuation bars are provided the operable portion shall be located so the bottom is 5 inches (127 mm) maximum above the floor or ground surface and the top is 35 inches (889 mm) minimum above the floor or ground surface. The operable portion of each vertical actuation bar shall be a minimum of 2 inches (51 mm) wide and shall display the International Symbol of Accessibility complying with Section 11B-703.7.*

*Where push plates, vertical actuation bars or other similar operating devices are provided, they shall be placed in a conspicuous location. A level and clear floor or ground space for forward or parallel approach complying with Section 11B-305 shall be provided, centered on the operating device. Doors shall not swing into the required clear floor or ground space.*

- d. *Signage identifying the accessible entrance required by Section 11B-216.6 shall be placed on, or immediately adjacent to, each powered door. Signage shall be provided in compliance with BHMA A156.10 or BHMA A156.19, as applicable.*
- e. *In addition to the requirements of Item d, where a powered door is provided in buildings or facilities containing assembly occupancies of 300 or more, a sign displaying the International Symbol of Accessibility measuring 6 inches by 6 inches (152 mm by 152 mm), complying with Section 11B-703.7, shall be provided above the door on both the interior and exterior sides of each powered door.*

**11B-404.2.10 Door and gate surfaces.** Swinging door and gate surfaces within 10 inches (254 mm) of the finish floor or ground measured vertically shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in these surfaces shall be within  $\frac{1}{16}$  inch (1.6 mm) of the same plane as the other and be free of sharp or abrasive edges. Cavities created by added kick plates shall be capped.

**Exceptions:**

1. Sliding doors shall not be required to comply with Section 11B-404.2.10.
2. Tempered glass doors without stiles and having a bottom rail or shoe with the top leading edge tapered at 60 degrees minimum from the horizontal shall not be required to meet the 10 inch (254 mm) bottom smooth surface height requirement.

3. Doors and gates that do not extend to within 10 inches (254 mm) of the finish floor or ground shall not be required to comply with *Section 11B-404.2.10*.

4. *Reserved.*

**11B-404.2.11 Vision lights.** Doors, gates, and side lights adjacent to doors or gates, containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one glazed panel located 43 inches (1092 mm) maximum above the finish floor.

**Exception:** *Glazing panels* with the lowest part more than 66 inches (1676 mm) from the finish floor or ground shall not be required to comply with *Section 11B-404.2.11*.

**11B-404.3 Automatic and power-assisted doors and gates.** Automatic doors and automatic gates shall comply with *Section 11B-404.3*. Full-powered automatic doors shall comply with ANSI/BHMA A156.10. Low-energy and power-assisted doors shall comply with ANSI/BHMA A156.19.

**11B-404.3.1 Clear width.** Doorways shall provide a clear opening of 32 inches (813 mm) minimum in power-on and power-off mode. The minimum clear width for automatic door systems in a doorway shall provide a clear, unobstructed opening of 32 inches (813 mm) with one leaf positioned at an angle of 90 degrees from its closed position.

**11B-404.3.2 Maneuvering clearance.** Clearances at power-assisted doors and gates shall comply with *Section 11B-404.2.4*. Clearances at automatic doors and gates without standby power and serving an accessible means of egress shall comply with *Section 11B-404.2.4*.

**Exception:** Where automatic doors and gates remain open in the power-off condition, compliance with *Section 11B-404.2.4* shall not be required.

**11B-404.3.3 Thresholds.** Thresholds and changes in level at doorways shall comply with *Section 11B-404.2.5*.

**11B-404.3.4 Doors in series and gates in series.** Doors in series and gates in series shall comply with *Section 11B-404.2.6*.

**11B-404.3.5 Controls.** Manually operated controls shall comply with *Section 11B-309*. The clear floor space adjacent to the control shall be located beyond the arc of the door swing.

**11B-404.3.6 Break out opening.** Where doors and gates without standby power are a part of a means of egress, the clear break out opening at swinging or sliding doors and gates shall be 32 inches (813 mm) minimum when operated in emergency mode.

**Exception:** Where manual swinging doors and gates comply with *Section 11B-404.2* and serve the same means of egress compliance with *Section 11B-404.3.6* shall not be required.

**11B-404.3.7 Revolving doors, revolving gates, and turnstiles.** Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route.

## 11B-405 Ramps

**11B-405.1 General.** Ramps on accessible routes shall comply with *Section 11B-405*.

**Exception:** In assembly areas, aisle ramps adjacent to seating and not serving elements required to be on an accessible route shall not be required to comply with *Section 11B-405*.

**11B-405.2 Slope.** Ramp runs shall have a running slope not steeper than 1:12.

**Exception:** *Reserved.*

**11B-405.3 Cross slope.** Cross slope of ramp runs shall not be steeper than 1:48.

**11B-405.4 Floor or ground surfaces.** Floor or ground surfaces of ramp runs shall comply with *Section 11B-302*. Changes in level other than the running slope and cross slope are not permitted on ramp runs.

**11B-405.5 Clear width.** The clear width of a ramp run shall be 48 inches (1219 mm) minimum.

**Exceptions:**

1. Within employee work areas, the required clear width of ramps that are a part of common use circulation paths shall be permitted to be decreased by work area equipment provided that the decrease is essential to the function of the work being performed.
2. Handrails may project into the required clear width of the ramp at each side 3½ inches (89 mm) maximum at the handrail height.
3. The clear width of ramps in residential uses serving an occupant load of fifty or less shall be 36 inches (914 mm) minimum between handrails.

**11B-405.6 Rise.** The rise for any ramp run shall be 30 inches (762 mm) maximum.

**11B-405.7 Landings.** Ramps shall have landings at the top and the bottom of each ramp run. Landings shall comply with *Section 11B-405.7*.

**11B-405.7.1 Slope.** Landings shall comply with *Section 11B-302*. Changes in level are not permitted.

**Exception:** Slopes not steeper than 1:48 shall be permitted.

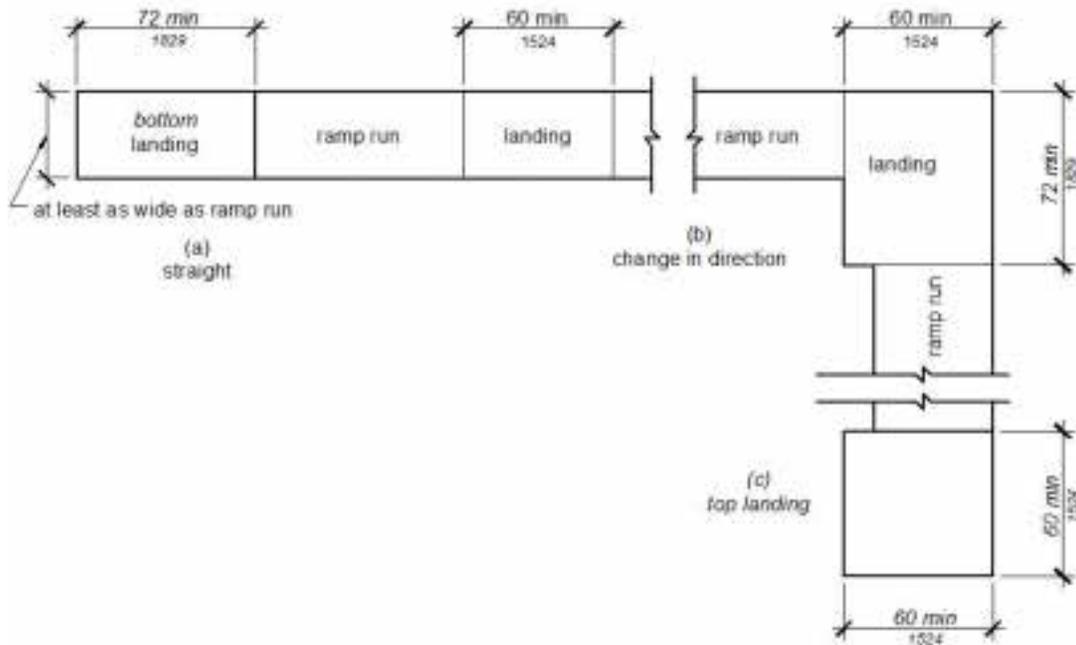
**11B-405.7.2 Width.** The landing clear width shall be at least as wide as the widest ramp run leading to the landing.

**11B-405.7.2.1:** *Top landings shall be 60 inches (1524 mm) wide minimum.*

**11B-405.7.3 Length.** The landing clear length shall be 60 inches (1524 mm) long minimum.

**11B-405.7.3.1:** *Bottom landings shall extend 72 inches (1829 mm) minimum in the direction of ramp run.*

**11B-405.7.4 Change in direction.** Ramps that change direction between runs at landings shall have a clear landing 60 inches (1525 mm) minimum by 72 inches (1829 mm) minimum in the direction of downward travel from the upper ramp run.



**FIGURE 11B-405.7  
RAMP LANDINGS**

**11B-405.7.5 Doorways.** Where doorways are located adjacent to a ramp landing, maneuvering clearances required by Sections 11B-404.2.4 and 11B-404.3.2 shall be permitted to overlap the required landing area. Doors, when fully open, shall not reduce the required ramp landing width by more than 3 inches (76 mm). Doors, in any position, shall not reduce the minimum dimension of the ramp landing to less than 42 inches (1067 mm).

**11B-405.8 Handrails.** Ramp runs shall have handrails complying with Section 11B-505.

**Exceptions:**

1. Reserved.
2. Reserved.
3. Curb ramps do not require handrails.
4. At door landings, handrails are not required on ramp runs less than 6 inches (152 mm) in rise or 72 inches (1829 mm) in length.

**11B-405.9 Edge protection.** Edge protection complying with Section 11B-405.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

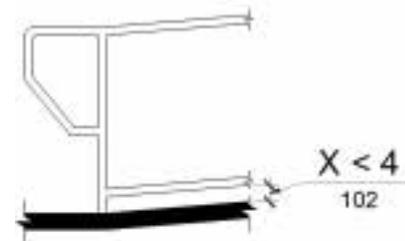
**Exceptions:**

1. Edge protection shall not be required on ramps that are not required to have handrails and have sides complying with Section 11B-406.2.2.
2. Edge protection shall not be required on the sides of ramp landings serving an adjoining ramp run or stairway.
3. Edge protection shall not be required on the sides of ramp landings having a vertical drop-off of 1/2 inch (12.7 mm) maximum within 10 inches (254 mm)

horizontally of the minimum landing area specified in Section 11B-405.7.

**11B-405.9.1 Reserved.**

**11B-405.9.2 Curb or barrier.** A curb, 2 inches (51 mm) high minimum, or barrier shall be provided that prevents the passage of a 4 inch (102 mm) diameter sphere, where any portion of the sphere is within 4 inches (102 mm) of the finish floor or ground surface. To prevent wheel entrapment, the curb or barrier shall provide a continuous and uninterrupted barrier along the length of the ramp.



**FIGURE 11B-405.9.2  
CURB OR BARRIER EDGE PROTECTION**

**11B-405.10 Wet conditions.** Landings subject to wet conditions shall be designed to prevent the accumulation of water.

**11B-406 Curb ramps, blended transitions and islands**

**11B-406.1 General.** Curb ramps, blended transitions and islands on accessible routes shall comply with Section 11B-406. Curb ramps may be perpendicular, parallel, or a combination of perpendicular and parallel.

**11B-406.1.1 Perpendicular curb ramps.** Perpendicular curb ramps shall comply with Section 11B-406.2.

**11B-406.1.2 Parallel curb ramps.** Parallel curb ramps shall comply with Section 11B-406.3.

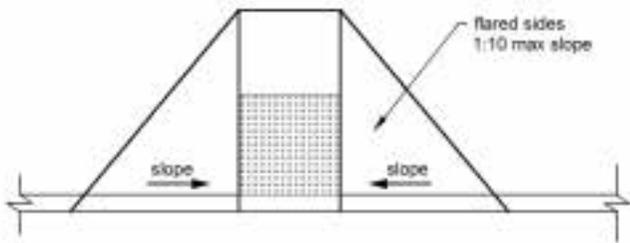
**11B-406.1.3 Blended transitions.** Blended transitions shall comply with Section 11B-406.4.

**11B-406.1.4 Islands.** Islands shall comply with Section 11B-406.6.

**11B-406.2 Perpendicular curb ramps.** Perpendicular curb ramps shall comply with Sections 11B-406.2 and 11B-406.5.

**11B-406.2.1 Slope.** Ramp runs shall have a running slope not steeper than 1:12.

**11B-406.2.2 Sides of curb ramps.** Where provided, curb ramp flares shall not be steeper than 1:10.

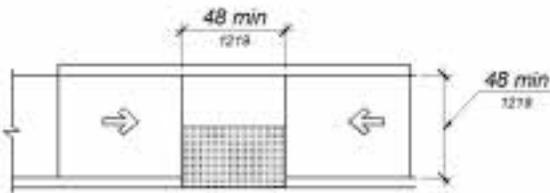


**FIGURE 11B-406.2.2 SIDES OF CURB RAMPS**

**11B-406.3 Parallel curb ramps.** Parallel curb ramps shall comply with Sections 11B-406.3 and 11B-406.5.

**11B-406.3.1 Slope.** The running slope of the curb ramp segments shall be in-line with the direction of sidewalk travel. Ramp runs shall have a running slope not steeper than 1:12.

**11B-406.3.2 Turning space.** A turning space 48 inches (1219 mm) minimum by 48 inches (1219 mm) minimum shall be provided at the bottom of the curb ramp. The slope of the turning space in all directions shall be 1:48 maximum.



**FIGURE 11B-406.3.2 PARALLEL CURB RAMPS**

**11B-406.4 Blended transitions.** Blended transitions shall comply with Sections 11B-406.4 and 11B-406.5.

**11B-406.4.1 Slope.** Blended transitions shall have a running slope not steeper than 1:20.

**11B-406.5 Common requirements.** Curb ramps and blended transitions shall comply with Section 11B-406.5.

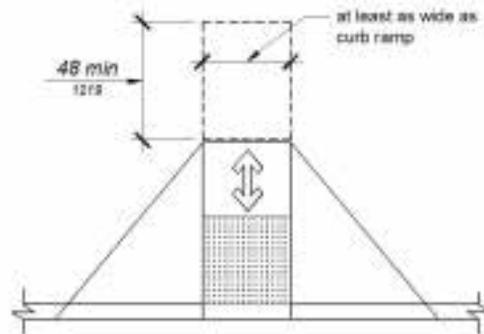
**11B-406.5.1 Location.** Curb ramps and the flared sides of curb ramps shall be located so that they do not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides.

**Exception:** Diagonal curb ramps shall comply with Section 11B-406.5.9.

**11B-406.5.2 Width.** The clear width of curb ramp runs (excluding any flared sides), blended transitions, and turning spaces shall be 48 inches (1219 mm) minimum.

**11B-406.5.3 Landings.** Landings shall be provided at the tops of curb ramps and blended transitions. The landing clear length shall be 48 inches (1219 mm) minimum. The landing clear width shall be at least as wide as the curb ramp, excluding any flared sides, or the blended transition leading to the landing. The slope of the landing in all directions shall be 1:48 maximum.

**Exception:** Parallel curb ramps shall not be required to comply with Section 11B-406.5.3.



**FIGURE 11B-406.5.3 LANDINGS AT THE TOP OF CURB RAMPS**

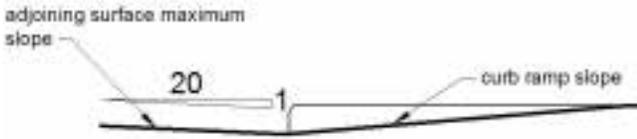
**11B-406.5.4 Floor or ground surfaces.** Floor or ground surfaces of curb ramps and blended transitions shall comply with Section 11B-405.4.

**11B-406.5.5 Wet conditions.** Curb ramps and blended transitions shall comply with Section 11B-405.10.

**11B-406.5.6 Grade breaks.** Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.

**11B-406.5.7 Cross slope.** The cross slope of curb ramps and blended transitions shall be 1:48 maximum.

**11B-406.5.8 Counter slope.** Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches (610 mm) of the curb ramp shall not be steeper than 1:20. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.



**FIGURE 11B-406.5.8**  
**COUNTER SLOPE OF SURFACES ADJACENT TO CURB RAMPS**

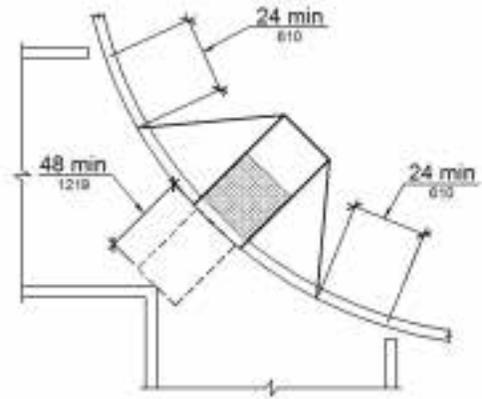
**11B-406.5.9 Clear space at diagonal curb ramps.** The bottom of diagonal curb ramps shall have a clear space 48 inches (1219 mm) minimum outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48 inches (1219 mm) minimum clear space within the markings.

**11B-406.5.10 Diagonal curb ramps.** Diagonal or corner type curb ramps with returned curbs or other well-defined edges shall have the edges parallel to the direction of pedestrian flow. Diagonal curb ramps with flared sides shall have a segment of curb 24 inches (610 mm) long minimum located on each side of the curb ramp and within the marked crossing.

**11B-406.5.11 Reserved.**

**11B-406.5.12 Detectable warnings.** Curb ramps and blended transitions shall have detectable warnings complying with Section 11B-705.

**11B-406.6 Islands.** Raised islands in crossings shall be cut through level with the street or have curb ramps at both sides. The clear width of the accessible route at islands shall be 60 inches (1524 mm) wide minimum. Where curb ramps are provided, they shall comply with Section 11B-406. Landings complying with Section 11B-406.5.3 and the accessible route shall be permitted to overlap. Islands shall have detectable warnings complying with Section 11B-705.



**FIGURE 11B-406.5.10**  
**DIAGONAL OR CORNER TYPE CURB RAMPS**

**11B-407 Elevators**

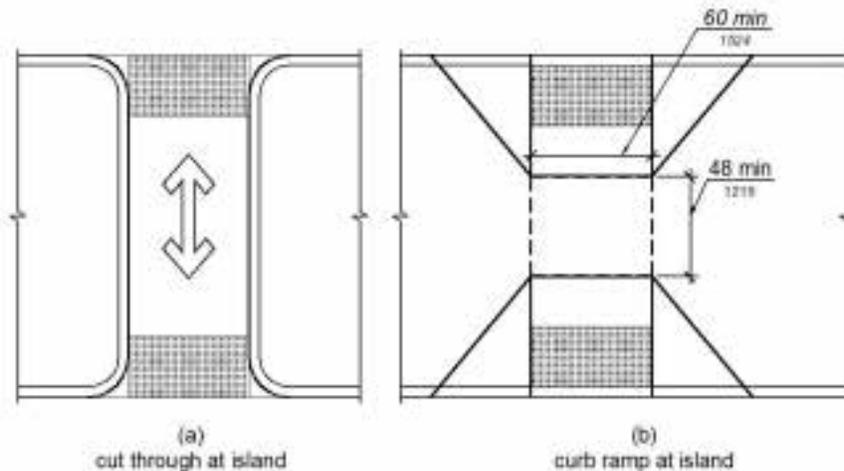
**11B-407.1 General.** Elevators shall comply with Section 11B-407 and with ASME A17.1. They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

**11B-407.1.1 Combined passenger and freight elevators.** When the only elevators provided for use by the public and employees are combination passenger and freight elevators, they shall comply with Section 11B-407 and with ASME A17.1.

**11B-407.2 Elevator landing requirements.** Elevator landings shall comply with Section 11B-407.2.

**11B-407.2.1 Call controls.** Where elevator call buttons or keypads are provided, they shall comply with Sections 11B-407.2.1 and 11B-309.4.

**Exception: Reserved.**



**FIGURE 11B-406.6**  
**ISLANDS IN CROSSINGS**

**11B-407.2.1.1 Height.** Call buttons and keypads shall be located within one of the reach ranges specified in Section 11B-308, measured to the centerline of the highest operable part.

**Exception: Reserved.**

**11B-407.2.1.2 Size and shape.** Call buttons shall have square shoulders, be  $\frac{3}{4}$  inch (19.1 mm) minimum in the smallest dimension and shall be raised  $\frac{1}{8}$  inch (3.2 mm) plus or minus  $\frac{1}{32}$  inch (0.8 mm) above the surrounding surface. The buttons shall be activated by a mechanical motion that is detectable.

**Exception: Reserved.**

**11B-407.2.1.3 Clear floor or ground space.** A clear floor or ground space complying with Section 11B-305 shall be provided at call controls.

**11B-407.2.1.4 Location.** The call button that designates the up direction shall be located above the call button that designates the down direction.

**Exception: Reserved.**

**11B-407.2.1.5 Signals.** Call buttons shall have visible signals that will activate when each call is registered and will extinguish when each call is answered. Call buttons shall be internally illuminated with a white light over the entire surface of the button.

**Exceptions:**

1. Reserved.
2. Reserved.

**11B-407.2.1.6 Keypads.** Where keypads are provided, keypads shall be in a standard telephone keypad arrangement and shall comply with Section 11B-407.4.7.2.

**11B-407.2.2 Hall signals.** Hall signals, including in-car signals, shall comply with Section 11B-407.2.2.

**11B-407.2.2.1 Visible and audible signals.** A visible and audible signal shall be provided at each hoistway entrance to indicate which car is answering a call and the car's direction of travel. Where in-car signals are provided, they shall be visible from the floor area adjacent to the hall call buttons.

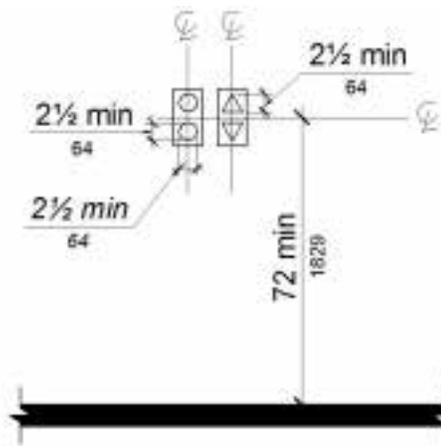
**Exceptions:**

1. Reserved.
2. Reserved.

**11B-407.2.2.2 Visible signals.** Visible signal fixtures shall be centered at 72 inches (1829 mm) minimum above the finish floor or ground. The visible signal elements shall be a minimum  $2\frac{1}{2}$  inches (64 mm) high by  $2\frac{1}{2}$  inches (64 mm) wide. Signals shall be visible from the floor area adjacent to the hall call button.

**Exceptions:**

1. Reserved.
2. Reserved.



**FIGURE 11B-407.2.2.2 VISIBLE HALL SIGNALS**

**11B-407.2.2.3 Audible signals.** Audible signals shall sound once for the up direction and twice for the down direction, or shall have verbal annunciators that indicate the direction of elevator car travel. Audible signals shall have a frequency of 1500 Hz maximum. Verbal annunciators shall have a frequency of 300 Hz minimum and 3000 Hz maximum. The audible signal and verbal annunciator shall be 10 dB minimum above ambient, but shall not exceed 80 dB, measured at the hall call button.

**Exceptions:**

1. Reserved.
2. Reserved.

**11B-407.2.2.4 Reserved**

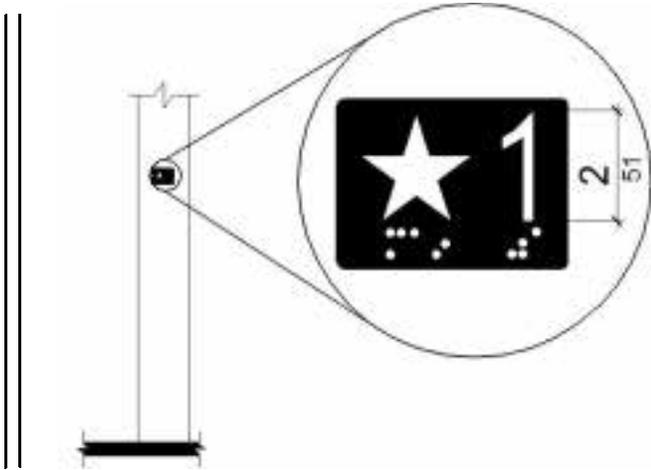
**11B-407.2.3 Hoistway signs.** Signs at elevator hoistways shall comply with Section 11B-407.2.3.

**11B-407.2.3.1 Floor designation.** Floor designations complying with Sections 11B-703.2 and 11B-703.4.1 shall be provided on both jambs of elevator hoistway entrances. Floor designations shall be provided in both raised characters and Braille. Raised characters shall be 2 inches (51 mm) high. A raised star, placed to the left of the floor designation, shall be provided on both jambs at the main entry level. The outside diameter of the star shall be 2 inches (51 mm) and all points shall be of equal length. Raised characters, including the star, shall be white on a black background. Braille complying with Section 11B-703.3 shall be placed below the corresponding raised characters and the star. The Braille translation for the star shall be "MAIN". Applied plates are acceptable if they are permanently fixed to the jamb.

**11B-407.2.3.2 Reserved**

**11B-407.3 Elevator door requirements.** Hoistway and car doors shall comply with Section 11B-407.3.

**11B-407.3.1 Type.** Elevator doors shall be the horizontal sliding type. Car gates shall be prohibited.



**FIGURE 11B-407.2.3.1  
FLOOR DESIGNATIONS ON JAMBS  
OF ELEVATOR HOISTWAY ENTRANCE**

**11B-407.3.2 Operation.** Elevator hoistway and car doors shall open and close automatically.

**Exception:** Existing manually operated hoistway swing doors shall be permitted provided that they comply with *Sections 11B-404.2.3 and 11B-404.2.9*. Car door closing shall not be initiated until the hoistway door is closed.

**11B-407.3.3 Reopening device.** Elevator doors shall be provided with a reopening device complying with *Section 11B-407.3.3* that shall stop and reopen a car door and hoistway door automatically if the door becomes obstructed by an object or person.

**Exception:** Existing elevators with manually operated doors shall not be required to comply with *Section 11B-407.3.3*.

**11B-407.3.3.1 Height.** The device shall be activated by sensing an obstruction passing through the opening at 5 inches (127 mm) nominal and 29 inches (737 mm) nominal above the finish floor.

**11B-407.3.3.2 Contact.** The device shall not require physical contact to be activated, although contact is permitted to occur before the door reverses.

**11B-407.3.3.3 Duration.** Door reopening devices shall remain effective for 20 seconds minimum.

**11B-407.3.4 Door and signal timing.** The minimum acceptable time from notification that a car is answering a call until the doors of that car start to close shall be calculated from the following equation:

$T = D/(1.5 \text{ ft/s})$  or  $T = D/(457 \text{ mm/s}) = 5$  seconds minimum where  $T$  equals the total time in seconds and  $D$  equals the distance (in feet or millimeters) from the point in the lobby or corridor 60 inches (1524 mm) directly in front of the farthest call button controlling that car to the centerline of its hoistway door.

**Exceptions:**

1. For cars with in-car lanterns,  $T$  shall be permitted to begin when the signal is visible from the point 60 inches (1524 mm) directly in front of the farthest hall call button and the audible signal is sounded.

2. *Reserved.*

**11B-407.3.5 Door delay.** Elevator doors shall remain fully open in response to a car call for 5 seconds minimum.

**11B-407.3.6 Width.** The width of elevator doors shall comply with *Table 11B-407.4.1*.

**Exception:** In existing elevators, a power-operated car door complying with *Section 11B-404.2.3* shall be permitted.

**11B-407.4 Elevator car requirements.** Elevator cars shall comply with *Section 11B-407.4*.

**11B-407.4.1 Car dimensions.** Inside dimensions of elevator cars and clear width of elevator doors shall comply with *Table 11B-407.4.1*.

**Exception:** *In existing buildings, where existing shaft configuration prohibits strict compliance with Section 11B-407.4.1, existing elevator car configurations that provide a clear floor area of 18 square feet (1.67 m<sup>2</sup>) minimum and also provide an inside clear depth 54 inches (1372 mm) minimum and a clear width 48 inches (1219 mm) minimum shall be permitted.*

**11B-407.4.2 Floor surfaces.** Floor surfaces in elevator cars shall comply with *Sections 11B-302 and 11B-303*.

**TABLE 11B-407.4.1  
ELEVATOR CAR DIMENSIONS**

DOOR LOCATION	MINIMUM DIMENSIONS			
	Door clear width	Inside car, side to side	Inside car, back wall to front return	Inside car, back wall to inside face of door
Centered	42 inches (1067 mm)	80 inches (2032 mm)	51 inches (1295 mm)	54 inches (1372 mm)
Side (off-centered)	36 inches (914 mm) <sup>1</sup>	68 inches (1727 mm)	51 inches (1295 mm)	54 inches (1372 mm)
Any	36 inches (914 mm) <sup>1</sup>	54 inches (1372 mm)	80 inches (2032 mm)	80 inches (2032 mm)
Any	36 inches (914 mm) <sup>2</sup>	60 inches (1524 mm) <sup>2</sup>	60 inches (1524 mm) <sup>2</sup>	60 inches (1524 mm) <sup>2</sup>

1. A tolerance of minus 3/8 inch (15.9 mm) is permitted.

2. Other car configurations that provide a turning space complying with *Section 11B-304* with the door closed shall be permitted.

**11B-407.4.3 Platform to hoistway clearance.** The clearance between the car platform sill and the edge of any hoistway landing shall be  $1\frac{1}{4}$  inch (32 mm) maximum.

**11B-407.4.4 Leveling.** Each car shall be equipped with a self-leveling feature that will automatically bring and maintain the car at floor landings within a tolerance of  $\frac{1}{2}$  inch (12.7 mm) under rated loading to zero loading conditions.

**11B-407.4.5 Illumination.** The level of illumination at the car controls, platform, car threshold and car landing sill shall be 5 foot candles (54 lux) minimum.

**11B-407.4.6 Elevator car controls.** Where provided, elevator car controls shall comply with *Sections 11B-407.4.6 and 11B-309.4.*

**Exception:** In existing elevators, where a new car operating panel complying with *Section 11B-407.4.6* is provided, existing car operating panels *may remain operational and* shall not be required to comply with *Section 11B-407.4.6.*

**11B-407.4.6.1 Location.** Controls shall be located within one of the reach ranges specified in *Section 11B-308.*

**Exceptions:**

1. Where the elevator panel serves more than 16 openings and a parallel approach is provided, buttons with floor designations shall be permitted to be 54 inches (1372 mm) maximum above the finish floor.
2. In existing elevators, car control buttons with floor designations shall be permitted to be located 54 inches (1372 mm) maximum above the finish floor where a parallel approach is provided.

**11B-407.4.6.2 Buttons.** Car control buttons with floor designations shall comply with *Section 11B-407.4.6.2.*

**Exception: Reserved.**

**11B-407.4.6.2.1 Size and shape.** Buttons shall have square shoulders, be  $\frac{3}{4}$  inch (19.1 mm) minimum in their smallest dimension and be raised  $\frac{1}{8}$  inch (3.2 mm) plus or minus  $\frac{1}{32}$  inch (0.8 mm) above the surrounding surface.

**11B-407.4.6.2.2 Arrangement.** Buttons shall be arranged with numbers in ascending order. When two or more columns of buttons are provided they shall read from left to right.

**11B-407.4.6.2.3 Illumination.** Car control buttons shall be illuminated.

**11B-407.4.6.2.4 Operation.** Car control buttons shall be activated by a mechanical motion that is detectable.

**11B-407.4.6.3 Keypads.** Car control keypads shall be in a standard telephone keypad arrangement and shall comply with *Section 11B-407.4.7.2.*

**11B-407.4.6.4 Emergency controls.** Emergency controls shall comply with *Section 11B-407.4.6.4.*

**11B-407.4.6.4.1 Height.** Emergency control buttons shall have their centerlines 35 inches (889 mm) minimum above the finish floor.

**11B-407.4.6.4.2 Location.** Emergency controls, including the emergency alarm, shall be grouped at the bottom of the panel.

**11B-407.4.7 Designations and indicators of car controls.** Designations and indicators of car controls shall comply with *Section 11B-407.4.7.*

**Exception:** In existing elevators, where a new car operating panel complying with *Section 11B-407.4.7* is provided, existing car operating panels *may remain operational and* shall not be required to comply with *Section 11B-407.4.7.*

**11B-407.4.7.1 Buttons.** Car control buttons shall comply with *Section 11B-407.4.7.1.*

**11B-407.4.7.1.1 Type.** Control buttons shall be identified by raised characters or symbols, white on a black background, complying with *Section 11B-703.2 and Braille complying with Section 11B-703.3.*

**11B-407.4.7.1.2 Location.** Raised characters or symbols and Braille designations shall be placed immediately to the left of the control button to which the designations apply.

**11B-407.4.7.1.3 Symbols.** The control button for the emergency stop, alarm, door open, door close, main entry floor, and phone, shall be identified with raised symbols and Braille as shown in Table 11B-407.4.7.1.3.

**11B-407.4.7.1.4 Visible indicators.** Buttons with floor designations shall be provided with visible indicators to show that a call has been registered. The visible indication shall extinguish when the car arrives at the designated floor.

**11B-407.4.7.1.5 Button spacing.** A minimum clear space of  $\frac{3}{8}$  inch (9.5 mm) or other suitable means of separation shall be provided between rows of control buttons.

**11B-407.4.7.2 Keypads.** Keypads shall be identified by characters complying with *Section 11B-703.5* and shall be centered on the corresponding keypad button. The number five key shall have a single raised dot. The dot shall be 0.118 inch (3 mm) to 0.120 inch (3.05 mm) base diameter and in other aspects comply with Table 11B-703.3.1.

**11B-407.4.8 Car position indicators.** Audible and visible car position indicators shall be provided in elevator cars.

**11B-407.4.8.1 Visible indicators.** Visible indicators shall comply with *Section 11B-407.4.8.1.*

**11B-407.4.8.1.1 Size.** Characters shall be  $\frac{1}{2}$  inch (12.7 mm) high minimum.

**11B-407.4.8.1.2 Location.** Indicators shall be located above the car control panel or above the door.

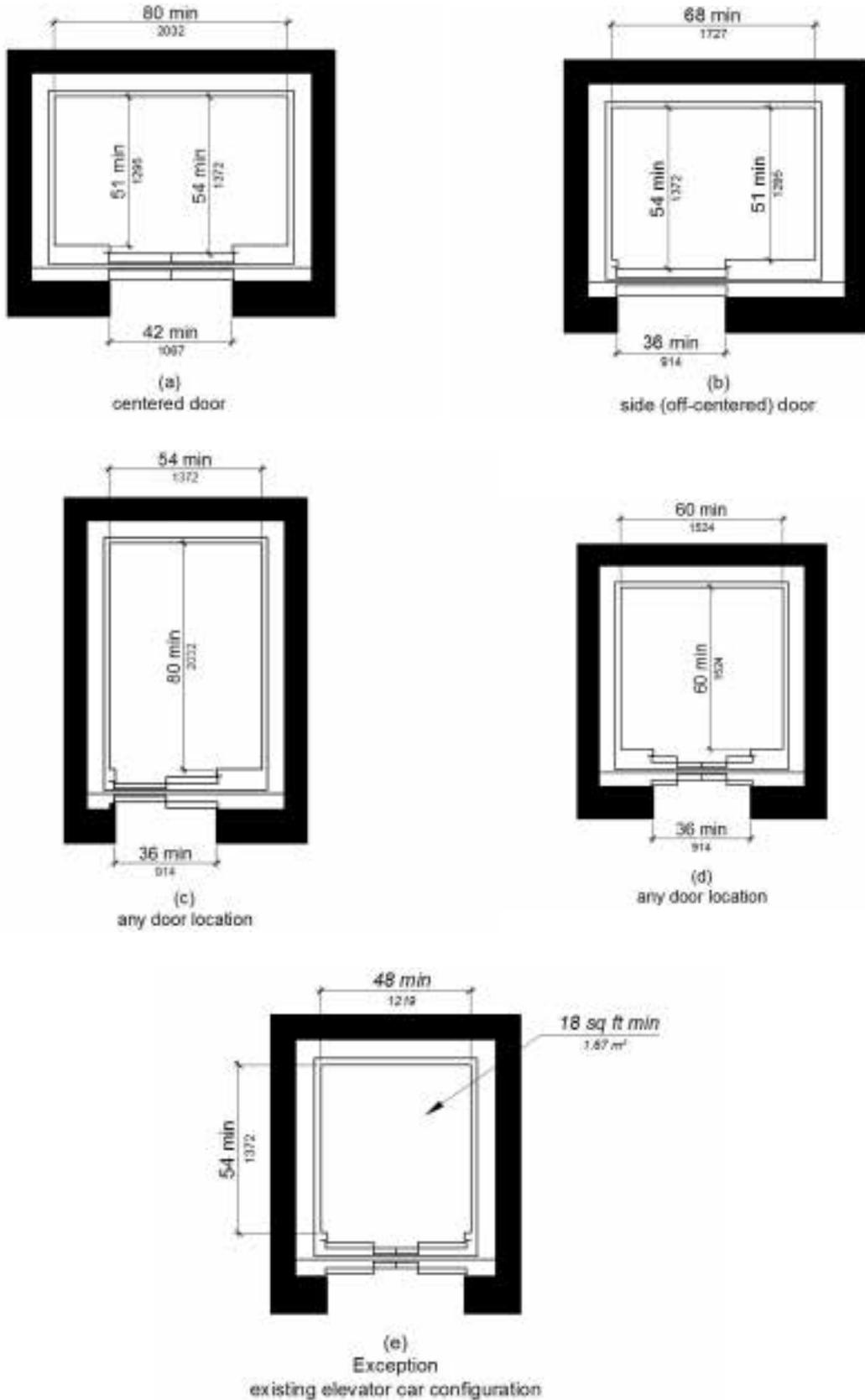


FIGURE 11B-407.4.1  
 ELEVATOR CAR DIMENSIONS

**11B-407.4.8.1.3 Floor arrival.** As the car passes a floor and when a car stops at a floor served by the elevator, the corresponding character shall illuminate.

**Exception: Reserved.**

**11B-407.4.8.1.4 Reserved.**

**11B-407.4.8.2 Audible indicators.** Audible indicators shall comply with Section 11B-407.4.8.2.

**11B-407.4.8.2.1 Signal type.** The signal shall be an automatic verbal annunciator which announces the floor at which the car is about to stop.

**Exception:** For elevators that have a rated speed of 200 feet per minute (1 m/s) or less, a non-verbal audible signal with a frequency of 1500 Hz maximum which sounds as the car passes or is about to stop at a floor served by the elevator shall be permitted.

**11B-407.4.8.2.2 Signal level.** The verbal annunciator shall be 10 dB minimum above ambient, but shall not exceed 80 dB, measured at the annunciator.

**11B-407.4.8.2.3 Frequency.** The verbal annunciator shall have a frequency of 300 Hz minimum to 3000 Hz maximum.

**11B-407.4.9 Emergency communication.** Emergency two-way communication systems shall comply with Section 11B-308. Raised symbols or characters, white on a black background, and Braille shall be provided adjacent to the device and shall comply with Sections 11B-703.2 and 11B-703.3. Emergency two-way communication systems between the elevator and a point outside the hoistway shall comply with ASME A17.1.

**11B-407.4.10 Support rail.** Support rails shall be provided on at least one wall of the car.

**11B-407.4.10.1 Location.** Clearance between support rails and adjacent surfaces shall be 1½ inches (38 mm) minimum. Top of support rails shall be 31 inches (787 mm) minimum to 33 inches (838 mm) maximum above the floor of the car. The ends of the support rail shall be 6 inches (152 mm) maximum from adjacent walls.

**11B-407.4.10.2 Surfaces.** Support rails shall be smooth and any surface adjacent to them shall be free of sharp or abrasive elements.

**11B-407.4.10.3 Structural strength.** Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the support rail, fastener, mounting device, or supporting structure.

**11B-408 Limited-use/limited-application elevators**

**11B-408.1 General.** Limited-use/limited-application elevators shall comply with Section 11B-408 and with ASME A17.1. They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

**11B-408.2 Elevator landings.** Landings serving limited-use/limited-application elevators shall comply with Section 11B-408.2.

**11B-408.2.1 Call buttons.** Elevator call buttons and keypads shall comply with Section 11B-407.2.1.

**11B-408.2.2 Hall signals.** Hall signals shall comply with Section 11B-407.2.2.

**11B-408.2.3 Hoistway signs.** Signs at elevator hoistways shall comply with Section 11B-407.2.3.1.

**11B-408.3 Elevator doors.** Elevator hoistway doors shall comply with Section 11B-408.3.

**11B-408.3.1 Sliding doors.** Sliding hoistway and car doors shall comply with Sections 11B-407.3.1 through 11B-407.3.3 and 11B-408.4.1.

Control Button	Raised Symbol	Braille Message
Emergency Stop		ST*OP Three Cells
Alarm		AL*AR*M Four Cells
Door Open		OP*EN* Three Cells
Door Close		CLOSE Five Cells
Main Entry Floor		MA*IN* Three Cells
Phone		PH*ONE* Four Cells

TABLE 11B-407.4.7.1.3  
ELEVATOR CONTROL BUTTON IDENTIFICATION

**11B-408.3.2 Swinging doors.** Swinging hoistway doors shall open and close automatically and shall comply with *Sections 11B-404, 11B-407.3.2 and 11B-408.3.2.*

**11B-408.3.2.1 Power operation.** Swinging doors shall be power-operated and shall comply with ANSI/BHMA A156.19.

**11B-408.3.2.2 Duration.** Power-operated swinging doors shall remain open for 20 seconds minimum when activated.

**11B-408.4 Elevator cars.** Elevator cars shall comply with *11B-408.4.*

**11B-408.4.1 Car dimensions and doors.** Elevator cars shall provide a clear width 42 inches (1067 mm) minimum and a clear depth 54 inches (1372 mm) minimum. Car doors shall be positioned at the narrow ends of cars and shall provide 32 inches (813 mm) minimum clear width.

**Exceptions:**

1. Cars that provide a clear width 51 inches (1295 mm) minimum shall be permitted to provide a clear depth 51 inches (1295 mm) minimum provided that car doors provide a clear opening 36 inches (914 mm) wide minimum.

2. *Reserved.*

**11B-408.4.2 Floor surfaces.** Floor surfaces in elevator cars shall comply with *Sections 11B-302 and 11B-303.*

**11B-408.4.3 Platform to hoistway clearance.** The platform to hoistway clearance shall comply with *Section 11B-407.4.3.*

**11B-408.4.4 Leveling.** Elevator car leveling shall comply with *Section 11B-407.4.4.*

**11B-408.4.5 Illumination.** Elevator car illumination shall comply with *Section 11B-407.4.5.*

**11B-408.4.6 Car controls.** Elevator car controls shall comply with *Section 11B-407.4.6.* Control panels shall be centered on a side wall.

**11B-408.4.7 Designations and indicators of car controls.** Designations and indicators of car controls shall comply with *Section 11B-407.4.7.*

**11B-408.4.8 Emergency communications.** Car emergency signaling devices complying with *Section 11B-407.4.9* shall be provided.

**11B-409 Private residence elevators**

**11B-409.1 General.** Private residence elevators that are provided within a residential dwelling unit required to provide mobility features complying with *Sections 11B-809.2 through 11B-809.4* shall comply with *Section 11B-409* and with ASME A17.1. They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

**11B-409.2 Call buttons.** Call buttons shall be  $\frac{3}{4}$  inch (19.1 mm) minimum in the smallest dimension and shall comply with *Section 11B-309.*

**11B-409.3 Elevator doors.** Hoistway doors, car doors, and car gates shall comply with *Sections 11B-409.3 and 11B-404.*

**Exception:** Doors shall not be required to comply with the maneuvering clearance requirements in *Section 11B-404.2.4.1* for approaches to the push side of swinging doors.

**11B-409.3.1 Power operation.** Elevator car and hoistway doors and gates shall be power operated and shall comply with ANSI/BHMA A156.19. Power operated doors and gates shall remain open for 20 seconds minimum when activated.

**Exception:** In elevator cars with more than one opening, hoistway doors and gates shall be permitted to be of the manual-open, self-close type.

**11B-409.3.2 Location.** Elevator car doors or gates shall be positioned at the narrow end of the clear floor spaces required by *Section 11B-409.4.1.*

**11B-409.4 Elevator cars.** Private residence elevator cars shall comply with *Section 11B-409.4.*

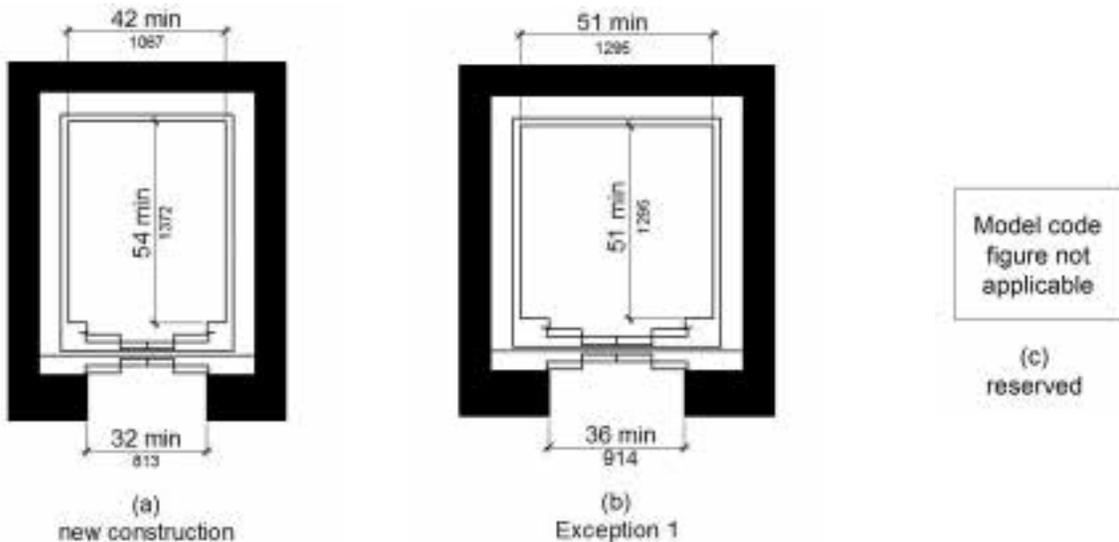


FIGURE 11B-408.4.1 LIMITED-USE/LIMITED-APPLICATION (LULA) ELEVATOR CAR DIMENSIONS

**11B-409.4.1 Inside dimensions of elevator cars.** Elevator cars shall provide a clear floor space of 36 inches (914 mm) minimum by 48 inches (1219 mm) minimum and shall comply with Section 11B-305.

**11B-409.4.2 Floor surfaces.** Floor surfaces in elevator cars shall comply with Sections 11B-302 and 11B-303.

**11B-409.4.3 Platform to hoistway clearance.** The clearance between the car platform and the edge of any landing sill shall be 1½ inch (38 mm) maximum.

**11B-409.4.4 Leveling.** Each car shall automatically stop at a floor landing within a tolerance of ½ inch (12.7 mm) under rated loading to zero loading conditions.

**11B-409.4.5 Illumination levels.** Elevator car illumination shall comply with Section 11B-407.4.5.

**11B-409.4.6 Car controls.** Elevator car control buttons shall comply with Sections 11B-409.4.6, 11B-309.3, 11B-309.4, and shall be raised or flush.

**11B-409.4.6.1 Size.** Control buttons shall be ¾ inch (19.1 mm) minimum in their smallest dimension.

**11B-409.4.6.2 Location.** Control panels shall be on a side wall, 12 inches (305 mm) minimum from any adjacent wall.

**11B-409.4.7 Emergency communications.** Emergency two-way communication systems shall comply with Section 11B-409.4.7.

**11B-409.4.7.1 Type.** A telephone and emergency signal device shall be provided in the car.

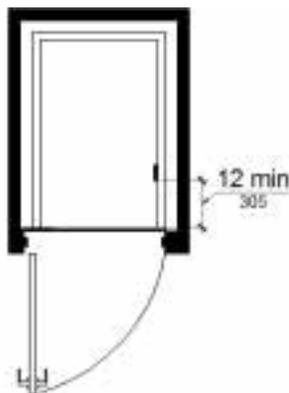
**11B-409.4.7.2 Operable parts.** The telephone and emergency signaling device shall comply with Sections 11B-309.3 and 11B-309.4.

**11B-409.4.7.3 Compartment.** If the telephone or device is in a closed compartment, the compartment door hardware shall comply with Section 11B-309.

**11B-409.4.7.4 Cord.** The telephone cord shall be 29 inches (737 mm) long minimum.

**11B-410 Platform lifts**

**11B-410.1 General.** Platform lifts shall comply with ASME A18.1. Platform lifts shall not be attendant-operated and shall provide unassisted entry and exit from the lift.



**FIGURE 11B-409.4.6.2**  
LOCATION OF PRIVATE RESIDENCE  
ELEVATOR CONTROL PANEL

**11B-410.2 Floor surfaces.** Floor surfaces in platform lifts shall comply with Sections 11B-302 and 11B-303.

**11B-410.3 Clear floor space.** Clear floor space in platform lifts shall comply with Section 11B-305.

**11B-410.4 Platform to runway clearance.** The clearance between the platform sill and the edge of any runway landing shall be 1¼ inch (32 mm) maximum.

**11B-410.5 Operable parts.** Controls for platform lifts shall comply with Section 11B-309.

**11B-410.6 Doors and gates.** Platform lifts shall have low-energy power-operated doors or gates complying with Section 11B-404.3. Doors shall remain open for 20 seconds minimum. End doors and gates shall provide a clear width 32 inches (813 mm) minimum. Side doors and gates shall provide a clear width 42 inches (1067 mm) minimum.

**Exception:** Platform lifts serving two landings maximum and having doors or gates on opposite sides shall be permitted to have self-closing manual doors or gates.

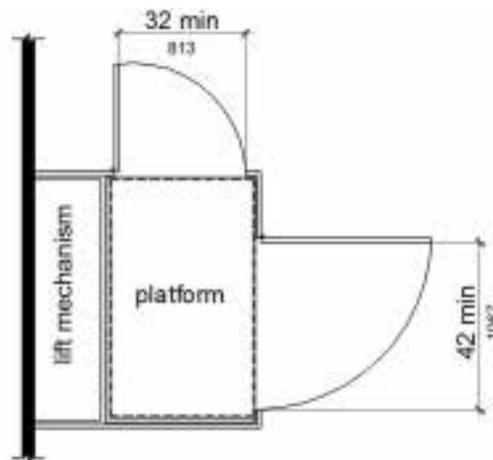
**11B-410.7 Landing size.** The minimum size of landings at platform lifts shall be 60 inches by 60 inches (1524 mm by 1524 mm).

**11B-410.8 Restriction sign.** A sign complying with Section 11B-703.5 shall be posted in a conspicuous place at each landing and within the platform enclosure stating “No Freight” and include the International Symbol of Accessibility complying with Section 11B-703.7.2.1.

**11B-411 Destination-oriented elevators.**

**11B-411.1 General.** Destination-oriented elevators shall comply with Section 11B-411 and with ASME A17.1. They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

**11B-411.1.1 Floor designations.** In facilities served by destination-oriented elevator systems, floor designations shall be numeric characters only. Floor designations shall be “one” (1) or “zero” (0) at the main entry level and shall increase by one for each successive higher story or level. The initial floor below the main entry level shall be designated “minus one” (-1) and



**FIGURE 11B-410.6**  
PLATFORM LIFT DOORS AND GATES

the designation for each successive lower story or level shall decrease by one. Stories or levels shall not be designated by alphabetic characters.

**Exceptions:**

1. In existing facilities where new elevators are installed or existing elevators are altered into a destination-oriented elevator system, levels within stories, such as mezzanines located above or below the main entry level shall be permitted to be designated with an alphanumeric character such as “M2”, indicating “mezzanine” and the “story number”, respectively, in which it is located, provided there is no duplication with alpha-numeric designations of elevator cars in the facility.
2. Non-successive floor numbering shall be permitted where a specific floor number is omitted or where a floor is frequented only by service personnel for maintenance, repair or occasional monitoring of equipment.

**11B-411.1.2 Car designations.** Elevator cars shall be designated with a single alphabetic character.

**Exception:** Elevator systems with more than 26 elevators shall be permitted to use alpha-numeric designations such as “A1.”

**11B-411.2 Elevator landing requirements.** Elevator landings shall comply with Section 11B-411.2.

**11B-411.2.1 Hall call consoles.** Hall call consoles shall comply with Sections 11B-411.2.1 and 11B-309.

**11B-411.2.1.1 Location.** Hall call consoles shall be wall-mounted. On floors with a building entry, including parking and transfer levels, each hoistway entrance shall be adjacent to a hall call console. On other floors, a minimum of one hoistway entrance shall be adjacent to a hall call console.

**Exception:** Hall call consoles beyond those required by Section 11B-411.2.1.1 shall be permitted to be provided outside the elevator landing and to be wall-mounted, pedestal-mounted, or mounted on a kiosk or security turnstile.

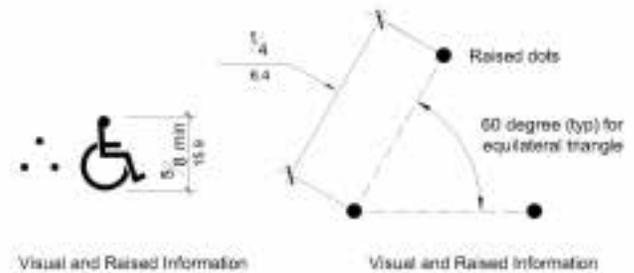
**11B-411.2.1.2 Required features.** Hall call consoles shall include a touch screen or keypad with display screen, an accessibility function button, and audio output loudspeaker.

**11B-411.2.1.2.1 Keypads.** Keypads shall be in a 12-key ascending telephone keypad layout. Characters and symbols shall be centered on the corresponding button. The number five key shall have a single raised dot. The dot shall have a base diameter of 0.118 inch (3 mm) minimum and 0.120 inch (3.05 mm) maximum and a height of 0.025 inch (0.6 mm) minimum and 0.037 inch (0.9 mm) maximum. Keypads shall have a star (☆) on the lower left button and a minus sign (-) on the lower right button. From any level above and below the main egress level, when the star

button is pressed an elevator shall be dispatched to the main egress level.

**11B-411.2.1.2.2 Touch screen.** Touch screen display shall comply with Section 11B-411.2.1.2.4. The touch screen shall provide written or visual instruction on the screen as to its use.

**11B-411.2.1.2.3 Accessibility function button.** The accessibility function button shall be identified by the International Symbol of Accessibility and a raised indication. The International Symbol of Accessibility shall comply with Section 11B-703.7.2.1, and shall be <sup>5</sup>/<sub>8</sub> inch (15.9 mm) minimum in height. The indication shall be three raised dots. Each dot shall have a base diameter of 0.059 inch (1.5 mm) minimum and 0.063 inch (1.6 mm) maximum and a height of 0.025 inch (0.6 mm) minimum and 0.037 inch (0.9 mm) maximum. The dots shall be spaced <sup>1</sup>/<sub>4</sub> inch (6.4 mm), measured center to center, in the form of an equilateral triangle with a vertex pointing up. The accessibility function button shall not be provided with a key repeat function.



**FIGURE 11B-411.2.1.2.3 DESTINATION-ORIENTED ELEVATOR ACCESSIBILITY FUNCTION BUTTON INDICATION**

**11B-411.2.1.2.4 Display screen.** Upon activation of the accessibility function button, the display screen shall display information on the location and use of the star (☆) and minus sign (-) buttons, user input confirmation, elevator assignment characters, direction to the assigned elevator, and error messages. The display screen shall comply with Section 11B-411.2.1.2.4.

**11B-411.2.1.2.4.1 Contrast.** Display screens shall provide contrast with light characters and symbols on a dark background or dark characters and symbols on a light background. The background shall be solid and static.

**11B-411.2.1.2.4.2 Size.** Elevator assignment characters shall be 1 inch high (25 mm) minimum.

**11B-411.2.1.2.4.3 Duration.** Elevator assignment characters shall be displayed for a minimum of 5 seconds.

**11B-411.2.1.2.5 Audio output.** Upon activation of the accessibility function button, the audio output shall provide verbal announcements of oper-

ating instructions, location and use of the star (☆) and minus sign (-) buttons, user input confirmation, announcement of the elevator assignment characters, direction to the assigned elevator, and error messages. Audio output shall be recorded or digitized human speech, and shall be delivered through a loudspeaker. Auditory volume shall be at least 10 dB above ambient sound level, but shall not exceed 80 dB, measured 36 inches (914 mm) in front of the console. At hall call console locations where the ambient sound level varies, auditory volume shall be maintained at the required volume by an automatic gain control or shall be set at not less than 75 dB.

**11B-411.2.1.3 Arrangement.** Hall call console arrangement of required features shall comply with Section 11B-411.2.1.3.

**11B-411.2.1.3.1 Keypad call console arrangement.** Where keypad call consoles are provided, the display screen shall be located directly above the keypad. The accessibility function button shall be located directly below the keypad at a height of 36 inches (914 mm) to 42 inches (1067 mm) above the finish floor.

**11B-411.2.1.3.2 Touch screen call console arrangement.** Where touch screen call consoles are provided, the touch screen shall be located directly above the accessibility function button. The accessibility function button shall be located at a height of 36 inches (914 mm) to 42 inches (1067 mm) above the finish floor.

**11B-411.2.1.3.3 Proximity of required elements.** Required features shall be provided on a hall call console assembly or as individual elements grouped in close proximity.

**11B-411.2.1.3.4 Position.** The face of individual elements or group of individual elements that are operated by user input shall slope away from the user at 15 to 25 degrees from the vertical plane. The face of hall call console assemblies and the face of touch screens shall be sloped away from the user at 7 to 25 degrees from the vertical plane. Display screens and touch screens shall be positioned so glare is reduced on the screen.

**11B-411.2.1.4 Additional features.** Hall call console additional features, if provided, shall comply with Sections 11B-309 and 11B-411.2.1.4.

**11B-411.2.1.4.1 Hall call console additional buttons.** Hall call console buttons provided in addition to the accessibility function button and keypad buttons shall comply with Section 11B-411.2.1.4.1. Buttons in addition to the accessibility function button are not permitted on hall call consoles using a touch screen.

**11B-411.2.1.4.1.1 Arrangement.** Buttons shall be arranged in columns to the right of the keypad with a minimum horizontal spacing

of 1.5 times the horizontal spacing between the numeric keys and with the same vertical spacing as the numeric keys.

**11B-411.2.1.4.1.2 Identification.** Buttons shall be identified by raised characters and symbols, white on a black background, complying with Section 11B-703.2 and Braille complying with Section 11B-703.3. Identification shall be placed immediately to the left of the control button to which the designation applies.

**11B-411.2.1.4.2 Security or access controls.** Security or access control system card readers associated with elevator operation shall be in close proximity to each hall call console in a consistent manner throughout the facility.

**11B-411.2.1.5 Button requirements.** Keypad buttons, the accessibility function button, and additional hall call console buttons shall comply with Section 11B-411.2.1.5.

**11B-411.2.1.5.1 Size.** Buttons shall have square shoulders, be  $\frac{3}{4}$  inch (19.1 mm) minimum in the smallest dimension and shall be raised  $\frac{1}{8}$  inch (3.2 mm) plus or minus  $\frac{1}{32}$  inch (0.8 mm) above the surrounding surface. The buttons shall be actuated by a mechanical motion that is detectable.

**11B-411.2.1.5.2 Color.** Characters and symbols on buttons, where provided, shall be white on a black background.

**11B-411.2.1.6 Identification of floors served.** In buildings with two or more elevator banks, each serving a different group of specific floors, hall call consoles located on floors with a building entry, including parking and transfer levels, shall be provided with signage complying with Sections 11B-703.2, 11B-703.3, and 11B-703.5 on the surface of or above the hall call console stating "FLOORS n1 - n2," where n1 - n2 represents the range of floors served. Characters shall be white on a black background. When the accessibility function button is pressed, the audio output shall provide a verbal announcement of the floors served by the elevator group.

**11B-411.2.1.7 Elevator car assignment.** When the accessibility function button is pressed, elevator car assignment shall comply with Section 11B-411.2.1.7.

**11B-411.2.1.7.1 Assignment by keypad hall call console.** The audio output shall provide verbal instruction for the user to enter a destination floor. The selected destination floor shall be confirmed by verbal announcement and on the display screen. Verbal and visible indication of an invalid input shall be provided. The display screen shall indicate the elevator assignment characters and a verbal announcement shall be made of the assigned elevator responding to the

call. Visual and verbal direction to the assigned elevator shall be provided.

**11B-411.2.1.7.2 Assignment by touch screen hall call console.** The audio output shall provide verbal instruction for the user to press the accessibility function button as a response to verbal direction in order to select the destination floor. The selected destination floor shall be confirmed by verbal announcement and on the display screen. Verbal and visible indication of an invalid input shall be provided. The display screen shall indicate the elevator assignment characters and a verbal announcement shall be made of the assigned elevator responding to the call. Visual and verbal direction to the assigned elevator shall be provided.

**Exception.** In addition to assignment by Section 11B-411.2.1.7.2, a verbal announcement providing the user with an option to select an alternative mode of operation shall be permitted. Alternative operation shall be by one of the following options:

1. **Virtual keypad.** The size of the keypad shall be a nominal 4 inches (102 mm) wide by 5 inches (127 mm) high in a 12-key ascending telephone keypad layout centered in the console. Characters and symbols shall be centered on the corresponding button. Keypads shall have a star (☆) on the lower left button and a minus sign (-) on the lower right button. Operation shall be by contact with the touch screen with a press on the key. The audio output shall provide user input confirmation after each key is pressed. Keys shall not be provided with a key repeat function. From any level above and below the main egress level, when the star button is pressed an elevator shall be dispatched to the main egress level.
2. **Gesture-based mode of operation.** Operation shall be by contact with the touch screen, without specific contact with an icon, and using established non-proprietary gestures for selection and input, including but not limited to tapping, sliding, and tap-hold contact-release to select. The audio output shall provide verbal direction on use of the touch screen, and indication of floor selection options until assignment to the elevator is given.

**11B-411.2.1.7.3 Assignment by security credential.** If a security system or other form of access control system is provided, the audio output shall provide a verbal announcement and direction to

the location of the access control activation sensor, such as “present security credential at the sensor immediately to the left.” Upon presentation of security credential, the destination floor shall be confirmed by verbal announcement and on the display screen. The display screen shall indicate the elevator assignment characters and a verbal announcement shall be made of the assigned elevator responding to the call. Visual and verbal direction to the assigned elevator shall be provided.

**11B-411.2.1.7.4 Adjacency assignment.** The system shall assign an elevator car immediately to the left or right of the hall call console.

**Exception:** The most adjacent elevator serving the selected floor shall be assigned by hall call consoles located outside the elevator landing.

**11B-411.2.2 Elevator car identification at elevator landings.** Elevator car identification shall comply with Section 11B-411.2.2.

**11B-411.2.2.1 Visible identification.** Above or adjacent to each elevator car entrance there shall be a visible identification fixture with a car designation character. The identification fixture shall be 80 inches (2032 mm) minimum above the finish floor or ground to the bottom of the fixture. The characters on the fixture shall be upper case with a height of 4 inches (102 mm) minimum complying with Sections 11B-703.5.1, 11B-703.5.3, 11B-703.5.4, 11B-703.5.7, and 11B-703.5.8.

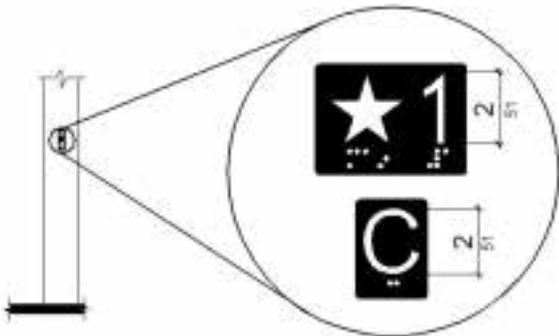
**Exception:** Existing buildings shall be permitted to have a visible identification fixture with a car designation character adjacent to each elevator car entrance centered at 72 inches (1829 mm) above the finish floor or ground. The character on the fixture shall be upper case with a height of 2½ inches (64 mm) minimum complying with Sections 11B-703.5.1, 11B-703.5.3, 11B-703.5.4, 11B-703.5.7, and 11B-703.5.8.

**11B-411.2.2.2 Verbal identification.** When the accessibility function button is pressed, verbal announcement of the car designation shall be provided at the elevator car entrance upon arrival. Audio output shall be recorded or digitized human speech, and shall be delivered through a loudspeaker. The verbal annunciator shall have a frequency of 300 Hz minimum and 3000 Hz maximum. Auditory volume shall be at least 10 dB above ambient sound level, but shall not exceed 80 dB, measured 36 inches (914 mm) in front of the elevator entrance and at 48 inches (1219 mm) above the floor. At elevator entrances where the ambient sound level varies, auditory volume shall be maintained at the required volume by an automatic gain control or shall be set at not less than 75 dB.

**11B-411.2.3 Signs on jambs of elevator hoistway entrances.** Signs on jambs of elevator hoistway entrances shall comply with Section 11B-411.2.3.

**11B-411.2.3.1 Floor designation signs.** Floor designation signs complying with Sections 11B-703.2 and 11B-703.4.1 shall be provided on both jambs of elevator hoistway entrances. Signs shall be provided in both raised characters and Braille. Raised characters shall be 2 inches (51 mm) high. A raised star placed to the left of the floor designation, shall be provided on both jambs at the main entry level. The outside diameter of the star shall be 2 inches (51 mm) and all points shall be of equal length. Raised characters, including the star, shall be white on a black background. Braille complying with Section 11B-703.3 shall be placed below the corresponding raised characters and the star. The Braille translation for the star shall be "MAIN". Applied plates are acceptable if they are permanently fixed to the jamb.

**11B-411.2.3.2 Car designation signs.** Car designation signs complying with Sections 11B-703.2 and 11B-703.4.1 shall be provided on both jambs of the hoistway immediately below the floor designation. Signs shall be provided in both raised characters and Braille. Raised characters shall be 2 inches (51 mm) high. Raised characters shall be white on a black background. Braille complying with Section 11B-703.3 shall be placed below the corresponding raised characters. Applied plates are acceptable if they are permanently fixed to the jamb.



**FIGURE 11B-411.2.3 FLOOR DESIGNATION AND CAR DESIGNATION SIGNS ON JAMBS OF DESTINATION-ORIENTED ELEVATOR HOISTWAY SIGNS**

**11B-411.3 Elevator door requirements.** Hoistway and car doors shall comply with Section 11B-411.3.

**11B-411.3.1 Type.** Elevator door type shall comply with Section 11B-407.3.1.

**11B-411.3.2 Operation.** Elevator hoistway and car doors shall open and close automatically.

**11B-411.3.3 Reopening device.** Elevator doors shall be provided with a reopening device complying with Section 11B-411.3.3 that shall stop and reopen a car door and

hoistway door automatically if the door becomes obstructed by an object or person.

**11B-411.3.3.1 Height.** The height of the reopening device shall comply with Section 11B-407.3.3.1.

**11B-411.3.3.2 Contact.** The device contact shall comply with Section 11B-407.3.3.2.

**11B-411.3.3.3 Duration.** The door reopening device duration shall comply with Section 11B-407.3.3.3.

**11B-411.3.4 Door delay.** Door delay shall comply with Section 11B-407.3.5.

**11B-411.3.5 Width.** The width of elevator doors shall comply with Table 11B-407.4.1.

**11B-411.4 Elevator car requirements.** Elevator cars shall comply with Section 11B-411.4.

**11B-411.4.1 Car dimensions.** Inside dimensions of elevator cars and clear width of elevator doors shall comply with Section 11B-407.4.1.

**11B-411.4.2 Floor surfaces.** Floor surfaces in elevator cars shall comply with Section 11B-407.4.2.

**11B-411.4.3 Platform to hoistway clearance.** Platform to hoistway clearance shall comply with Section 11B-407.4.3.

**11B-411.4.4 Leveling.** Elevator car leveling shall comply with Section 11B-407.4.4.

**11B-411.4.5 Illumination.** The level of illumination at the car controls shall comply with Section 11B-407.4.5.

**11B-411.4.6 Elevator car controls.** Where provided, elevator car controls shall comply with Sections 11B-411.4.6 and 11B-309.4.

**11B-411.4.6.1 Location.** Controls shall be located within one of the reach ranges specified in Section 11B-308.

**11B-411.4.6.2 Buttons.** Car control buttons shall comply with Sections 11B-407.4.6.2.1 and 11B-407.4.6.2.4. The car shall not have non-functional, exposed floor buttons.

**11B-411.4.6.3 Emergency controls.** Emergency controls shall comply with Section 11B-407.4.6.4.

**11B-411.4.7 Designations and indicators of car control buttons.** Designations and indicators of car control buttons shall comply with Section 11B-411.4.7.

**11B-411.4.7.1 Type.** Control button type shall comply with Section 11B-407.4.7.1.1.

**11B-411.4.7.2 Location.** Raised characters or symbols and Braille designations shall comply with Section 11B-407.4.7.1.2.

**11B-411.4.7.3 Symbols.** The control button for the emergency stop, alarm, door open, door close, and phone, shall be identified with raised symbols and Braille as shown in Table 11B-407.4.7.1.3.

**11B-411.4.7.4 Button spacing.** Button spacing shall comply with Section 11B-407.4.7.1.5.

**11B-411.4.8 Car position indicators.** Audible and visible car position indicators shall be provided in elevator cars.

**11B-411.4.8.1 Visible indicators.** Visible indicators shall comply with Section 11B-411.4.8.1.

**11B-411.4.8.1.1 Size.** Characters shall comply with Section 11B-407.4.8.1.1.

**11B-411.4.8.1.2 Location.** Location of indicators shall comply with Section 11B-407.4.8.1.2.

**11B-411.4.8.2 Audible indicators.** Audible indicators shall comply with Section 11B-411.4.8.2.

**11B-411.4.8.2.1 Signal type.** The signal shall be an automatic verbal annunciator which announces the floor at which the car is about to stop.

**11B-411.4.8.2.2 Signal level.** The verbal annunciator signal level shall comply with Section 11B-407.4.8.2.2.

**11B-411.4.8.2.3 Frequency.** The verbal annunciator frequency shall comply with Section 11B-407.4.8.2.3.

**11B-411.4.9 Emergency communication.** Emergency communication shall comply with Section 11B-407.4.9.

**11B-411.4.10 Support rail.** Support rails complying with Section 11B-407.4.10 shall be provided on at least one wall of the car.

**11B-411.4.11 Floor destination indicators.** There shall be on each elevator car door jamb a visual display indicating floor destinations.

**11B-411.4.11.1 Height.** Floor destination characters shall be 1 inch (25 mm) high minimum complying with Section 11B-703.5.3.

**11B-411.4.11.2 Contrast.** Visual display shall provide contrast with light characters on a dark background or dark characters on a light background. The background shall be solid and static.

**11B-411.4.11.3 Duration.** Floor destination characters shall be displayed upon elevator car arrival at the input floor and shall not extinguish until the elevator car arrives at the destination floor.

## DIVISION 5: GENERAL SITE AND BUILDING ELEMENTS

### 11B-501 General

**11B-501.1 Scope.** The provisions of *Division 5* shall apply where required by *Division 2* or where referenced by a requirement in this *chapter*.

### 11B-502 Parking spaces

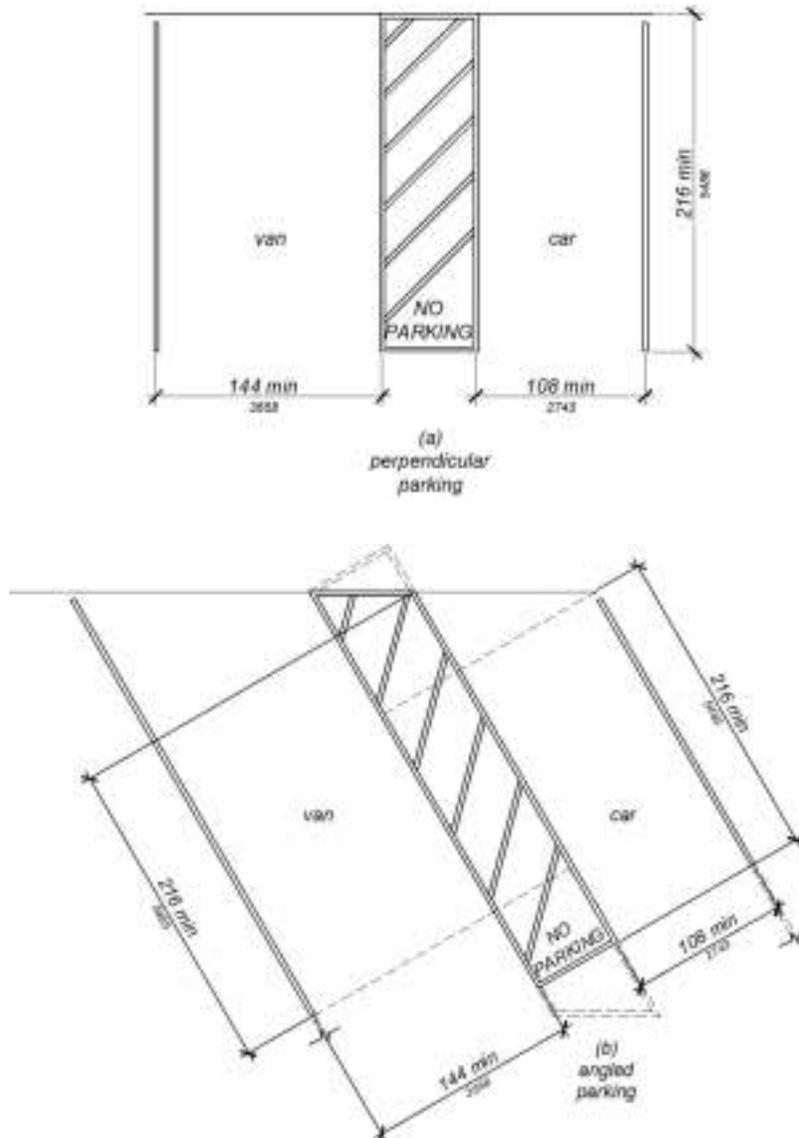
**11B-502.1 General.** Car and van parking spaces shall comply with *Section 11B-502*. Where parking spaces are marked with lines, width measurements of parking spaces and access aisles shall be made from the centerline of the markings.

**Exception:** Where parking spaces or access aisles are not adjacent to another parking space or access aisle, measure-

ments shall be permitted to include the full width of the line defining the parking space or access aisle.

**11B-502.2 Vehicle spaces.** Car and van parking spaces shall be 216 inches (5486 mm) long minimum. Car parking spaces shall be 108 inches (2743 mm) wide minimum and van parking spaces shall be 144 inches (3658 mm) wide minimum, shall be marked to define the width, and shall have an adjacent access aisle complying with *Section 11B-502.3*.

**Exception:** Van parking spaces shall be permitted to be 108 inches (2743 mm) wide minimum where the access aisle is 96 inches (2438 mm) wide minimum.



**FIGURE 11B-502.2  
VEHICLE PARKING SPACES**

permanently posted either immediately adjacent to the parking space or within the projected parking space width at the head end of the parking space. Signs may also be permanently posted on a wall at the interior end of the parking space.

**11B-502.6.4 Marking.** Each accessible car and van space shall have surface identification complying with either Section 11B-502.6.4.1 or 11B-502.6.4.2.

**11B-502.6.4.1** The parking space shall be marked with an International Symbol of Accessibility complying with Section 11B-703.7.2.1 in white on a blue background a minimum 36 inches wide by 36 inches high (914 mm by 914 mm). The centerline of the International Symbol of Accessibility shall be a maximum of 6 inches (152 mm) from the centerline of the parking space, its sides parallel to the length of the parking space and its lower corner at, or lower side aligned with, the end of the parking space length.

**11B-502.6.4.2** The parking space shall be outlined or painted blue and shall be marked with an International Symbol of Accessibility complying with Section 11B-703.7.2.1 a minimum 36 inches wide by 36 inches high (914 mm by 914 mm) in white or a suitable contrasting color. The centerline of the International Symbol of Accessibility shall be a maximum of 6 inches (152 mm) from the centerline of the parking space, its sides parallel to the length of the parking space and its lower corner at, or lower side aligned with, the end of the parking space.

**11B-502.7 Relationship to accessible routes.** Parking spaces and access aisles shall be designed so that cars and vans, when parked, cannot obstruct the required clear width of adjacent accessible routes.

**11B-502.7.1 Arrangement.** Parking spaces and access aisles shall be designed so that persons using them are not required to travel behind parking spaces other than to pass behind the parking space in which they parked.

**11B-502.7.2 Wheel stops.** A curb or wheel stop shall be provided if required to prevent encroachment of vehicles over the required clear width of adjacent accessible routes.

**11B-502.8 Additional signage.** An additional sign shall be posted either; 1) in a conspicuous place at each entrance to an off-street parking facility or 2) immediately adjacent to on-site accessible parking and visible from each parking space.

**11B-502.8.1 Size.** The additional sign shall not be less than 17 inches (432 mm) wide by 22 inches (559 mm) high.

**11B-502.8.2 Lettering.** The additional sign shall clearly state in letters with a minimum height of 1 inch (25 mm) the following:

“Unauthorized” vehicles parked in designated accessible spaces not displaying distinguishing placards or special license plates issued for persons with disabilities will be towed away at the owner’s expense. Towed vehicles may

be reclaimed at: \_\_\_\_\_ or by telephoning \_\_\_\_\_.”

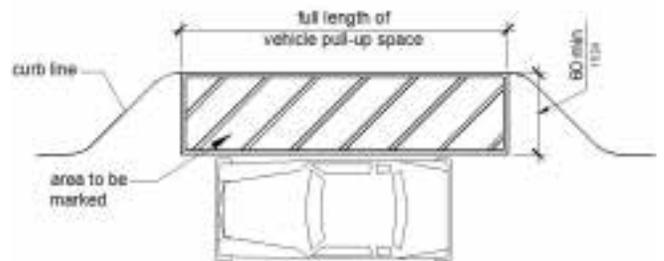
Blank spaces shall be filled in with appropriate information as a permanent part of the sign.

**11B-503 Passenger drop-off and loading zones**

**11B-503.1 General.** Passenger drop-off and loading zones shall comply with Section 11B-503.

**11B-503.2 Vehicle pull-up space.** Passenger drop-off and loading zones shall provide a vehicular pull-up space 96 inches (2438 mm) wide minimum and 20 feet (6096 mm) long minimum.

**11B-503.3 Access aisle.** Passenger drop-off and loading zones shall provide access aisles complying with Section 11B-503 adjacent and parallel to the vehicle pull-up space. Access aisles shall adjoin an accessible route and shall not overlap the vehicular way.



**FIGURE 11B-503.3 PASSENGER DROP-OFF AND LOADING ZONE ACCESS AISLE**

**11B-503.3.1 Width.** Access aisles serving vehicle pull-up spaces shall be 60 inches (1524 mm) wide minimum.

**11B-503.3.2 Length.** Access aisles shall extend the full length of the vehicle pull-up spaces they serve.

**11B-503.3.3 Marking.** Access aisles shall be marked with a painted borderline around their perimeter. The area within the borderlines shall be marked with hatched lines a maximum of 36 inches (914 mm) on center in a color contrasting with that of the aisle surface.

**11B-503.4 Floor and ground surfaces.** Vehicle pull-up spaces and access aisles serving them shall comply with Section 11B-302. Access aisles shall be at the same level as the vehicle pull-up space they serve. Changes in level are not permitted.

**Exception:** Slopes not steeper than 1:48 shall be permitted.

**11B-503.5 Vertical clearance.** Vehicle pull-up spaces, access aisles serving them, and a vehicular route from an entrance to the passenger loading zone and from the passenger loading zone to a vehicular exit shall provide a vertical clearance of 114 inches (2896 mm) minimum.

**11B-503.6 Identification.** Each passenger loading zone designated for persons with disabilities shall be identified with a reflectorized sign complying with Section 11B-703.5. It shall be permanently posted immediately adjacent to and visible from the passenger loading zone stating “Passenger Loading

Zone Only” and including the International Symbol of Accessibility complying with Section 11B-703.7.2.1 in white on a dark blue background.

**11B-504 Stairways**

**11B-504.1 General.** Stairs shall comply with Section 11B-504.

**11B-504.2 Treads and risers.** All steps on a flight of stairs shall have uniform riser heights and uniform tread depths. Risers shall be 4 inches (102 mm) high minimum and 7 inches (178 mm) high maximum. Treads shall be 11 inches (279 mm) deep minimum.

**Exception:** Curved stairways with winder treads are permitted at stairs which are not part of a required means of egress.

**11B-504.3 Open risers.** Open risers are not permitted.

**Exceptions:**

1. On exterior stairways, an opening of not more than 1/2 inch (12.7 mm) may be permitted between the base of the riser and the tread.
2. On exterior stairways, risers constructed of grating containing openings of not more than 1/2 inch (12.7 mm) may be permitted.

**11B-504.4 Tread surface.** Stair treads shall comply with Section 11B-302. Changes in level are not permitted.

**Exception:** Treads shall be permitted to have a slope not steeper than 1:48.

**11B-504.4.1 Contrasting stripe.** Interior stairs shall have the upper approach and lower tread marked by a stripe providing clear visual contrast. Exterior stairs shall have the upper approach and all treads marked by a stripe providing clear visual contrast.

The stripe shall be a minimum of 2 inches (51 mm) wide to a maximum of 4 inches (102 mm) wide placed parallel to, and not more than 1 inch (25 mm) from, the nose of the step or upper approach. The stripe shall extend the full width of the step or upper approach and shall be of material that is at least as slip resistant as the other treads of the stair. A painted stripe shall be acceptable. Grooves shall not be used to satisfy this requirement.

**11B-504.5 Nosings.** The radius of curvature at the leading edge of the tread shall be 1/2 inch (12.7 mm) maximum. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall extend 1 1/4 inches (32 mm) maximum over the tread below.

**Exception:** In existing buildings there is no requirement to retroactively alter existing nosing projections of 1 1/2 inches (38 mm) which were constructed in compliance with the building code in effect at the time of original construction.

**11B-504.6 Handrails.** Stairs shall have handrails complying with Section 11B-505.

**11B-504.7 Wet conditions.** Stair treads and landings subject to wet conditions shall be designed to prevent the accumulation of water.

**11B-504.8 Floor identification.** Floor identification signs required by Chapter 10, Section 1022.9 complying with Sections 11B-703.1, 11B-703.2, 11B-703.3 and 11B-703.5 shall be located at the landing of each floor level, placed adjacent to the door on the latch side, in all enclosed stairways in buildings two or more stories in height to identify the floor level. At the exit discharge level, the sign shall include a raised five pointed star located to the left of the identifying floor level. The outside diameter of the star shall be the same as the height of the raised characters.

**11B-505 Handrails**

**11B-505.1 General.** Handrails provided along walking surfaces complying with Section 11B-403, required at ramps complying with Section 11B-405, and required at stairs complying with Section 11B-504 shall comply with Section 11B-505.

**11B-505.2 Where required.** Handrails shall be provided on both sides of stairs and ramps.

**Exceptions:**

1. In assembly areas, handrails shall not be required on both sides of aisle ramps where a handrail is provided at either side or within the aisle width.
2. Curb ramps do not require handrails.
3. At door landings, handrails are not required when the ramp run is less than 6 inches (152 mm) in rise or 72 inches (1829 mm) in length.

**11B-505.3 Continuity.** Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs and ramps shall be continuous between flights or runs.

**Exception:** In assembly areas, ramp handrails adjacent to seating or within the aisle width shall not be required to be continuous in aisles serving seating.

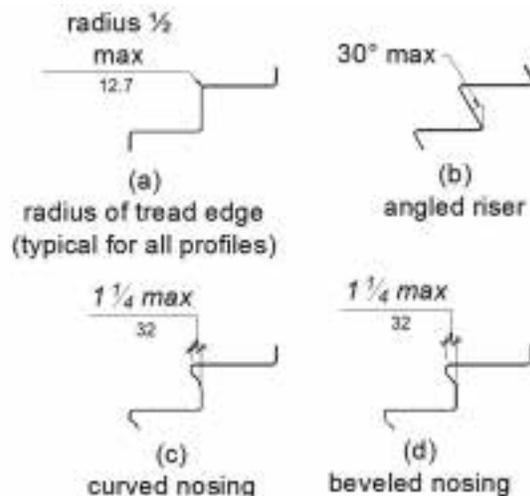
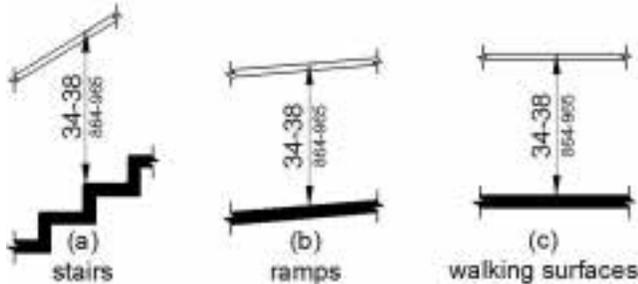


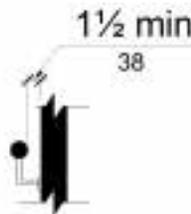
FIGURE 11B-504.5 STAIR NOSINGS

**11B-505.4 Height.** Top of gripping surfaces of handrails shall be 34 inches (864 mm) minimum and 38 inches (965 mm) maximum vertically above walking surfaces, stair nosings, and ramp surfaces. Handrails shall be at a consistent height above walking surfaces, stair nosings, and ramp surfaces.



**FIGURE 11B-505.4  
HANDRAIL HEIGHT**

**11B-505.5 Clearance.** Clearance between handrail gripping surfaces and adjacent surfaces shall be 1½ inches (38 mm) minimum. Handrails may be located in a recess if the recess is 3 inches (76 mm) maximum deep and 18 inches (457 mm) minimum clear above the top of the handrail.

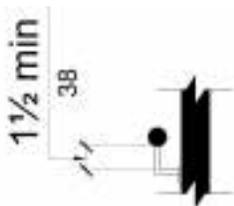


**FIGURE 11B-505.5  
HANDRAIL CLEARANCE**

**11B-505.6 Gripping surface.** Handrail gripping surfaces shall be continuous along their length and shall not be obstructed along their tops or sides. The bottoms of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. Where provided, horizontal projections shall occur 1½ inches (38 mm) minimum below the bottom of the handrail gripping surface.

**Exceptions:**

1. Where handrails are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of handrail gripping surfaces shall be permitted to be



**FIGURE 11B-505.6  
HORIZONTAL PROJECTIONS BELOW GRIPPING SURFACE**

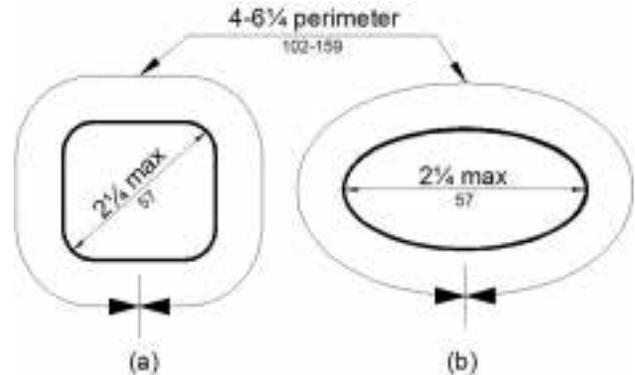
obstructed along their entire length where they are integral to crash rails or bumper guards.

2. The distance between horizontal projections and the bottom of the gripping surface shall be permitted to be reduced by 1/8 inch (3.2 mm) for each 1/2 inch (12.7 mm) of additional handrail perimeter dimension that exceeds 4 inches (102 mm).

**11B-505.7 Cross section.** Handrail gripping surfaces shall have a cross section complying with Section 11B-505.7.1 or 11B-505.7.2.

**11B-505.7.1 Circular cross section.** Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1¼ inches (32 mm) minimum and 2 inches (51 mm) maximum.

**11B-505.7.2 Non-circular cross sections.** Handrail gripping surfaces with a non-circular cross section shall have a perimeter dimension of 4 inches (102 mm) minimum and 6¼ inches (159 mm) maximum, and a cross-section dimension of 2¼ inches (57 mm) maximum.



**FIGURE 11B-505.7.2  
HANDRAIL NON-CIRCULAR CROSS SECTION**

**11B-505.8 Surfaces.** Handrail gripping surfaces and any surfaces adjacent to them shall be free of sharp or abrasive elements and shall have rounded edges.

**11B-505.9 Fittings.** Handrails shall not rotate within their fittings.

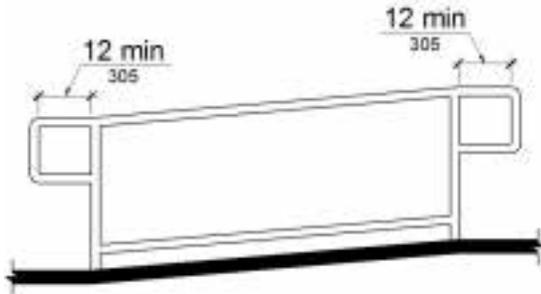
**11B-505.10 Handrail extensions.** Handrail gripping surfaces shall extend beyond and in the same direction of stair flights and ramp runs in accordance with Section 11B-505.10.

**Exceptions:**

1. Extensions shall not be required for continuous handrails at the inside turn of switchback or dogleg stairs and ramps.
2. In assembly areas, extensions shall not be required for ramp handrails in aisles serving seating where the handrails are discontinuous to provide access to seating and to permit crossovers within aisles.
3. In alterations, where the extension of the handrail in the direction of stair flight or ramp run would create a hazard, the extension of the handrail may be turned 90 degrees from the direction of stair flight or ramp run.

**11B-505.10.1 Top and bottom extension at ramps.**

Ramp handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent ramp run.



**FIGURE 11B-505.10.1  
TOP AND BOTTOM HANDRAIL EXTENSION AT RAMP**

**11B-505.10.2 Top extension at stairs.**

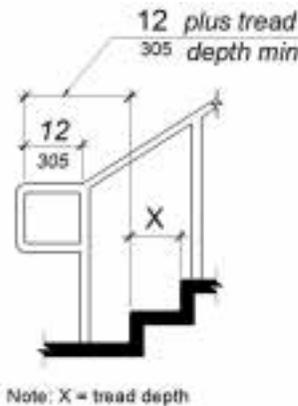
At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beginning directly above the first riser nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.



**FIGURE 11B-505.10.2  
TOP HANDRAIL EXTENSION AT STAIRS**

**11B-505.10.3 Bottom extension at stairs.**

At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance equal to one tread depth beyond the last riser nosing. The horizontal extension of a handrail shall be 12 inches (305 mm) long minimum and a height equal to that of the sloping portion of the handrail as measured above the stair nosings. Extension shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.



**FIGURE 11B-505.10.3  
BOTTOM HANDRAIL EXTENSION AT STAIRS**

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## DIVISION 6: PLUMBING ELEMENTS AND FACILITIES

### 11B-601 General

**11B-601.1 Scope.** The provisions of *Division 6* shall apply where required by *Division 2* or where referenced by a requirement in this *chapter*.

### 11B-602 Drinking fountains

**11B-602.1 General.** Drinking fountains shall comply with *Sections 11B-307* and *11B-602*.

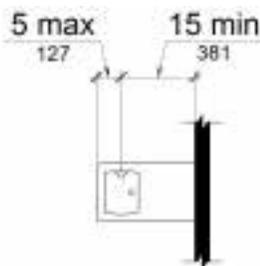
**11B-602.2 Clear floor space.** Units shall have a clear floor or ground space complying with *Section 11B-305* positioned for a forward approach and centered on the unit. Knee and toe clearance complying with *Section 11B-306* shall be provided.

**Exception:** A parallel approach complying with *Section 11B-305* shall be permitted at units for children's use where the spout is 30 inches (762 mm) maximum above the finish floor or ground and is 3½ inches (89 mm) maximum from the front edge of the unit, including bumpers.

**11B-602.3 Operable parts.** Operable parts shall comply with *Section 11B-309*. *The flow of water shall be activated by a manually operated system that is front mounted or side mounted and located within 6 inches (152 mm) of the front edge of the fountain or an automatic electronically controlled device.*

**11B-602.4 Spout height.** Spout outlets shall be 36 inches (914 mm) maximum above the finish floor or ground.

**11B-602.5 Spout location.** The spout shall be located 15 inches (381 mm) minimum from the vertical support and 5 inches (127 mm) maximum from the front edge of the unit, including bumpers.



**FIGURE 11B-602.5  
DRINKING FOUNTAIN SPOUT LOCATION**

**11B-602.6 Water flow.** The spout shall provide a flow of water 4 inches (102 mm) high minimum and shall be located 5 inches (127 mm) maximum from the front of the unit. The angle of the water stream shall be measured horizontally relative to the front face of the unit. Where spouts are located less than 3 inches (76 mm) of the front of the unit, the angle of the water stream shall be 30 degrees maximum. Where spouts are located between 3 inches (76 mm) and 5 inches (127 mm) maximum from the front of the unit, the angle of the water stream shall be 15 degrees maximum.

**11B-602.7 Drinking fountains for standing persons.** Spout outlets of drinking fountains for standing persons shall be 38 inches (965 mm) minimum and 43 inches (1092 mm) maximum above the finish floor or ground.

**11B-602.8 Depth.** *Wall- and post-mounted cantilevered drinking fountains shall be 18 inches (457 mm) minimum and 19 inches (483 mm) maximum in depth.*

**11B-602.9 Pedestrian protection.** *All drinking fountains shall either be located completely within alcoves, positioned completely between wing walls, or otherwise positioned so as not to encroach into pedestrian ways. The protected area within which a drinking fountain is located shall be 32 inches (813 mm) wide minimum and 18 inches (457 mm) deep minimum, and shall comply with Section 11B-305.7. When used, wing walls or barriers shall project horizontally at least as far as the drinking fountain and to within 6 inches (152 mm) vertically from the floor or ground surface.*

### 11B-603 Toilet and bathing rooms

**11B-603.1 General.** Toilet and bathing rooms shall comply with *Section 11B-603*.

**11B-603.2 Clearances.** Clearances shall comply with *Section 11B-603.2*.

**11B-603.2.1 Turning space.** Turning space complying with *Section 11B-304* shall be provided within the room.

**11B-603.2.2 Overlap.** Required clear floor spaces, clearance at fixtures, and turning space shall be permitted to overlap.

**11B-603.2.3 Door swing.** Doors shall not swing into the clear floor space or clearance required for any fixture. *Other than the door to the accessible water closet compartment, a door in any position, may encroach into the turning space by 12 inches (305 mm) maximum.*

#### Exceptions:

1. *Reserved.*
2. Where the toilet room or bathing room is for individual use and a clear floor space complying with *Section 11B-305.3* is provided within the room beyond the arc of the door swing, doors shall be permitted to swing into the clear floor space or clearance required for any fixture.

**11B-603.3 Mirrors.** Mirrors located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 40 inches (1016 mm) maximum above the finish floor or ground. Mirrors not located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 35 inches (889 mm) maximum above the finish floor or ground.

**11B-603.4 Coat hooks, shelves and medicine cabinets.** Coat hooks shall be located within one of the reach ranges specified in *Section 11B-308*. Shelves shall be located 40 inches (1016 mm) minimum and 48 inches (1219 mm) maximum

above the finish floor. *Medicine cabinets shall be located with a usable shelf no higher than 44 inches (1118 mm) maximum above the finish floor.*

**11B-603.5 Accessories.** *Where towel or sanitary napkin dispensers, waste receptacles, or other accessories are provided in toilet facilities, at least one of each type shall be located on an accessible route. All operable parts, including coin slots, shall be 40 inches (1016 mm) maximum above the finish floor.*

**Exception:** *Baby changing tables are not required to comply with Section 11B-603.5.*

**11B-603.6 Guest room toilet and bathing rooms.** *Toilet and bathing rooms within guest rooms that are not required to provide mobility features complying with Section 11B-806.2 shall provide all toilet and bathing fixtures in a location that allows a person using a wheelchair measuring 30 inches by 48 inches (762 mm by 1219 mm) to touch the wheelchair to any lavatory, urinal, water closet, tub, sauna, shower stall and any other similar sanitary installation, if provided.*

**11B-604 Water closets and toilet compartments**

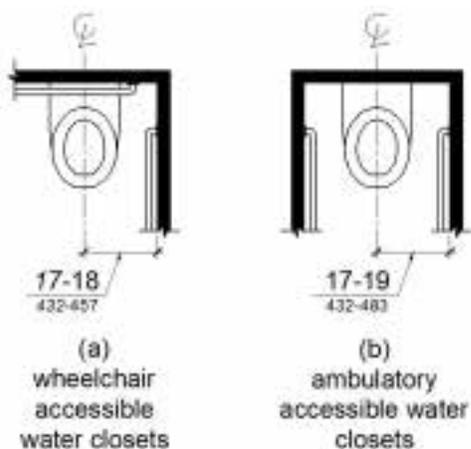
**11B-604.1 General.** Water closets and toilet compartments shall comply with Sections 11B-604.2 through 11B-604.8.

**Exception:** Water closets and toilet compartments for children's use shall be permitted to comply with Section 11B-604.9.

**11B-604.2 Location.** The water closet shall be positioned with a wall or partition to the rear and to one side. The centerline of the water closet shall be 17 inches (432 mm) minimum to 18 inches (457 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (432 mm) minimum and 19 inches (483 mm) maximum from the side wall or partition in the ambulatory accessible toilet compartment specified in Section 11B-604.8.2. Water closets shall be arranged for a left-hand or right-hand approach.

**11B-604.3 Clearance.** Clearances around water closets and in toilet compartments shall comply with Section 11B-604.3.

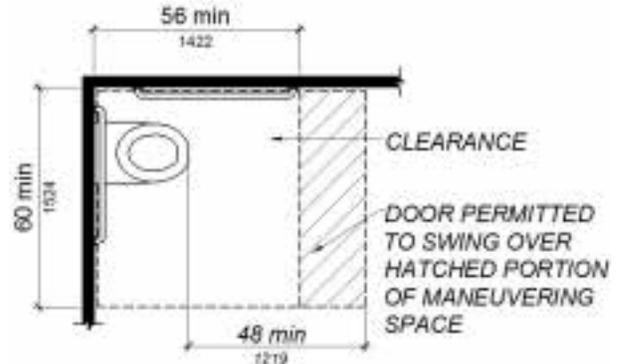
**11B-604.3.1 Size.** Clearance around a water closet shall be 60 inches (1524 mm) minimum measured perpendicular from the side wall and 56 inches (1422 mm) minimum



**FIGURE 11B-604.2 WATER CLOSET LOCATION**

measured perpendicular from the rear wall. A minimum 60 inches (1524 mm) wide and 48 inches (1219 mm) deep maneuvering space shall be provided in front of the water closet.

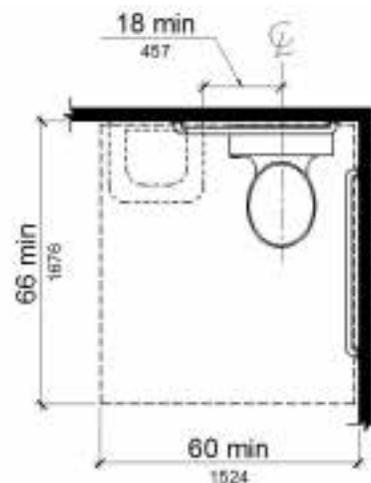
**Exception:** *In residential dwelling units complying with Section 11B-233.3.1.1, maneuvering space in front of the water closet shall be a minimum 60 inches (1524 mm) wide and 36 inches (914 mm) deep.*



**FIGURE 11B-604.3.1 SIZE OF CLEARANCE AT WATER CLOSETS**

**11B-604.3.2 Overlap.** The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, dispensers, sanitary napkin disposal units, coat hooks, shelves, accessible routes, clear floor space and clearances required at other fixtures, and the turning space. No other fixtures or obstructions shall be located within the required water closet clearance.

**Exception:** In residential dwelling units, a lavatory complying with Section 11B-606 shall be permitted on the rear wall 18 inches (457 mm) minimum from the water closet centerline where the clearance at the water closet is 66 inches (1676 mm) minimum measured perpendicular from the rear wall.



**FIGURE 11B-604.3.2 (EXCEPTION) OVERLAP OF WATER CLOSET CLEARANCE IN RESIDENTIAL DWELLING UNITS**

**11B-604.4 Seats.** The seat height of a water closet above the finish floor shall be 17 inches (432 mm) minimum and 19 inches (483 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position. *Seats shall be 2 inches (51 mm) high maximum.*

**Exceptions:**

1. *Reserved.*
2. In residential dwelling units, the height of water closets shall be permitted to be 15 inches (381 mm) minimum and 19 inches (483 mm) maximum above the finish floor measured to the top of the seat.
3. *A 3-inch (76 mm) high seat shall be permitted only in alterations where the existing fixture is less than 15 inches (381 mm) high.*

**11B-604.5 Grab bars.** Grab bars for water closets shall comply with Section 11B-609. Grab bars shall be provided on the side wall closest to the water closet and on the rear wall. *Where separate grab bars are required on adjacent walls at a common mounting height, an L-shaped grab bar meeting the dimensional requirements of Sections 11B-604.5.1 and 11B-604.5.2 shall be permitted.*

**Exceptions:**

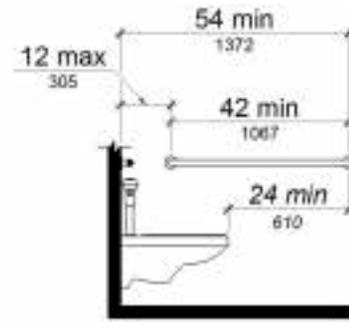
1. *Reserved.*
2. In residential dwelling units, grab bars shall not be required to be installed in toilet or bathrooms provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with Section 11B-604.5.
3. In detention or correction facilities, grab bars shall not be required to be installed in housing or holding cells that are specially designed without protrusions for purposes of suicide prevention.

**11B-604.5.1 Side wall.** The side wall grab bar shall be 42 inches (1067 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1372 mm) minimum from the rear wall *with the front end positioned 24 inches (610 mm) minimum in front of the water closet.*

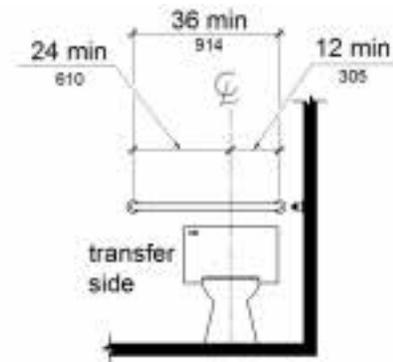
**11B-604.5.2 Rear wall.** The rear wall grab bar shall be 36 inches (914 mm) long minimum and extend from the centerline of the water closet 12 inches (305 mm) minimum on one side and 24 inches (610 mm) minimum on the other side.

**Exceptions:**

1. The rear grab bar shall be permitted to be 24 inches (610 mm) long minimum, centered on the water closet, where wall space does not permit a length of 36 inches (914 mm) minimum due to the location of a recessed fixture adjacent to the water closet.
2. Where an administrative authority requires flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, then the rear grab bar shall be permitted to be split or shifted to the open side of the toilet area.



**FIGURE 11B-604.5.1**  
**SIDE WALL GRAB BAR AT WATER CLOSETS**



**FIGURE 11B-604.5.2**  
**REAR WALL GRAB BAR AT WATER CLOSETS**

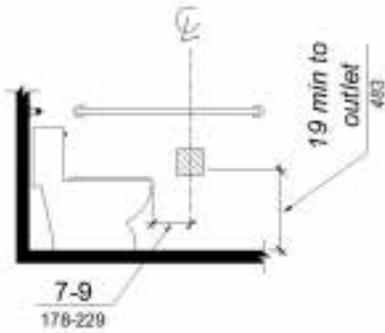
**11B-604.6 Flush controls.** Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with Section 11B-309 *except they shall be located 44 inches (1118 mm) maximum above the floor.* Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with Section 11B-604.8.2.

**11B-604.7 Dispensers.** Toilet paper dispensers shall comply with Section 11B-309.4 and shall be 7 inches (178 mm) minimum and 9 inches (229 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be *below the grab bar, 19 inches (483 mm) minimum* above the finish floor and shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

**11B-604.8 Toilet compartments.** Wheelchair accessible toilet compartments shall meet the requirements of Sections 11B-604.8.1 and 11B-604.8.3. Compartments containing more than one plumbing fixture shall comply with Section 11B-603. Ambulatory accessible compartments shall comply with Sections 11B-604.8.2 and 11B-604.8.3.

**11B-604.8.1 Wheelchair accessible compartments.** Wheelchair accessible compartments shall comply with Section 11B-604.8.1.

**11B-604.8.1.1 Size.** Wheelchair accessible compartments shall be 60 inches (1524 mm) wide minimum



**FIGURE 11B-604.7**  
**DISPENSER OUTLET LOCATION**

measured perpendicular to the side wall, and 56 inches (1422 mm) deep minimum for wall hung water closets and 59 inches (1499 mm) deep minimum for floor mounted water closets measured perpendicular to the rear wall. *Wheelchair accessible compartments shall additionally provide maneuvering space complying with Section 11B-604.8.1.1.1, 11B-604.8.1.1.2, or 11B-604.8.1.1.3, as applicable.* Wheelchair accessible compartments for children's use shall be 60 inches (1524 mm) wide minimum measured perpendicular to the side wall, and 59 inches (1499 mm) deep minimum for wall hung and floor mounted water closets measured perpendicular to the rear wall.

**11B-604.8.1.1.1 Maneuvering space with in-swinging door.** *In a wheelchair accessible compartment with an in-swinging door, a minimum 60 inches (1524 mm) wide by 36 inches (914 mm) deep maneuvering space shall be provided in front of the clearance required in Section 11B-604.8.1.1. See Figures 11B-604.8.1.1.2 (b) and 11B-604.8.1.1.3 (b).*

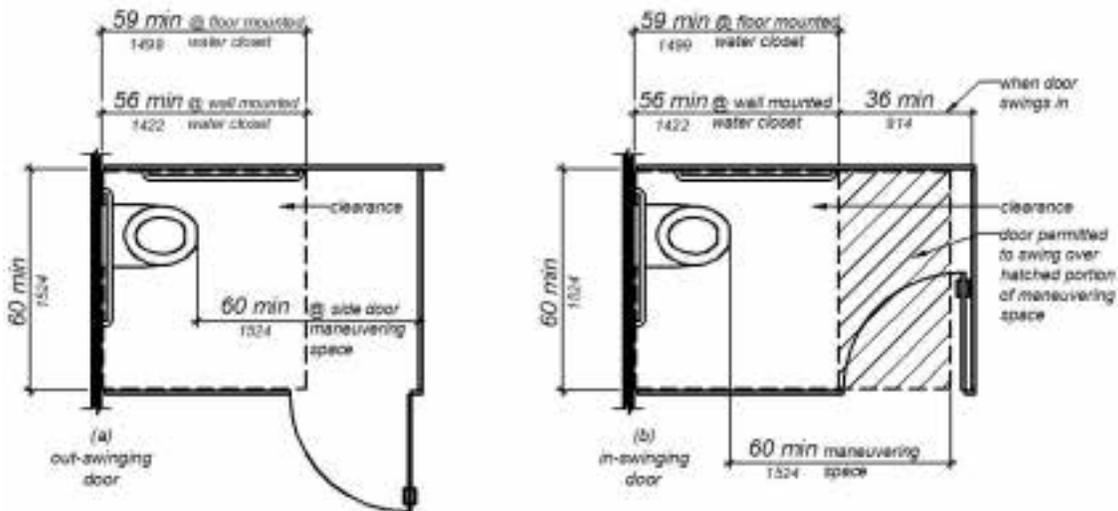
**11B-604.8.1.1.2 Maneuvering space with side-opening door.** *In a wheelchair accessible compartment with a door located in the side wall or partition,*

*either in-swinging or out-swinging, a minimum 60 inches (1524 mm) wide and 60 inches (1524 mm) deep maneuvering space shall be provided in front of the water closet. See Figure 11B-604.8.1.1.2.*

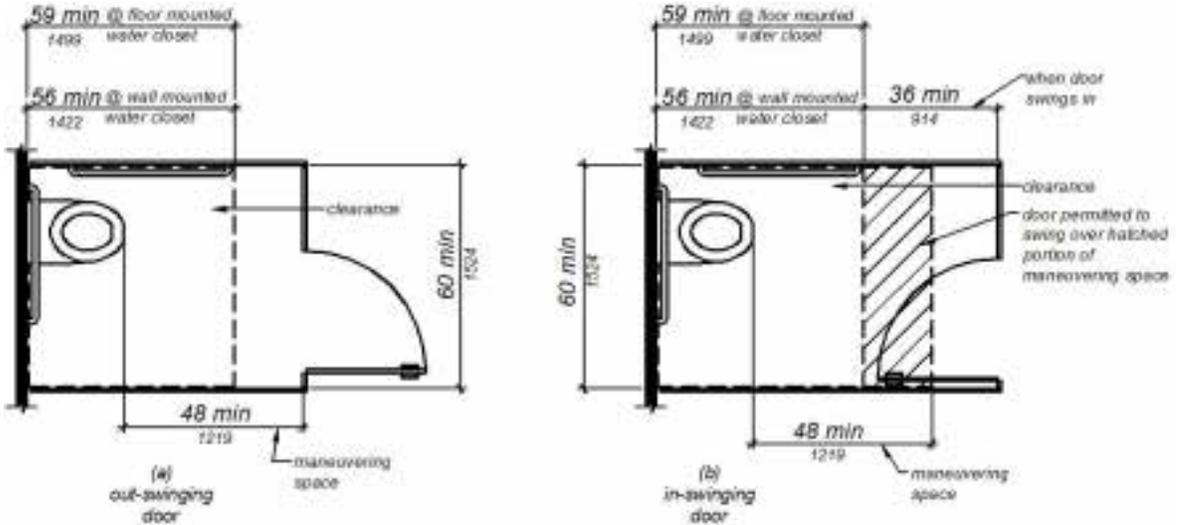
**11B-604.8.1.1.3 Maneuvering space with end-opening door.** *In a wheelchair accessible compartment with a door located in the front wall or partition (facing the water closet), either in-swinging or out-swinging, a minimum 60 inches (1524 mm) wide and 48 inches (1219 mm) deep maneuvering space shall be provided in front of the water closet. See Figure 11B-604.8.1.1.3.*

**11B-604.8.1.2 Doors.** Toilet compartment doors, including door hardware, shall comply with Section 11B-404 except that if the approach is from the push side of the compartment door, clearance between the door side of the compartment and any obstruction shall be 48 inches (1219 mm) minimum measured perpendicular to the compartment door in its closed position. Doors shall be located in the front partition or in the side wall or partition farthest from the water closet. Where located in the front partition, the door opening shall be 4 inches (102 mm) maximum from the side wall or partition farthest from the water closet. Where located in the side wall or partition, the door opening shall be 4 inches (102 mm) maximum from the front partition. The door shall be self-closing. A door pull complying with Section 11B-404.2.7 shall be placed on both sides of the door near the latch. *Doors shall not swing into the clear floor space or clearance required for any fixture. Doors may swing into that portion of maneuvering space which does not overlap the clearance required at a water closet.*

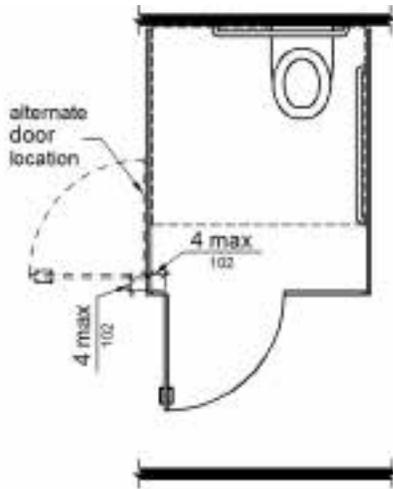
**Exception:** *When located at the side of a toilet compartment, the toilet compartment door opening shall provide a clear width of 34 inches (864 mm) minimum.*



**FIGURE 11B-604.8.1.1.2**  
**MANEUVERING SPACE WITH SIDE-OPENING DOOR**



**FIGURE 11B-604.8.1.1.3**  
**MANEUVERING SPACE WITH END-OPENING DOOR**



**FIGURE 11B-604.8.1.2**  
**WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT DOORS**

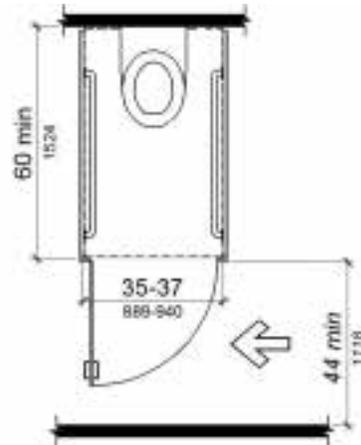
**11B-604.8.1.3 Approach.** Compartments shall be arranged for left-hand or right-hand approach to the water closet.

**11B-604.8.1.4 Toe clearance.** At least one side partition shall provide a toe clearance of 9 inches (229 mm) minimum above the finish floor and 6 inches (152 mm) deep minimum beyond the compartment-side face of the partition, exclusive of partition support members. Partition components at toe clearances shall be smooth without sharp edges or abrasive surfaces. Compartments for children’s use shall provide a toe clearance of 12 inches (305 mm) minimum above the finish floor.

**Exception:** Toe clearance at the side partition is not required in a compartment greater than 66 inches (1676 mm) wide.

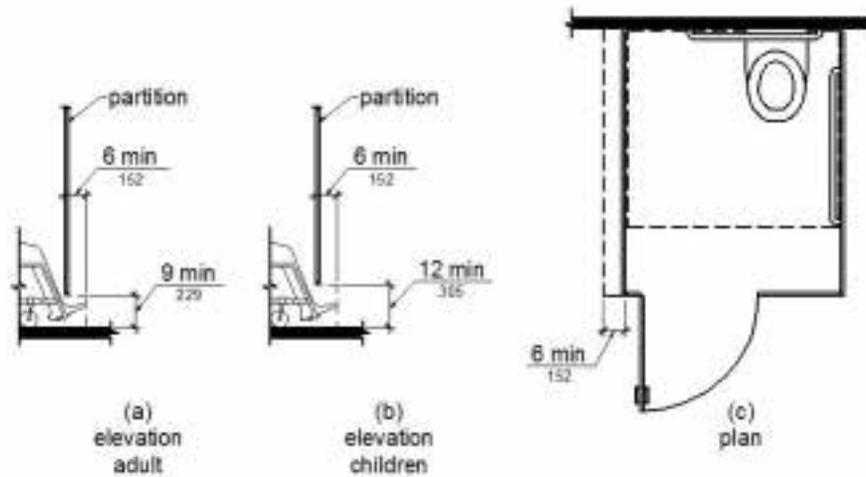
**11B-604.8.1.5 Grab bars.** Grab bars shall comply with Section 11B-609. A side-wall grab bar complying with Section 11B-604.5.1 shall be provided and shall be located on the wall closest to the water closet. In addition, a rear-wall grab bar complying with Section 11B-604.5.2 shall be provided. Where separate grab bars are required on adjacent walls at a common mounting height, an L-shaped grab bar meeting the dimensional requirements of Sections 11B-604.5.1 and 11B-604.5.2 shall be permitted.

**11B-604.8.2 Ambulatory accessible compartments.** Ambulatory accessible compartments shall comply with Section 11B-604.8.2.



**11B-604.8.2**  
**AMBULATORY ACCESSIBLE TOILET COMPARTMENT**

**11B-604.8.2.1 Size.** Ambulatory accessible compartments shall have a depth of 60 inches (1524 mm) minimum and a width of 35 inches (889 mm) minimum and 37 inches (940 mm) maximum.



**FIGURE 11B-604.8.1.4**  
**WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT TOE CLEARANCE**

**11B-604.8.2.2 Doors.** Toilet compartment doors, including door hardware, shall comply with *Section 11B-404*, except that if the approach is to the latch side of the compartment door, clearance between the door side of the compartment and any obstruction shall be *44 inches (1118 mm)* minimum. The door shall be self-closing. A door pull complying with *Section 11B-404.2.7* shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the minimum required compartment area.

**11B-604.8.2.3 Grab bars.** Grab bars shall comply with *Section 11B-609*. A side-wall grab bar complying with *Section 11B-604.5.1* shall be provided on both sides of the compartment.

**11B-604.8.3 Coat hooks and shelves.** Coat hooks shall be located within one of the reach ranges specified in *Section 11B-308*. Shelves shall be located 40 inches (1016 mm) minimum and 48 inches (1219 mm) maximum above the finish floor.

**11B-604.9 Water closets and toilet compartments for children's use.** Water closets and toilet compartments for children's use shall comply with *Section 11B-604.9*.

**11B-604.9.1 Location.** The water closet shall be located with a wall or partition to the rear and to one side. The centerline of the water closet shall be 12 inches (305 mm) minimum and 18 inches (457 mm) maximum from the side wall or partition, except that the water closet shall be

17 inches (432 mm) minimum and 19 inches (483 mm) maximum from the side wall or partition in the ambulatory accessible toilet compartment specified in *Section 11B-604.8.2*. Compartments shall be arranged for left-hand or right-hand approach to the water closet.

**11B-604.9.2 Clearance.** Clearance around a water closet shall comply with *Section 11B-604.3*.

**11B-604.9.3 Height.** The height of water closets shall be 11 inches (279 mm) minimum and 17 inches (432 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

**11B-604.9.4 Grab bars.** Grab bars for water closets shall comply with *Section 11B-604.5*.

**11B-604.9.5 Flush controls.** Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with *Sections 11B-309.2* and *11B-309.4* and shall be installed 36 inches (914 mm) maximum above the finish floor. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with *Section 11B-604.8.2*.

**11B-604.9.6 Dispensers.** Toilet paper dispensers shall comply with *Section 11B-309.4* and shall be 7 inches (178 mm) minimum and 9 inches (229 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 14 inches (356 mm) minimum and 19 inches (483 mm) maximum above

**TABLE 11B-604.9**  
**SUGGESTED DIMENSIONS FOR CHILDREN'S USE**

<b>SUGGESTED DIMENSIONS FOR WATER CLOSETS SERVING CHILDREN AGES 3 THROUGH 12</b>			
	<b>Ages 3 and 4</b>	<b>Ages 5 through 8</b>	<b>Ages 9 through 12</b>
<b>Water Closet Centerline</b>	12 inches (305 mm)	12 to 15 inches (305 to 381 mm)	15 to 18 inches (381 to 457 mm)
<b>Toilet Seat Height</b>	11 to 12 inches (279 to 305 mm)	12 to 15 inches (305 to 381 mm)	15 to 17 inches (381 to 432 mm)
<b>Grab Bar Height</b>	18 to 20 inches (457 to 508 mm)	20 to 25 inches (508 to 635 mm)	25 to 27 inches (635 to 686 mm)
<b>Dispenser Height</b>	14 inches (356 mm)	14 to 17 inches (356 to 432 mm)	17 to 19 inches (432 to 483 mm)

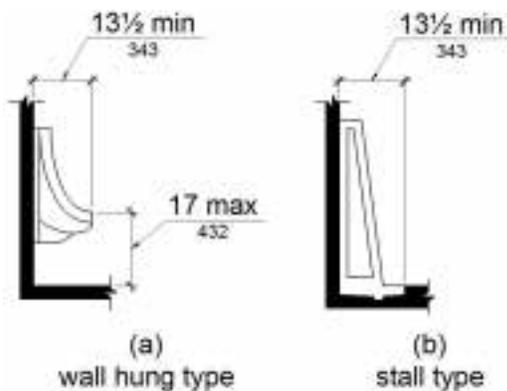
the finish floor. There shall be a clearance of 1½ inches (38 mm) minimum below the grab bar. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

**11B-604.9.7 Toilet compartments.** Toilet compartments shall comply with *Section 11B-604.8*.

**11B-605 Urinals**

**11B-605.1 General.** Urinals shall comply with *Section 11B-605*.

**11B-605.2 Height and depth.** Urinals shall be the stall-type or the wall-hung type with the rim 17 inches (432 mm) maximum above the finish floor or ground. Urinals shall be 13½ inches (343 mm) deep minimum measured from the outer face of the urinal rim to the back of the fixture.



**FIGURE 11B-605.2  
HEIGHT AND DEPTH OF URINALS**

**11B-605.3 Clear floor space.** A clear floor or ground space complying with *Section 11B-305* positioned for forward approach shall be provided.

**11B-605.4 Flush controls.** Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with *Section 11B-309* except that the flush control shall be mounted at a maximum height of 44 inches (1118 mm) above the finish floor.

**11B-606 Lavatories and sinks**

**11B-606.1 General.** Lavatories and sinks shall comply with *Section 11B-606*.

**11B-606.2 Clear floor space.** A clear floor space complying with *Section 11B-305*, positioned for a forward approach, and knee and toe clearance complying with *Section 11B-306* shall be provided.

**Exceptions:**

1. A parallel approach complying with *Section 11B-305* shall be permitted to a kitchen sink in a space where a cook top or conventional range is not provided and to wet bars.
2. *Reserved.*

3. In residential dwelling units, cabinetry shall be permitted under lavatories and kitchen sinks provided that all of the following conditions are met:
  - (a) the cabinetry can be removed without removal or replacement of the fixture;
  - (b) the finish floor extends under the cabinetry; and
  - (c) the walls behind and surrounding the cabinetry are finished.
4. A knee clearance of 24 inches (610 mm) minimum above the finish floor or ground shall be permitted at lavatories and sinks used primarily by children 6 through 12 years where the rim or counter surface is 31 inches (787 mm) maximum above the finish floor or ground.
5. A parallel approach complying with *Section 11B-305* shall be permitted to lavatories and sinks used primarily by children 5 years and younger.
6. The dip of the overflow shall not be considered in determining knee and toe clearances.
7. No more than one bowl of a multi-bowl sink shall be required to provide knee and toe clearance complying with *Section 11B-306*.

**11B-606.3 Height.** Lavatories and sinks shall be installed with the front of the higher of the rim or counter surface 34 inches (864 mm) maximum above the finish floor or ground.

**Exceptions:**

1. *Reserved.*
2. In residential dwelling unit kitchens, sinks that are adjustable to variable heights, 29 inches (737 mm) minimum and 36 inches (914 mm) maximum, shall be permitted where rough-in plumbing permits connections of supply and drain pipes for sinks mounted at the height of 29 inches (737 mm).

**11B-606.4 Faucets.** Controls for faucets shall comply with *Section 11B-309*. Hand-operated metering faucets shall remain open for 10 seconds minimum.

**11B-606.5 Exposed pipes and surfaces.** Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.

**11B-606.6 Adjacent side wall or partition.** Lavatories, when located adjacent to a side wall or partition, shall be a minimum of 18 inches (457 mm) to the centerline of the fixture.

**11B-606.7 Sink depth.** Where a forward approach is required at a sink, knee and toe clearance shall be provided in compliance with *Section 11B-306*.

**11B-607 Bathtubs**

**11B-607.1 General.** Bathtubs shall comply with *Section 11B-607*.

**11B-607.2 Clearance.** Clearance in front of bathtubs shall extend the length of the bathtub and shall be 48 inches (1219 mm) wide minimum for forward approach and 30 inches (762 mm) wide minimum for side approach.

mm) wide minimum for parallel approach. A lavatory complying with Section 11B-606 shall be permitted at the control end of the clearance. Where a permanent seat is provided at the head end of the bathtub, the clearance shall extend 12 inches (305 mm) minimum beyond the wall at the head end of the bathtub.

**11B-607.3 Seat.** A permanent seat at the head end of the bathtub or a removable in-tub seat shall be provided. Seats shall comply with Section 11B-610.

**11B-607.4 Grab bars.** Grab bars for bathtubs shall comply with Section 11B-609 and shall be provided in accordance with Section 11B-607.4.1 or 11B-607.4.2. Where separate grab bars are required on adjacent walls at a common mounting height, an L-shaped or U-shaped grab bar meeting

the dimensional requirements of Section 11B-607.4.1 or 11B-607.4.2 shall be permitted.

**Exceptions:**

1. *Reserved.*
2. In residential dwelling units, grab bars shall not be required to be installed in bathtubs located in bathing facilities provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with Section 11B-607.4.

**11B-607.4.1 Bathtubs with permanent seats.** For bathtubs with permanent seats, grab bars shall be provided in accordance with Section 11B-607.4.1.

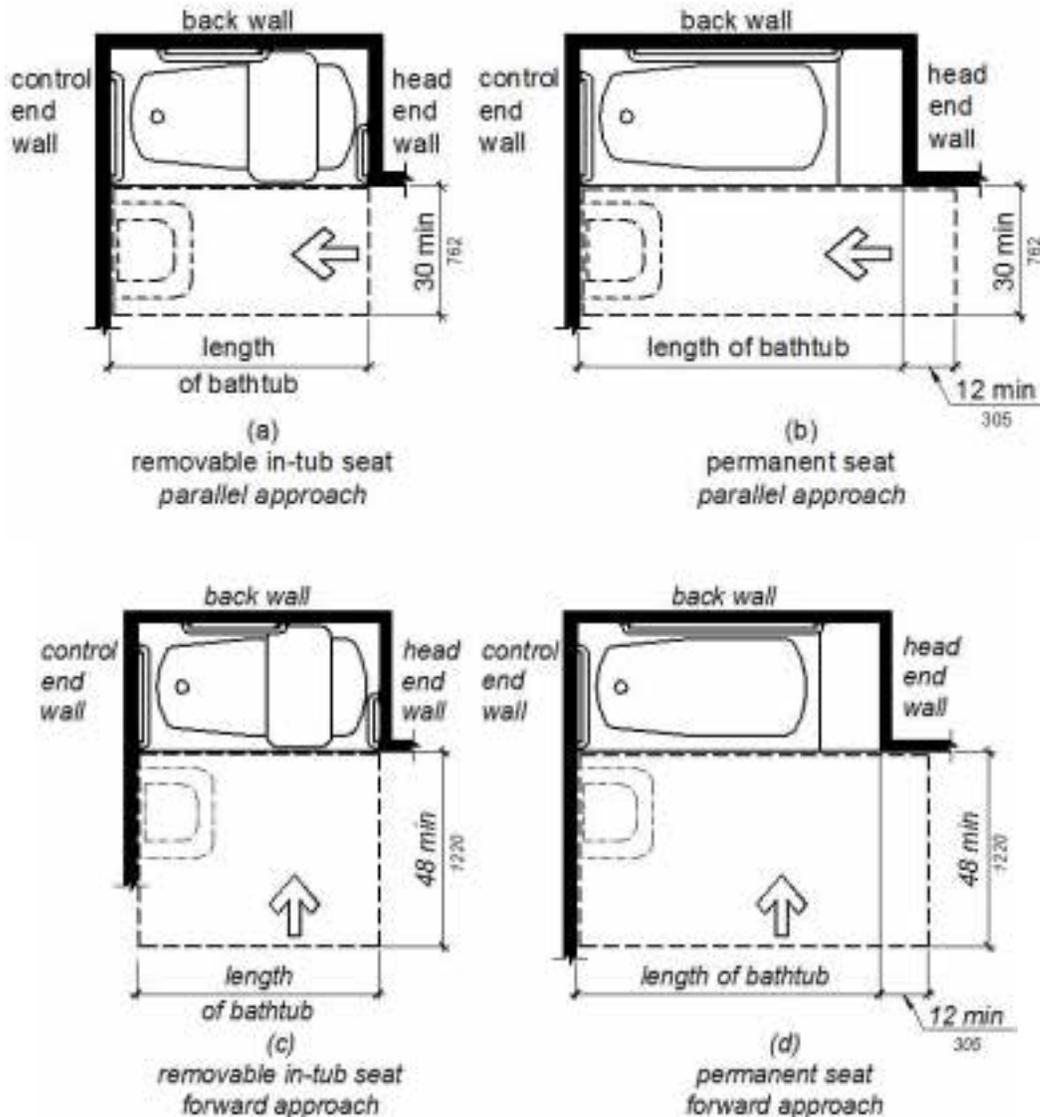


FIGURE 11B-607.2  
CLEARANCE FOR BATHTUBS

## DIVISION 7: COMMUNICATION ELEMENTS AND FEATURES

### 11B-701 General

**11B-701.1 Scope.** The provisions of *Division 7* shall apply where required by *Division 2* or where referenced by a requirement in this *chapter*.

### 11B-702 Fire alarm systems

**11B-702.1 General.** Fire alarm systems shall have permanently installed audible and visible alarms complying with NFPA 72 and *Chapter 9, Sections 907.5.2.1 and 907.5.2.3*.

**Exception:** *Reserved.*

### 11B-703 Signs

**11B-703.1 General.** Signs shall comply with *Section 11B-703*. Where both visual and tactile characters are required, either one sign with both visual and tactile characters, or two separate signs, one with visual, and one with tactile characters, shall be provided.

**11B-703.1.1 Plan review and inspection.** Signs as specified in *Section 11B-703*, or in other sections of this code, when included in the construction of new buildings or facilities, or when included, altered or replaced due to additions, alterations or renovations to existing buildings or facilities, and when a permit is required, shall comply with *Sections 11B-703.1.1.1 and 11B-703.1.1.2*.

**11B-703.1.1.1 Plan review.** Plans, specifications or other information indicating compliance with these regulations shall be submitted to the enforcing agency for review and approval.

**11B-703.1.1.2 Inspection.** Signs and identification devices shall be field inspected after installation and approved by the enforcing agency prior to the issuance of a final certificate of occupancy per *Chapter 1, Division II, Section 111*, or final approval where no certificate of occupancy is issued. The inspection shall include, but not be limited to, verification that Braille dots and cells are properly spaced and the size, proportion and type of raised characters are in compliance with these regulations.

**11B-703.2 Raised characters.** Raised characters shall comply with *Section 11B-703.2* and shall be duplicated in Braille complying with *Section 11B-703.3*. Raised characters shall be installed in accordance with *Section 11B-703.4*.

**11B-703.2.1 Depth.** Raised characters shall be  $\frac{1}{32}$  inch (0.8 mm) minimum above their background.

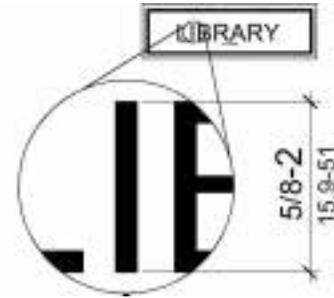
**11B-703.2.2 Case.** Characters shall be uppercase.

**11B-703.2.3 Style.** Characters shall be sans serif. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.

**11B-703.2.4 Character proportions.** Characters shall be selected from fonts where the width of the uppercase letter "O" is 60 percent minimum and 110 percent maximum of the height of the uppercase letter "I".

**11B-703.2.5 Character height.** Character height measured vertically from the baseline of the character shall be  $\frac{5}{8}$  inch (15.9 mm) minimum and 2 inches (51 mm) maximum based on the height of the uppercase letter "I".

**Exception:** *Reserved.*



**FIGURE 11B-703.2.5  
HEIGHT OF RAISED CHARACTERS**

**11B-703.2.6 Stroke thickness.** Stroke thickness of the uppercase letter "I" shall be 15 percent maximum of the height of the character.

**11B-703.2.7 Character spacing.** Character spacing shall be measured between the two closest points of adjacent raised characters within a message, excluding word spaces. Where characters have rectangular cross sections, spacing between individual raised characters shall be  $\frac{1}{8}$  inch (3.2 mm) minimum and 4 times the raised character stroke width maximum. Where characters have other cross sections, spacing between individual raised characters shall be  $\frac{1}{16}$  inch (1.6 mm) minimum and 4 times the raised character stroke width maximum at the base of the cross sections, and  $\frac{1}{8}$  inch (3.2 mm) minimum and 4 times the raised character stroke width maximum at the top of the cross sections. Characters shall be separated from raised borders and decorative elements  $\frac{3}{8}$  inch (9.5 mm) minimum.

**11B-703.2.8 Line spacing.** Spacing between the baselines of separate lines of raised characters within a message shall be 135 percent minimum and 170 percent maximum of the raised character height.

**11B-703.2.9 Format.** Text shall be in a horizontal format.

**11B-703.3 Braille.** Braille shall be contracted (Grade 2) and shall comply with *Sections 11B-703.3 and 11B-703.4*.

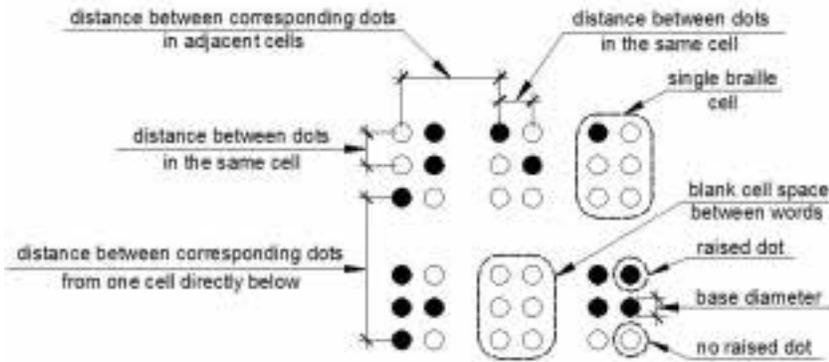
**11B-703.3.1 Dimensions and capitalization.** Braille dots shall have a domed or rounded shape and shall comply with *Table 11B-703.3.1*. The indication of an uppercase letter or letters shall only be used before the first word of sentences, proper nouns and names, individual letters of the alphabet, initials, and acronyms.

**11B-703.3.2 Position.** Braille shall be positioned below the corresponding text in a horizontal format, flush left or centered. If text is multi-lined, Braille shall be placed below the entire text. Braille shall be separated  $\frac{3}{8}$  inch

**TABLE 11B-703.3.1  
BRAILLE DIMENSIONS**

MEASUREMENT RANGE	MINIMUM IN INCHES MAXIMUM IN INCHES
Dot base diameter	0.059 (1.5 mm) to 0.063 (1.6 mm)
Distance between two dots in the same cell <sup>1</sup>	0.100 (2.5 mm)
Distance between corresponding dots in adjacent cells <sup>1</sup>	0.300 (7.6 mm)
Dot height	0.025 (0.6 mm) to 0.037 (0.9 mm)
Distance between corresponding dots from one cell directly below <sup>1</sup>	0.395 (10 mm) to 0.400 (10.2 mm)

1. Measured center to center.



**FIGURE 11B-703.3.1  
BRAILLE MEASUREMENT**

(9.5 mm) minimum and  $1/2$  inch (12.7 mm) maximum from any other tactile characters and  $3/8$  inch (9.5 mm) minimum from raised borders and decorative elements.

**Exception:** Braille provided on elevator car controls shall be separated  $3/16$  inch (4.8 mm) minimum and shall be located directly below the corresponding raised characters or symbols.

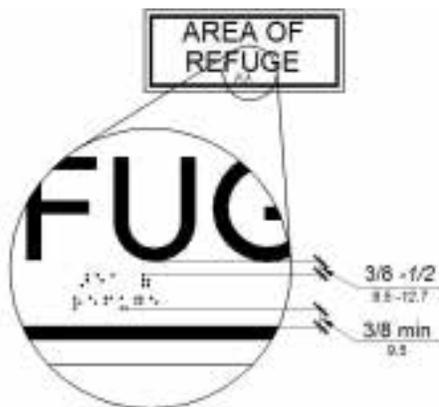
**11B-703.4 Installation height and location.** Signs with tactile characters shall comply with Section 11B-703.4.

**11B-703.4.1 Height above finish floor or ground.** Tactile characters on signs shall be located 48 inches (1219 mm) minimum above the finish floor or ground surface, measured from the baseline of the lowest Braille cells and 60 inches (1524 mm) maximum above the finish floor or

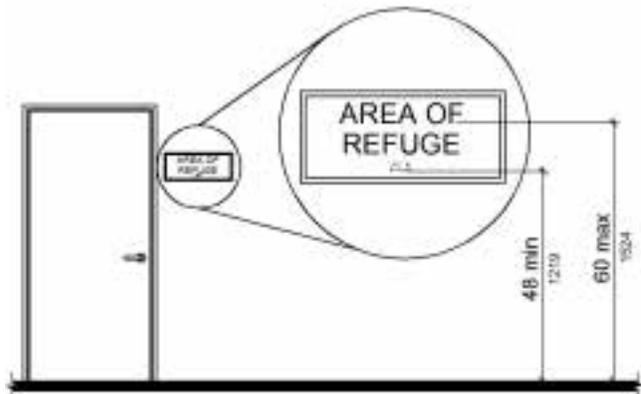
ground surface, measured from the baseline of the highest line of raised characters.

**Exception:** Tactile characters for elevator car controls shall not be required to comply with Section 11B-703.4.1.

**11B-703.4.2 Location.** Where a tactile sign is provided at a door, the sign shall be located alongside the door at the latch side. Where a tactile sign is provided at double doors with one active leaf, the sign shall be located on the inactive leaf. Where a tactile sign is provided at double doors with two active leaves, the sign shall be located to the right of the right hand door. Where there is no wall space at the latch side of a single door or at the right side of double doors, signs shall be located on the nearest adjacent wall. Signs containing tactile char-



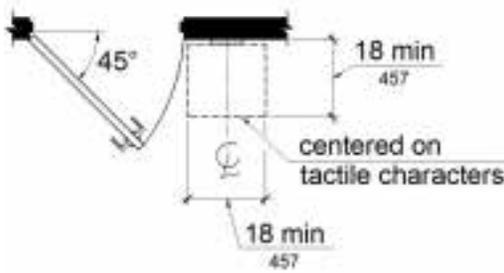
**FIGURE 11B-703.3.2  
POSITION OF BRAILLE**



**FIGURE 11B-703.4.1  
HEIGHT OF TACTILE CHARACTERS  
ABOVE FINISH FLOOR OR GROUND**

acters shall be located so that a clear floor space of 18 inches (457 mm) minimum by 18 inches (457 mm) minimum, centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45 degree open position. *Where provided, signs identifying permanent rooms and spaces shall be located at the entrance to, and outside of the room or space. Where provided, signs identifying exits shall be located at the exit door when approached in the direction of egress travel.*

**Exception:** *In alterations where sign installation locations identified in Section 11B-703.4.2 are obstructed or otherwise unavailable for sign installation, signs with tactile characters shall be permitted on the push side of doors with closers and without hold-open devices.*



**FIGURE 11B-703.4.2  
LOCATION OF TACTILE SIGNS AT DOORS**

**11B-703.5 Visual characters.** Visual characters shall comply with Section 11B-703.5.

**Exception:** Where visual characters comply with Section 11B-703.2 and are accompanied by Braille complying with Section 11B-703.3, they shall not be required to comply with Sections 11B-703.5.2 through 11B-703.5.6, 11B-703.5.8 and 11B-703.5.9.

**11B-703.5.1 Finish and contrast.** Characters and their background shall have a non-glare finish. Characters shall contrast with their background with either light characters on a dark background or dark characters on a light background.

**11B-703.5.2 Case.** Characters shall be uppercase or lowercase or a combination of both.

**11B-703.5.3 Style.** Characters shall be conventional in form. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.

**11B-703.5.4 Character proportions.** Characters shall be selected from fonts where the width of the uppercase letter “O” is 60 percent minimum and 110 percent maximum of the height of the uppercase letter “T”.

**11B-703.5.5 Character height.** Minimum character height shall comply with Table 11B-703.5.5. Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign. Character height shall be based on the uppercase letter “T”.

**Exception:** *Where provided, floor plans providing emergency procedures information in accordance with Title 19 shall not be required to comply with Section 11B-703.5.5.*

**11B-703.5.6 Height from finish floor or ground.** Visual characters shall be 40 inches (1016 mm) minimum above the finish floor or ground.

**Exceptions:**

1. Visual characters indicating elevator car controls shall not be required to comply with Section 11B-703.5.6.
2. Floor-level exit signs complying with Chapter 10, Section 1011.7 shall not be required to comply with Section 11B-703.5.6.
3. Where provided, floor plans providing emergency procedures information in accordance with Title 19 shall not be required to comply with Section 11B-703.5.6.

**11B-703.5.7 Stroke thickness.** Stroke thickness of the uppercase letter “T” shall be 10 percent minimum and 20 percent maximum of the height of the character.

**11B-703.5.8 Character spacing.** Character spacing shall be measured between the two closest points of adjacent characters, excluding word spaces. Spacing between individual characters shall be 10 percent minimum and 35 percent maximum of character height.

**11B-703.5.9 Line spacing.** Spacing between the baselines of separate lines of characters within a message shall be

**TABLE 11B-703.5.5  
VISUAL CHARACTER HEIGHT**

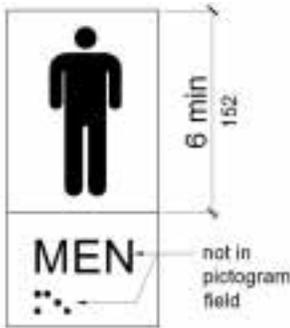
HEIGHT TO FINISH FLOOR OR GROUND FROM BASELINE OF CHARACTER	HORIZONTAL VIEWING DISTANCE	MINIMUM CHARACTER HEIGHT
40 inches (1016 mm) to less than or equal to 70 inches (1778 mm)	less than 72 inches (1829 mm)	5/8 inch (15.9 mm)
	72 inches (1829 mm) and greater	5/8 inch (15.9 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 72 inches (1829 mm)
Greater than 70 inches (1778 mm) to less than or equal to 120 inches (3048 mm)	less than 180 inches (4572 mm)	2 inches (51 mm)
	180 inches (4572 mm) and greater	2 inches (51 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 180 inches (4572 mm)
greater than 120 inches (3048 mm)	less than 21 feet (6401 mm)	3 inches (76 mm)
	21 feet (6401 mm) and greater	3 inches (76 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 21 feet (6401 mm)

135 percent minimum and 170 percent maximum of the character height.

**11B-703.5.10 Format.** Text shall be in a horizontal format.

**11B-703.6 Pictograms.** Pictograms shall comply with Section 11B-703.6.

**11B-703.6.1 Pictogram field.** Pictograms shall have a field height of 6 inches (152 mm) minimum. Characters and Braille shall not be located in the pictogram field.



**FIGURE 11B-703.6.1 PICTOGRAM FIELD**

**11B-703.6.2 Finish and contrast.** Pictograms and their field shall have a non-glare finish. Pictograms shall contrast with their field with either a light pictogram on a dark field or a dark pictogram on a light field.

**11B-703.6.3 Text descriptors.** Pictograms shall have text descriptors located directly below the pictogram field. Text descriptors shall comply with Sections 11B-703.2, 11B-703.3 and 11B-703.4.

**11B-703.7 Symbols of accessibility.** Symbols of accessibility shall comply with Section 11B-703.7.

**11B-703.7.1 Finish and contrast.** Symbols of accessibility and their background shall have a non-glare finish. Symbols of accessibility shall contrast with their background with either a light symbol on a dark background or a dark symbol on a light background.

**11B-703.7.2 Symbols**

**11B-703.7.2.1 International Symbol of Accessibility.**

The International Symbol of Accessibility shall comply with Figure 11B-703.7.2.1. The symbol shall consist of a white figure on a blue background. The color blue shall approximate FS 15090 in Federal Standard 595C.

**Exceptions:**

1. The appropriate enforcement agency may approve other colors provided the symbol contrast is light on dark or dark on light.
2. On the accessibility function button on hall call consoles in a destination-oriented elevator system the International Symbol of Accessibility shall be a white symbol on a black background.

**11B-703.7.2.2 International Symbol of TTY.** The International Symbol of TTY shall comply with Figure 11B-703.7.2.2.



**FIGURE 11B-703.7.2.1 INTERNATIONAL SYMBOL OF ACCESSIBILITY**



**FIGURE 11B-703.7.2.2 INTERNATIONAL SYMBOL OF TTY**

**11B-703.7.2.3 Volume control telephones.** Telephones with a volume control shall be identified by a pictogram of a telephone handset with radiating sound waves on a square field such as shown in Figure 11B-703.7.2.3.

**11B-703.7.2.4 Assistive listening systems.** Assistive listening systems shall be identified by the International Symbol of Access for Hearing Loss complying with Figure 11B-703.7.2.4.



**FIGURE 11B-703.7.2.3 VOLUME CONTROL TELEPHONE**



**FIGURE 11B-703.7.2.4 INTERNATIONAL SYMBOL OF ACCESS FOR HEARING LOSS**

**11B-703.7.2.5 Cleaner Air Symbol.** Rooms, facilities and paths of travel that are accessible to and usable by people who are adversely impacted by airborne chemicals or particulate(s) and/or the use of electrical fix-

tures and/or devices shall be identified by the Cleaner Air Symbol complying with Figure 11B-703.7.2.5. This symbol is to be used strictly for publicly funded facilities or any facilities leased or rented by State of California, not concessionaires.

The symbol, which shall include the text “Cleaner Air” as shown, shall be displayed either as a negative or positive image within a square that is a minimum of 6 inches (152 mm) on each side. The symbol may be shown in black and white or in color. When color is used, it shall be Federal Blue (Color No. 15090 Federal Standard 595B) on white, or white on Federal Blue. There shall be at least a 70-percent color contrast between the background of the sign from the surface that it is mounted on.



FIGURE 11B-703.7.2.5  
CLEANER AIR SYMBOL

**11B-703.7.2.6 Toilet and bathing facilities geometric symbols.** Doorways leading to toilet rooms and bathing rooms shall be identified by a geometric symbol complying with Section 11B-703.7.2.6. The symbol shall be mounted at 58 inches (1473 mm) minimum and 60 inches (1524 mm) maximum above the finish floor or ground surface measured from the centerline of the symbol. Where a door is provided the symbol shall be mounted within 1 inch (25 mm) of the vertical centerline of the door.

**Exception:** Geometric symbols shall not be required at inmate toilet rooms and bathing rooms in detention and correctional facilities where only one gender is housed.

**11B-703.7.2.6.1 Men’s toilet and bathing facilities.** Men’s toilet and bathing facilities shall be identified by an equilateral triangle,  $\frac{1}{4}$  inch (6.4 mm) thick with edges 12 inches (305 mm) long and a vertex pointing upward. The triangle symbol shall contrast with the door, either light on a dark background or dark on a light background.

**Exception:** Within secure perimeter of detention and correctional facilities, geometric symbols shall not be required to be  $\frac{1}{4}$  inch (6.4 mm) thick.

**11B-703.7.2.6.2 Women’s toilet and bathing facilities.** Women’s toilet and bathing facilities shall be identified by a circle,  $\frac{1}{4}$  inch (6.4 mm) thick and 12 inches (305 mm) in diameter. The circle symbol shall contrast with the door, either light on a dark background or dark on a light background.

**Exception:** Within secure perimeter of detention and correctional facilities, geometric symbols shall not be required to be  $\frac{1}{4}$  inch (6.4 mm) thick.

**11B-703.7.2.6.3 Unisex toilet and bathing facilities.** Unisex toilet and bathing facilities shall be identified by a circle,  $\frac{1}{4}$  inch (6.4 mm) thick and 12 inches (305 mm) in diameter with a  $\frac{1}{4}$  inch (6.4 mm) thick triangle with a vertex pointing upward superimposed on the circle and within the 12-inch (305 mm) diameter. The triangle symbol shall contrast with the circle symbol, either light on a dark background or dark on a light background. The circle symbol shall contrast with the door, either light on a dark background or dark on a light background.

**Exception:** Within secure perimeter of detention and correctional facilities, geometric symbols shall not be required to be  $\frac{1}{4}$  inch (6.4 mm) thick.

**11B-703.7.2.6.4 Edges and corners.** Edges of signs shall be rounded, chamfered or eased. Corners of signs shall have a minimum radius of  $\frac{1}{8}$  inch (3.2 mm).

**11B-703.7.2.7 Pedestrian traffic-control buttons.** Pole-supported pedestrian traffic-control buttons shall be identified with color coding consisting of a textured horizontal yellow band 2 inches (51 mm) in width encircling the pole, and a 1-inch-wide (25 mm) dark border band above and below this yellow band. Color coding shall be placed immediately above the control button. Control buttons shall be located no higher than 48 inches (1219 mm) above the ground surface adjacent to the pole.

#### 11B-703.8 Variable message signs.

**11B-703.8.1 General.** High resolution variable message sign (VMS) characters shall comply with Sections 11B-703.5 and 11B-703.8.12 through 11B-703.8.14. Low resolution variable message sign (VMS) characters shall comply with Section 11B-703.8.

**11B-703.8.2 Case.** Low resolution VMS characters shall be uppercase.

**11B-703.8.3 Style.** Low resolution VMS characters shall be conventional in form, shall be sans serif, and shall not be italic, oblique, script, highly decorative, or of other unusual forms.

**11B-703.8.4 Character height.** The uppercase letter “I” shall be used to determine the allowable height of all low resolution VMS characters of a font. Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign. The uppercase letter “I” of the font shall have a minimum height complying with Table 11B-703.8.4.

**Exception:** In assembly seating where the maximum viewing distance is 100 feet (30.5 m) or greater, the height of the uppercase “I” of low resolution VMS fonts shall be permitted to be 1 inch (25 mm) for every 30 feet (9144 mm) of viewing distance, provided the character height is 8 inches (203 mm) minimum. Viewing distance shall be measured as the horizontal distance between the character and where someone is expected to view the sign.

**11B-703.8.5 Character width.** The uppercase letter “O” shall be used to determine the allowable width of all low resolution VMS characters of a font. Low resolution VMS

characters shall comply with the pixel count for character width in Table 11B-703.8.5.

**TABLE 11B-703.8.4  
LOW RESOLUTION VMS CHARACTER HEIGHT**

HEIGHT ABOVE FLOOR TO BASELINE OF CHARACTER	HORIZONTAL VIEWING DISTANCE	MINIMUM CHARACTER HEIGHT
40 inches (1016 mm) to less than or equal to 70 inches (1778 mm)	Less than 10 feet (3048 mm)	2 inches (51 mm)
	10 feet (3048 mm) and greater	2 inches (51 mm), plus $\frac{1}{5}$ inch (5.1 mm) per foot (305 mm) of viewing distance above 10 feet (3048 mm)
Greater than 70 inches (1778 mm) to less than or equal to 120 inches (3048 mm)	Less than 15 feet (4572 mm)	3 inches (76 mm)
	15 feet (4572 mm) and greater	3 inches (76 mm), plus $\frac{1}{5}$ inch (5.1 mm) per foot (305 mm) of viewing distance above 15 feet (4572 mm)
Greater than 120 inches (3048 mm)	Less than 20 feet (6096 mm)	4 inches (102 mm)
	20 feet (6096 mm) and greater	4 inches (102 mm), plus $\frac{1}{5}$ inch (5.1 mm) per foot (305 mm) of viewing distance above 20 feet (6096 mm)

**11B-703.8.6 Stroke width.** The uppercase letter “I” shall be used to determine the allowable stroke width of all low resolution VMS characters of a font. Low resolution VMS characters shall comply with the pixel count for stroke width in Table 11B-703.8.5.

**11B-703.8.7 Character spacing.** Spacing shall be measured between the two closest points of adjacent low resolution VMS characters within a message, excluding word spaces. Low resolution VMS character spacing shall comply with the pixel count for character spacing in Table 11B-703.8.5.

**TABLE 11B-703.8.5  
PIXEL COUNT FOR LOW RESOLUTION VMS SIGNAGE**

CHARACTER HEIGHT	CHARACTER WIDTH RANGE	STROKE WIDTH RANGE	CHARACTER SPACING RANGE
7	5-6	1	2
8	6-7	1-2	2-3
9	6-8	1-2	2-3
10	7-9	2	2-4
11	8-10	2	2-4
12	8-11	2	3-4
13	9-12	2-3	3-5
14	10-13	2-3	3-5
15	11-14	2-3	3-5

**11B-703.8.8 Line spacing.** Low resolution VMS characters shall comply with Section 11B-703.5.9.

**11B-703.8.9 Height above floor.** Low resolution VMS characters shall be 40 inches (1016 mm) minimum above the floor of the viewing position, measured to the baseline of the character. Heights of low resolution variable message sign characters shall comply with Table 11B-703.8.4, based on the size of the characters on the sign.

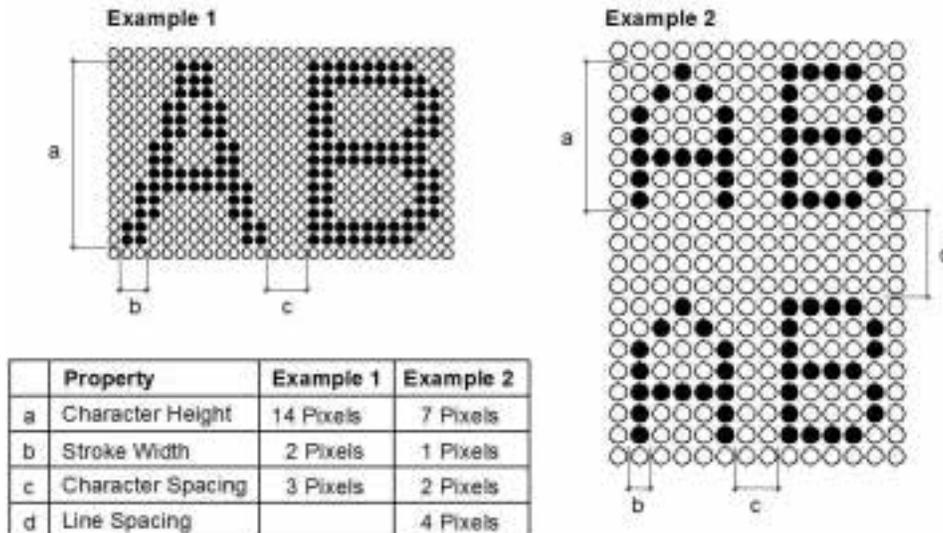
**11B-703.8.10 Finish.** The background of low resolution VMS characters shall have a nonglare finish.

**11B-703.8.11 Contrast.** Low resolution VMS characters shall be light characters on a dark background.

**11B-703.8.12 Protective covering.** Where a protective layer is placed over VMS characters through which the VMS characters must be viewed, the protective covering shall have a nonglare finish.

**11B-703.8.13 Brightness.** The brightness of variable message signs in exterior locations shall automatically adjust in response to change in ambient light levels.

**11B-703.8.14 Rate of change.** Where a VMS message can be displayed in its entirety on a single screen, it shall be displayed on a single screen and shall remain motionless



**FIGURE 11B-703.8.5  
LOW RESOLUTION VMS SIGNAGE CHARACTERS**

on the screen for a minimum 3 seconds or 1 second minimum for every seven characters of the message including spaces, whichever is longer.

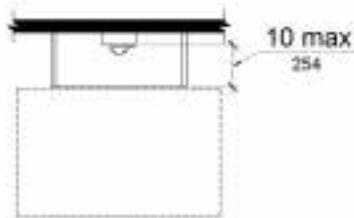
**11B-704 Telephones**

**11B-704.1 General.** Public telephones shall comply with Section 11B-704.

**11B-704.2 Wheelchair accessible telephones.** Wheelchair accessible telephones shall comply with Section 11B-704.2.

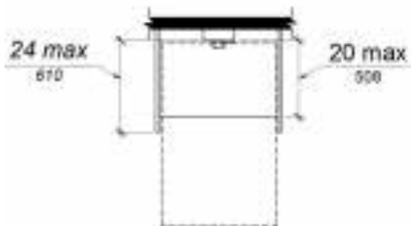
**11B-704.2.1 Clear floor or ground space.** A clear floor or ground space complying with Section 11B-305 shall be provided. The clear floor or ground space shall not be obstructed by bases, enclosures, or seats.

**11B-704.2.1.1 Parallel approach.** Where a parallel approach is provided, the distance from the edge of the telephone enclosure to the face of the telephone unit shall be 10 inches (254 mm) maximum.



**FIGURE 11B-704.2.1.1**  
**PARALLEL APPROACH TO TELEPHONE**

**11B-704.2.1.2 Forward approach.** Where a forward approach is provided at a telephone within an enclosure, the counter may extend beyond the face of the telephone 20 inches (508 mm) into the required clear floor or ground space and the enclosure may extend beyond the face of the telephone 24 inches (610 mm). If an additional 6 inches (152 mm) in width of clear floor space is provided, creating a clear floor space of 36 inches by 48 inches (914 mm by 1219 mm), the enclosure may extend more than 24 inches (610 mm) beyond the face of the telephone.



**FIGURE 11B-704.2.1.2**  
**FORWARD APPROACH TO TELEPHONE**

**11B-704.2.2 Operable parts.** Operable parts shall comply with Section 11B-309. Telephones shall have push-button controls where such service is available.

**11B-704.2.3 Telephone directories.** Telephone directories, where provided, shall be located in accordance with Section 11B-309.

**11B-704.2.4 Cord length.** The cord from the telephone to the handset shall be 29 inches (737 mm) long minimum.

**11B-704.3 Volume control telephones.** Public telephones required to have volume controls shall be equipped with a receive volume control that provides a gain adjustable up to 20 dB minimum. For incremental volume control, provide at least one intermediate step of 12 dB of gain minimum. An automatic reset shall be provided. *Volume control telephones shall be equipped with a receiver that generates a magnetic field in the area of the receiver cap. Public telephones with volume control shall be hearing aid compatible.*

**11B-704.4 TTYs.** TTYs provided at a public pay telephone shall be permanently affixed within, or adjacent to, the telephone enclosure. Where an acoustic coupler is used, the telephone cord shall be sufficiently long to allow connection of the TTY and the telephone receiver.

**11B-704.4.1 Height.** When in use, the touch surface of TTY keypads shall be 34 inches (864 mm) minimum above the finish floor.

**Exception:** Where seats are provided, TTYs shall not be required to comply with Section 11B-704.4.1.

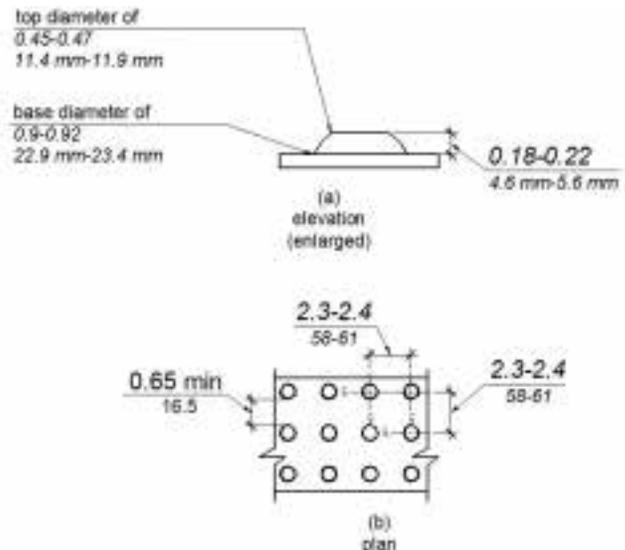
**11B-704.5 TTY shelf.** Public pay telephones required to accommodate portable TTYs shall be equipped with a shelf and an electrical outlet within or adjacent to the telephone enclosure. The telephone handset shall be capable of being placed flush on the surface of the shelf. The shelf shall be capable of accommodating a TTY and shall have 6 inches (152 mm) minimum vertical clearance above the area where the TTY is to be placed.

**11B-705 Detectable warnings and detectable directional texture**

**11B-705.1 Detectable warnings**

**11B-705.1.1 General.** Detectable warnings shall consist of a surface of truncated domes and shall comply with Section 11B-705.

**11B-705.1.1.1 Dome size.** Truncated domes in a detectable warning surface shall have a base diameter of 0.9 inch (22.9 mm) minimum and 0.92 inch (23.4 mm) maximum, a top diameter of 0.45 inch (11.4 mm) minimum and 0.47 inch (11.9 mm) maximum, and a



**FIGURE 11B-705.1**  
**SIZE AND SPACING OF TRUNCATED DOMES**

height of 0.18 inch (4.6 mm) minimum and 0.22 inch (5.6 mm) maximum.

**11B-705.1.1.2 Dome spacing.** Truncated domes in a detectable warning surface shall have a center-to-center spacing of 2.3 inches (58 mm) minimum and 2.4 inches (61 mm) maximum, and a base-to-base spacing of 0.65 inch (16.5 mm) minimum, measured between the most adjacent domes on a square grid.

**Exception:** Where installed in a radial pattern, truncated domes shall have a center-to-center spacing of 1.6 inches (41 mm) minimum to 2.4 inches (61 mm) maximum.

**11B-705.1.1.3 Color and contrast.** Detectable warning surfaces at transit boarding platform edges, bus stops, hazardous vehicular areas, reflecting pools, and track crossings shall comply with Section 11B-705.1.1.3.1. Detectable warnings at other locations shall comply with either Section 11B-705.1.1.3.1 or Section 11B-705.1.1.3.2. The material used to provide visual contrast shall be an integral part of the surface.

**11B-705.1.1.3.1** Detectable warning surfaces shall be yellow and approximate FS 33538 of Federal Standard 595C.

**11B-705.1.1.3.2** Detectable warning surfaces shall provide a 70 percent minimum visual contrast with adjacent walking surfaces. Contrast in percent shall be determined by:

Contrast percent =  $[(B1-B2)/B1] \times 100$  where

B1 = light reflectance value (LRV) of the lighter area and

B2 = light reflectance value (LRV) of the darker area.

**Exception:** Where the detectable warning surface does not provide a 70 percent minimum contrast with adjacent walking surfaces, a 1-inch (25 mm) wide minimum visually contrasting surface shall separate the detectable warning from adjacent walking surfaces. The visually contrasting surface shall contrast with both the detectable warning and adjacent walking surfaces either light-on-dark, or dark-on-light.

**11B-705.1.1.4 Resiliency.** Detectable warning surfaces shall differ from adjoining surfaces in resiliency or sound-on-cane contact.

**Exception:** Detectable warning surfaces at curb ramps, islands or cut-through medians shall not be required to comply with Section 11B-705.1.1.4.

**11B-705.1.2 Locations.** Detectable warnings at the following locations shall comply with Section 11B-705.1.

**11B-705.1.2.1 Platform edges.** Detectable warning surfaces at platform boarding edges shall be 24 inches (610 mm) wide and shall extend the full length of the public use areas of the platform.

**11B-705.1.2.2 Curb ramps.** Detectable warnings at curb ramps shall extend 36 inches (914 mm) in the direction of travel. Detectable warnings shall extend the full width of the ramp run less 2 inches (51 mm) maximum on each side, excluding any flared sides.

Detectable warnings shall be located so the edge nearest the curb is 6 inches (152 mm) minimum and 8 inches (203 mm) maximum from the line at the face of the curb marking the transition between the curb and the gutter, street or highway.

**Exception:** On parallel curb ramps, detectable warnings shall be placed on the turning space at the flush transition between the street and sidewalk. Detectable warnings shall extend the full width of the turning space at the flush transition between the street and the sidewalk less 2 inches (51 mm) maximum on each side.

**11B-705.1.2.3 Islands or cut-through medians.** Detectable warnings at pedestrian islands or cut-through medians shall be 36 inches (914 mm) minimum in depth extending the full width of the pedestrian path or cut-through less 2 inches (51 mm) maximum on each side, placed at the edges of the pedestrian island or cut-through median, and shall be separated by 24 inches (610 mm) minimum of walking surface without detectable warnings.

**Exception:** Detectable warnings shall be 24 inches (610 mm) minimum in depth at pedestrian islands or cut-through medians that are less than 96 inches (2438 mm) in length in the direction of pedestrian travel.

**11B-705.1.2.4 Bus stops.** When detectable warnings are provided at bus stop boarding and alighting areas, the detectable warnings shall extend the full width of the boarding/alighting area and shall be 36 inches (914 mm) minimum in depth.

**11B-705.1.2.5 Hazardous vehicular areas.** Detectable warnings at hazardous vehicular areas shall be 36 inches (914 mm) in width.

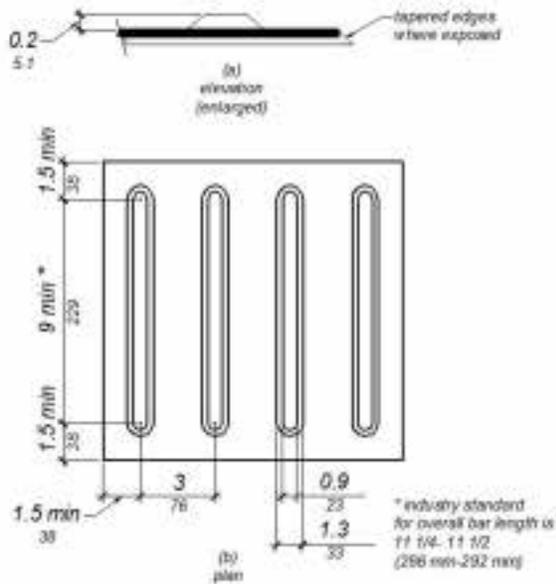
**11B-705.1.2.6 Reflecting pools.** When detectable warnings are provided at reflecting pools, it shall be 24 inches (610 mm) minimum and 36 inches (914 mm) maximum in width.

**11B-705.1.2.7 Track crossings.** Detectable warnings at track crossings shall be 36 inches (914 mm) in the direction of pedestrian travel and extend the full width of the circulation path.

**11B-705.2 Detectable directional texture.** Detectable directional texture at transit boarding platforms shall comply with Figure 11B-705.2 and shall be 0.1 inch (2.5 mm) in height that tapers off to 0.04 inch (1.0 mm), with bars raised 0.2 inch (5.1 mm) from the surface. The raised bars shall be 1.3 inches (33 mm) wide and 3 inches (76 mm) from center-to-center of each bar. This surface shall differ from adjoining walking surfaces in resiliency or sound-on-cane contact. The color shall be yellow and approximate FS 33538 of Federal Standard 595C. This surface will be placed directly behind the yellow detectable warning texture specified in Section 11B-705.1.2.1, aligning with all doors of the transit vehicles where passengers will embark. The width of the directional texture shall be equal to the width of the transit vehicle's door opening. The depth of the texture shall not be less than 36 inches (914 mm).

**11B-705.3 Product approval.** Only approved DSA-AC detectable warning products and directional surfaces shall be installed as provided in the California Code of Regulations (CCR), Title 24, Part 1, Chapter 5, Articles 2, 3 and 4. Refer to CCR Title 24, Part 12, Chapter 11B, Section 12-

11B-205 for building and facility access specifications for product approval for detectable warning products and directional surfaces.



**FIGURE 11B-705.2**  
**DETECTABLE DIRECTIONAL TEXTURE**

**11B-706 Assistive listening systems**

**11B-706.1 General.** Assistive listening systems required in assembly areas, conference and meeting rooms shall comply with Section 11B-706.

**11B-706.2 Receiver jacks.** Receivers required for use with an assistive listening system shall include a 1/8 inch (3.2 mm) standard mono jack.

**11B-706.3 Receiver hearing-aid compatibility.** Receivers required to be hearing-aid compatible shall interface with telecoils in hearing aids through the provision of neckloops.

**11B-706.4 Sound pressure level.** Assistive listening systems shall be capable of providing a sound pressure level of 110 dB minimum and 118 dB maximum with a dynamic range on the volume control of 50 dB.

**11B-706.5 Signal-to-noise ratio.** The signal-to-noise ratio for internally generated noise in assistive listening systems shall be 18 dB minimum.

**11B-706.6 Peak clipping level.** Peak clipping shall not exceed 18 dB of clipping relative to the peaks of speech.

**11B-707 Automatic teller machines, fare machines and point-of-sale devices**

**11B-707.1 General.** Automatic teller machines, fare machines and point-of-sale devices shall comply with Section 11B-707.

**11B-707.2 Clear floor or ground space.** A clear floor or ground space complying with Section 11B-305 shall be provided.

**Exception:** Clear floor or ground space shall not be required at drive-up only automatic teller machines and fare machines.

**11B-707.3 Operable parts.** Operable parts shall comply with Section 11B-309. Unless a clear or correct key is provided,

each operable part shall be able to be differentiated by sound or touch, without activation.

**Exception:** Drive-up only automatic teller machines and fare machines shall not be required to comply with Sections 11B-309.2 and 11B-309.3.

**11B-707.4 Privacy.** Automatic teller machines shall provide the opportunity for the same degree of privacy of input and output available to all individuals.

**11B-707.5 Speech output.** Machines shall be speech enabled. Operating instructions and orientation, visible transaction prompts, user input verification, error messages, and all displayed information for full use shall be accessible to and independently usable by individuals with vision impairments. Speech shall be delivered through a mechanism that is readily available to all users, including but not limited to, an industry standard connector or a telephone handset. Speech shall be recorded or digitized human, or synthesized.

**Exceptions:**

1. Audible tones shall be permitted instead of speech for visible output that is not displayed for security purposes, including but not limited to, asterisks representing personal identification numbers.
2. Advertisements and other similar information shall not be required to be audible unless they convey information that can be used in the transaction being conducted.
3. Where speech synthesis cannot be supported, dynamic alphabetic output shall not be required to be audible.

**11B-707.5.1 User control.** Speech shall be capable of being repeated or interrupted. Volume control shall be provided for the speech function.

**Exception:** Speech output for any single function shall be permitted to be automatically interrupted when a transaction is selected.

**11B-707.5.2 Receipts.** Where receipts are provided, speech output devices shall provide audible balance inquiry information, error messages, and all other information on the printed receipt necessary to complete or verify the transaction.

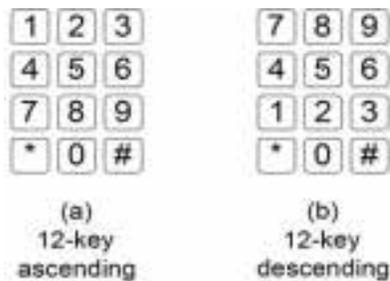
**Exceptions:**

1. Machine location, date and time of transaction, customer account number, and the machine identifier shall not be required to be audible.
2. Information on printed receipts that duplicates information available on-screen shall not be required to be presented in the form of an audible receipt.
3. Printed copies of bank statements and checks shall not be required to be audible.

**11B-707.6 Input.** Input devices shall comply with Section 11B-707.6.

**11B-707.6.1 Input controls.** At least one tactilely discernible input control shall be provided for each function. Where provided, key surfaces not on active areas of display screens, shall be raised above surrounding surfaces. Where membrane keys are the only method of input, each shall be tactilely discernible from surrounding surfaces and adjacent keys.

**11B-707.6.2 Numeric keys.** Numeric keys shall be arranged in a 12-key ascending or descending telephone keypad layout. The number five key shall be tactilely distinct from the other keys.



**FIGURE 11B-707.6.2**  
**NUMERIC KEY LAYOUT**

**11B-707.6.3 Function keys.** Function keys shall comply with Section 11B-707.6.3.

**11B-707.6.3.1 Contrast.** Function keys shall contrast visually from background surfaces. Characters and symbols on key surfaces shall contrast visually from key surfaces. Visual contrast shall be either light-on-dark or dark-on-light.

**Exception:** Tactile symbols required by Section 11B-707.6.3.2 shall not be required to comply with Section 11B-707.6.3.1.

**11B-707.6.3.2 Tactile symbols.** Function key surfaces shall have tactile symbols as follows: Enter or Proceed key: raised circle; Clear or Correct key: raised left arrow; Cancel key: raised letter ex; Add Value key: raised plus sign; Decrease Value key: raised minus sign.

**11B-707.7 Display screen.** The display screen shall comply with Section 11B-707.7.

**Exception:** Drive-up only automatic teller machines and fare machines shall not be required to comply with Section 11B-707.7.1.

**11B-707.7.1 Visibility.** The display screen shall be visible from a point located 40 inches (1016 mm) above the center of the clear floor space in front of the machine.

**11B-707.7.1.1 Vertically mounted display screen.** Where display screens are mounted vertically or no more than 30 degrees tipped away from the viewer, the center line of the display screen and other display devices shall be no more than 52 inches (1321 mm) above the floor or ground surface.

**11B-707.7.1.2 Angle-mounted display screen.** Where display screens are mounted between 30 degrees and 60 degrees tipped away from the viewer, the center line of the display screen and other display devices shall be no more than 44 inches (1118 mm) above the floor or ground surface.

**11B-707.7.1.3 Horizontally mounted display screen.** Where display screens are mounted no less than 60 degrees and no more than 90 degrees (horizontal) tipped away from the viewer, the center line of the display screen and other display devices shall be no more than 34 inches (864 mm) above the floor or ground surface.

**11B-707.7.2 Characters.** Characters displayed on the screen shall be in a sans serif font. Characters shall be  $\frac{3}{16}$

inch (4.8 mm) high minimum based on the uppercase letter "I". Characters shall contrast with their background with either light characters on a dark background or dark characters on a light background.

**11B-707.8 Braille instructions.** Braille instructions for initiating the speech mode shall be provided. Braille shall comply with Section 11B-703.3.

**11B-707.9 Point-of-sale devices.** Point-of-sale devices shall comply with Section 11B-707.9.

**11B-707.9.1 General.** Where point-of-sale devices are provided, all devices at each location shall comply with Sections 11B-309.4, 11B-707.3 and 11B-707.7.2. In addition, point-of-sale systems that include a video touch screen or any other nontactile keypad shall be equipped with either of the following:

**11B-707.9.1.1 Tactilely discernible numerical keypad.** A tactilely discernible numerical keypad similar to a telephone keypad containing a raised dot with a dot base diameter between 1.5 mm and 1.6 mm and a height between 0.6 mm and 0.9 mm on the number 5 key that enables a visually impaired person to enter his or her own personal identification number or any other personal information necessary to process the transaction in a manner that provides the opportunity for the same degree of privacy input and output available to all individuals.

**11B-707.9.1.2 Other technology.** Other technology, such as a radio frequency identification device, fingerprint biometrics, or some other mechanism that enables a visually impaired person to access the video touch screen device with his or her personal identifier and to process his or her transaction in a manner that provides the opportunity for the same degree of privacy input and output available to all individuals. Where a video screen overlay is provided it shall be equipped with a tactilely discernible numerical keypad complying with Section 11B-707.9.1.1.

**11B-707.9.2 Point-of-sale devices at check stands and sales or service counters.** Where point-of-sale devices are provided at check stands and sales or service counters, they shall comply with Section 11B-707.9.1, and shall also comply with Sections 11B-707.2, 11B-707.3 and 11B-707.4.

## **11B-708 Two-way communication systems**

**11B-708.1 General.** Two-way communication systems shall comply with Section 11B-708.

**11B-708.2 Audible and visual indicators.** The system shall provide both audible and visual signals.

**11B-708.3 Handsets.** Handset cords, if provided, shall be 29 inches (737 mm) long minimum.

**11B-708.4 Residential dwelling unit communication systems.** Communications systems between a residential dwelling unit and a site, building, or floor entrance shall comply with Section 11B-708.4.

**11B-708.4.1 Common use or public use system interface.** The common use or public use system interface shall include the capability of supporting voice and TTY communication with the residential dwelling unit interface.

**11B-708.4.2 Residential dwelling unit interface.** The residential dwelling unit system interface shall include a telephone jack capable of supporting voice and TTY communication with the common use or public use system interface.

## DIVISION 8: SPECIAL ROOMS, SPACES, AND ELEMENTS

### 11B-801 General

**11B-801.1 Scope.** The provisions of *Division 8* shall apply where required by *Division 2* or where referenced by a requirement in this *chapter*.

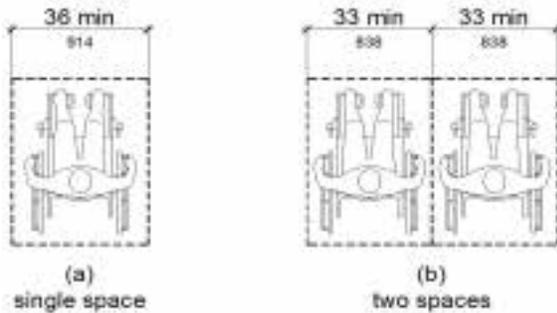
### 11B-802 Wheelchair spaces, companion seats, and designated aisle seats and semi-ambulant seats

**11B-802.1 Wheelchair spaces.** Wheelchair spaces shall comply with *Section 11B-802.1*.

**11B-802.1.1 Floor or ground surface.** The floor or ground surface of wheelchair spaces shall comply with *Section 11B-302*. Changes in level are not permitted.

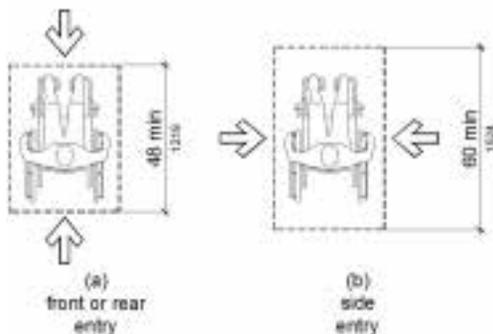
**Exception:** Slopes not steeper than 1:48 shall be permitted.

**11B-802.1.2 Width.** A single wheelchair space shall be 36 inches (914 mm) wide minimum. Where two adjacent wheelchair spaces are provided, each wheelchair space shall be 33 inches (838 mm) wide minimum.



**FIGURE 11B-802.1.2  
WIDTH OF WHEELCHAIR SPACES**

**11B-802.1.3 Depth.** Where a wheelchair space can be entered from the front or rear, the wheelchair space shall be 48 inches (1219 mm) deep minimum. Where a wheelchair space can be entered only from the side, the wheelchair space shall be 60 inches (1524 mm) deep minimum.



**FIGURE 11B-802.1.3  
DEPTH OF WHEELCHAIR SPACES**

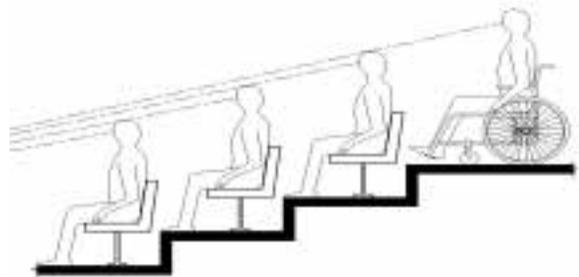
**11B-802.1.4 Approach.** Wheelchair spaces shall adjoin accessible routes. Accessible routes shall not overlap wheelchair spaces.

**11B-802.1.5 Overlap.** Wheelchair spaces shall not overlap circulation paths.

**11B-802.2 Lines of sight.** Lines of sight to the screen, performance area, or playing field for spectators in wheelchair spaces shall comply with *Section 11B-802.2*.

**11B-802.2.1 Lines of sight over seated spectators.** Where spectators are expected to remain seated during events, spectators in wheelchair spaces shall be afforded lines of sight complying with *Section 11B-802.2.1*.

**11B-802.2.1.1 Lines of sight over heads.** Where spectators are provided lines of sight over the heads of spectators seated in the first row in front of their seats, spectators seated in wheelchair spaces shall be afforded lines of sight over the heads of seated spectators in the first row in front of wheelchair spaces.



**FIGURE 11B-802.2.1.1  
LINES OF SIGHT OVER THE HEADS OF SEATED SPECTATORS**

**11B-802.2.1.2 Lines of sight between heads.** Where spectators are provided lines of sight over the shoulders and between the heads of spectators seated in the first row in front of their seats, spectators seated in wheelchair spaces shall be afforded lines of sight over the shoulders and between the heads of seated spectators in the first row in front of wheelchair spaces.

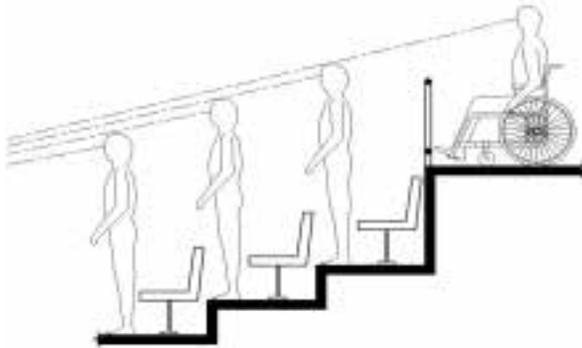


**FIGURE 11B-802.2.1.2  
LINES OF SIGHT BETWEEN THE  
HEADS OF SEATED SPECTATORS**

**11B-802.2.2 Lines of sight over standing spectators.**

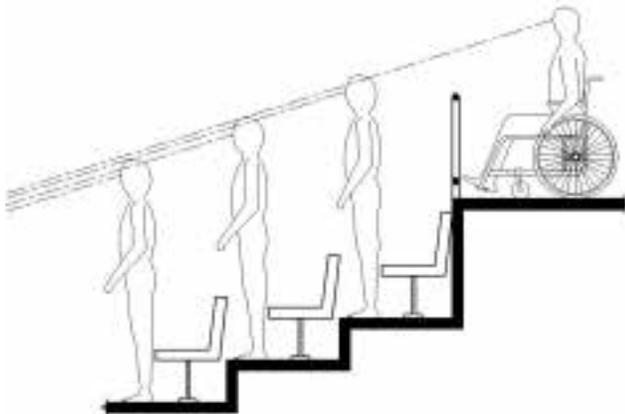
Where spectators are expected to stand during events, spectators in wheelchair spaces shall be afforded lines of sight complying with *Section 11B-802.2.2*.

**11B-802.2.2.1 Lines of sight over heads.** Where standing spectators are provided lines of sight over the heads of spectators standing in the first row in front of their seats, spectators seated in wheelchair spaces shall be afforded lines of sight over the heads of standing spectators in the first row in front of wheelchair spaces.



**FIGURE 11B-802.2.2.1  
LINES OF SIGHT OVER THE  
HEADS OF STANDING SPECTATORS**

**11B-802.2.2.2 Lines of sight between heads.** Where standing spectators are provided lines of sight over the shoulders and between the heads of spectators standing in the first row in front of their seats, spectators seated in wheelchair spaces shall be afforded lines of sight over the shoulders and between the heads of standing spectators in the first row in front of wheelchair spaces.



**FIGURE 11B-802.2.2.2  
LINES OF SIGHT BETWEEN THE  
HEADS OF STANDING SPECTATORS**

**11B-802.3 Companion seats.** Companion seats shall comply with *Section 11B-802.3*.

**11B-802.3.1 Alignment.** In row seating, companion seats shall be located to provide shoulder alignment with adjacent wheelchair spaces. The shoulder alignment point of the wheelchair space shall be measured 36 inches (914 mm) from the front of the wheelchair space. The floor surface of the companion seat shall be at the same elevation as the floor surface of the wheelchair space.

**11B-802.3.2 Type.** Companion seats shall be equivalent in size, quality, comfort, and amenities to the seating in the immediate area. Companion seats shall be permitted to be movable.

**11B-802.4 Designated aisle seats.** Designated aisle seats shall comply with *Section 11B-802.4*.

**11B-802.4.1 Armrests.** Where armrests are provided on the seating in the immediate area, folding or retractable armrests shall be provided on the aisle side of the seat.

**11B-802.4.2 Identification.** Each designated aisle seat shall be identified by a sign or marker with the *International Symbol of Accessibility* complying with *Section 11B-703.7.2.1*. Signage complying with *Section 11B-703.5*, notifying patrons of the availability of such seats shall be posted at the ticket office.

**11B-802.5 Semi-ambulant seats.** Semi-ambulant seats shall provide at least 24 inches (610 mm) clear leg space between the front of the seat to the nearest obstruction or to the back of the seat immediately in front.

**11B-803 Dressing, fitting, and locker rooms**

**11B-803.1 General.** Dressing, fitting and locker rooms shall comply with *Section 11B-803*.

**11B-803.2 Turning space.** Turning space complying with *Section 11B-304* shall be provided within the room.

**11B-803.3 Door swing.** Doors shall not swing into the room unless a turning space complying with *Section 11B-304.3* is provided beyond the arc of the door swing.

**11B-803.4 Benches.** A bench complying with *Section 11B-903* shall be provided within the room.

**11B-803.5 Coat hooks and shelves.** Coat hooks provided within the room shall be located within one of the reach ranges specified in *Section 11B-308*. Shelves shall be 40 inches (1016 mm) minimum and 48 inches (1219 mm) maximum above the finish floor or ground. Coat hooks shall not be located above the bench or other seating in the room.

**11B-803.6 Mirrors.** Mirrors shall be installed with the bottom edge of the reflecting surface 20 inches (508 mm) maximum above the finish floor or ground. Mirrors shall be full length with a reflective surface 18 inches (457 mm) wide minimum by 54 inches (1372 mm) high minimum and shall be mounted in a position affording a view to a person on the bench as well as to a person in a standing position.

**11B-804 Kitchens, kitchenettes, and wet bars.**

**11B-804.1 General.** Kitchens, kitchenettes, and wet bars shall comply with *Section 11B-804*.

**11B-804.2 Clearance.** Where a pass through kitchen is provided, clearances shall comply with *Section 11B-804.2.1*.

**11B-805.7 Built-in cabinets and work surfaces.** Built-in cabinets, counters and work surfaces shall be accessible, including: patient wardrobes, nurse's stations, administrative centers, reception desks, medicine preparation areas, laboratory work stations, equipment consoles, clean and soiled utility cabinets, and storage areas; and shall comply with Sections 11B-225 and 11B-902.

**Exceptions:**

1. Built-in wardrobes in patient bedrooms and resident sleeping rooms not required to be accessible are not required to comply with the provisions of this chapter.
2. Clinical laboratory work stations provided in a laboratory area that are in addition to the minimum number required to be accessible (5 percent of the work stations provided, but no fewer than one), are not required to comply with the provisions of Section 11B-902.

**11B-806 Transient lodging guest rooms**

**11B-806.1 General.** Transient lodging guest rooms shall comply with Section 11B-806. Guest rooms required to provide mobility features shall comply with Section 11B-806.2. Guest rooms required to provide communication features shall comply with Section 11B-806.3.

**11B-806.2 Guest rooms with mobility features.** Guest rooms required to provide mobility features shall comply with Section 11B-806.2.

**11B-806.2.1 Living and dining areas.** Living and dining areas shall be accessible.

**11B-806.2.2 Exterior spaces.** Exterior spaces, including patios, terraces and balconies, that serve the guest room shall be accessible.

**11B-806.2.3 Sleeping areas.** At least one sleeping area shall provide a 36 inch (914 mm) by 48 inch (1219 mm) minimum clear space on both sides of a bed. The clear space shall be positioned for parallel approach to the side of the bed.

**Exception:** Where a single clear floor space complying with Section 11B-305 positioned for parallel approach is provided between two beds, a clear floor or ground space shall not be required on both sides of a bed.

**11B-806.2.3.1 Personal lift device floor space.** There shall be a clear space under the bed for the use of a personal lift device. The clear space shall extend under the bed parallel to the long side and be adjacent to an accessible route. The clear space shall extend to points horizontally 30 inches (762 mm), vertically 7 inches (178 mm) and not more than 12 inches (305 mm) from the head and foot end of the bed.

**11B-806.2.4 Toilet and bathing facilities.** At least one bathroom that is provided as part of a guest room shall comply with Section 11B-603. No fewer than one water closet, one lavatory, and one bathtub or shower shall comply with applicable requirements of Sections 11B-603 through 11B-610. In addition, required roll-in shower compartments shall comply with Section 11B-608.2.2 or 11B-608.2.3. Toilet and bathing fixtures required to com-

ply with Sections 11B-603 through 11B-610 shall be permitted to be located in more than one toilet or bathing area, provided that travel between fixtures does not require travel between other parts of the guest room.

**11B-806.2.4.1 Vanity counter top space.** If vanity counter top space is provided in non-accessible guest toilet or bathing rooms, comparable vanity counter top space, in terms of size and proximity to the lavatory, shall also be provided in accessible guest toilet or bathing rooms.

**11B-806.2.5 Kitchens, kitchenettes and wet bars.** Kitchens, kitchenettes and wet bars shall comply with Section 11B-804.

**11B-806.2.6 Turning space.** Turning space complying with Section 11B-304 shall be provided within the guest room.

**11B-806.3 Guest rooms with communication features.** Guest rooms required to provide communication features shall comply with Section 11B-806.3.

**11B-806.3.1 Alarms.** Where emergency warning systems are provided, fire alarms shall comply with Section 11B-702 and carbon monoxide alarms shall comply with Chapter 4.

**11B-806.3.2 Notification devices.** Visible notification devices shall be provided to alert room occupants of incoming telephone calls and a door knock or bell. Notification devices shall not be connected to visible alarm signal appliances. Telephones shall have volume controls compatible with the telephone system and shall comply with Section 11B-704.3. Telephones shall be served by an electrical outlet complying with Section 11B-309 located within 48 inches (1219 mm) of the telephone to facilitate the use of a TTY.

**11B-807 Holding cells and housing cells**

**11B-807.1 General.** Holding cells and housing cells shall comply with Section 11B-807.

**11B-807.2 Cells with mobility features.** Cells required to provide mobility features shall comply with Section 11B-807.2.

**11B-807.2.1 Turning space.** Turning space complying with Section 11B-304 shall be provided within the cell.

**11B-807.2.2 Benches.** Where benches are provided, at least one bench shall comply with Section 11B-903.

**11B-807.2.3 Beds.** Where beds are provided, clear floor space complying with Section 11B-305 shall be provided on at least one side of the bed. The clear floor space shall be positioned for parallel approach to the side of the bed.

**11B-807.2.4 Toilet and bathing facilities.** Toilet facilities or bathing facilities that are provided as part of a cell shall comply with Section 11B-603. Where provided, no fewer than one water closet, one lavatory, and one bathtub or shower shall comply with the applicable requirements of Sections 11B-603 through 11B-610.

**11B-807.3 Cells with communication features.** Cells required to provide communication features shall comply with Section 11B-807.3.

**11B-807.3.1 Alarms.** Where audible emergency alarm systems are provided to serve the occupants of cells, visible alarms complying with *Section 11B-702* shall be provided.

**Exception:** Visible alarms shall not be required where inmates or detainees are not allowed independent means of egress.

**11B-807.3.2 Telephones.** Telephones, where provided within cells, shall have volume controls complying with *Section 11B-704.3*.

**11B-808 Courtrooms**

**11B-808.1 General.** Courtrooms shall comply with *Section 11B-808*.

**11B-808.2 Turning space.** Where provided, areas that are raised or depressed and accessed by ramps or platform lifts with entry ramps shall provide unobstructed turning space complying with *Section 11B-304*.

**11B-808.3 Clear floor space.** Each jury box and witness stand shall have, within its defined area, clear floor space complying with *Section 11B-305*.

**Exception:** In alterations, wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to be located outside these spaces where ramp or platform lift access poses a hazard by restricting or projecting into a means of egress required by the appropriate administrative authority.

**11B-808.4 Judges' benches and courtroom stations.** Judges' benches, clerks' stations, bailiffs' stations, deputy clerks' stations, court reporters' stations and litigants' and counsel stations shall comply with *Section 11B-902*.

**11B-809 Residential dwelling units**

**11B-809.1 General.** When located within public housing facilities, residential dwelling units shall comply with *Section 11B-809*. Residential dwelling units required to provide mobility features shall comply with *Sections 11B-809.2* through *11B-809.4*. Residential dwelling units required to provide communication features shall comply with *Section 11B-809.5*.

**11B-809.2 Accessible routes.** Accessible routes complying with *Division 4* shall be provided within residential dwelling units in accordance with *Section 11B-809.2*.

**Exception:** Accessible routes shall not be required to or within unfinished attics or unfinished basements.

**11B-809.2.1 Location.** At least one accessible route shall connect all spaces and elements which are a part of the residential dwelling unit. Where only one accessible route is provided, it shall not pass through bathrooms, closets, or similar spaces.

**11B-809.2.2 Turning space.** All rooms served by an accessible route shall provide a turning space complying with *Section 11B-304*.

**Exception:** Turning space shall not be required in exterior spaces 30 inches (762 mm) maximum in depth or width.

**11B-809.3 Kitchen.** Where a kitchen is provided, it shall comply with *Section 11B-804*.

**11B-809.4 Toilet facilities and bathing facilities.** At least one bathroom shall comply with *Section 11B-603*. No fewer than one of each type of fixture provided within the bathroom shall comply with applicable requirements of *Sections 11B-603* through *11B-610*. Toilet and bathing fixtures required to comply with *Sections 11B-603* through *11B-610* shall be located in the same bathroom or toilet and bathing area, such that travel between fixtures does not require travel between other parts of the residential dwelling unit.

**11B-809.4.1 Subsequent bathrooms.** In residential dwelling units with more than one bathroom, when a bathtub is installed in the first bathroom in compliance with *Section 11B-809.4* and a shower compartment is provided in a subsequent bathroom, at least one shower compartment shall comply with *Section 11B-608*.

**11B-809.5 Residential dwelling units with communication features.** Residential dwelling units required to provide communication features shall comply with *Section 11B-809.5*.

**11B-809.5.1 Building fire alarm system.** Where a building fire alarm system is provided, the system wiring shall be extended to a point within the residential dwelling unit in the vicinity of the residential dwelling unit smoke detection system.

**11B-809.5.1.1 Alarm appliances.** Where alarm appliances are provided within a residential dwelling unit as part of the building fire alarm system, they shall comply with *Chapter 9, Section 907.5.2.3.4*.

**11B-809.5.1.2 Activation.** All visible alarm appliances provided within the residential dwelling unit for building fire alarm notification shall be activated upon activation of the building fire alarm in the portion of the building containing the residential dwelling unit.

**11B-809.5.2 Residential dwelling unit smoke detection system and carbon monoxide detection system.** Residential dwelling unit smoke detection systems shall comply with *Chapter 9, Section 907.2.11. Residential dwelling unit carbon monoxide detection systems shall comply with Chapter 4.*

**11B-809.5.2.1 Activation.** All visible alarm appliances provided within the residential dwelling unit for smoke detection notification shall be activated upon smoke detection. All visible alarm appliances provided within the residential dwelling unit for carbon monoxide detection notification shall be activated upon carbon monoxide detection.

**11B-809.5.3 Interconnection.** The same visible alarm appliances shall be permitted to provide notification of residential dwelling unit smoke detection, building fire alarm activation, and carbon monoxide detection.

**11B-809.5.4 Prohibited use.** Visible alarm appliances used to indicate residential dwelling unit smoke detection, carbon monoxide detection, or building fire alarm activation shall not be used for any other purpose within the residential dwelling unit.

**11B-809.5.5 Residential dwelling unit primary entrance.** Communication features shall be provided at the residential dwelling unit primary entrance complying with *Section 11B-809.5.5*.

**11B-809.5.5.1 Notification.** A hard-wired electric doorbell shall be provided. A button or switch shall be provided outside the residential dwelling unit primary entrance. Activation of the button or switch shall initiate an audible tone and visible signal within the residential dwelling unit. Where visible doorbell signals are located in sleeping areas, they shall have controls to deactivate the signal.

**11B-809.5.5.2 Identification.** A means for visually identifying a visitor without opening the residential dwelling unit entry door shall be provided and shall allow for a minimum 180 degree range of view.

**11B-809.5.6 Site, building, or floor entrance.** Where a system, including a closed-circuit system, permitting voice communication between a visitor and the occupant of the residential dwelling unit is provided, the system shall comply with *Section 11B-708.4*.

**11B-810 Transportation facilities**

**11B-810.1 General.** Transportation facilities shall comply with *Section 11B-810*.

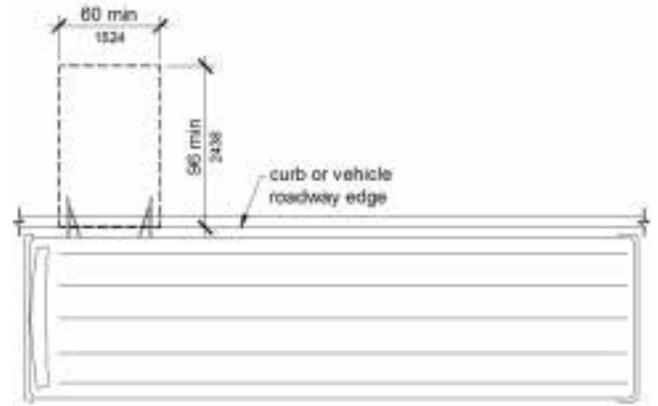
**11B-810.1.1 Vehicle boarding.** Stations shall not be designed or constructed so as to require persons with disabilities to board or alight from a vehicle at a location other than one used by the general public.

**11B-810.1.2 Baggage systems.** Baggage check-in and retrieval systems shall be on an accessible route complying with *Section 11B-402* and shall have space immediately adjacent complying with *Section 11B-302*.

**11B-810.2 Bus boarding and alighting areas.** Bus boarding and alighting areas shall comply with *Section 11B-810.2*.

**11B-810.2.1 Surface.** Bus stop boarding and alighting areas shall have a firm, stable surface.

**11B-810.2.2 Dimensions.** Bus stop boarding and alighting areas shall provide a clear length of 96 inches (2438 mm) minimum, measured perpendicular to the curb or vehicle roadway edge, and a clear width of 60 inches (1524 mm) minimum, measured parallel to the vehicle roadway.

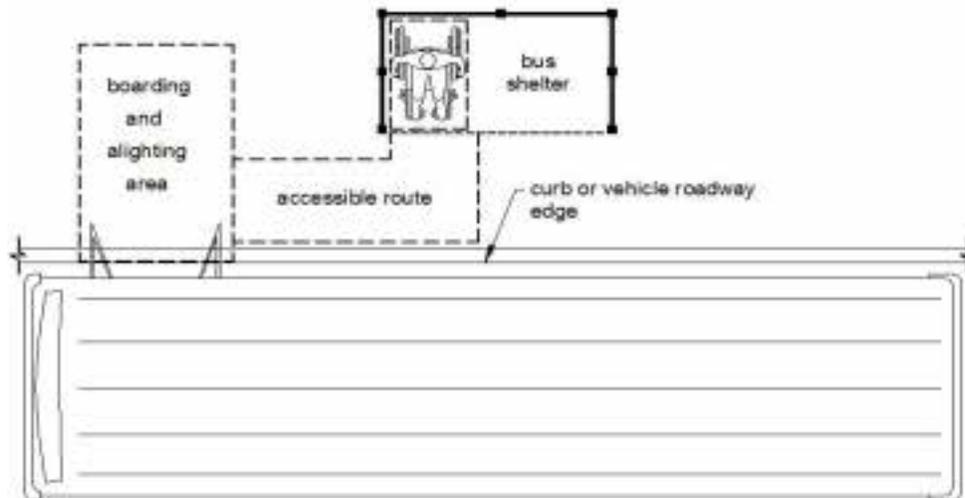


**FIGURE 11B-810.2.2 DIMENSIONS OF BUS BOARDING AND ALIGHTING AREAS**

**11B-810.2.3 Connection.** Bus stop boarding and alighting areas shall be connected to streets, sidewalks, or pedestrian paths by an accessible route complying with *Section 11B-402*. Newly constructed bus stop boarding and alighting areas shall provide a detectable transition between the boarding/alighting area and the roadway; the detectable transition shall consist of a curb with the face sloped at 35 degrees maximum from vertical or detectable warnings complying with *Sections 11B-705.1.1 and 11B-705.1.2.4*.

**11B-810.2.4 Slope.** Parallel to the roadway, the slope of the bus stop boarding and alighting area shall be the same as the roadway, to the maximum extent practicable. Perpendicular to the roadway, the slope of the bus stop boarding and alighting area shall not be steeper than 1:48.

**11B-810.3 Bus shelters.** Bus shelters shall provide a minimum clear floor or ground space complying with *Section 11B-305* entirely within the shelter. Bus shelters shall be connected by an accessible route complying with *Section 11B-402* to a boarding and alighting area complying with *Section 11B-810.2*.



**FIGURE 11B-810.3 BUS SHELTERS**

**11B-810.4 Bus signs.** Bus route identification signs shall comply with *Sections 11B-703.5.1 through 11B-703.5.4*, and *Sections 11B-703.5.7 and 11B-703.5.8*. In addition, to the maximum extent practicable, bus route identification signs shall comply with *Section 11B-703.5.5*.

**Exception:** Bus schedules, timetables and maps that are posted at the bus stop or bus bay shall not be required to comply.

**11B-810.5 Rail platforms.** Rail platforms shall comply with *Section 11B-810.5*.

**11B-810.5.1 Slope.** Rail platforms shall not exceed a slope of 1:48 in all directions.

**Exception:** Where platforms serve vehicles operating on existing track or track laid in existing roadway, the slope of the platform parallel to the track shall be permitted to be equal to the slope (grade) of the roadway or existing track.

**11B-810.5.2 Detectable warnings.** Platform boarding edges not protected by platform screens or guards shall have detectable warnings complying with *Section 11B-705* along the full length of the public use area of the platform.

**11B-810.5.3 Platform and vehicle floor coordination.** Station platforms shall be positioned to coordinate with vehicles in accordance with the applicable requirements of 36 CFR Part 1192. Low-level platforms shall be 8 inches (203 mm) minimum above top of rail.

**Exception:** Where vehicles are boarded from sidewalks or street-level, low-level platforms shall be permitted to be less than 8 inches (203 mm).

**11B-810.6 Rail station signs.** Rail station signs shall comply with *Section 11B-810.6*.

**Exception:** Signs shall not be required to comply with *Sections 11B-810.6.1 and 11B-810.6.2* where audible signs are remotely transmitted to hand-held receivers, or are user- or proximity-actuated.

**11B-810.6.1 Entrances.** Where signs identify a station or its entrance, at least one sign at each entrance shall comply with *Section 11B-703.2* and shall be placed in uniform locations to the maximum extent practicable. Where signs identify a station that has no defined entrance, at least one sign shall comply with *Section 11B-703.2* and shall be placed in a central location.

**11B-810.6.2 Routes and destinations.** Lists of stations, routes and destinations served by the station which are located on boarding areas, platforms, or mezzanines shall comply with *Section 11B-703.5*. At least one tactile sign identifying the specific station and complying with *Section 11B-703.2* shall be provided on each platform or boarding area. Signs covered by this requirement shall, to the maximum extent practicable, be placed in uniform locations within the system.

**Exception:** Where sign space is limited, characters shall not be required to exceed 3 inches (76 mm).

**11B-810.6.3 Station names.** Stations covered by this section shall have identification signs complying with *Section 11B-703.5*. Signs shall be clearly visible and within the

sight lines of standing and sitting passengers from within the vehicle on both sides when not obstructed by another vehicle.

**11B-810.7 Public address systems.** Where public address systems convey audible information to the public, the same or equivalent information shall be provided in a visual format.

**11B-810.8 Clocks.** Where clocks are provided for use by the public, the clock face shall be uncluttered so that its elements are clearly visible. Hands, numerals and digits shall contrast with the background either light-on-dark or dark-on-light. Where clocks are installed overhead, numerals and digits shall comply with *Section 11B-703.5*.

**11B-810.9 Escalators.** Where provided, escalators shall comply with *Sections 6.1.3.5.6 and 6.1.3.6.5 of ASME A17.1* and shall have a clear width of 32 inches (813 mm) minimum.

**Exception:** Existing escalators in key stations shall not be required to comply with *Section 11B-810.9*.

**11B-810.10 Track crossings.** Where a circulation path serving boarding platforms crosses tracks, it shall comply with *Section 11B-402*.

**Exception:** Openings for wheel flanges shall be permitted to be 2½ inches (64 mm) maximum.



FIGURE 11B-810.10 (EXCEPTION) TRACK CROSSINGS

**11B-811 Storage**

**11B-811.1 General.** Storage shall comply with *Section 11B-811*.

**11B-811.2 Clear floor or ground space.** A clear floor or ground space complying with *Section 11B-305* shall be provided.

**11B-811.3 Height.** Storage elements shall comply with at least one of the reach ranges specified in *Section 11B-308*.

**11B-811.4 Operable parts.** Operable parts shall comply with *Section 11B-309*.

**11B-1008.2.3 Water play components.** Accessible routes serving water play components shall be permitted to use the exceptions in *Section 11B-1008.2.3*.

**Exceptions:**

1. Where the surface of the accessible route, clear floor or ground spaces, or turning spaces serving water play components is submerged, compliance with *Sections 11B-302, 11B-403.3, 11B-405.2, 11B-405.3, and 11B-1008.2.6* shall not be required.
2. Transfer systems complying with *Section 11B-1008.3* shall be permitted to connect elevated play components in water.

**11B-1008.2.4 Clear width.** Accessible routes connecting play components shall provide a clear width complying with *Section 11B-1008.2.4*.

**11B-1008.2.4.1 Ground level.** At ground level, the clear width of accessible routes shall be 60 inches (1524 mm) minimum.

**Exceptions:**

1. In play areas less than 1000 square feet (93 m<sup>2</sup>), the clear width of accessible routes shall be permitted to be 44 inches (1118 mm) minimum, if at least one turning space complying with *Section 11B-304.3* is provided where the restricted accessible route exceeds 30 feet (9144 mm) in length.
2. The clear width of accessible routes shall be permitted to be 36 inches (914 mm) minimum for a distance of 60 inches (1524 mm) maximum provided that multiple reduced width segments are separated by segments that are 60 inches (1524 mm) wide minimum and 60 inches (1524 mm) long minimum.

**11B-1008.2.4.2 Elevated.** The clear width of accessible routes connecting elevated play components shall be 36 inches (914 mm) minimum.

**Exceptions:**

1. The clear width of accessible routes connecting elevated play components shall be permitted to be reduced to 32 inches (813 mm) minimum for a distance of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1219 mm) long minimum and 36 inches (914 mm) wide minimum.
2. The clear width of transfer systems connecting elevated play components shall be permitted to be 24 inches (610 mm) minimum.

**11B-1008.2.5 Ramps.** Within play areas, ramps connecting ground level play components and ramps connecting elevated play components shall comply with *Section 11B-1008.2.5*.

**11B-1008.2.5.1 Ground level.** Ramp runs connecting ground level play components shall have a running slope not steeper than 1:16.

**11B-1008.2.5.2 Elevated.** The rise for any ramp run connecting elevated play components shall be 12 inches (305 mm) maximum.

**11B-1008.2.5.3 Handrails.** Where required on ramps serving play components, the handrails shall comply with *Section 11B-505* except as modified by *Section 11B-1008.2.5.3*.

**Exceptions:**

1. Handrails shall not be required on ramps located within ground level use zones.
2. Handrail extensions shall not be required.

**11B-1008.2.5.3.1 Handrail gripping surfaces.** Handrail gripping surfaces with a circular cross section shall have an outside diameter of 0.95 inch (24 mm) minimum and 1.55 inches (39 mm) maximum. Where the shape of the gripping surface is non-circular, the handrail shall provide an equivalent gripping surface.

**11B-1008.2.5.3.2 Handrail height.** The top of handrail gripping surfaces shall be 20 inches (508 mm) minimum and 28 inches (711 mm) maximum above the ramp surface.

**11B-1008.2.6 Ground surfaces.** Ground surfaces on accessible routes, clear floor or ground spaces, and turning spaces shall comply with *Section 11B-1008.2.6*.

**11B-1008.2.6.1 Accessibility.** Ground surfaces shall comply with ASTM F 1951. Ground surfaces shall be inspected and maintained regularly and frequently to ensure continued compliance with ASTM F 1951.

**11B-1008.2.6.2 Use zones.** Ground surfaces located within use zones shall comply with ASTM F 1292 (1999 edition or 2004 edition).

**11B-1008.3 Transfer systems.** Where transfer systems are provided to connect to elevated play components, transfer systems shall comply with *Section 11B-1008.3*.

**11B-1008.3.1 Transfer platforms.** Transfer platforms shall be provided where transfer is intended from wheelchairs or other mobility aids. Transfer platforms shall comply with *Section 11B-1008.3.1*.

**11B-1008.3.1.1 Size.** Transfer platforms shall have level surfaces 14 inches (356 mm) deep minimum and 24 inches (610 mm) wide minimum.

**11B-1008.3.1.2 Height.** The height of transfer platforms shall be 11 inches (279 mm) minimum and 18 inches (457 mm) maximum measured to the top of the surface from the ground or floor surface.

**11B-1008.3.1.3 Transfer space.** A transfer space complying with *Sections 11B-305.2 and 11B-305.3* shall be provided adjacent to the transfer platform. The 48 inch (1219 mm) long minimum dimension of the transfer space shall be centered on and parallel to the 24 inch (610 mm) long minimum side of the transfer platform. The side of the transfer platform serving the transfer space shall be unobstructed.

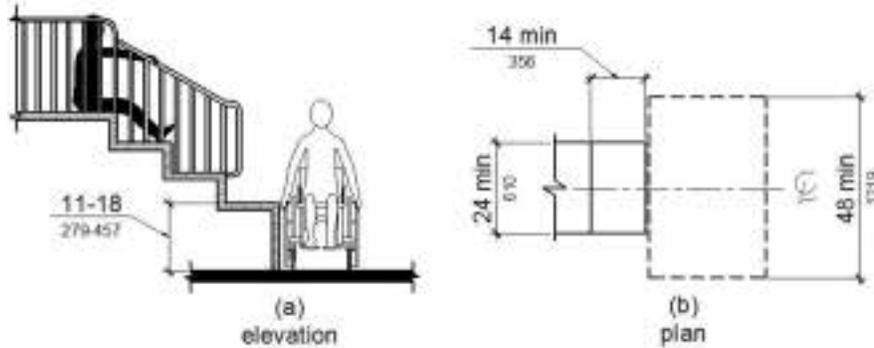


FIGURE 11B-1008.3.1  
TRANSFER PLATFORMS

**11B-1008.3.1.4 Transfer supports.** At least one means of support for transferring shall be provided.

**11B-1008.3.2 Transfer steps.** Transfer steps shall be provided where movement is intended from transfer platforms to levels with elevated play components required to be on accessible routes. Transfer steps shall comply with Section 11B-1008.3.2.

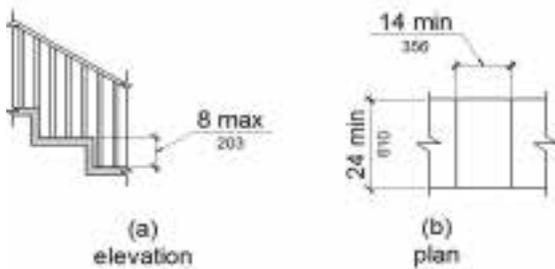


FIGURE 11B-1008.3.2  
TRANSFER STEPS

**11B-1008.3.2.1 Size.** Transfer steps shall have level surfaces 14 inches (356 mm) deep minimum and 24 inches (610 mm) wide minimum.

**11B-1008.3.2.2 Height.** Each transfer step shall be 8 inches (203 mm) high maximum.

**11B-1008.3.2.3 Transfer supports.** At least one means of support for transferring shall be provided.

**11B-1008.3.2.4 Contrasting stripe.** Striping complying with Section 11B-504.4.1 shall be provided at each transfer step.

**11B-1008.4 Play components.** Ground level play components on accessible routes and elevated play components connected by ramps shall comply with Section 11B-1008.4.

**11B-1008.4.1 Turning space.** At least one turning space complying with Section 11B-304 shall be provided on the same level as play components. Where swings are provided, the turning space shall be located immediately adjacent to the swing.

**11B-1008.4.2 Clear floor or ground space.** Clear floor or ground space complying with Sections 11B-305.2 and 11B-305.3 shall be provided at play components.

**11B-1008.4.3 Play tables.** Where play tables are provided, knee clearance 24 inches (610 mm) high minimum, 17 inches deep (432 mm) minimum, and 30 inches (762 mm) wide minimum shall be provided. The tops of rims, curbs, or other obstructions shall be 31 inches (787 mm) high maximum.

**Exception:** Play tables designed and constructed primarily for children 5 years and younger shall not be required to provide knee clearance where the clear floor or ground space required by Section 11B-1008.4.2 is arranged for a parallel approach.

**11B-1008.4.4 Entry points and seats.** Where play components require transfer to entry points or seats, the entry points or seats shall be 11 inches (279 mm) minimum and 24 inches (610 mm) maximum from the clear floor or ground space.

**Exception:** Entry points of slides shall not be required to comply with Section 11B-1008.4.4.

**11B-1008.4.5 Transfer supports.** Where play components require transfer to entry points or seats, at least one means of support for transferring shall be provided.

**11B-1009 Swimming pools, wading pools, and spas**

**11B-1009.1 General.** Where provided, pool lifts, sloped entries, transfer walls, transfer systems, and pool stairs shall comply with Section 11B-1009.

**11B-1009.2 Pool lifts.** Pool lifts shall comply with Section 11B-1009.2.

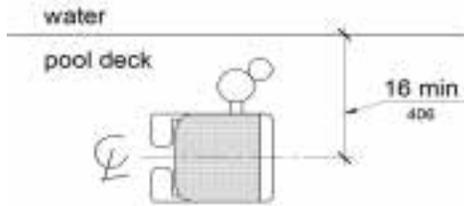
**11B-1009.2.1 Pool lift location.** Pool lifts shall be located where the water level is 36 inches (914 mm) minimum and 48 inches (1219 mm) maximum.

**Exceptions:**

1. Where the entire pool depth is less than 36 inches (914 mm) or greater than 48 inches (1219 mm), compliance with Section 11B-1009.2.1 shall not be required.
2. Where multiple pool lift locations are provided, no more than one pool lift shall be required to be located in an area where the water level is 48 inches (1219 mm) maximum.

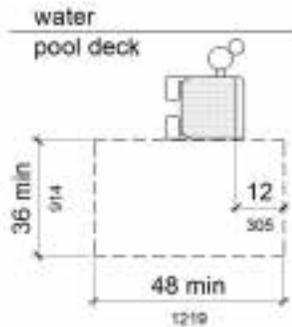
**11B-1009.2.2 Seat location.** In the raised position, the centerline of the seat shall be located over the deck and 16 inches (406 mm) minimum from the edge of the pool. The

deck surface between the centerline of the seat and the pool edge shall have a slope not steeper than 1:48.



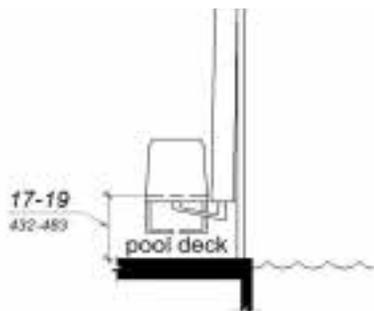
**FIGURE 11B-1009.2.2**  
**POOL LIFT SEAT LOCATION**

**11B-1009.2.3 Clear deck space.** On the side of the seat opposite the water, a clear deck space shall be provided parallel with the seat. The space shall be 36 inches (914 mm) wide minimum and shall extend forward 48 inches (1219 mm) minimum from a line located 12 inches (305 mm) behind the rear edge of the seat. The clear deck space shall have a slope not steeper than 1:48.



**FIGURE 11B-1009.2.3**  
**CLEAR DECK SPACE AT POOL LIFTS**

**11B-1009.2.4 Seat.** The seat shall be rigid and shall have a back support that is at least 12 inches (305 mm) tall. The height of the lift seat shall be designed to allow a stop at 17 inches (432 mm) minimum to 19 inches (483 mm) maximum measured from the deck to the top of the seat surface when in the raised (load) position. The seat shall have a restraint for the use of the occupant with operable parts complying with Section 11B-309.



**FIGURE 11B-1009.2.4**  
**POOL LIFT SEAT HEIGHT**

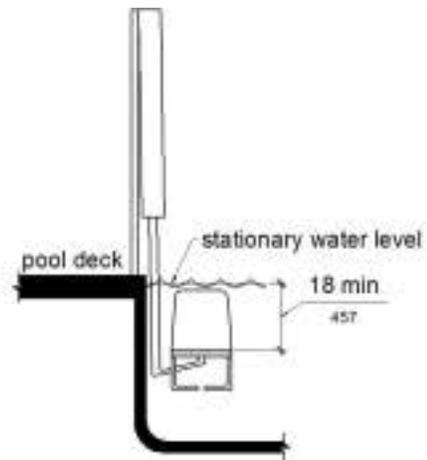
**11B-1009.2.5 Seat width.** The seat shall be 16 inches (406 mm) wide minimum.

**11B-1009.2.6 Footrests and armrests.** Footrests shall be provided and shall move with the seat. The seat shall have two armrests. The armrest positioned opposite the water shall be removable or shall fold clear of the seat when the seat is in the raised (load) position.

**Exception:** Footrests shall not be required on pool lifts provided in spas.

**11B-1009.2.7 Operation.** The lift shall be capable of unassisted operation from both the deck and water levels. Controls and operating mechanisms shall be unobstructed when the lift is in use and shall comply with Section 11B-309.4. The lift shall be stable and not permit unintended movement when a person is getting into or out of the seat.

**11B-1009.2.8 Submerged depth.** The lift shall be designed so that the seat will submerge to a water depth of 18 inches (457 mm) minimum below the stationary water level.



**FIGURE 11B-1009.2.8**  
**POOL LIFT SUBMERGED DEPTH**

**11B-1009.2.9 Lifting capacity.** Single person pool lifts shall have a weight capacity of 300 pounds (136 kg) minimum and be capable of sustaining a static load of at least one and a half times the rated load.

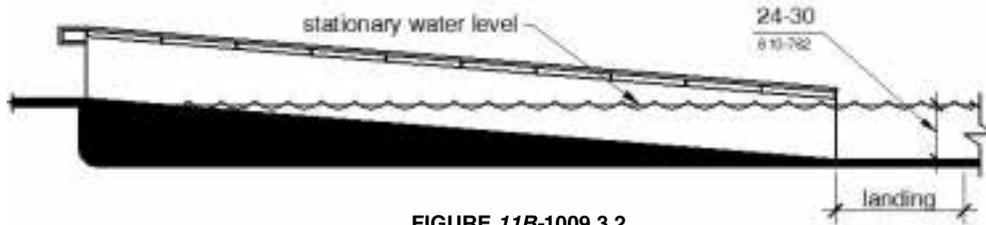
**11B-1009.3 Sloped entries.** Sloped entries shall comply with Section 11B-1009.3.

**11B-1009.3.1 Sloped entries.** Sloped entries shall comply with Division 4 except as modified in Sections 11B-1009.3.1 through 11B-1009.3.3.

**Exception:** Where sloped entries are provided, the surfaces shall not be required to be slip resistant.

**11B-1009.3.2 Submerged depth.** Sloped entries shall extend to a depth of 24 inches (610 mm) minimum and 30 inches (762 mm) maximum below the stationary water level. Where landings are required by Section 11B-405.7, at least one landing shall be located 24 inches (610 mm) minimum and 30 inches (762 mm) maximum below the stationary water level.

**Exception:** In wading pools, the sloped entry and landings, if provided, shall extend to the deepest part of the wading pool.

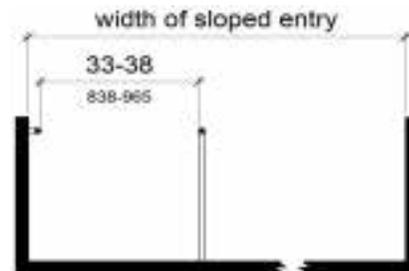


**FIGURE 11B-1009.3.2**  
**SLOPED ENTRY SUBMERGED DEPTH**

**11B-1009.3.3 Handrails.** At least two handrails complying with *Section 11B-505* shall be provided on the sloped entry. The clear width between required handrails shall be 33 inches (838 mm) minimum and 38 inches (965 mm) maximum.

**Exceptions:**

1. Handrail extensions specified by *Section 11B-505.10.1* shall not be required at the bottom landing serving a sloped entry.
2. Where a sloped entry is provided for wave action pools, leisure rivers, sand bottom pools, and other pools where user access is limited to one area, the handrails shall not be required to comply with the clear width requirements of *Section 11B-1009.3.3*.
3. Sloped entries in wading pools shall not be required to provide handrails complying with *Section 11B-1009.3.3*. If provided, handrails on sloped entries in wading pools shall not be required to comply with *Section 11B-505*.



**FIGURE 11B-1009.3.3**  
**HANDRAILS FOR SLOPED ENTRY**

**11B-1009.4 Transfer walls.** Transfer walls shall comply with *Section 11B-1009.4*.

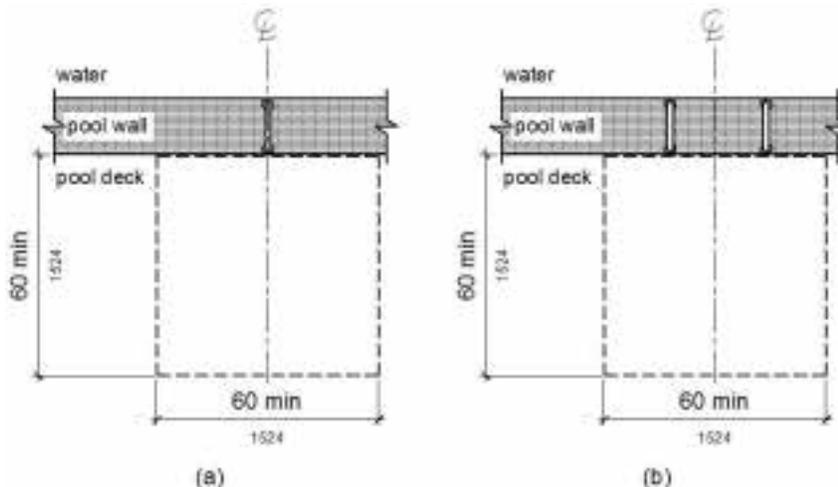
**11B-1009.4.1 Clear deck space.** A clear deck space of 60 inches (1524 mm) minimum by 60 inches (1524 mm) minimum with a slope not steeper than 1:48 shall be provided at the base of the transfer wall. Where one grab bar is provided, the clear deck space shall be centered on the grab bar. Where two grab bars are provided, the clear deck space shall be centered on the clearance between the grab bars.

**11B-1009.4.2 Height.** The height of the transfer wall shall be 16 inches (406 mm) minimum and 19 inches (483 mm) maximum measured from the deck.

**11B-1009.4.3 Wall depth and length.** The depth of the transfer wall shall be 12 inches (305 mm) minimum and 16 inches (406 mm) maximum. The length of the transfer wall shall be 60 inches (1524 mm) minimum and shall be centered on the clear deck space.



**FIGURE 11B-1009.4.2**  
**TRANSFER WALL HEIGHT**



**FIGURE 11B-1009.4.1**  
**CLEAR DECK SPACE AT TRANSFER WALLS**

## CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE CHAPTER 12 – INTERIOR ENVIRONMENT

(Matrix Adoption Tables are non-regulatory, intended only as an aid to the user.

See Chapter 1 for state agency authority and building applications.)

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
<i>Adopt entire chapter</i>							X	X												
<i>Adopt entire chapter as amended (amended sections listed below)</i>	X		X	X					X	X	X	X								
<i>Adopt only those sections that are listed below</i>		X																X		
<i>Chapter / Section</i>																				
1203.1									X	X	X	X								
1203.1.1																			X	
1203.3.2																			X	
1203.4			X	X																
1203.4.2.1			X	X																
1203.5		X	X	X																
1204.1			X	X																
1204.1 w/Excs/			X						X	X	X	X								
1205.1			X	X																
1205.6	X																			
1206		X																		
1207.1			X	X																
1207.2			X	X																
1207.3			X	X																
1207.4			X	X																
1208		X																		
1208.1			X																	
1208.2									X	X	X	X								
1208.2.1									X	X	X	X								
1208.4			X																	
1209		X																		
1209.1.1																			X	
1210.1			X	X																
1211-1211.6			X	X																
1212			X	X																
1224									X											
1225										X										
1226											X									
1227												X								
1230													X							
1231													X							

*The Office of the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures regulated by other state agencies pursuant to Section 111.*



**1203.5 Other ventilation and exhaust systems.** Ventilation and exhaust systems for occupancies and operations involving flammable or combustible hazards or other contaminant sources as covered in the *California Mechanical Code* or the *California Fire Code* shall be provided as required by both codes.

**SECTION 1204  
TEMPERATURE CONTROL**

**1204.1 Equipment and systems.** Interior spaces intended for human occupancy shall be provided with active or passive space-heating systems capable of maintaining an indoor temperature of not less than 68°F (20°C) at a point 3 feet (914 mm) above the floor on the design heating day.

**Exceptions:**

1. Space heating systems are not required for interior spaces where the primary purpose of the space is not associated with human comfort.
2. *[HCD 1] For limited-density owner-built rural dwellings, a heating facility or appliance shall be installed in each dwelling subject to the provisions of Subchapter 1, Chapter 1, Title 25, California Code of Regulations, commencing with Section 74; however, there shall be no specified requirement for heating capacity or temperature maintenance. The use of solid-fuel or solar-heating devices shall be deemed as complying with the requirements of this section. If nonrenewable fuel is used in these dwellings, rooms so heated shall meet current installation standards.*
3. *[OSHPD 1, 2, 3 & 4] Space heating systems shall comply with the requirements of the California Mechanical Code.*
4. *[HCD 1] When a passive solar energy collector is designed as a conditioned area it shall comply with the California Energy Code, Title 24, Part 6. Non-conditioned passive solar energy collectors are exempt from Title 24, Part 6.*

**SECTION 1205  
LIGHTING**

**1205.1 General.** Every space intended for human occupancy shall be provided with natural light by means of exterior glazed openings in accordance with Section 1205.2 or shall be provided with artificial light in accordance with Section 1205.3. Exterior glazed openings shall open directly onto a public way or onto a yard or court in accordance with Section 1206.

*[HCD 1] Glazed openings may open into a passive solar energy collector provided the area of exterior glazed openings in the passive solar energy collector is increased to compensate for the area required by the interior space.*

**1205.2 Natural light.** The minimum net glazed area shall be not less than 8 percent of the floor area of the room served.

**1205.2.1 Adjoining spaces.** For the purpose of natural lighting, any room is permitted to be considered as a portion of an adjoining room where one-half of the area of the common wall is open and unobstructed and provides an opening of not less than one-tenth of the floor area of the interior room or 25 square feet (2.32 m<sup>2</sup>), whichever is greater.

**Exception:** Openings required for natural light shall be permitted to open into a sunroom with thermal isolation or a patio cover where the common wall provides a glazed area of not less than one-tenth of the floor area of the interior room or 20 square feet (1.86 m<sup>2</sup>), whichever is greater.

**1205.2.2 Exterior openings.** Exterior openings required by Section 1205.2 for natural light shall open directly onto a public way, yard or court, as set forth in Section 1206.

**Exceptions:**

1. Required exterior openings are permitted to open into a roofed porch where the porch:
  - 1.1. Abuts a public way, yard or court;
  - 1.2. Has a ceiling height of not less than 7 feet (2134 mm); and
  - 1.3. Has a longer side at least 65 percent open and unobstructed.
2. Skylights are not required to open directly onto a public way, yard or court.

**1205.3 Artificial light.** Artificial light shall be provided that is adequate to provide an average illumination of 10 footcandles (107 lux) over the area of the room at a height of 30 inches (762 mm) above the floor level.

**1205.4 Stairway illumination.** Stairways within dwelling units and exterior stairways serving a dwelling unit shall have an illumination level on tread runs of not less than 1 footcandle (11 lux). Stairs in other occupancies shall be governed by Chapter 10.

**1205.4.1 Controls.** The control for activation of the required stairway lighting shall be in accordance with the *California Electrical Code*.

**1205.5 Emergency egress lighting.** The means of egress shall be illuminated in accordance with Section 1006.1.

**1205.6 Campus lighting for parking facilities and primary walkways at California state universities, colleges and community colleges.** Artificial light shall be provided for parking facilities and primary walkways at California State Universities, colleges and community colleges in accordance with provisions of this subsection. This subsection shall not apply to the University of California unless the Regents of the University of California, by resolution, make it applicable.

**1205.6.1 Lighting requirements.** Based on the recommendations of the most current edition of the Illumination Engineering Society lighting handbook, the following lighting standards shall be used for all new construction of open parking facilities, covered parking facilities and primary walkways:

1. Open and covered parking facilities.
  - 1.1. Medium-level activity usage when medium usage is present.
  - 1.2. High-level activity usage when high usage is present.
2. Primary campus walkways.
  - 2.1. Medium-level activity usage when medium usage is present.

2.2. *High-level activity usage when high usage is present.*

**SECTION 1206  
YARDS OR COURTS**

**1206.1 General.** This section shall apply to yards and courts adjacent to exterior openings that provide natural light or ventilation. Such yards and courts shall be on the same lot as the building.

**1206.2 Yards.** Yards shall be not less than 3 feet (914 mm) in width for buildings two stories or less above grade plane. For buildings more than two stories above grade plane, the minimum width of the yard shall be increased at the rate of 1 foot (305 mm) for each additional story. For buildings exceeding 14 stories above grade plane, the required width of the yard shall be computed on the basis of 14 stories above grade plane.

**1206.3 Courts.** Courts shall be not less than 3 feet (914 mm) in width. Courts having windows opening on opposite sides shall be not less than 6 feet (1829 mm) in width. Courts shall be not less than 10 feet (3048 mm) in length unless bounded on one end by a public way or yard. For buildings more than two stories above grade plane, the court shall be increased 1 foot (305 mm) in width and 2 feet (610 mm) in length for each additional story. For buildings exceeding 14 stories above grade plane, the required dimensions shall be computed on the basis of 14 stories above grade plane.

**1206.3.1 Court access.** Access shall be provided to the bottom of courts for cleaning purposes.

**1206.3.2 Air intake.** Courts more than two stories in height shall be provided with a horizontal air intake at the bottom not less than 10 square feet (0.93 m<sup>2</sup>) in area and leading to the exterior of the building unless abutting a yard or public way.

**1206.3.3 Court drainage.** The bottom of every court shall be properly graded and drained to a public sewer or other approved disposal system complying with the *California Plumbing Code*.

**SECTION 1207  
SOUND TRANSMISSION**

**1207.1 Scope.** This section shall apply to common interior walls, partitions and floor/ceiling assemblies between adjacent dwelling units and sleeping units or between dwelling units and sleeping units and adjacent public areas such as halls, corridors, stairs or service areas.

**1207.2 Air-borne sound.** Walls, partitions and floor/ceiling assemblies separating dwelling units and sleeping units from each other or from public or service areas shall have a sound transmission class (STC) of not less than 50 (45 if field tested) for air-borne noise when tested in accordance with ASTM E 90. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings.

> This requirement shall not apply to entrance doors; however, such doors shall be tight fitting to the frame and sill.

**1207.2.1 Masonry.** The sound transmission class of concrete masonry and clay masonry assemblies shall be calcu-

lated in accordance with TMS 0302 or determined through testing in accordance with ASTM E 90.

**1207.3 Structure-borne sound.** Floor/ceiling assemblies between dwelling units and sleeping units or between a dwelling unit or sleeping unit and a public or service area within the structure shall have an impact insulation class (IIC) rating of not less than 50 (45 if field tested) when tested in accordance with ASTM E 492.

*Exception: Impact sound insulation is not required for floor-ceiling assemblies over nonhabitable rooms or spaces not designed to be occupied, such as garages, mechanical rooms or storage areas.*

**1207.4 Allowable interior noise levels.** Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either the day-night average sound level (Ldn) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan.

**SECTION 1208  
INTERIOR SPACE DIMENSIONS**

**1208.1 Minimum room widths.** Habitable spaces, other than a kitchen, shall be not less than 7 feet (2134 mm) in any plan dimension. Kitchens shall have a clear passageway of not less than 3 feet (914 mm) between counter fronts and appliances or counter fronts and walls.

*[HCD 1] For limited-density owner-built rural dwellings, there shall be no requirements for room dimensions, provided there is adequate light and ventilation and adequate means of egress.*

**1208.2 Minimum ceiling heights.** Occupiable spaces, habitable spaces and corridors shall have a ceiling height of not less than 7 feet 6 inches (2286 mm). Bathrooms, toilet rooms, kitchens, storage rooms and laundry rooms shall be permitted to have a ceiling height of not less than 7 feet (2134 mm).

**Exceptions:**

1. In one- and two-family dwellings, beams or girders spaced not less than 4 feet (1219 mm) on center shall be permitted to project not more than 6 inches (152 mm) below the required ceiling height.
2. If any room in a building has a sloped ceiling, the prescribed ceiling height for the room is required in one-half the area thereof. Any portion of the room measuring less than 5 feet (1524 mm) from the finished floor to the ceiling shall not be included in any computation of the minimum area thereof.
3. Mezzanines constructed in accordance with Section 505.1.
4. *[OSHPD 1, 2 & 3] Minimum ceiling heights shall comply with Section 1224.4.10.*
5. *[OSHPD 4] Minimum ceiling heights shall comply with Section 1227.8*

**1208.2.1 Furred ceiling.** Any room with a furred ceiling shall be required to have the minimum ceiling height in two-thirds of the area thereof, but in no case shall the height of the furred ceiling be less than 7 feet (2134 mm).

**1208.3 Room area.** Every dwelling unit shall have no fewer than one room that shall have not less than 120 square feet (13.9 m<sup>2</sup>) of net floor area. Other habitable rooms shall have a net floor area of not less than 70 square feet (6.5 m<sup>2</sup>).

**Exception:** Kitchens are not required to be of a minimum floor area.

**1208.4 Efficiency dwelling units. [HCD 1]** Unless modified by local ordinance pursuant to Health and Safety Code Section 17958.1, efficiency dwelling units shall comply with the following:

1. The unit shall have a living room of not less than 220 square feet (20.4 m<sup>2</sup>) of floor area. An additional 100 square feet (9.3 m<sup>2</sup>) of floor area shall be provided for each occupant of such unit in excess of two.
2. The unit shall be provided with a separate closet.
3. The unit shall be provided with a kitchen sink, cooking appliance and refrigeration facilities, each having a clear working space of not less than 30 inches (762 mm) in front. Light and ventilation conforming to this code shall be provided.
4. The unit shall be provided with a separate bathroom containing a water closet, lavatory and bathtub or shower.

**SECTION 1209  
ACCESS TO UNOCCUPIED SPACES**

**1209.1 Crawl spaces.** Crawl spaces shall be provided with no fewer than one access opening which shall be not less than 18 inches by 24 inches (457 mm by 610 mm).

*1209.1.1 [SPCB] Accessible under-floor areas shall be provided with an 18-inch by 24-inch (457 mm by 610 mm) access crawl hole. Pipes, ducts and other nonstructural construction shall not interfere with the accessibility to or within under-floor areas.*

**1209.2 Attic spaces.** An opening not less than 20 inches by 30 inches (559 mm by 762 mm) shall be provided to any attic area having a clear height of over 30 inches (762 mm). Clear headroom of not less than 30 inches (762 mm) shall be provided in the attic space at or above the access opening.

**1209.3 Mechanical appliances.** Access to mechanical appliances installed in under-floor areas, in attic spaces and on roofs or elevated structures shall be in accordance with the *California Mechanical Code*.

**SECTION 1210  
TOILET AND BATHROOM REQUIREMENTS**

**[P] 1210.1 Required fixtures.** The number and type of plumbing fixtures provided in any occupancy shall comply with the *California Plumbing Code*.

**1210.2 Finish materials.** Walls, floors and partitions in toilet and bathrooms shall comply with Sections 1210.2.1 through 1210.2.4.

**1210.2.1 Floors and wall bases.** In other than dwelling units, toilet, bathing and shower room floor finish materi-

als shall have a smooth, hard, nonabsorbent surface. The intersections of such floors with walls shall have a smooth, hard, nonabsorbent vertical base that extends upward onto the walls not less than 4 inches (102 mm).

**1210.2.2 Walls and partitions.** Walls and partitions within 2 feet (610 mm) of service sinks, urinals and water closets shall have a smooth, hard, nonabsorbent surface, to a height of not less than 4 feet (1219 mm) above the floor, and except for structural elements, the materials used in such walls shall be of a type that is not adversely affected by moisture.

**Exception:** This section does not apply to the following buildings and spaces:

1. Dwelling units and sleeping units.
2. Toilet rooms that are not accessible to the public and which have not more than one water closet.

Accessories such as grab bars, towel bars, paper dispensers and soap dishes, provided on or within walls, shall be installed and sealed to protect structural elements from moisture.

**1210.2.3 Showers.** Shower compartments and walls above bathtubs with installed shower heads shall be finished with a smooth, nonabsorbent surface to a height not less than 70 inches (1778 mm) above the drain inlet.

**1210.2.4 Waterproof joints.** Built-in tubs with showers shall have waterproof joints between the tub and adjacent wall.

**[P] 1210.3 Privacy.** Privacy at water closets and urinals shall be provided in accordance with Sections 1210.3.1 and 1210.3.2.

**[P] 1210.3.1 Water closet compartment.** Each water closet utilized by the public or employees shall occupy a separate compartment with walls or partitions and a door enclosing the fixtures to ensure privacy.

**Exceptions:**

1. Water closet compartments shall not be required in a single-occupant toilet room with a lockable door.
2. Toilet rooms located in child day care facilities and containing two or more water closets shall be permitted to have one water closet without an enclosing compartment.
3. This provision is not applicable to toilet areas located within Group I-3 occupancy housing areas.

**[P] 1210.3.2 Urinal partitions.** Each urinal utilized by the public or employees shall occupy a separate area with walls or partitions to provide privacy. The walls or partitions shall begin at a height not more than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal not less than 18 inches (457 mm) or to a point not less than 6 inches (152 mm) beyond the outermost front lip of the

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urinal measured from the finished backwall surface, whichever is greater.

### Exceptions:

1. Urinal partitions shall not be required in a single-occupant or family or assisted-use toilet room with a lockable door.
2. Toilet rooms located in child day care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.

**1210.4 Toilet room location.** Toilet rooms shall not open directly into a room used for the preparation of food for service to the public.

## SECTION 1211 [HCD 1 & HCD 2] GARAGE DOOR SPRINGS

**1211.1 General.** This section shall apply to applications listed in Sections 1.8.2.1.1 and 1.8.2.1.3 regulated by the Department of Housing and Community Development.

**1211.1.1 Extension garage door springs.** Every extension garage door spring sold or offered for sale, whether new or as a replacement, or installed in any garage or carport which is accessory to an apartment house, hotel, motel or dwelling shall conform to the following requirements:

Hard-drawn spring wire shall conform to ASTM A 227 06 (2011) or a more current version, and shall be made by the steel processes described therein, conforming to the chemical composition requirements listed and meeting the standards of steel heat as set forth by the ladle analysis. Wire tensile strength and dimension variations shall meet the prescribed properties of established standards.

Oil-tempered wire shall conform to ASTM A 229-12 or a more current version, and shall be made by the steel processes described therein, conforming to the chemical composition requirements listed and meeting the standards of steel heat as set forth by the ladle analysis. Wire tensile strength and dimension variations shall meet the prescribed properties of established standards.

Extension springs shall be fabricated from either hard-drawn spring wire or oil-tempered wire as specified above.

**1211.2 Design standards.** Minimum design standard shall be 9,000 cycles. (One cycle is equal to door opening plus door closing at maximum working load.)

### 1211.3 Certification.

Mill certification of wire physical tests and chemical properties shall be kept on file by the spring manufacturer.

Physical cycling tests shall be performed for each extension spring design and shall be certified by an approved testing agency acceptable to the department and reports kept on file by the manufacturer.

Containment devices shall be physically tested for each extension spring design by installing the device on the spring and by destroying the spring at maximum recommended stretch. Containment tests shall be certified by an approved testing agency acceptable to the department and reports kept on file by the manufacturer.

**1211.4 Containment devices.** Each extension spring shall be equipped with an approved device capable of restraining the spring or any part thereof in the event it breaks.

**1211.5 Identification.** Extension springs shall be permanently identified as to manufacturer and also to indicate maximum recommended stretch. Both extension springs and containment devices shall bear information stating that they have been manufactured in accordance with requirements of the California Department of Housing and Community Development.

**1211.6 Installation.** Installation of extension springs, containment devices and hardware shall be in accordance with the manufacturer's installation instructions. Instructions shall be provided by the manufacturer and shall specify the approved method of restraint and maximum recommended stretch. Unless otherwise permitted by the manufacturer's installation instructions, the hardware and extension springs shall be mounted to nominal 12 by 6 framing members, conforming to the applicable provisions of Section 2303.

## SECTION 1212 [HCD 1] POLLUTANT CONTROL

**1212.1 Finish material pollutant control.** Finish materials, including adhesives, sealants, caulks, paints and coatings, aerosol paints and coatings, carpet systems, carpet cushion, carpet adhesive, resilient flooring systems, and composite wood products shall meet the volatile organic compound (VOC) emission limits in accordance with the California Green Building Standards Code (CALGreen), Chapter 4, Division 4.5.

**SECTION 1213**  
**Reserved**

**SECTION 1214**  
**Reserved**

**SECTION 1215**  
**Reserved**

**SECTION 1216**  
**Reserved**

**SECTION 1217**  
**Reserved**

**SECTION 1218**  
**Reserved**

**SECTION 1219**  
**Reserved**

**SECTION 1220**  
**Reserved**

**SECTION 1221**  
**Reserved**

**SECTION 1222**  
**Reserved**

**SECTION 1223  
Reserved**

**SECTION 1224 [OSHPD 1]  
HOSPITALS**

**1224.1 Scope.** *The provisions of this section shall apply to general acute-care hospitals, acute psychiatric hospitals and general acute-care hospitals providing only acute medical rehabilitation center services. The provisions of Section 1225 shall apply to distinct part skilled nursing and intermediate-care services on a general acute-care or acute psychiatric hospital license, provided either in a separate unit or a freestanding building.*

**1224.2 Application.** *New buildings and additions, alterations or repairs to existing buildings subject to licensure shall comply with applicable provisions of the California Electrical Code, California Mechanical Code, California Plumbing Code, California Fire Code (Parts 3, 4, 5 and 9 of Title 24) and this section.*

**Exceptions:**

1. *Facilities licensed and in operation prior to the effective date of this section shall not be required to institute corrective alterations or construction to comply with any new requirements imposed thereby or subsequently, except where specifically required or where the enforcing agency determines that a definite hazard to health and safety exists. Facilities for which preliminary drawings have been submitted to the enforcing agency prior to the effective date of this change shall not be required to comply with such new requirements, provided working drawings are submitted within one year of the effective date of such new requirements.*
2. *The provisions of this section do not prohibit the use of alternate space utilization, new concepts of design, treatment techniques, equipment and alternate finish materials provided the intent of this section is accommodated and written approval for such alternative is granted by the enforcing agency. Written substantiating evidence in support of the alternate and a written request for consideration shall be submitted to the enforcing agency.*
3. *Nothing in this section shall prohibit the provisions of required services from a centralized service facility serving two or more licensed facilities when approved in writing by the licensing agency. Buildings and required spaces for services provided in a separate centralized services facility shall comply with all applicable provisions of these regulations and applicable local codes and ordinances for the services so provided.*
4. *Acute psychiatric hospitals and general acute-care hospitals providing only acute medical rehabilitation center services may provide for surgical and anesthesia services to be provided by an outside licensed facility when approved by the licensing agency.*
5. *When the Corrections Standards Authority, the Department of Corrections or the Department of*

*Youth Authority determines that a particular requirement for hospitals located in a correctional facility may compromise the safety, security or protection of staff, inmates or property, the enforcement agency shall consider an alternate design.*

**1224.3 Definitions.**

**AIR CONDITIONING.** *The process or system by which simultaneously the temperature, humidity, air motion and quality are maintained within required limits.*

**AIRBORNE INFECTION ISOLATION ROOM.** *A single-occupancy patient room where environmental factors are controlled in an effort to minimize the transmission of those infectious agents usually spread from person to person by droplet nuclei associated with coughing and inhalation.*

**AMBULATORY CARE.** *A defined health care encounter(s) of less than 24 hours in duration that requires direct professional health care support within a specific facility.*

**AMBULATORY SURGICAL FACILITY.** *Any surgical facility organized for the purpose of providing procedural, invasive surgical care to patients with the expectation that they will be recovered sufficiently to be discharged in less than a 24-hour period.*

**ANGIOGRAPHY.** *The radiographic visualization of blood vessels following introduction of contrast material for purposes of diagnosis.*

**BASIC SERVICES.** *Those essential services required for licensure as a hospital, including medical, nursing, surgical, anesthesia, laboratory, radiology, pharmacy, dietary services and support services. See "SUPPLEMENTAL SERVICES."*

**BIOTERRORISM.** *The use, or threat of use, of biological agents to intimidate a political entity or population group.*

**CENTRAL AIR-HANDLING SYSTEMS.** *Any units requiring ductwork on the supply or inlet side and serving more than one room.*

**COURT.** *An open exterior space bounded on three or more sides by the walls of a structure.*

**ENVIRONMENT OF CARE.** *Those features in a built health care entity that are created, structured, and maintained to support quality health care.*

**EXAM ROOM.** *A room with a bed, stretcher, or examination table and capability for periodic monitoring (e.g., measurement of blood pressure or pulse oximetry) in which procedures that do not require a specialized suite can be performed (e.g., pelvic examination, blood transfusion).*

**FLOOR AREA, CLEAR.** *The actual occupied area exclusive of fixed or wall-mounted cabinets, built-in shelves, toilet rooms, closets, lockers, wardrobes, alcoves, anterooms or vestibules.*

**GENERAL ACUTE-CARE HOSPITAL.** *A hospital, licensed by the California Department of Public Health, having a duly constituted governing body with overall administrative and professional responsibility and an organized medical staff which provides 24-hour inpatient care, including the basic services.*

**HANDWASHING STATION.** *An area that provides a hand-washing fixture, cleansing agents and means for drying*

hands. Refer to the California Plumbing Code, Section 210.0 for the definition of handwashing fixture.

**HOSPITAL.** A general acute-care hospital, including those providing only acute medical rehabilitation center services and acute psychiatric hospitals.

**HOUSEKEEPING.** Services anywhere within a health care facility that include general cleaning and tidying and the provision and positioning of identified materials, e.g., soaps, towels, etc. (While routine disinfection protocols can be included in such a definition, the definition is not intended to include complex, nonroutine disinfection procedures nor the nonroutine disposition of hazardous materials such as potentially toxic drugs or other chemicals and radioactive wastes.)

**LDR.** Labor, Delivery, Recovery (an unlicensed patient bed)

**LDRP.** Labor, Delivery, Recovery, Postpartum (a licensed patient bed)

**LICENSING AGENCY.** The Department of Public Health, Licensing and Certification.

**MONOLITHIC.** A surface free of fissures, cracks, perforations, and crevices.

**MONOLITHIC CEILING.** A ceiling constructed with a surface free of fissures, cracks, and crevices. Any penetrations such as lights, diffusers, and access panels shall be sealed or gasketed. Lay-in ceilings are not considered "monolithic."

**NURSING UNIT.** A designated patient care area of the hospital which is planned, organized, operated and maintained to function as a unit. It includes patient rooms with adequate support facilities, services and personnel providing nursing care and necessary management of patients.

**OPERATING ROOM.** A room specifically designed for the performance of surgical procedures. (In common understanding, this means most types of surgical procedures, especially those involving the administration of anesthesia, multiple personnel, recovery room access, and a fully controlled environment.)

**OUTPATIENT SERVICE.** An organizational unit of the hospital, which provides nonemergency healthcare services to patients.

**PATIENT ROOM.** Licensed patient bed rooms.

**PERIOPERATIVE.** Patient care and other related supportive activities before, during or after the operative event.

**PROTECTIVE ENVIRONMENT.** A bedded unit or patient room where severely immunosuppressed patients are cared for.

**RESTRICTED AREA.** A designated space with limited access eligibility. Such space has one or more of the following attributes: specific signage, physical barriers, security controls and protocols that delineate requirements for monitoring, maintenance, attire, and use. The term is often applied to specialized procedure suites, such as operating rooms and suites, interventional imaging, cardiac catheterization labs, angiography suites, etc.

**SCRUB SINK.** A sink used to wash and scrub the hands and arms during the aseptic preparation for surgery, and equipped with a supply spout and controls as required for a handwashing fixture. Refer to the California Plumbing Code Sections 210.0 and 221.0.

**SERVICE SINK.** A sink located in a housekeeping room and designed for the purpose of cleaning mops and the disposal of waste water.

**SUB-ACUTE CARE.** A segment within a continuum of levels of care determined by patient acuity, clinical stability, and resource needs.

**SUPPLEMENTAL SERVICE.** An inpatient or outpatient service which is not required to be provided by law or regulation for licensure. A supplemental service, when provided, must accommodate the provisions of this section.

**Note:** See "BASIC SERVICES."

**SURGICAL SERVICE SPACE.** A space that includes the operating room(s) and service areas.

**1224.4 GENERAL CONSTRUCTION.**

**1224.4.1 Services/systems and utilities.** See Section 3416A or 3424 for single-story light frame skilled nursing facilities and intermediate care facilities.

**1224.4.2 Service spaces.** Spaces for dietary, laundry, morgue, ambulance entrance, receiving areas, power plants, mechanical equipment, incinerator, garbage can cleaning, automobile parking and storage areas for garbage, trash and medical gases shall be located and constructed to minimize noise, steam, odors, hazards and unsightliness in patient-care areas and bedrooms.

**1224.4.3 Treatment spaces.** Radiology, laboratory, pharmacy, physical therapy and service spaces serving only outpatients and similar outpatient service departments shall not be located in nursing units, surgical units, perinatal units, nursery areas, central sterilization rooms, food-service' areas, power plants, mechanical equipment rooms, maintenance shops, general storage, laundry, employees' dressing or housekeeping facilities.

**Exception:** Physical and occupational therapy spaces of a rehabilitation service may serve both outpatients and inpatients.

**1224.4.4 Support areas for patients.**

**1224.4.4.1 Examination and treatment rooms.**

**1224.4.4.1.1 Examination room.** Unless specified elsewhere, if an exam room is provided, it shall have a minimum clear floor area of 80 square feet (7.4 m<sup>2</sup>), the least dimension of which shall be 8 feet (2438mm). The room shall contain a handwashing fixture and accommodations for written or electronic documentation shall be provided.

**1224.4.4.1.2 Treatment room.** Unless specified elsewhere, if a treatment room is provided, it shall have a minimum clear floor area of 120 square feet (11.15 m<sup>2</sup>), the least dimension of which shall be 10 feet (3048 mm). A minimum of 3 feet (914 mm) is required between the sides and foot of the bed/gurney/table and any wall or other fixed obstruction. The room shall contain an examination light, a work counter for medical equipment, a handwashing fixture, cabinets, medication storage and counter space for writing or electronic documentation. Multi-bed treatment rooms shall have separate

patient cubicles with a minimum clear floor area of 80 square feet (7.4 m<sup>2</sup>) per cubicle. Each cubicle shall contain an examination light, counter and storage facilities. In multi-bed treatment rooms, a handwashing fixture shall be provided in the room for each three or fewer cubicles.

**1224.4.4.1.3 Airborne infection isolation exam/treatment room.** When provided, the airborne infection isolation room shall be an exam/treatment room, shall be labeled with the words “Airborne Infection Room”, and provide the following:

1. Capacity. Each airborne infection isolation exam/treatment room shall contain only one examination table or recliner.
2. Handwashing station. A handwashing station shall be located in each airborne infection isolation exam/treatment room.
3. Gowning and storage area. An area for gowning and storage of clean and soiled materials shall be located directly outside or inside the entry door to the airborne infection isolation exam/treatment room.
4. Doors. Room doors shall be self-closing and include latching devices.
5. Sealed-tight room. Room perimeter walls, ceiling, floors, doors and penetration shall be sealed tightly to minimize air infiltration from the outside or from other spaces.
6. Ventilation. The ventilation shall be provided as required by the California Mechanical Code for airborne infection isolation room.

**1224.4.4.1.3.1 Airborne infection isolation exam/treatment anteroom.** An airborne infection isolation anteroom is not required; however, when an anteroom is provided, it shall meet the following requirements:

1. The anteroom shall provide space for persons to don personal protective equipment before entering the patient room.
2. All doors to the anteroom shall have self-closing devices.
3. The anteroom shall provide storage of personal protective equipment (e.g. respirators, gowns, gloves) and clean equipment.
4. Ventilation shall be provided in the anteroom as required by the California Mechanical Code for airborne infection isolation anteroom.

**1224.4.4.2 Specimen and blood collection facilities.**

**1224.4.4.2.1 Specimen collection facilities.** When provided, specimen collection facilities shall comply with the following requirements:

1. Urine collection rooms shall be equipped with a water closet and handwashing station.

**Exception:** The handwashing station may be located immediately outside the collection room when the specimen is used for drug testing.

2. Use of the toilet room provided within the examination and treatment room shall be permitted for specimen collection.

**1224.4.4.2.2 Blood collection facilities.** When provided, blood collection facilities shall comply with the following requirements:

1. Space for a chair and work counter shall be provided.
2. A handwashing station shall be provided.

**1224.4.5 Outpatient waiting rooms.** Waiting rooms for outpatients shall provide a seating area and space for wheelchairs and have public corridor access to, or provisions for, public toilet, drinking fountain and telephone.

**Note:** One waiting area may serve more than one department or service.

**1224.4.5.1 Outpatient access.** If x-ray examinations are to be performed on outpatients, outpatient access to the radiological spaces shall not traverse a nursing unit.

**Exception:** Satellite radiology, laboratory, pharmacy, and physical and occupational therapy space serving inpatients may be located in nursing units and inpatient treatment areas.

**1224.4.6 Miscellaneous requirements.**

**1224.4.6.1 Station outlets.** Station outlets for oxygen, vacuum, and medical air shall comply with Table 1224.4.6.1.

**1224.4.6.2 Gas and vacuum systems.** The design, installation and testing of medical gas and vacuum systems shall conform to Table 1224.4.6.1 and NFPA 99.

**1224.4.6.3 Hyperbaric facilities.** The design and construction of hyperbaric facilities shall conform to NFPA 99.

**1224.4.6.4 Laboratories.** The design and construction of hospital laboratories shall conform to NFPA 99.

**1224.4.6.5 Nurse call systems.** The location of nurse call devices shall comply with Table 1224.4.6.5. The design of call systems shall comply with the California Electrical Code, Part 3 of Title 24.

**1224.4.7 Corridors.**

**1224.4.7.1 Width.** The minimum width of corridors and hallways shall be 8 feet (2438 mm).

**Exception:** Patient-care corridors and hallways in hospitals for psychiatric care of patients who are not bedridden shall have a minimum clear and unobstructed width of 6 feet (1829 mm). For the purposes of this section, bedridden patients shall be defined as patients confined to beds who would be transported or evacuated in beds or litters.

**1224.4.7.2 Light traffic.** Service corridors and hallways with anticipated light traffic volume for nonpatient use may be reduced to a width of 5 feet (1524 mm) if approved by the enforcing agency.

**Exception:** Corridors and hallways in administrative and business areas may be reduced to a width of 44 inches (1118 mm).

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**TABLE 1224.4.6.1  
STATION OUTLETS FOR OXYGEN, VACUUM (SUCTION), AND MEDICAL AIR<sup>1, 6</sup>**

	<b>LOCATIONS</b>	<b>OXYGEN</b>	<b>VACUUM</b>	<b>MEDICAL AIR</b>
1	Patient rooms (medical/surgical unit)	1/bed	1/bed	–
2	Examination or treatment (medical/surgical unit and postpartum care)	1/room	1/room	–
3	Airborne infection isolation or protective environment rooms (medical/surgical unit)	1/bed	1/bed	–
4	Seclusion room (medical/surgical unit and postpartum care)	1/bed	1/bed	–
5	Intensive care (general)	3/bed	3/bed	1/bed
6	Airborne infection isolation	3/bed	3/bed	1/bed
7	Coronary-care service space	3/bed	2/bed	1/bed
8	Pediatric intensive care	3/bed	3/bed	1/bed
9	Newborn intensive care	3/bassinets	3/bassinets	3/bassinets
10	Newborn nursery (full term)	1/4 bassinets <sup>2</sup>	1/4 bassinets <sup>2</sup>	1/4 bassinets <sup>2</sup>
11	Pediatric and adolescent	1/bed	1/bed	1/bed
12	Pediatric nursery	1/bassinets	1/bassinets	1/bassinets
13	Psychiatric patient room	–	–	–
14	Seclusion treatment room	–	–	–
15	General operating room	2/room	3/room	–
16	Cardio, ortho, neurological	2/room	3/room	–
17	Orthopedic surgery	2/room	3/room	–
18	Surgical cysto and endo	1/room	3/room	–
19	Post-anesthesia care unit	1/bed	3/bed	1/bed
20	Anesthesia workroom	1 per workstation	–	1 per workstation
21	Not used	–	–	–
22	Postpartum bedroom	1/bed	1/bed	–
23	Cesarean operating/delivery room	2/room	3/room	1/room
24	Infant resuscitation space <sup>4</sup>	1/bassinets	1/bassinets	1/bassinets
25	Labor room	1/room	1/room	–
26	OB recovery room	1/bed	3/bed	–
27	Labor/delivery/recovery (LDR) <sup>5</sup>	1/bed	1/bed	–
28	Labor/deliver/recovery/postpartum (LDRP) <sup>5</sup>	1/bed	1/bed	–
29	Initial emergency management	1/bed	1/bed	1/bed
30	Triage area (definitive emergency care)	1/station	1/station	–
31	Definitive emergency care examination or treatment rooms	1/bed	1/bed	1/bed
32	Definitive emergency care observation unit	1/bed	1/bed	–
33	Trauma/cardiac room(s)	2/bed	3/bed	1/bed
34	Orthopedic and cast room	1/room	1/room	–
35	Cardiac catheterization lab	2/bed	2/bed	2/bed
36	Autopsy room	–	1 per workstation	–
37	MRI	1/room	1/room	1/room

1. For any area or room not described above, the facility clinical staff shall determine outlet requirements after consultation with the enforcing agency.
2. Four bassinets may share one outlet that is accessible to each bassinet.
3. Not used.
4. When infant resuscitation takes place in a room such as cesarean section/delivery or LDRP, then the infant resuscitation services must be provided in that room in addition to the minimum service required for the mother.
5. One outlet for mother and one for each bassinet.
6. Renovation projects of existing spaces where the existing function is not changed, are not required to comply with the requirements of this table.

main entrance floor or where operating rooms or delivery rooms are above or below the main entrance floor, at least one patient elevator shall be provided.

**1224.4.13.5 Medium patient capacity.** At least one patient elevator and one service elevator shall be provided in hospitals with a capacity of from 60 to 149 beds on floors other than the main entrance floor.

**1224.4.13.6 High patient capacity.** At least one patient elevator, one passenger elevator and one service elevator shall be provided in hospitals with a capacity of 150 or more beds on floors other than the main entrance floor.

**1224.4.14 Garbage, solid waste and trash storage.** Rooms or screening enclosures shall be provided for the washing and cleaning of garbage containers and for the storage of garbage, trash and other solid wastes. Such rooms or screening enclosures shall include the following:

1. A concrete floor with a curb and with a drain connected to the sewer.
2. Steam or hot-water and cold-water supply.
3. A minimum floor area of  $1/2$  square foot (0.046 m<sup>2</sup>) per bed, but not less than 25 square feet (2.3 m<sup>2</sup>), the least dimension of which shall be 4 feet (1219 mm).
4. A method of limiting access to the material except by authorized persons.

**1224.4.15 Housekeeping room.** This room shall be a minimum floor area of 15 square feet (1.4 m<sup>2</sup>). It shall contain a service sink or floor receptor and provisions for storage of supplies and housekeeping equipment.

**1224.4.16 Laundry and trash chutes.** Gravity-type laundry and trash chutes shall have a minimum diameter of 2 feet (610 mm) and shall be designed to prevent distribution of airborne contaminating elements to all floors served.

**1224.4.17 Telephone.** Each floor accommodating patients shall have a telephone installed for patient use. Such telephones shall be readily accessible to patients who are limited to wheel chairs and stretchers. This may not be required in separate buildings having six or fewer beds which are restricted to occupancy by ambulatory patients.

**1224.4.18 Grab bars.** Each toilet, bathtub and shower serving patients shall have conveniently placed grab bars that shall comply with Chapter 11B.

**Exception:** Excluding facilities designed for use by persons with disabilities, grab bars may be deleted from those facilities serving chemical dependency recovery and psychiatric patients.

**1224.5 NOISE CONTROL.**

**1224.5.1 Impact noises.** Recreation rooms, exercise rooms, equipment rooms and similar spaces where impact noises may be generated, shall not be located directly over patient bed areas or delivery and operating suites, unless special provisions are made to minimize such noise.

**1224.5.2 Noise reduction.** The noise reduction criteria shown in Table 1224.5 shall apply to partitions, floors, and ceiling construction in patient areas.

**TABLE 1224.5  
SOUND TRANSMISSION LIMITATIONS  
IN ACUTE CARE GENERAL HOSPITALS**

NEW CONSTRUCTION	AIRBORNE SOUND TRANSMISSION CLASS (STC) <sup>1</sup>	
	Partitions	Floors
Patient room to patient room	45	40
Public space to patient room <sup>3</sup>	55	40
Service areas to patient room <sup>4</sup>	65	45
Patient room access corridor <sup>5</sup>	45	45
Exam room to exam room	45	
Exam room to public space	45	
Toilet room to public space	45	
Consultation rooms/conference rooms to public space	45	
Consultation rooms/conference rooms to patient rooms	45	
Staff lounges to patient rooms	45	

1. Sound Transmission Class (STC) shall be determined by tests in accordance with methods set forth in ASTM 90 and ASTM 413. Where partitions do not extend to the structure above, sound transmission through ceilings and composite STC performance shall be considered.
2. Treatment rooms shall be treated the same as patient rooms.
3. Public space includes corridors (except patient room access corridors), lobbies, dining rooms, recreation rooms, and similar space.
4. Service areas for the purposes of this table include kitchens, elevators, elevator machine rooms, laundries, garages, maintenance rooms, boiler and mechanical equipment rooms, and similar spaces of high noise. Mechanical equipment located on the same floor or above patient rooms, offices, nurses stations, and similar occupied space shall be effectively isolated from the floor.
5. Patient room access corridors contain composite walls with doors/windows and have direct access to patient rooms.
6. Renovation projects of existing spaces where the existing function is not changed, are not required to comply with the requirements of Table 1224.5.

**BASIC SERVICES**

**1224.6 Reserved**

**1224.7 Reserved**

**1224.8 Reserved**

**1224.9 Reserved**

**1224.10 Reserved**

**1224.11 Reserved**

**1224.12 Reserved**

**1224.13 Reserved**

**1224.14 NURSING SERVICE SPACE.**

**1224.14.1 Patient rooms.**

**1224.14.1.1 Capacity.** No patient room shall be designed to accommodate more than eight beds.

**1224.14.1.2 Space requirements.** In new construction, patient rooms shall have a minimum of 100 square feet (9.29 m<sup>2</sup>) of clear floor area per bed in multiple-bed rooms and 120 square feet (11.15 m<sup>2</sup>) of clear floor area for single-bed rooms. The dimensions and arrangement of rooms shall be such that there is a minimum of 3 feet (914 mm) between the sides and foot of the bed and any wall or any other fixed obstruction. In multiple-bed

rooms, a minimum clearance of 3 feet (914 mm) shall be provided between beds and a clearance of 4 feet (1219 mm) shall be available at the foot of each bed to permit the passage of equipment and beds

**Exceptions:**

1. Where renovation of existing patient rooms is undertaken in facilities built under the 2001 or prior California Building Code, patient rooms shall have no less than 80 square feet (7.43 m<sup>2</sup>) of clear floor area per bed in multiple-bed rooms and 110 square feet (10.22 m<sup>2</sup>) of clear floor area in single-bed rooms.
2. For shelled spaces built under the 2001 or prior California Building Code, patient rooms shall have no less than 80 square feet (7.43 m<sup>2</sup>) of clear floor area per bed in multiple-bed rooms and 110 square feet (10.22 m<sup>2</sup>) of clear floor area in single-bed rooms.

**1224.14.1.3 Windows.** Each patient room shall have a window in accordance with Section 1224.4.9.

**1224.14.1.4 Arrangement.** Patient rooms shall not be designed to permit the placement of beds more than three deep from the exterior window, but shall be of such shape and dimensions to allow for the performance of routine functions, including the easy transfer of patients to and from bed to wheelchair or wheeled gurney.

**1224.14.1.5 Outside exposure.** All patient bedrooms shall have an outside exposure and shall not be below ground level.

**1224.14.1.6 Handwashing fixtures.** A handwashing fixture shall be provided in the patient room. Water spouts used shall have clearances adequate to avoid contaminating utensils and the contents of carafes, etc. In multiple-bed rooms the handwashing fixture shall be located outside of the patient's cubicle curtain so that it is accessible to staff. Where renovation of patient rooms is undertaken a handwashing fixture shall be located in the toilet room or patient room.

**1224.14.1.7 Toilet room.** Each patient shall have access to a toilet room without having to enter the general corridor area. One toilet room shall serve no more than four beds and no more than two patient rooms. The toilet room shall contain a water closet and a lavatory and the door shall swing outward or be double acting. Unless located in a toilet room, bedpan-washing fixtures shall be installed in dedicated rooms, separate from patient care areas.

**1224.14.1.8 Patient storage.** Each patient shall have within his or her room a separate wardrobe, locker, or closet suitable for hanging full-length garments and for storing personal effects.

**1224.14.1.9 Privacy.** A method of assuring visual privacy for each patient shall be maintained in patient rooms and in tub, shower and toilet rooms. Windows or doors within a normal sightline that would permit observation into the room shall be arranged or curtained as necessary for patient privacy. In multiple-bed

rooms, visual privacy from casual observation by other patients and visitors shall be provided for each patient. The design for privacy shall not restrict patient access to the entrance, lavatory, or toilet room.

**1224.14.1.10 Grab bars.** Grab bars shall be installed in accordance with Section 1224.4.18.

**1224.14.1.11 Room identification.** Each patient room shall be labeled with an identification number, letter or combination of the two.

**1224.14.2 Service areas.** Unless otherwise indicated, provision for the services listed below shall be in or readily available to each nursing unit. The size and location of each service area will depend upon the numbers and types of beds served. Identifiable spaces are required for each of the indicated functions. Each service area may be arranged and located to serve more than one nursing unit but, unless noted otherwise, at least one such service area shall be provided on each nursing floor. Where the words "room" or "offices" are used, a separate, enclosed space for the one named function is intended; otherwise, the described area may be specific space in another room or common area.

**1224.14.2.1 Administrative center(s) or nurse station(s).** This area shall have space for counters and storage and shall have convenient access to handwashing fixtures. It may be combined with or include centers for reception, charting and communication.

**1224.14.2.2 Nurse or supervisor office.**

**1224.14.2.3 Toilet room(s) conveniently located for staff use.**

**1224.14.2.4 Multipurpose room(s) for staff, patients, patients' families for patient conferences, reports, education, training sessions, and consultation.** These rooms must be accessible to each nursing unit. They may be on other floors if convenient for regular use. One such room may serve several nursing units and/or departments.

**1224.14.2.5 Examination or treatment room(s).** Examination or treatment rooms are optional. If provided, provision shall be made to preserve patient privacy from observation from outside the exam room through an open door.

**1224.14.2.6 Clean utility room.** If the room is used for preparing patient care items, it shall contain a work counter, a handwashing fixture, and storage facilities for clean and sterile supplies. If the room is used only for storage and holding as part of a system for distribution of clean and sterile materials, the work counter and handwashing fixture may be omitted. Soiled and clean utility or holding rooms shall be separated and have no direct connection.

**1224.14.2.7 Soiled workroom or soiled holding room.** This room shall be separate from the clean utility room. The soiled workroom utilities room shall contain a clinical sink (or equivalent flushing-rim fixture). The room shall contain a handwashing fixture. The above fixtures shall both have a hot and cold mixing faucet. The room shall have a work counter and space for separate cov-

(23.23 m<sup>2</sup>) with a minimum of 15 feet (4572 mm) clear dimension between fixed cabinets and built-in shelves. X-ray viewing capability shall be provided.

**Exception:**

1. Where renovation of operating rooms is undertaken in facilities built under the 2001 or prior California Building Code rooms for surgical cystoscopy shall have a minimum clear floor area of 180 square feet (16.72 m<sup>2</sup>). Cast rooms for open reductions, if provided, shall have a minimum clear floor area of 180 square feet (16.72 m<sup>2</sup>), no dimension of which shall be less than 11 feet (3353 mm).
2. For shelled spaces built under the 2001 or prior California Building Code, each surgical cystoscopy shall have a minimum clear floor area of 180 square feet (16.72 m<sup>2</sup>). Cast rooms for open reductions, if provided, shall have a minimum floor area of 180 square feet (16.72 m<sup>2</sup>), no dimension of which shall be less than 11 feet (3353 mm).

**1224.15.2 Preoperative patient holding area(s).** In facilities with two or more operating rooms, area(s) shall be provided to accommodate gurney patients or sitting space for ambulatory patients not requiring gurneys. These area(s) shall be under the direct visual control of the nursing staff and may be part of the recovery service space. Each gurney station shall be a minimum clear floor area of 80 square feet (7.43 m<sup>2</sup>) and shall have a minimum clearance of 3 feet (914 mm) on the sides of the gurneys and the foot of the gurney. Provisions for patient privacy such as cubicle curtains shall be made.

**1224.15.3 Service areas.** Services, except for the enclosed soiled workroom referenced in Section 1224.15.3.7 and the housekeeping room referenced in Section 1224.15.3.12, may be shared with the obstetrical facilities. Service areas, when shared with delivery rooms, shall be designed to avoid the passing of patients or staff between the operating room and the delivery room areas. The following shall be provided in support of the surgical service space:

**1224.15.3.1 Control station.** Control stations shall be located to permit visual observation of all traffic into the surgical service space.

**1224.15.3.2 Supervisor's office or station.**

**1224.15.3.3 Sub-sterile areas.** If provided, a sub-sterile area(s) shall be equipped with a flash sterilizer, warming cabinet, and handwashing fixture. If a sterilizing facility(ies) with high-speed sterilizer(s) or other sterilizing equipment for immediate or emergency use are provided, they shall be grouped to service several operating rooms for convenient, efficient use; and a work space and handwashing fixture shall be included. Other facilities for processing and sterilizing reusable instruments, etc., may be located in another hospital department such as central services.

**1224.15.3.4 Medication station.** Shall be provided in accordance with Section 1224.14.2.8.

**1224.15.3.5 Scrub facilities.** Scrub sinks shall be located outside of sterile areas. A minimum of two scrub sinks shall be provided in a surgical unit containing one operating room. Four scrub sinks shall be provided in surgical units containing two operating rooms. One additional scrub sink shall be provided for each additional operating room. Scrub sinks shall have water supply controls not requiring direct contact of the hands for operation.

**1224.15.3.6 Clock.** A direct-wired or battery-operated clock or other equivalent timing device shall be visible from the scrub-up sinks.

**1224.15.3.7 Soiled workroom.** An enclosed soiled workroom (or soiled holding room that is part of a system for the collection and disposal of soiled material) for the exclusive use of the surgical service space shall be provided. The soiled workroom shall contain a flushing-rim clinical sink or equivalent flushing-rim fixture, a handwashing fixture, a work counter, and space for waste receptacles and soiled linen receptacles. Rooms used only for temporary holding of soiled material may omit the flushing-rim clinical sink and work counters. However, if the flushing-rim clinical sink is omitted, other provisions for disposal of liquid waste shall be provided. The room shall not have direct connection with operating rooms. Soiled and clean utility room or holding rooms shall be separated. The soiled workroom shall provide 24 square feet (2.23 m<sup>2</sup>) per operating room up to eight operating rooms and shall have a minimum area of 48 square feet (4.46 m<sup>2</sup>), with no dimension less than 6 feet (1829 mm).

**1224.15.3.8 Clean utility room.** This room shall not be used for food preparation.

A clean utility room is required when clean materials are assembled within the surgical service space prior to use or following the decontamination cycle. It shall contain a work counter, a handwashing fixture, storage facilities for clean supplies, and a space to package reusable items. The storage for sterile supplies must be separated from this space. If the room is used only for storage and holding as part of a system for distribution of clean supply materials, the work counter and handwashing fixture may be omitted. Soiled and clean utility rooms or holding rooms shall be separated.

**1224.15.3.9 Anesthesia workroom.** Provide an anesthesia workroom for cleaning, testing and storing anesthesia equipment. This room shall contain work counter(s) and sink(s) and racks for cylinders.

**1224.15.3.10 Equipment storage room(s)** for equipment and supplies used in surgical service space. Each surgical service space shall provide sufficient storage area to keep its required corridor width free of equipment and supplies, but not less than 150 square feet (13.94 m<sup>2</sup>) or 50 square feet (4.65 m<sup>2</sup>) per operating room, whichever is greater.

**1224.15.3.11 Staff clothing change areas.** Appropriate areas shall be provided for male and female personnel (orderlies, technicians, nurses and doctors) working within the surgical service space. The areas shall con-

tain lockers, showers, toilets, lavatories equipped for handwashing, and space for donning surgical attire. These areas shall be arranged to encourage a one-way traffic pattern so that personnel entering from outside the surgical service space can change and move directly into the surgical service space.

**1224.15.3.12 Housekeeping room.** Shall be provided for the exclusive use of the surgical service space. It shall be directly accessible from the service space.

**1224.16 ANESTHESIA SERVICE SPACE.**

**1224.16.1 Post-anesthetic care units (PACUs).** Each PACU shall contain a medication station in accordance with Section 1224.14.2.8; handwashing fixtures; nurse control with charting facilities; clinical sink, refrigerator, provisions for bedpan cleaning; and storage space for gurneys, supplies, and equipment. Additionally, the design shall provide a minimum of 80 square feet (7.43 m<sup>2</sup>) for each patient position with a clearance of at least 5 feet (1524 mm) between patient gurneys and a minimum of 4 feet (1218 mm) between the sides and the foot of patient gurneys and adjacent walls or any other fixed obstructions. Provisions for patient privacy such as cubicle curtains shall be made. In new construction, at least one door to the recovery room shall access directly from the surgical service space without crossing public corridors. Handwashing fixtures shall be provided with at least one for every four gurneys uniformly distributed to provide equal access from each patient gurney.

**Exception:** In a rural general acute care hospital, when the surgical service space is not provided, the anesthesia service space is not required. The hospital must maintain written transfer agreements with one or more general acute care hospitals that provide surgical and anesthesia services. Written transfer agreements shall be approved by the Department of Public Health, Licensing and Certification.

**1224.17 CLINICAL LABORATORY SERVICE SPACE.**

**1224.17.1 General requirements.** All hospitals shall provide space and equipment to perform urinalysis, complete blood counts, hemoglobin blood typing and cross matching. If laboratory facilities for bacteriological, serological, pathological and additional hematological procedures are not available in the community, then space, equipment and supplies for such procedures shall be provided. The following physical facilities shall be provided:

1. Laboratory work space.
2. Refrigerated blood storage facilities for transfusions shall be provided. Blood storage refrigerator shall be equipped with temperature-monitoring and alarm signals that are monitored continuously.
3. Handwashing fixture.

**1224.18 RADIOLOGICAL/DIAGNOSTIC IMAGING SERVICE SPACE.**

**1224.18.1 Minimum requirements.** Hospital shall provide a minimum of:

1. One fluoroscopy room, which can also provide x-ray examination services.

2. Space for processing images.
3. A toilet room adjoining each fluoroscopy room, in addition to other toilet room facilities located adjacent to or in the immediate vicinity.
4. An office or other suitable area for viewing and reporting radiographic examination.
5. Storage spaces for all image equipment, supplies and copies of reports.
6. Handwashing fixtures located within the unit.
7. Dressing room facilities.

**1224.18.1.1 Radiation protection.** A certified physicist or other qualified expert shall specify the type, location, and amount of radiation protection to be installed in accordance with the final approved department layout and equipment selections. Where protected alcoves with view windows are required, a minimum of 1'-6" (0.45 meter) between the view window and the outside partition edge shall be provided. Radiation protection requirements shall be incorporated into the construction documents and comply with Chapter 31C and the requirements of California Radiation Control Regulations, California Code of Regulations, Title 17, Division 1, Chapter 5, and Subchapter 4.

**1224.18.2 Angiography.** If provided, diagnostic angiography space shall accommodate the following:

1. A control room with a view window to permit full view of the patient.
2. A scrub sink located outside the staff entry to the procedure room.
3. Patient holding area shall accommodate at least one patient gurney with a minimum of 3-foot (914 mm) clearance on the long side.
4. Storage for portable equipment and catheters shall be provided.

**1224.18.2.1 Interventional angiography procedures.** If interventional angiography procedures are to be performed in the angiography room, the suite must comply with general operating room requirements in Section 1224.15.1.1 and have the support of the service areas in Section 1224.15.3. If cardiac catheterization procedures are performed refer to Section 1224.28.

**1224.18.3 Computerized tomography (CT) scanning.** If provided, CT space shall accommodate the following:

**1224.18.3.1 Spaces required.** If provided, CT scan spaces shall accommodate the equipment with a minimum of 3 feet (914 mm) on all sides of the equipment, together with the following:

1. A control room shall be provided that is designed to accommodate the computer and other controls for the equipment. A view window shall be provided to permit view of the patient.
2. A patient toilet room convenient to the procedure room.

**1224.18.4 Magnetic resonance imaging (MRI).** If provided, the MRI room shall accommodate the equipment

with a minimum of 3 feet (914 mm) on all sides of the equipment, together with the following:

1. A control room shall be provided with full view of the patient in the MRI scanner. The control console shall be positioned so the operator has a full view of the approach and entrance to the MRI scanner room.
2. An anteroom or area visible from the control room shall be located outside the MRI scanner room so that patients, health care personnel, and other employees must pass through it before entering the scanning area and control room. The room or area shall be outside the restricted areas of the MRI's magnetic field.
3. A computer room shall be provided.

**1224.18.4.1 Hand-washing station.** Hand-washing station(s) shall be provided convenient to the MRI scanner room, but need not be within the room.

**1224.18.4.2 Wall, floor, and ceiling assemblies.** Wall, floor, and ceiling assemblies shall accommodate the installation of required radio frequency (RF)-shielded assemblies. All doors, windows, and penetrations into the RF-shielded enclosure shall be RF-shielded. As well as RF shielding, individual sites may also require magnetic shielding on some or all surfaces to contain portions of the magnetic field not contained by the RF shield.

**1224.18.4.3 Lighted sign.** MRI rooms shall be clearly marked with a red light and lighted sign stating, "The Magnet Is On". This light and sign are to be lighted at all times and have a backup energy source to remain illuminated for at least 24 hours in the event of a loss of power.

**1224.18.4.4 Magnetic field strength identification.** Facilities shall use finishes or markings to identify the critical values of the magnetic field surrounding the MRI scanner, including the 5-gauss exclusion zone or other magnetic field strength values that may impair the operation of equipment.

**1224.18.4.5 Special ventilation requirements.** Where superconducting MRI scanners are installed, an insulated cryogen quench exhaust pipe as well as room exhaust and pressure equalization shall be provided to protect occupants in the event of a cryogen breach.

**1224.18.5 Ultrasound.** When provided, the ultrasound room shall comply with the following:

**1224.18.5.1 Space requirements.**

1. Area. Rooms used for ultrasound examination/treatment shall have a minimum clear floor area of 120 square feet (11.15 m<sup>2</sup>).
2. Clearances. A minimum clear dimension of 3 feet (914 mm) shall be provided on three sides of the table/stretcher.

**1224.18.5.2 Handwashing fixture.** A handwashing fixture shall be provided within the procedure room.

**1224.18.5.3 Patient toilet(s).** A patient toilet shall be directly accessible to the ultrasound procedure room.

The patient toilet may be permitted to serve more than one ultrasound procedure room.

**1224.18.6 Mammography.** When provided, the mammography room shall comply with the following:

**1224.18.6.1 Space requirements.**

1. Area. Mammography rooms shall be a minimum of 100 square feet (9.3 m<sup>2</sup>).
2. Shielded alcove. Each x-ray room shall include a shielded control alcove. For mammography machines with built-in shielding for the operator, omission of the alcove shall be permitted when approved by the certified physicist.

**1224.18.6.2 Handwashing fixture.** A handwashing fixture shall be provided within the procedure room.

**1224.18.7 Support spaces.** The following spaces are common to the imaging service area and are minimum requirements unless stated otherwise:

**1224.18.7.1 Patient's toilet room(s).** In service spaces with procedure rooms that do not have dedicated patient toilets, provide a minimum of one patient toilet room within the service space.

**1224.18.7.2 Patient dressing rooms.** Dressing rooms shall be provided convenient to the imaging rooms.

**1224.18.7.3 Staff facilities.** In service space of three or more procedure rooms, staff toilet room(s) internal to the service space shall be provided.

**1224.18.7.4 Film storage (active).** If film systems are used, provide the following:

1. A room with cabinet or shelves for filing patient film for immediate retrieval shall be provided.
2. Storage facilities for unexposed film which shall include protection of film against exposure or damage.

**1224.18.7.5 Locked storage.** Provision shall be made for locked storage of medications and drugs.

**1224.19 PHARMACEUTICAL SERVICE SPACE**

**1224.19.1 Licensed pharmacy.** All hospitals having a licensed capacity of 100 or more beds shall have a pharmacy on the premises licensed by the California Board of Pharmacy.

**Note:** See General Acute Care Hospitals §70263(a), Article 3, Chapter 1, Division 5, Title 22, California Code of Regulations, for requirements concerning hospitals with fewer than 100 beds. The pharmacy room or service space shall conform to the requirements of § 1751, Article 7, Division 17, Title 16, California Code of Regulations as enforced by the California Board of Pharmacy.

**1224.19.1.1 Handwashing fixture.** Handwashing fixture(s) shall be provided within each separate room where open medication is handled, or in an anteroom, or immediately outside the room where open medication is handled, still within the pharmaceutical service space.

**Exception:** ISO Class 5 sterile preparation areas (e.g., chemotherapy and intravenous solutions) and

their ISO Class 7 buffer area(s) shall not contain sources of water (sinks) or floor drains. However the anteroom to the buffer area shall have a hand-washing fixture regardless of its intended ISO Classification (i.e. Class 7 or Class 8). Reference: U.S. Pharmacopeia (USP) 797 Pharmaceutical Compounding – Sterile Preparations.

**1224.19.1.2 Location.** Provide for convenient access to toilet room and locker.

**1224.20 DIETETIC SERVICE SPACE**

**1224.20.1 General.** Food service facilities and equipment shall conform to these standards, the standards of the National Sanitation Foundation and the requirements of the local public health agency.

**1224.20.2 Functional elements.** On-site conventional food service preparation shall be provided as follows in the size and number appropriate for the type of food service selected:

**1224.20.2.1 Location.** Patient food preparation areas shall be directly accessible to the entry for food supply deliveries and for the removal of kitchen wastes, interior transportation, storage, etc., without traversing patient or public circulation. Food preparation, service and storage shall be inaccessible to nondietetic service staff.

**1224.20.2.2 Receiving/control stations.** Provide an area for the receiving and control of incoming dietary supplies.

**1224.20.2.3 Storage.**

1. Food storage space shall be convenient to the receiving area and shall be located to exclude traffic through the food preparation area to reach them. Storage spaces for bulk, refrigerated, and frozen foods shall be provided. At least one week's (7 days) supply of staple foods and at least two (2) days' supply of frozen, and two (2) days' supply of perishable foods shall be maintained on the premises. Food storage components shall be grouped for convenient access from receiving and to the food preparation areas. All food shall be stored clear of the floor. Lowest shelf shall be not less than 12 inches (305 mm) above the floor or shall be closed in and sealed tight for ease of cleaning.

As a minimum, dietary storage space shall be provided in accordance with the following schedule:

Licensed Bed Capacity	Storage Space
1 to 99 beds	2 square feet (0.19 m <sup>2</sup> ) per bed
100 to 199 beds	200 square feet (18.58 m <sup>2</sup> ) plus 1 square foot 0.0929 m <sup>2</sup> ) per bed in excess of 100 beds

200 beds and over	300 square feet (27.99 m <sup>2</sup> ), plus 1/2 square foot (0.0465 m <sup>2</sup> ) per bed in excess of 200 beds
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Space to allow refrigeration for the storage of frozen and chilled foods shall be provided at a minimum of 2 cubic feet (0.057 m<sup>3</sup>) of usable space per bed.

2. Additional storage space for dietetic service supplies, such as paper products, equipment, tray delivery carts, etc., shall be provided.
3. Storage areas and sanitizing facilities for cans, carts and mobile-tray conveyors shall be provided.
4. Waste storage and recycling facilities (per local requirements) shall be located in a separate room easily accessible to the outside for direct pickup or disposal.

**1224.20.2.4 Cleaning supplies storage.** Provide a separate storage room for the storage of nonfood items such as cleaning supplies that might contaminate edibles.

**1224.20.2.5 Food preparation workspaces.** Provide workspaces for food preparation, cooking, and baking. These areas shall be as close as possible to the user (i.e. tray assembly and dining). Provide additional spaces for thawing and portioning.

**1224.20.2.6 Assembly and distribution.** Provide a patient tray assembly area and locate within close proximity to the food preparation and distribution areas.

**1224.20.2.7 Food service carts.** A cart distribution system shall be provided with spaces for storage, loading, distribution, receiving, and sanitizing of the food service carts. The cart traffic shall be designed to eliminate any danger of cross-circulation between outgoing food carts and incoming soiled carts, and the cleaning and sanitizing process. Cart circulation shall not be through food preparation areas.

**1224.20.2.8 Dining area.** Provide dining space(s) for ambulatory patients, staff, and visitors. These spaces shall be separate from the food preparation and distribution areas.

**1224.20.2.9 Vending services.** If vending devices are used for unscheduled meals, provide a separate room that can be accessed without having to enter the main dining area.

**1224.20.2.10 Ware-washing facilities.** Ware-washing space shall be provided in a room separate from food preparation and serving areas. It shall be designed to prevent contamination of clean wares with soiled wares through cross-traffic. The clean wares shall be transferred for storage or use in the dining room area without having to pass through food preparation areas.

1. Commercial-type ware-washing equipment shall be provided.

**1224.28.2.6 Patient holding.** A patient preparation, holding, and recovery area or room shall be provided and arranged to provide visual observation before and after the procedure. This may occur in a unit outside of the catheterization service space.

**1224.28.2.7 Clean utility room.** A clean utility room shall be provided. If the room is used for preparing patient care items, it shall contain a work counter and handwashing fixture. If the room is used only for storage and holding of clean and sterile supply materials, the work counter and handwashing fixtures shall be permitted to be omitted. The clean utility may be shared with an adjacent surgical unit.

**1224.28.2.8 Soiled utility room.** A soiled utility room shall be provided which shall contain a handwashing fixture and a clinical sink (or equivalent flushing rim fixtures). When the room is used for temporary holding or soiled materials, the clinical sink and handwashing fixture shall be permitted to be omitted. The soiled utility may be shared with an adjacent surgical unit.

**1224.28.2.9 Housekeeping room.** Shall be a minimum floor area of 15 square feet (1.4 m<sup>2</sup>). It shall contain a service sink or floor receptor and provisions for storage of supplies and housekeeping equipment. This may be shared with an adjacent surgical unit.

**1224.28.3 Freestanding cardiac catheterization laboratory service space.** A general acute care hospital referenced in Health and Safety Code Section 1255 (d)(3)(E) may provide cardiac catheterization laboratory service in a freestanding nonhospital building in conformance with this section and Section 1226.2.2. In addition, the service space shall comply with Section 1224.28.2 and applicable requirements in Section 1224.15.3 that are not covered by this section.

**1224.28.3.1 Outpatient support areas.** Outpatient support areas shall include outpatient waiting rooms in compliance with Section 1224.4.5. A separate space shall be provided where outpatients change from street clothing and are prepared for a procedure. This space shall include provisions for clothing storage, toilet room(s), sink and an area for clothing change and gowning.

**1224.28.3.2 Connection to hospital.** The freestanding cardiac catheterization laboratory service space shall be located in the nonhospital building such that the service space has a direct connection to the general acute care hospital providing cardiac surgery by a patient corridor link in compliance with Section 1224.4.7. The corridor link shall have a minimum width of 8 feet (2438 mm) as required under Section 1224.4.7.1. The corridor link shall connect to the hospital corridor system with access to all basic services as required under Section 1224.4.7.5.

**1224.28.3.3 Control station.** Control station(s) shall be located to permit visual observation of all traffic into the semi-restricted service space from unrestricted corridors and/or passageways.

**1224.28.3.4 Essential electrical system.** Cardiac catheterization laboratories shall meet the provisions for ambulatory surgical clinics required in the California Electrical Code including the requirements of Article 517.45 for an essential electrical system.

**1224.28.3.5 Services/systems and utilities.** Services/systems and utilities that support the catheterization laboratory space include, but are not limited to: normal power; emergency power; nurse call; communication and data systems; space heating systems; cooling systems; domestic hot and cold water systems; building drain and sewer systems; and medical gas systems. When these systems serve other portions of the building, any alteration to the system shall be subject to review by the Office of Statewide Health Planning and Development.

**1224.29 INTENSIVE CARE UNITS.**

**1224.29.1 General.** The following shall apply to all types of intensive care service spaces, acute respiratory-care service spaces, burn center spaces, critical-care units, coronary-care service spaces, pediatric intensive-care service spaces unless otherwise noted. Each unit shall comply with the following provisions:

**1224.29.1.1 Service space.** Each intensive-care unit shall contain not less than four or more than 12 beds.

**Exception:** When approved by the licensing agency a small or rural hospital intensive care unit may consist of less than four but not less than two patient beds.

**1224.29.1.2 Patient space.** In new construction, each patient space (whether separate rooms, cubicles, or multiple bed space) shall have a minimum of 200 square feet (18.58 m<sup>2</sup>) of clear floor area with a minimum headwall width of 13 feet (3962 mm) per bed. There shall be a minimum clear dimension of 1 foot (305 mm) clear space from the head of the bed to the wall, a minimum of 5 feet (1524 mm) clear space from the foot of the bed to the wall, a minimum of 5 feet (1524 mm) clear space on one side of each bed for patient transfer, a minimum of 4 feet (1218 mm) clear width on the non-transfer side, and a minimum of 8 feet (2438 mm) clear space between beds.

**Exceptions:**

1. Where renovation of existing intensive care units is undertaken, in facilities approved under the 2001 or prior California Building Code, existing patient space (whether separate rooms, cubicles, or multiple bed space) may be renovated or replaced in kind one for one in the renovated space. Such patient space shall have no less than 132 square feet (12.26 m<sup>2</sup>) with no dimension less than 11 feet (3353 mm), and with 4 feet (1219 mm) of clearance at each side and the foot of the bed, and with a minimum of 8 feet (2438 mm) between beds. The space shall be designed so that all beds shall be placed in relation to the nurse's sta-

tion or work area to permit, enable or allow maximum observance of patients.

2. For shelled space approved under the 2001 or prior California Building Code as an intensive-care unit, patient space (whether separate rooms, cubicles, or multiple bed space) may be renovated or replaced in kind one for one in the renovated space. Such patient space shall have separate rooms or cubicles for single patient use no less than 132 square feet (12.26 m<sup>2</sup>) with no dimension less than 11 feet (3353 mm) and with 4 feet (1219 mm) of clearance at each side and the foot of the bed, and with a minimum of 8 feet (2428 mm) between beds. The space shall be designed so that all beds shall be placed in relation to the nurses' station or work area to permit, enable or allow maximum observation of patients.

**1224.29.1.3 Private rooms.** When private rooms or cubicles are provided, view panels to the corridor shall be required with a means to provide visual privacy. Where only one door is provided to a bed space, it shall be at least 4 feet (1219 mm) wide and arranged to minimize interference with movement of beds and large equipment. Sliding doors shall not have floor tracks. Where sliding doors are used for access to cubicles within a service space, a 3-foot-wide (914 mm) swinging door may also be provided for personnel communication.

**1224.29.1.4 Modular toilet.** Modular toilet/sink combination units located within a privacy curtain may be used within each patient space or private room. The toilet fixture shall be completely contained within cabinetry when not in use. This fixture shall not be equipped with a bedpan washing attachment. Exhaust ventilation requirements shall comply with the California Mechanical Code.

**1224.29.1.5 Visitors and visual privacy.** Each patient bed area shall have space at each bedside for visitors, and provisions for visual privacy from casual observation by other patients and visitors. For both adult and pediatric units, there shall be a minimum of 8 feet (2438 mm) between beds.

**1224.29.1.6 Outside environment.** Each patient bed shall have visual access, other than clerestory windows and skylights, to the outside environment with not less than one outside window in each patient bed area.

**1224.29.1.6.1 Distance.** The distance from the patient bed to the outside window shall not exceed 50 feet (15 240 mm). When partitioned cubicles are used, patients' view to outside windows may be through no more than two separate clear vision panels.

**1224.29.1.7 Handwashing fixtures.** Handwashing fixtures shall be convenient to nurse stations and patient bed areas. There shall be at least one handwashing fixture for every three beds in open plan areas, and one in

each patient room. The handwashing fixture shall be located near the entrance to the patient cubicle or room.

**1224.29.1.8 Administrative center or nurse station.** This area shall have space for counters and storage. It may be combined with or include centers for reception and communication.

**1224.29.1.9 Nurses' work area.** There shall be direct visual observation between either a centralized or distributed nurse station or work station and the heads of all patient beds in the intensive care unit.

**1224.29.1.10 Monitoring.** Each unit shall contain equipment for continuous monitoring. Monitors shall be located to permit easy viewing but not interfere with access to the patient.

**1224.29.1.11 Emergency equipment storage.** Space that is easily accessible to the staff shall be provided for emergency equipment such as a CPR cart.

**1224.29.1.12 Medication station.** Shall be provided in accordance with Section 1224.14.2.8.

**1224.29.1.13 Airborne infection isolation room.** At least one airborne infection isolation room shall be provided per unit. The room shall comply with the requirements of Section 1224.14.3; however, the adjoining toilet room is not required. Modular toilet units located within a privacy curtain may be used within the airborne infection isolation room. The modular toilet fixture shall comply with Section 1224.29.1.4.

**Exception:** When approved by the licensing agency an airborne infection isolation room is not required for small or rural hospitals.

**1224.29.1.14 Additional service spaces.** The following additional service spaces shall be immediately available within each intensive care service space. These may be shared by more than one intensive care unit provided that direct access is available from each.

**1224.29.1.14.1 Clean utility room.** If the room is used for preparing patient care items, it shall contain a work counter, a handwashing fixture, and storage facilities for clean and sterile supplies. If the room is used only for storage and holding as part of a system for distribution of clean and sterile supply materials, the work counter and handwashing fixture may be omitted. Soiled and clean utility rooms or holding rooms shall be separated and have no direct connection.

**1224.29.1.14.2 Clean linen storage.** There shall be a designated area for clean linen storage. This may be within the clean utility room or a separate closet.

**1224.29.1.14.3 Soiled utility room.** Size shall be a minimum 50 square feet (4.65 m<sup>2</sup>); if shared between units, it shall be a minimum of 75 square feet (6.97 m<sup>2</sup>). The soiled workroom shall contain a clinical sink (or equivalent flushing-rim fixture). The room shall contain a handwashing fixture. The

**1224.31.1.8 Exam or treatment room.** A room for physical examinations and medical treatment.

**1224.31.1.9 Activity spaces.** Indoor and outdoor space for therapeutic activities.

**1224.31.1.10 Occupational therapy.** Facilities for occupational therapy shall comply with Section 1224.35.3.

**1224.31.1.11 Recreation.** A recreation room with a minimum of 100 square feet (9.3 m<sup>2</sup>) in each building, and on each floor of a building accommodating six or more psychiatric patients.

**1224.31.1.12 Nurse call.** A nurses' call system is not required, but if it is included, provisions shall be made for easy removal, or for covering call button outlets.

**1224.31.1.13 Privacy.** Visual privacy in multibed rooms (e.g., cubicle curtains) is not required.

**1224.31.1.14 Tamper resistant.** The ceiling and the air distribution devices, lighting fixtures, sprinkler heads, and other appurtenances shall be of a tamper-resistant type.

**1224.31.1.15 Toilet rooms.** Each patient room shall be provided with a private toilet room that meets the following requirements:

1. The door shall not be lockable from within.
2. The door shall be capable of swinging outward.
3. The ceiling shall be of tamper-resistant construction and the air distribution devices, lighting fixtures, sprinkler heads, and other appurtenances shall be of the tamper-resistant type.

**1224.31.1.16 Handwashing fixtures.** Handwashing fixtures located in patient rooms and patient toilet rooms may include anti-ligature features that do not compromise compliance with the hot and cold water supply controls, laminar flow, and sink requirements of Section 210.0 and Table 4-2 of the California Plumbing Code. Handwashing fixtures within patient rooms and patient toilet rooms in psychiatric nursing units are not required to be equipped with gooseneck spouts and the discharge point may be less than 5 inches (127 mm) above the fixture rim.

**1224.31.2 Education.** If a unit treats children of school age over a period of one month or more, it shall provide physical facilities for an educational program, such as classrooms and an office for the teacher.

**1224.31.3 Service areas.** The standards noted in Section 1224.14.2 shall apply to service areas for psychiatric nursing units.

**1224.32 OBSTETRICAL FACILITIES (PERINATAL UNIT SPACE)**

**1224.32.1 General.** The obstetrical facility, including cesarean operating room(s) and delivery room(s), shall be located and designed to prohibit nonrelated traffic through the unit.

**1224.32.2 Antepartum and postpartum unit**

**1224.32.2.1 Patient bedrooms.** Antepartum and postpartum bedrooms shall comply with Section 1224.14.1.

**1224.32.2.2 Service areas.** Shall be provided in accordance with Section 1224.14.2 with the following additions:

1. Staff lounge.
2. Staff storage. Lockable closets or cabinets for personal articles of staff.
3. Consultation/conference room(s).

**1224.32.3 Cesarean/delivery service space**

**1224.32.3.1 Cesarean operating room(s).** Provide a minimum clear floor area of 360 square feet (33.45 m<sup>2</sup>) with a minimum dimension of 16 feet (4877 mm). There shall be a minimum of one such room.

**1224.32.3.2 Delivery room(s).** Provide a minimum clear floor area of 300 square feet (27.87 m<sup>2</sup>). An emergency communication system shall be connected with the obstetrical facilities control station. There shall be a minimum of one such room.

**1224.32.3.2.1 Postpartum bed ratio.** Delivery rooms, which are used for no other purpose, shall be provided at the ratio of one per 12 postpartum beds or major fraction thereof.

**Exceptions:**

1. If LDR or LDRP beds are provided, each LDR or LDRP may be counted as a delivery room in the postpartum bed ratio.
2. When approved by the licensing agency, the operating room of small or rural hospitals with a licensed bed capacity of 50 or less may serve as the delivery room.

**1224.32.3.3 Clocks.** Shall be provided as follows:

1. A direct-wired or battery-operated clock with sweep second hand and lapsed time indicators in each cesarean operating and delivery room.
2. A direct-wired or battery-operated clock or other equivalent timing device, visible from the scrub-up sinks.

**1224.32.3.4 Surgical lights.** Provide a surgical light in each cesarean operating or delivery room.

**1224.32.3.5 Infant resuscitation.** Provide within the cesarean operating rooms and delivery rooms a minimum clear floor area of 40 square feet (3.72 m<sup>2</sup>) in addition to the required area of each room or may be provided in a separate but immediately accessible room with a clear floor area of 150 square feet (13.94 m<sup>2</sup>). Six single or three duplex electrical outlets shall be provided for the infant in addition to the facilities required for the mother.

**1224.32.3.6 Labor room(s) (LDR or LDRP rooms may be substituted).** Where LDRs or LDRPs are not provided, a minimum of two labor beds shall be provided for each cesarean operating room. Each room shall be designed for either one or two beds with a minimum clear floor area of 120 square feet (11.15 m<sup>2</sup>) per bed. Each labor room shall contain a handwashing fixture and have access to a toilet room. One toilet room may serve two labor rooms, Labor rooms shall have con-

trolled access with doors that are arranged for observation from a nursing station. At least one shower (which may be separate from the labor room if under staff control) for use of patients in labor shall be provided. Windows in labor rooms, if provided, shall be located, draped, or otherwise arranged, to preserve patient privacy from casual observation from outside the labor room.

**Exceptions:**

1. Where renovation of labor rooms is undertaken in facilities built under the 2001 or prior California Building Code, existing labor rooms shall have a minimum clear floor area of 100 square feet (9.29 m<sup>2</sup>) per bed.
2. For shelled spaces built under the 2001 or prior California Building Code, labor rooms shall have a minimum clear floor area of 100 square feet (9.29 m<sup>2</sup>) per bed.

**1224.32.3.7 Recovery room(s) (LDR or LDRP rooms may be substituted).** Each recovery room shall contain at least two beds and have a nurse control with charting facilities located to permit visual control of all beds. Each room shall include a handwashing fixture and a medication station. A clinical sink with bedpan flushing device shall be available, as shall storage for supplies and equipment. Provide visual privacy of the new family.

**1224.32.3.8 Service areas.** Individual rooms shall be provided as indicated in the following standards; otherwise, alcoves or other open spaces that do not interfere with traffic may be used.

**1224.32.3.8.1 Services.** The following services shall be provided:

1. Control/nurse station. This shall be located to restrict unauthorized traffic into the service space.
2. Soiled workroom or soiled holding room. See Section 1224.14.2.7.
3. Fluid waste disposal.

**1224.32.3.8.2 Shared services.** The following services shall be provided and may be shared with the surgical facilities. Where shared, areas shall be arranged to avoid direct traffic between the delivery and operating rooms

**1224.32.3.8.2.1 Supervisor's office or station.** Office or station shall be a minimum of 80 square feet (7.43 m<sup>2</sup>) and have a desk.

**1224.32.3.8.2.2 Waiting room.** This room shall have toilet room(s), telephone(s) and drinking fountain(s) conveniently located. The toilet room(s) shall contain a lavatory.

**1224.32.3.8.2.3 Drug distribution station.** Shall have a handwashing fixture and provisions for controlled storage, preparation and distribution of medication.

**1224.32.3.8.2.4 Scrub facilities for cesarean operating or delivery rooms(s).** Two positions

shall be provided adjacent to entrance to the first cesarean operating room. Provide one additional scrub sink per cesarean or delivery operating room. Scrub facilities shall be arranged to minimize any splatter on nearby personnel or supply carts. In new construction, provide view windows at scrub stations to permit the observation of room interiors.

**1224.32.3.8.2.5 Clean utility room.** A clean utility room shall be provided if clean materials are assembled within the obstetrical service space prior to use. If a clean utility room is provided see Section 1224.14.2.6.

**1224.32.3.8.2.6 Storage.**

1. Clean sterile storage area readily available to the delivery room.
2. Equipment storage room(s) for equipment and supplies used in the obstetrical service space.

**1224.32.3.8.2.7 Workroom.** An anesthesia workroom for cleaning, testing and storing anesthesia equipment. It shall contain a work counter, sink, and provisions for separation of clean and soiled items.

**1224.32.3.8.2.8 Male and female staff clothing change areas.** The clothing change area shall be designed to encourage one-way traffic and eliminate cross-traffic between clean and contaminated personnel. The area shall contain lockers, showers, toilets, handwashing fixtures, and space for donning and disposing scrub suits and booties.

**1224.32.3.8.2.9 Staff lounge.** Lounge and toilet room facilities for obstetrical staff convenient to cesarean operating rooms(s), delivery room(s), labor rooms(s) and recovery room(s). Each toilet room shall contain handwashing fixtures.

**1224.32.3.8.2.10 On-call room.** An on-call room(s) for physician and/or staff shall be provided, but may be located elsewhere in the facility.

**1224.32.3.8.2.11 Housekeeping room.**

**1224.32.4 LDR and LDRP facilities.**

**1224.32.4.1 Location.** LDR room(s) may be located in a separate LDR service space or as part of the cesarean/delivery service space. The postpartum unit may contain LDRP rooms.

**1224.32.4.2 Space requirements.** These rooms shall have a minimum of 250 square feet (23.23 m<sup>2</sup>) of clear floor area with a minimum dimension of 13 feet (3962 mm). There shall be space for crib and sleeping space for support person. An area within the room but distinct from the mother's area shall be provided for infant stabilization and resuscitation. The medical gas outlets shall be located in the room so that they are accessible to the mother's delivery area and infant resuscitation area.

**1224.32.4.3 Occupancy.** Each LDR or LDRP room shall be for single occupancy.

3. Space for group recreation or patient's lounge shall be provided at the minimum rate of 20 square feet (1.86 m<sup>2</sup>) per bed.
4. Space for staff conferences, patient evaluation, and progress reports.
5. A classroom space.
6. An examination and treatment room, adjacent or directly accessible to an office for the physician in charge of the outpatient service.
7. A patient waiting area with access to telephone, drinking fountain, and men's and women's toilet room facilities in or adjacent to the rehabilitation outpatient service area.
8. Access to an outside area to be used for therapeutic procedures for patients.
9. At least one training toilet room in each patient unit with minimum dimensions of 5 feet by 6 feet (1524 mm by 1829 mm).
10. Patient bathtubs, where provided, of standard height and located to provide access to both sides and one end of the tub.
11. Patient showers, where provided in centralized bathing facilities, shall comply with Section 11B-608.2.2, no dimension of which shall be less than 4 feet (1219 mm), be equipped with handrails, privacy curtains, and designed for ease of accessibility. The floor shall be sloped to provide drainage.

**1224.35.2 Physical therapy service space.** If physical therapy is part of the service, the following shall be included:

1. Individual treatment area(s) with privacy screens or curtains. Each such space shall have not less than 70 square feet (6.51 m<sup>2</sup>) of clear floor area.
2. Handwashing fixtures for staff either within or at each treatment space. (One handwashing fixture may serve several treatment stations.)
3. Exercise area and facilities.
4. Clean linen and towel storage.
5. Storage for equipment and supplies.
6. Separate storage for soiled linen, towels, and supplies.

**Exception:** When approved by the licensing agency small or rural hospitals are exempt from Sections 1224.35.2.1 through 1224.35.2.6.

**1224.35.3 Occupational therapy service space.** If this service is provided, the following shall be included:

1. Work areas and counters suitable for wheelchair access.
2. Handwashing fixture(s).
3. Storage for supplies and equipment.
4. An area for teaching daily living activities shall be provided. It shall contain an area for a bed, kitchen

counter with appliances and sink, bathroom, and a table/chair.

**1224.35.4 Speech pathology and/or audiology service space.** If a speech pathology service is provided, space shall be provided for:

1. Tables and chairs to conduct interviews, consultations and treatment, and to accommodate patients in wheelchairs and stretchers.
2. A waiting area with access to public toilet room(s) if outpatients are being served.
3. Handwashing fixture.
4. Testing unit. If an audiology service is provided, there shall be, in addition to Items 1, 2 and 3 above, a minimum of one two-room testing unit that meets the American National Standards Institute, ANSI/ASA S-3.1, 1999, (2008) Maximum Permissible Ambient Noise Levels for Audiometric Test Rooms.

**1224.36 RENAL DIALYSIS SERVICE SPACE (ACUTE AND CHRONIC)**

**1224.36.1 General.** If provided, renal dialysis service shall comply with the following:

**1224.36.2 Treatment area.**

**1224.36.2.1 Location.** The treatment area may be an open area and shall be separate from administrative and waiting areas.

**1224.36.2.2 Nurses' station(s).** Shall be located within the dialysis treatment area and designed to provide visual observation of all patient stations.

**1224.36.2.3 Individual patient treatment areas.** Shall contain at least 80 square feet (7.44 m<sup>2</sup>). There shall be at least a 4-foot (1219 mm) space around and between beds and/or lounge chairs.

**1224.36.2.4 Handwashing fixtures.** Shall be located convenient to the nurses' station and patient treatment areas. There shall be at least one handwashing fixture serving no more than four stations. These shall be uniformly distributed to provide equal access from each patient station.

**1224.36.2.5 Privacy.** The open unit shall be designed to provide privacy for each patient.

**1224.36.2.6 Bloodborne infection isolation room.** A minimum of one bloodborne infection isolation room of at least 120 square feet (11.15 m<sup>2</sup>) of clear floor space shall be provided for patients. This room shall contain a counter and handwashing fixture.

**1224.36.2.7 Medication dispensing.** If provided, there shall be a medication dispensing station for the dialysis center. A work counter and handwashing fixtures shall be included in this area. Provisions shall be made for the controlled storage, preparation, distribution and refrigeration of medications.

**1224.36.2.8 Home training.** If provided in the unit, a private treatment area of at least 120 square feet (11.15 m<sup>2</sup>) shall be provided for patients who are being

trained to use dialysis equipment at home. This room shall contain counter, handwashing fixtures, and a separate drain for fluid disposal.

**1224.36.2.9 Examination room.** An examination room with a handwashing fixture shall be provided with at least 100 square feet (9.29 m<sup>2</sup>).

**1224.36.2.10 Clean utility room.** A clean utility room shall be provided. If the room is used for preparing patient care items, it shall contain a work counter, a handwashing fixture, and storage facilities for clean and sterile supplies. If the room is used only for storage and holding as part of a system for distribution of clean and sterile materials, the work counter and handwashing fixture may be omitted. Soiled and clean utility rooms or holding rooms shall be separated and have no direct connection.

**1224.36.2.11 Soiled utility room.** A soiled workroom shall be provided and contain a sink, handwashing fixture, work counter, storage cabinets, waste receptacles and a soiled linen receptacle.

**1224.36.2.12 Reprocessing room.** If dialyzers are reused, a reprocessing room is required and sized to perform the functions required and include one-way flow of materials from soiled to clean with provisions for a refrigerator (temporary storage or dialyzer), decontamination/cleaning areas, sinks, processors, computer processors and label printers, packaging area and dialyzer storage and disinfectants cabinets.

**1224.36.2.13 Nourishment station.** If a nourishment station for the dialysis service is provided, the nourishment station shall contain a sink, a work counter, a refrigerator, storage cabinets and equipment for serving nourishments as required.

**1224.36.2.14 Housekeeping room.** Provide adjacent to and for the exclusive use of the unit.

**1224.36.2.15 Repair room.** If required, an equipment repair and breakdown room shall be equipped with a handwashing fixture, deep service sink, work counter and storage cabinet. Needs water supply and drain connection for testing machines.

**1224.36.2.16 Supplies.** Supply areas or supply carts shall be provided.

**1224.36.2.17 Storage.** Storage space shall be available for wheelchairs and gurneys, if gurneys are provided, out of direct line of traffic.

**1224.36.2.18 Clean linen storage.** A clean linen storage area shall be provided. This may be within the clean utility room, a separate closet, or an approved distribution system. If a closed cart system is used, storage may be in an alcove. It must be out of the path of normal traffic and under staff control.

**1224.36.2.19 Mixing room.** Each facility using a central batch delivery system shall provide, either on the premises or through written arrangements, individual delivery systems for the treatment of any patient requiring special dialysis solutions. The mixing room shall also include a sink, storage space and holding tanks.

**1224.36.2.20 Water treatment room.** The water treatment equipment shall be located in an enclosed room.

**1224.36.2.21 Patient toilet.** A patient toilet room with a lavatory shall be provided.

**1224.36.3 Ancillary facilities.**

**1224.36.3.1 Staff lounge, lockers and toilet(s).** Space shall be available for male and female personnel for staff clothing change area and lounge. The areas shall contain lockers, shower, toilet(s), and handwashing fixtures.

**1224.36.3.2 Patient storage.** Storage for patients' belongings shall be provided.

**1224.36.3.3 Waiting room.** A waiting room, toilet room(s) with handwashing fixtures, drinking fountain, public telephone, and seating accommodations for waiting periods shall be available or accessible to the dialysis unit.

**1224.36.3.4 Administrative services.** Provide office and clinical work space.

**1224.37 RESPIRATORY THERAPY SERVICE SPACE.** If respiratory service is provided, the following elements shall be included:

1. **Storage for equipment and supplies.**
2. **Space and utilities for cleaning and disinfecting equipment.** Provide physical separation of the space for receiving and cleaning soiled materials from the space for storage of clean equipment and supplies. Appropriate local exhaust ventilation shall be provided if gluteraldehyde or other noxious disinfectants are used in the cleaning process. This space may be co-located with other reprocessing functions within the hospital.
3. **Additional facilities.** If respiratory services such as testing and demonstration for outpatients are part of the program, additional facilities and equipment shall be provided including but not limited to:
  - 3.1. Patient waiting.
  - 3.2. A reception and control station.

**1224.38 INTERMEDIATE-CARE SERVICE SPACE.** An intermediate-care service unit shall be housed in a separate and distinct nursing unit and shall comply with the applicable requirements of Section 1225.

**1224.39 OUTPATIENT SERVICE SPACE.**

**1224.39.1 Waiting area(s).** Provide with access to public toilet room facilities, a public telephone and a drinking fountain. These facilities may be shared with other services.

**1224.39.2 Outpatient surgery.** If outpatient surgery is performed in the out patient service area, the following shall be provided:

1. An operating room(s) with a minimum clear floor area of 270 square feet (25.08 m<sup>2</sup>), no dimension of which shall be less than 15 feet (4572 mm).

2. Preoperative patient holding shall be provided in accordance with Section 1224.15.2.
3. A postanesthesia recovery area which meets the requirements of Section 1224.16.
4. Each surgical unit shall provide a separate cleanup room separated from any surgical sterilizing facilities. The cleanup room shall provide 24 square feet (2.2 m<sup>2</sup>) per operating room up to eight operating rooms and shall have the minimum area of 48 square feet (4.5 m<sup>2</sup>), with no dimension less than 6 feet (1829 mm).
5. Scrub sinks which meet the requirements of Section 1224.15.3.5.
6. Service areas which meet the requirements of Section 1224.15.3.
7. A housekeeping room shall be provided for the exclusive use of outpatient surgery. It shall be directly accessible from the service area.

**1224.39.3 Gastrointestinal endoscopy.** If gastrointestinal endoscopy is performed in the outpatient service area, the endoscopy suite shall be divided into a minimum of three major functional areas: the procedure room(s), instrument processing room(s), and patient holding/preparation and recovery room or area and the following shall be provided:

**1224.39.3.1 Procedure room(s).**

**1224.39.3.1.1 Space requirements.** Procedure room shall have a minimum clear floor area of 200 square feet (18.6 m<sup>2</sup>). Room arrangement shall permit a minimum clearance of 3 feet, 6 inches (1067 mm) at each side, head, and foot of the gurney/table.

**1224.39.3.1.2 Handwashing fixture.** A separate dedicated handwashing station with hands-free controls shall be available in the procedure room.

**1224.39.3.2 Processing room.**

**1224.39.3.2.1** Dedicated processing room(s) for cleaning and decontaminating instruments shall be provided. The cleaning area shall allow for flow of instruments from the contaminated area to the clean assembly area and then to storage.

**1224.39.3.2.2** The decontamination area shall be equipped with the following:

1. Utility sink(s) shall be provided as appropriate to the method of decontamination used.
2. One freestanding handwashing station.
3. Work counter space(s).

**1224.39.3.3 Pre-operative patient holding.** A pre-operative patient holding area shall be provided in accordance with Section 1224.15.2.

**1224.39.3.4 Post-anesthesia recovery area.** A post-anesthesia recovery area shall meet the requirements of Section 1224.16.

**1224.39.3.5 Communication system.** A system for emergency communication shall be provided.

**1224.39.4 CANCER TREATMENT/INFUSION THERAPY SERVICE SPACE.**

**1224.39.4.1 General.** If provided, cancer treatment/infusion therapy service shall comply with the following:

**1224.39.4.2 Treatment area.**

**1224.39.4.2.1 Location.** The treatment area may be an open area and shall be separated from administrative and waiting areas.

**1224.39.4.2.2 Nurses' station(s).** Shall be located within the cancer treatment/infusion therapy area and designed to provide visual observation of all patient stations.

**1224.39.4.2.3 Individual patient treatment areas.** Shall contain at least 80 square feet (7.4 m<sup>2</sup>).

There shall be at least a 4-foot (1219 mm) space around and between beds and/or lounge chairs used for chemotherapy treatment/infusion.

**1224.39.4.2.4 Handwashing fixtures.** Shall be located convenient to the nurses' station and patient treatment areas. There shall be at least one handwashing fixture serving no more than four patient stations. These shall be uniformly distributed to provide equal access from each patient station.

**1224.39.4.2.5 Privacy.** The open unit shall be designed to provide privacy for each patient.

**1224.39.4.2.6 Medication dispensing.** If provided, there shall be a medication dispensing station for the cancer treatment/infusion therapy area. A work counter and handwashing fixture(s) shall be included in the area. Provisions shall be made for the controlled storage, preparation, distribution and refrigeration of medications.

**1224.39.4.2.7 Examination room.** An examination room with a handwashing fixture shall be provided with at least 100 square feet (9.29 m<sup>2</sup>).

**1224.39.4.2.8 Clean utility room.** A clean utility room shall be provided. If the room is used for preparing patient care items, it shall contain a work counter, a handwashing fixture, and storage facilities for clean and sterile supplies. If the room is used for storage and holding as part of a system for distribution of clean and sterile materials, the work counter and handwashing fixture may be omitted. Soiled and clean utility rooms or holding rooms shall be separated and have no direct connection.

**1224.39.4.2.9 Soiled utility room.** A soiled workroom shall be provided and contain a sink, handwashing fixture, work counter, storage cabinets, waste receptacles and a soiled linen receptacle.

**1224.39.4.2.10 Nourishment station.** If nourishment station for the cancer treatment/infusion therapy service is provided, the nourishment station shall contain a sink, a work counter, a refrigerator, storage cabinets and equipment for serving nourishment as required.

**1224.39.4.2.11 Housekeeping room.** Adjacent to and for the exclusive use of the unit.

**1224.39.4.2.12 Supplies.** Supply areas or supply carts shall be provided.

**1224.39.4.2.13 Storage.** Storage space shall be available for wheelchairs and gurneys. If gurneys are provided, they shall be out of the direct line of traffic.

**1224.39.4.2.14 Clean linen storage.** A clean linen storage area shall be provided. This may be within the clean utility room, a separate closet, or an approved distribution system. If a closed cart system is used, storage may be in an alcove. It must be out of the path of normal traffic and under staff control.

**1224.39.4.2.15 Patient toilet.** A patient toilet room with a lavatory shall be provided.

**1224.39.4.3 Ancillary facilities.**

**1224.39.4.3.1 Staff lounge, lockers and toilet(s).** Space shall be available for male and female personnel for staff clothing change area and lounge. The areas shall contain lockers, toilet(s), and handwashing fixtures.

**1224.39.4.3.2 Patient storage.** Storage for patients' belongings shall be provided.

**1224.39.4.3.3 Administrative services.** Office and clinical work space shall be provided.

**1224.39.4.3.4 Special design elements.** Decorative water features and fish tanks shall not be located inside cancer treatment/infusion therapy unit.

**1224.40 SKILLED NURSING SERVICE SPACE.** If provided a skilled nursing service unit shall be housed in a separate and distinct nursing unit and shall comply with the applicable requirements of Section 1225.

**1224.41 SOCIAL SERVICE SPACE.** If provided, the social service space shall include office or other space for privacy in interviewing, telephoning and conducting conferences.

**SECTION 1225 [OSHPD 2]  
SKILLED NURSING AND  
INTERMEDIATE-CARE FACILITIES**

**1225.1 Scope.** The provisions of this section shall apply to skilled nursing and intermediate-care facilities, including distinct part skilled nursing and intermediate-care services on a general acute-care or acute psychiatric hospital license, provided either is in a separate unit or a freestanding building. Skilled nursing facilities and intermediate-care facilities shall provide all common elements and support services. The required services for skilled nursing and intermediate-care facility licensure: dietary, pharmacy services, and activity program shall be provided. At the option of the provider, the medical model or the household model may be used.

**1225.1.1 Small house skilled nursing facilities.** Skilled nursing facilities participating in the Small House Nursing Facilities Pilot Program established by and in conformance with Section 1323.5 of the California Health and Safety Code, shall meet all the provisions of Section 1225.4 Common Elements and Section 1225.5.2 Household Model applicable to small house skilled nursing facilities.

**1225.2 Application.** New buildings and additions, alterations or repairs to existing buildings subject to licensure shall comply with applicable provisions of the California Electrical Code, California Mechanical Code, California Plumbing

Code, California Fire Code (Parts 3, 4, 5 and 9 of Title 24), and this section.

**Exception:** See Section 1224.2.

**1225.3 Definitions.** Refer to Section 1224.3.

**1225.4 COMMON ELEMENTS.**

**1225.4.1 NURSING SERVICE SPACE.**

**1225.4.1.1 Nurses' station.** A nurses' station in free-standing skilled nursing and intermediate-care facilities shall be provided within each nursing unit. Nurses' stations shall be designed to serve no more than 60 beds.

**1225.4.1.1.1 Components.** Nurses' stations shall be provided with a cabinet, a desk, space for records, a bulletin board, a telephone, a specifically designated, lockable and illuminated medicine storage compartment, and a handwashing fixture. If a separate medicine room is provided, it shall have a lockable door and a sink. This sink cannot replace the required nurses' station handwashing fixture.

**1225.4.1.1.2 Size.** Nurses' stations serving 25 or less beds shall have a minimum floor area of 100 square feet (9.29 m<sup>2</sup>). Nurses' stations servicing more than 25 beds shall have a minimum floor area of 125 square feet (11.6 m<sup>2</sup>). The minimum dimension of any nurses' station shall not be less than 8 feet (2438 mm).

**1225.4.1.1.3 Distance.** In free-standing skilled nursing and intermediate-care facilities, the distance between the nurses station entrance and the center of the doorway of the most remote patient bedroom shall not exceed 150 linear feet (45,720 mm).

**Exception:** The 150-foot (45,720 mm) limit does not apply to distinct part skilled nursing and intermediate-care services provided as a separate unit in a general acute-care hospital or acute psychiatric hospital.

**1225.4.1.2 Room identification.** Each patient room shall be labeled with an identification number, letter, or combination of the two.

**Exception:** Small house skilled nursing facilities.

**1225.4.1.3 Utility rooms.** Utility rooms shall be provided in each nursing unit. Soiled and clean utility or holding rooms shall be separated and have no direct connection.

**1225.4.1.3.1 Clean utility room.** If the room is used for preparing patient care items, it shall contain a work counter, a handwashing fixture, and storage facilities for clean and sterile supplies. If the room is used only for storage and holding as part of a system for distribution of clean and sterile materials, the work counter and handwashing fixture may be omitted.

**1225.4.1.3.2 Soiled workroom or soiled holding room.** This room shall be separate from the clean utility room. The soiled workroom/utility room shall contain a clinical sink (or equivalent flushing-rim fixture). The room shall contain a handwashing fixture. The above fixtures shall both have a hot and

cold mixing faucet. The room shall have a work counter and space for separate covered containers for soiled linen and waste. Rooms used only for temporary holding of soiled material may omit the clinical sink and work counter. If the flushing-rim clinical sink is eliminated, facilities for cleaning bedpans shall be provided elsewhere.

**1225.4.1.4 Visual privacy.** A method of assuring visual privacy for each patient shall be provided in patient rooms and in tub, shower and toilet rooms.

**1225.4.1.5 Treatment or exam room.** If provided, the treatment or exam room shall comply with all of the requirements of Section 1224.4.4.

**1225.4.1.6 Toilet room and bath facilities.** Separate toilet room facilities shall be provided for the use of patients and personnel.

**1225.4.1.6.1 Grab bars.** Each toilet, bathtub and shower serving patients shall be provided with conveniently located grab bars.

**1225.4.1.6.2 Bathroom facilities.** Bathroom facilities shall be provided for patients in convenient locations in at least the following ratios:

Bathtubs or showers     1:20 patients or major fraction thereof.

(Minimum one bathtub on each floor)

Lavatories                 1:8 patients

(Fixtures shall be equipped with gooseneck spouts without aerators and may have conventional controls.)

Toilets                      1:6 patients

Fixtures serving individual patient rooms shall not be considered as meeting the required ratios for bedrooms not served by individual adjoining toilet room or bathrooms. Changes in these ratios for wards or units in which bed patients only are to be cared for, may be permitted by the enforcing agency.

**1225.4.1.7 Patient/nurse call system.** A patient/nurse call system complying with Section 517.123, California Electrical Code, shall be provided.

**1225.4.1.7.1** In small house skilled nursing facilities, visitor toilet room(s) shall be equipped with a nurse call station.

**1225.4.1.8 Special-purpose rooms.** Special-purpose rooms for the purpose of single-patient occupancy shall be provided at a ratio of one room for every 35 patients or fraction thereof. Airborne infection isolation rooms may be included in determining the number of special-purpose rooms required for the facilities.

**Exception:** The special-purpose room may be omitted if all patient rooms are single-resident rooms.

**1225.4.1.9 Airborne infection isolation rooms.** If provided, the airborne infection isolation room shall comply with all of the requirements of Section 1224.14.3.

**1225.4.1.10 Protective environment room(s).** If provided, the protective environment room shall comply with all of the requirements of Section 1224.14.4.

**1225.4.2 DIETETIC SERVICE SPACE.**

**1225.4.2.1 General.** Food service facilities and equipment shall conform with these standards, the standards of the National Sanitation Foundation, and the requirements of the local public health agency.

**1225.4.2.1.1 Distribution.** Provision(s) shall be made for transport of hot and cold foods as required, appropriate for the type of food service selected.

**1225.4.2.1.2 Dining space.** Separate dining spaces shall be provided for patients and staff. These spaces shall be separate from the food preparation and distribution areas.

**Exception:** Shared dining shall be provided for patients and staff in small house skilled nursing facilities.

**1225.4.2.1.3 Location.** The design and location of dining facilities shall encourage patient use.

**1225.4.2.1.4 Food service.** Facilities shall be furnished to provide nourishment and snacks between scheduled meal service.

**1225.4.2.2 Functional elements.** The following facilities, in the size and number appropriate for the type of food service selected, shall be provided:

**1225.4.2.2.1 Location.** Food-service areas shall be directly accessible to the entry for food supply deliveries and for the removal of kitchen wastes.

**1225.4.2.2.2 Receiving/control stations.** A control station shall be provided for the receiving and control of incoming dietary supplies.

**1225.4.2.2.3 Food preparation facilities.** Food preparation facilities shall be provided to accommodate the method of food preparation required.

1. Conventional food preparation systems require space and equipment for preparing, cooking, and baking.
2. Convenience food service systems using frozen prepared meals, bulk packaged entrees, individual packaged portions, or those using contractual commissary services require space and equipment for thawing, portioning, cooking, and baking.

**1225.4.2.2.4 Handwashing station(s).** Handwashing station(s) shall be located in the food preparation area.

**1225.4.2.2.5 Ice-making facilities.** Ice-making facilities may be located in the food preparation area or in a separate room. They shall be easily cleanable and convenient to the dietary function.

**1225.4.2.2.6 Assembly and distribution.** A patient tray assembly area shall be provided and shall be located within close proximity to the food preparation and distribution areas.

1. If food service carts are utilized, a cart distribution system shall accommodate spaces for storage, loading, distribution, receiving, and sanitizing of the food service carts. Cart circulation shall not be through food preparation areas.

**1225.4.2.2.7 Ware-washing facilities.** Ware-washing space shall be provided in a room separate from the food preparation and serving area. It shall be designed to prevent contamination of clean wares with soiled wares through cross-traffic. The clean wares shall be transferred for storage or use in the dining area without having to pass through food preparation areas.

1. Commercial-type ware-washing equipment shall be provided.
2. Space shall be provided for receiving, scraping, sorting, and stacking soiled tableware, and for transferring clean tableware to the using areas.
3. Convenient handwashing stations shall be provided in the ware-washing space.

**1225.4.2.2.8 Pot-washing facilities.** Pot-washing facilities shall include multi-compartmented sinks.

**1225.4.2.2.9 Office space.** Office or other space shall be provided for the dietician or dietetic service supervisor.

**1225.4.2.2.10 Storage.**

1. Food storage space, including cold storage, shall be provided for a supply of food of at least a 7 day staple, 2 day frozen, 2 day perishable, and an emergency food and water supply. All food shall be stored clear of the floor. The lowest shelf shall be not less than 12 inches (305 mm) above the floor or shall be closed in and sealed tight, for ease of cleaning.

As a minimum, dietary storage space shall be provided in accordance with the following schedule:

<b>Licensed Bed Capacity</b>	<b>Storage Space</b>
1 to 99 beds	2 square feet (0.19 m <sup>2</sup> ) per bed
100 to 199 beds	200 square feet (18.58 m <sup>2</sup> ) plus 1 square foot 0.0929 m <sup>2</sup> ) per bed in excess of 100 beds
200 beds and over	300 square feet (27.99 m <sup>2</sup> ), plus 1/2 square foot (0.0465 m <sup>2</sup> ) per bed in excess of 200 beds

Space to allow refrigeration for the storage of frozen and chilled foods shall be provided at a minimum of 2 cubic feet (0.057 m<sup>3</sup>) of usable space per bed.

2. Additional storage space for dietetic service supplies, such as paper products, equipment, tray delivery carts, etc. shall be provided.
3. Storage areas and sanitizing facilities for cans, carts, and mobile-tray conveyors shall be provided.
4. Waste, storage, and recycling facilities (per local requirements) shall be located in a sepa-

rate room easily accessible to the outside for direct pickup or disposal.

**1225.4.2.2.11 Toilet rooms.** Toilet rooms shall be provided for the exclusive use of the dietary staff. They shall not open directly into the food preparation areas, but shall be in close proximity.

**Exception:** Small house skilled nursing facilities utilizing staff trained for dietary and care-giving responsibilities may provide toilet room(s) serving both the dietary and nursing service areas.

**1225.4.2.2.12 Lockers.** An enclosed, separate area shall be provided for dietetic service employees' clothing and personal belongings.

**Exception:** Small house skilled nursing facilities utilizing staff trained for dietary and care-giving responsibilities may provide common locker room(s) serving both the dietary and nursing service areas.

**1225.4.2.2.13 Housekeeping room.** A housekeeping room meeting the requirements of Section 1224.4.15 shall be located within the dietary department for the exclusive use of the dietary department.

**1225.4.2.3 Outside service.** On approval of the Licensing Agency, when food is provided by an outside food service, the facility shall maintain adequate space, equipment, and food supplies to accommodate required functional elements listed in Section 1225.4.2.2, as required to provide patient food service in the event that the outside food service is interrupted.

**SUPPORT SERVICES**

**1225.4.3 ADMINISTRATION SPACE.**

**1225.4.3.1 Administration and public spaces.** An administration area shall be provided which shall include space for business, administration, admitting, public toilet room(s), lobby, and public telephone.

**1225.4.3.2 Medical record storage.** Space shall be provided for the storage of medical records.

**1225.4.3.3 Office.** An office for the director of nurses shall be provided.

**1225.4.3.4 Small house skilled nursing facilities.** Small house skilled nursing facility units may provide the administration and public spaces, medical record storage and the nursing director's office in a separate centralized support area attached to the unit(s) or detached in a separate building in close proximity to the unit(s), as a part of the small house skilled nursing facility. This building shall be under OSHPD jurisdiction.

**1225.4.4 STERILE SUPPLIES.**

**1225.4.4.1 Storage.** Each facility shall provide space for the storage of disposable sterile supplies or provide space for sterilization and disinfection equipment.

**Exception:** Facilities with contractual arrangements for outside autoclaving and sterilizing services.

**1225.4.4.2 Central sterile supply.** If provided, shall accommodate the following:

**1225.4.4.2.1 Minimum requirements.** A central supply and sterilizing area shall be provided. Rooms

and spaces shall accommodate the following services and equipment:

1. *Soiled work area.* A receiving and gross cleaning area which shall contain work space and equipment for cleaning medical and surgical equipment and for disposal of or processing of soiled material.
2. *Clean work area.* A clean work area which shall contain work space and equipment for sterilizing medical and surgical equipment and supplies.
3. *Sterilizing space.*
4. *Storage.* Space for sterile supplies and unsterile supplies.

**1225.4.4.2.2 Sterilizers.** All sterilizers and autoclaves which emit steam exhaust shall be vented to the outside of the building. Such vents shall be independent from the plumbing vent system.

*Exception:* Small instrument sterilizers.

**1225.4.5 STORAGE.**

**1225.4.5.1 Required areas.** Facilities shall provide combined general and specialized storage in accordance with the following schedule:

<b>Licensed Bed Capacity</b>	<b>Storage Area</b>
1 to 10 beds	120 square feet (11.15 m <sup>2</sup> ) minimum
11 to 100 beds	12 square feet (1.11 m <sup>2</sup> ) per bed
Over 100 beds	1,200 square feet (111.48 m <sup>2</sup> ) plus 5 square feet (0.46 m <sup>2</sup> ) per bed for each bed over 100

**1225.4.5.2 Specialized storage.** Shall include those spaces identified in the dietetic food storage of Section 1225.4.2.2.10 and as follows:

**1225.4.5.2.1 Linen.** Separate and enclosed facilities for clean and soiled linen in each nursing unit. The clean linen storage space shall have a minimum area of 10 square feet (0.93 m<sup>2</sup>) and may be within the clean utility room. The soiled linen collection space shall have an area of no less than 10 square feet (0.93 m<sup>2</sup>), except where linen chutes are provided, and may be within the soiled utility room.

**1225.4.5.2.2 Supply.** One supply storage space having a minimum area of 15 square feet (1.39 m<sup>2</sup>) shall be provided in each nursing unit. Supply storage may be within the clean utility room used only as part of a system for distributing clean and sterile supplies.

**1225.4.5.2.3 Wheelchairs.** A room or space shall be provided in each nursing unit for wheelchairs and stretchers. The wheelchair and stretcher space shall have a minimum area of 15 square feet (1.39 m<sup>2</sup>).

**1225.4.5.2.4 Separate supplies.** Sterile and unsterile supplies shall be stored separately.

**1225.4.5.2.5 Location.** All storage spaces shall be directly accessible on the site of the licensed facility.

**1225.4.6 HOUSEKEEPING ROOMS.** Housekeeping rooms shall be provided to serve each department and nursing unit, and may be shared by compatible departments, except when specifically required by other sections.

**1225.4.7 LAUNDRY.** If a laundry is to be provided, the following is required in addition to the laundry room:

1. A separate soiled linen receiving, holding and sorting room with handwashing fixture.
2. A separate clean linen storage, issuing and holding room.
3. Storage for laundry supplies.

**1225.4.7.1 Outside service.** If linen is processed off site, the following shall be provided within the facility:

1. A soiled linen holding room.
2. A separate clean linen receiving and storage room.

**1225.4.8 EMPLOYEE DRESSING ROOMS AND LOCKERS.** Separate dressing rooms with toilet(s), lavatories, and lockers for male and female personnel shall be provided.

*Exception:* Small house skilled nursing facilities, with a peak shift of less than five staff, may provide a single toilet room serving both male and female personnel in compliance with the California Plumbing Code Table 4-3, footnote 7.

**1225.5 SKILLED NURSING UNIT MODELS.** The requirements of the Medical Model or the Household Model shall apply to the Nursing Unit(s) in its entirety.

**1225.5.1 MEDICAL MODEL.**

**1225.5.1.1 General construction.** Skilled nursing and intermediate-care facilities shall comply with Sections 1224.4 through 1224.13 whenever applicable.

**1225.5.1.2 NURSING SERVICE SPACE.**

**1225.5.1.2.1 Patient bedrooms.** Patients shall be accommodated only in rooms with the following minimum floor area, exclusive of toilet rooms, wardrobes, entrance vestibules, and fixed furnishings or equipment.

1. Single-patient rooms: 110 square feet (10.21 m<sup>2</sup>).
2. Multi-patient rooms: 80 square feet (7.43 m<sup>2</sup>) per bed.

**1225.5.1.2.2 Bed clearance.** A minimum distance of 3 feet (914 mm) shall be provided between beds and 4 feet (1219 mm) between the foot of beds and walls or fixed objects in multi-patient rooms, and 3 feet (914 mm) in single-patient rooms.

**1225.5.1.2.3 Patient room beds.** Patient rooms shall not be designed to permit the placement of beds more than three deep from the exterior window, but shall be of such shape and dimensions to allow for the performance of routine functions, including the easy transfer of patients to and from bed to wheelchair or wheeled stretcher. No patient room shall be designed to accommodate more than four beds.

**1225.5.1.2.4 Outside exposure.** All patient bedrooms shall have an outside exposure and shall not be below ground level.

**1225.5.1.2.5 Patient storage.** Each patient room shall be provided with wardrobe or locker spaces for clothing, toilet articles, or other personal belongings for each patient.

**Exception:** Pediatric and psychiatric patient rooms.

**1225.5.1.3 PHARMACEUTICAL SERVICE SPACE.**

**1225.5.1.3.1 Drug space and storage.** Adequate space shall be provided at each nursing station for the storage of drugs and preparation of medication doses.

**1225.5.1.3.2 Drug access.** All spaces and areas used for the storage of drugs shall be lockable and accessible to authorized personnel only.

**1225.5.1.3.3 Narcotics.** Specific space shall be designed for safe storage of narcotics and other dangerous drugs.

**1225.5.1.3.4 Drug refrigeration.** Facilities shall provide for storage of drugs requiring refrigeration.

**1225.5.1.3.5 Pharmacy.** The pharmacy shall not serve the general public unless a separate public entrance or a separate public serving window is utilized.

**1225.5.1.4 ACTIVITY PROGRAMMING SPACE.**

Designated activity areas appropriate to independent and group needs of patients shall be provided as follows:

**1225.5.1.4.1 Skilled nursing facilities.**

1. Recreation room. Each floor of each building accommodating six or more patients shall be provided with a recreation room with a minimum of 100 square feet (9.29 m<sup>2</sup>).
2. Recreation and dining. A minimum of 100 square feet (9.29 m<sup>2</sup>) plus 12 square feet (1.11 m<sup>2</sup>) per bed shall be provided for recreation and dining activities.

**1225.5.1.4.2 Intermediate-care facilities.**

1. Recreation room. Each floor of each building accommodating five or more patients shall be provided with a recreation room with a minimum of 150 square feet (13.94 m<sup>2</sup>).
2. Recreation and dining. A minimum of 30 square feet (2.79 m<sup>2</sup>) per bed for recreation and dining activities.
3. Outdoor space for activities and recreation.

**1225.5.1.4.3 Equipment and supplies.** Recreation and dining spaces shall be provided with space to store equipment and supplies.

**1225.5.2 HOUSEHOLD MODEL.**

**1225.5.2.1 General construction.** Skilled nursing and intermediate-care facilities and small house skilled nursing facilities shall comply with Sections 1224.4 through 1224.13 whenever applicable, and the following sections:

**1225.5.2.1.1 Door thresholds.** Door thresholds, except where required at exterior doors and expansion joint covers, shall be designed to facil-

itate use of wheelchairs and carts and to prevent tripping, and shall provide a smooth and level transition from surface-to-surface.

**1225.5.2.1.2 Seating area.** A seating area(s) located out of the required egress width shall be provided along the access corridor that is used by patients.

**1225.5.2.1.3 Towel bars.** Towel bars shall be provided at each bathing facility.

**1225.5.2.1.4 Hardware.** All patient use plumbing fixtures and door operating hardware shall be equipped with lever type hardware for easy gripping and turning.

**1225.5.2.1.5 Drinking fountain.** A minimum of one drinking fountain shall be provided per resident floor, unless drinking water is available from the resident dietary area.

**1225.5.2.2 Cluster/household unit and resident unit.**

**1225.5.2.2.1 Design.** Each resident unit shall consist of the resident rooms, resident support areas, and resident living areas. The unit shall be designed as a cluster/household resident unit or as a resident unit with double or single loaded access corridors. If the cluster/household unit design is utilized, it shall be designed around resident support and living areas with a maximum of 20 patients per cluster/household unit. If the double or single loaded corridor resident unit design is utilized, the access corridor shall be designed so that travel distance from the entrance of the resident unit to the furthest resident room door is no more than 60 feet (18.29 m) without a change of corridor direction or a node for a resident sitting area.

**Exception:** Small house skilled nursing facilities are limited to household units with a maximum of 12 patients per unit. Small house household units may also be developed as individual, free-standing facilities.

**1225.5.2.2.2 Arrangement.** Each resident unit shall be arranged to avoid unnecessary and unrelated travel through the unit.

**1225.5.2.2.3 Distinct parts or neighborhoods.** Both the cluster/household unit and resident unit designs may be grouped into distinct parts or neighborhoods to a maximum of 60 patients. These distinct parts or neighborhoods composed of the resident unit(s) as described in Section 1225.5.2.2.1 may share the functional requirements of the resident support areas as described in Sections 1225.5.2.4 and 1225.5.2.5 of this code.

**1225.5.2.3 Resident room.**

**1225.5.2.3.1 Capacity.** In new construction and additions, the maximum room capacity shall be two patients. Resident sleeping areas in all double resident room designs shall be visually separated from each other by a full height wall or a permanently installed sliding or folding door or partition, and shall provide each patient direct use of and direct

access to an exterior window at all times. Walls, doors, or partitions used to separate resident beds shall provide visual and acoustical separation. A door leading to each resident bed area in addition to the corridor door is not required. Other resident room arrangements where a permanent partition or door is not used to separate the resident sleeping areas may be utilized if adequate visual separation such as a cubicle curtain(s) and an exterior window for each individual resident sleeping area is provided. In this case individual thermostats for the resident bed areas shall not be required.

**Exception:** In small house skilled nursing facilities, resident sleeping areas in all double-resident room designs shall be visually separated from each other by a full-height wall or a permanently installed sliding or folding door or partition, and shall provide each patient direct use of and direct access to an exterior window at all times. Walls, doors, or partitions used to separate resident beds shall provide visual and acoustical separation.

**1225.5.2.3.2 Renovation.** Where renovation work is undertaken of the resident room that alters the physical configuration of the resident room and the present capacity is more than two patients, the maximum room capacity shall be no more than two patients at the conclusion of the renovation.

**1225.5.2.3.3 Space requirements.** Rooms shall have a minimum of 100 square feet (9.29 m<sup>2</sup>) of clear floor area per bed in double resident rooms and 120 square feet (11.15 m<sup>2</sup>) of clear floor area in single resident rooms, exclusive of the space consumed by toilet rooms, closets, lockers, wardrobes, lavatories, alcoves, and door swings into the room or entrance vestibules, whichever is greater. For the purpose of minimum clear floor area, the entrance vestibule is defined as that floor area located between the room entrance door and the room floor area containing the resident bed(s).

**1225.5.2.3.4 Arrangement.** Dimensions and arrangement of resident rooms shall be designed to accommodate at least two bed positions to provide patient choice of bed placement. All such bed positions shall be designed so that the bed will not obstruct access to the supporting utilities serving the bed, such as the nurse call station, and the required electrical outlets that provide service for that bed. Only one bed position design shall be required for a bed that is equipped with a piped medical gas headwall unit, unless special requirements such as providing care for bariatric patients does permit the design of two bed positions in the room.

**1225.5.2.3.5 Clearance.** A 3 feet (0.91 m) wide clear access to each bed shall be provided along at least 75 percent of the length of one side of the bed and shall be designed to allow access for the use of a wheelchair and other portable equipment. For beds equipped with a piped-in medical gas headwall unit, there shall be a minimum of 3 feet (0.91 m) between the sides and foot of the bed and any wall or any

other fixed obstruction. For planning purposes, a full-size bed is assumed to be 3 feet 6 inches (1.07 m) wide by 8 feet (2.43 m) long.

**1225.5.2.3.6 Renovations.** For renovations that alter the physical configuration of the resident room but have existing structural limitations that require two resident beds to be located in a shared resident sleeping area, there shall be a minimum of 3 feet (0.91 m) between the sides and foot of the bed and the adjacent bed. If one bed must be located to the side of the other bed, there shall be a clearance of 4 feet (1.22 m) to any fixed obstruction available at the foot of this bed to permit the passage of equipment and bed without moving the resident's bed located nearest to the room door.

**Exception:** In small house skilled nursing facilities, two beds shall not be permitted in a shared resident sleeping area.

**1225.5.2.3.7 Resident toilet or bath room.** Each patient shall have access to a toilet room without having to enter the general corridor area or the resident bed area in a shared resident room. One toilet room shall serve no more than two patients and no more than two resident rooms. The door to the toilet room shall be side hinged and either swing out from the toilet room, or be equipped with emergency release hardware. Sliding doors equipped with sliding door hardware located on the resident room side of the wall and not equipped with a bottom door track shall be permitted. If a sliding door is used in a resident toilet or bath room, a D-shaped handle at least 4 inches (10.16 cm) long shall be provided to open the door. The sliding door shall permit access, and negate the need to push against a patient who may have collapsed within the toilet room. Unless otherwise required by this code, this door shall be at least 36 inches (914.4 mm) wide. A lavatory shall be provided in each resident toilet room.

**1225.5.2.3.8 Wardrobe closet.** Each resident room shall be provided with a wardrobe or closet for each patient. Each wardrobe or closet shall have minimum inside dimensions of 2 feet (0.61 m) in depth by 1 foot 8 inches (0.51 m) in width. Each shall be accessible to the patient at all times and shall have adjustable shelf(s) and an adjustable clothes rod that is adjustable in at most 4 inches (10.16 cm) increments from 4 feet (1.22 m) to 5 feet 8 inches (1.73 m) above finished floor or higher as closet size permits. When the wardrobe or closet is designed to meet the requirements for accessibility per Chapter 11B of this code, it shall include additional accessible storage area(s) for full-length garments. The shelf may be omitted if the clothing unit provides at least two drawers. Locked storage for personal items shall be provided within the resident sleeping room or area.

#### **1225.5.2.4 Resident support area.**

**1225.5.2.4.1 Features and arrangement.** Size and features of each resident support area will depend upon the number and type of patients served. The resident support area may be arranged and located to

serve more than one resident unit, but at least one such support area shall be provided on each resident floor. The following resident support areas shall be located in or be readily accessible to each resident unit.

**1225.5.2.4.2 Staff work area.** A centralized staff work area shall be provided. It shall have space for supervisory administrative work activities, charting, and storage. In each resident unit, the functions of administrative work, charting and storage may be located among several separate direct care staff work areas. In this case, a centralized staff work area is not required.

**1225.5.2.4.3 Clean utility.** A clean utility or clean holding room for storage and distribution of clean supply materials shall be provided. If the room is used for preparing patient care items, it shall contain a work counter, a handwashing fixture, and storage facilities for clean and sterile supplies. If the room is used only for storage and holding as a part of a system for distribution of clean and sterile supply materials, the work counter and handwashing fixture requirements may be omitted. The minimum size of the room shall be 15 square feet (1.39 m<sup>2</sup>) with 1 square foot (0.092 m<sup>2</sup>) of additional space provided per patient for over 15 patients and may be allocated among several clean utility or clean holding rooms or closets.

**1225.5.2.4.4 Soiled utility.** A soiled utility or soiled holding room(s) shall be provided. The soiled utility function shall be comprised of a flushing rim clinical service sink or other appropriate flushing fixture, with bedpan rinsing device, soiled linen receptacles, waste receptacles and a work counter with a usable minimum work surface area of 6 square feet (0.56 m<sup>2</sup>). The total minimum size of the room shall be 20 square feet (1.86 m<sup>2</sup>) with 1.5 square feet (0.140 m<sup>2</sup>) of additional space provided per patient for over 15 patients and may be allocated among several soiled utility or soiled holding rooms. Rooms used only for the holding of soiled materials need contain only a handwashing fixture.

**1225.5.2.4.5 Medicine preparation.** A medicine preparation room or a self contained medicine dispensing unit shall be provided for the provision of medication distribution. The self-contained medicine dispensing unit shall be under the visual control of the staff. If a medicine preparation room is utilized, it shall be equipped with a lockable door, have a minimum area of 50 square feet (4.65 m<sup>2</sup>) and shall contain a refrigerator, locked storage for controlled drugs, a handwashing fixture, and a work counter with a minimum of 6 square feet (0.56 m<sup>2</sup>) of work surface. If a self-contained medicine dispensing unit is utilized, it may be located at the nurses' station, in the clean utility room, in an alcove, or in other spaces convenient for staff control provided the area occupied by the unit does not encroach upon required minimum areas. The dispensing unit may be used in a medicine preparation

room as locked storage for controlled drugs within the minimum area of 50 square feet (4.65 m<sup>2</sup>), however, the standard "cup sinks" provided in many self-contained units shall not be a substitute for the required handwashing fixture. If there is no linen storage in the clean utility room, medicine preparation may be part of the clean utility room in which case an additional 20 square feet (1.8 m<sup>2</sup>) dedicated for this purpose shall be required. A refrigerator shall also be required if medicine preparation is included in this room. Non-controlled prescription drugs may be stored inside the resident's sleeping room or toilet room if they are secured inside of an automatic closing and automatic locking dispensing unit that is secured in place.

**1225.5.2.4.5.1** In small house skilled nursing facilities, if self-contained medicine dispensing units are provided, they shall be located in either a medication preparation room or a clean utility room.

**1225.5.2.4.6 Equipment storage.** An equipment storage room(s) shall be provided for storage of resident unit equipment. The minimum area required shall be equal to 2 square feet (0.19 m<sup>2</sup>) for each patient with no room being less than 20 square feet (1.86 m<sup>2</sup>) in area.

**1225.5.2.4.7 Housekeeping room.** A housekeeping room(s) shall be provided for storage and use of housekeeping supplies and equipment.

**1225.5.2.4.8 Clean linen room.** A clean linen storage room, closet, or area shall be provided. This area may be located within the clean utility or clean holding room and shall be large enough to accommodate the storage of linen carts.

**1225.5.2.4.9 Nourishment room.** A nourishment room or area for serving nourishments between meals shall be provided and shall contain a work counter, refrigerator, storage cabinets, and sink. Ice for patients' consumption shall be provided by an icemaker unit that may serve more than one nourishment station if the nourishment stations are in close proximity to each other. Where the icemaker unit is accessible to patients or the public, it shall be a self-dispensing type. The nourishment room shall include space for trays and dishes used for nonscheduled meal service. A handwashing fixture shall be in or immediately accessible from the nourishment room.

**1225.5.2.4.9.1** In small house skilled nursing facilities, the nourishment area may be provided as part of the resident dietary area required under Section 1225.5.2.5.4.

**1225.5.2.4.10 Storage alcove.** A storage alcove space for a wheelchair(s) shall be provided in an area located out of the required means of exit access.

**1225.5.2.4.11 Resident bathing facilities.** Resident bathing facilities shall be provided with a minimum of one bathtub or one hydro tub per resident unit, or one shower for every 20 patients or fraction thereof not otherwise served by bathing facilities in resident rooms. When centralized bathing is provided,

patients shall have access to at least one bathing room per floor or unit sized to permit assisted bathing in a tub or shower in that resident unit. The bathtub in this room shall be accessible to patients in wheelchairs and the shower shall accommodate a shower chair. Other tubs or showers shall be in individual rooms or curtained enclosures with space for private use of the bathing fixture, for drying and dressing, and access to a grooming location containing a sink, mirror, and counter or shelf. A separate private toilet shall be provided that is directly accessible to each multi-bathing fixture central bathing area without requiring entry into the general corridor. This toilet may also serve as a toilet training facility. This centralized bathing area shall comply with Chapter 11B of this code.

**1225.5.2.4.12 Private bathing.** All showers located in bathrooms connected directly to the resident room shall be designed so that a shower chair can be easily rolled over the threshold. Resident rooms and associated toilet rooms, required to be accessible, shall comply with Chapter 11B of this code.

**1225.5.2.5 Resident living area.**

**1225.5.2.5.1 Dining.** Dining, lounges, and recreation and social areas for patients shall be provided in each resident unit. The total area of these spaces shall be a minimum of 35 square feet (3.25 m<sup>2</sup>) per patient with a minimum total area of 225 square feet (20.90 m<sup>2</sup>). At least 20 square feet (1.86 m<sup>2</sup>) per patient shall be available for dining. Storage for supplies and equipment shall be provided in the recreation area.

**1225.5.2.5.2 Outdoor area.** Outdoor area(s) shall be provided for the use of all patients and shall include walking paths of durable materials, benches, shaded areas, and visual focusing element(s) such as landscaping, sculpture(s), or fountain(s). Security fencing if used shall be of a residential design and provide some visual connection to the exterior of the secured area. If an exterior visual connection is not possible or desirable, then the interior of the outside area shall be landscaped to be visually interesting.

**1225.5.2.5.3 Storage.** Storage for supplies, patient needs, and recreation shall be provided. The minimum required area shall be 5 square feet (0.46 m<sup>2</sup>) per bed up to 600 square feet (55.74 m<sup>2</sup>).

**1225.5.2.5.4 Dietary area.** A resident dietary area shall be provided in the resident unit for the use of staff, patients, and family. The resident dietary area may include cooking equipment, counter tops, kitchen sink, and storage areas. This dietary area is in addition to the dietetic service space requirements in Section 1225.4.2.

**1225.5.2.5.4.1** Food preparation spaces in the resident dietary area in a small house skilled nursing facility shall be designed to accommodate the method of food preparation required. The Califor-

nia Department of Public Health, Licensing and Certification shall review proposed food services spaces at a preliminary stage of plan review.

**1225.5.2.5.4.2.** The resident dietary area in a small house skilled nursing facility shall provide a handwashing fixture. This handwashing fixture shall be in addition to the kitchen sink and shall be located in or immediately accessible to the resident kitchen facilities.

**1225.5.2.5.4.3** When provided, the resident dietary area in a small house skilled nursing facility shall have a commercial ware-washing space meeting the requirements for the care model used. This space shall be designed to prevent cross contamination by providing area for receiving, scraping, sorting, and stacking soiled tableware and for transferring clean tableware to point-of-use areas.

**1225.5.2.5.4.4** The resident dietary area in a small house skilled nursing facility shall provide access to self-dispensing drinking water and self-dispensing ice.

- (a)Ice-making equipment shall be accessible to residents and visitors
- (b)Ice-making equipment shall be located, designed, and installed to minimize noise.
- (c)Ice-making equipment shall be permitted to serve more than one food area within resident kitchen facilities.

**1225.5.2.5.5 Therapy unit.** If provided, physical, speech, and occupational therapy units shall comply with Sections 1225.6.2 through 1225.6.4.

**1225.5.2.5.6 Barber/beauty room.** If provided, the barber/beauty room shall be a minimum of 120 square feet (11.15 m<sup>2</sup>) with the least dimension of 10 feet (3.05 m).

**1225.5.2.5.7 Resident laundry facilities.** If provided, resident laundry facilities including washing and drying equipment may be provided for staff, family, or individual patient use for the laundering of patient's personal items. If provided they shall be readily accessible from each resident unit without requiring the user to enter another resident unit or floor, and may be shared between two resident units. These resident laundry facilities may utilize residential laundry equipment. Each resident laundry area shall contain a handwashing fixture.

**1225.5.2.6 STAFF SUPPORT AREA.**

**1225.5.2.6.1 Staff lounge.** Staff lounge area(s) shall be provided. It may be shared by multiple resident units if the lounge is located so it is accessible without requiring the user to enter into or through any other resident unit.

**1225.5.2.6.2 Storage.** Lockable closets, drawers, or compartments shall be provided on the resident unit

for staff and may be located in the lounge for safe-keeping of staff's personal effects.

**1225.5.2.6.3 Staff toilet room.** Staff toilet room shall be provided conveniently located to each resident unit.

**1225.5.2.6.4 Multipurpose room.** At least one multipurpose room per skilled nursing facility shall be provided for conferences, meetings, and health education purposes, and shall accommodate the use of visual aids. This room shall have a minimum area of 120 square feet (11.15 m<sup>2</sup>).

**1225.5.2.6.5 Conference room.** Conference or consultation room for patient and family use shall be provided and may be shared by more than two resident units if it is centrally located to each.

**1225.6 OPTIONAL SERVICES.**

**1225.6.1 General.** Waiting areas and access to optional services for outpatients shall accommodate the following:

**1225.6.1.1 Outpatient waiting rooms.** Waiting rooms for outpatients shall provide a seating area and space for wheelchairs, and have public corridor access to, or provisions for, public toilet room(s), drinking fountain, and telephone.

**Note:** One waiting area may serve more than one department or service.

**1225.6.1.2 Circulation.** If x-ray examinations are to be performed on outpatients, outpatient access to the radiological spaces shall not traverse a nursing unit.

**Exception:** Satellite radiology, laboratory, pharmacy, and physical and occupational therapy space serving inpatients may be located in nursing units and inpatient treatment areas.

**1225.6.2 PHYSICAL THERAPY SERVICE.**

**1225.6.2.1 Area.** The minimum floor area for a physical therapy service shall be 300 square feet (27.87 m<sup>2</sup>), with no dimensions less than 12 feet (3658 mm).

**1225.6.2.2 Toilet room(s).** Toilet room facilities shall be directly accessible and allow for patient transfer activities.

**1225.6.2.3 Equipment space.** See Title 22 for required equipment.

**1225.6.2.4 Handwashing fixture.** A minimum of one handwashing fixture shall be provided.

**1225.6.3 OCCUPATIONAL THERAPY SERVICE.** An occupational therapy service shall accommodate the requirements of Sections 1225.6.2.1, 1225.6.2.2 and 1225.6.2.4.

Storage space shall be provided.

**Note:** See Title 22 for required equipment, supplies, and adaptive devices.

**1225.6.4 SPEECH PATHOLOGY AND/OR AUDIOLOGY SERVICE.** At least one space free of ambient noise shall be provided. A handwashing fixture shall be provided.

**1225.6.5 SOCIAL WORK SERVICE.** Office space for privacy in interviewing, telephoning, and conferences shall be provided.

**1225.6.6 SPECIAL TREATMENT PROGRAM SERVICE.**

**1225.6.6.1 Location.** A special treatment program service providing therapeutic services to an identified mentally disordered population group shall be located in a distinct separate unit of the facility.

**1225.6.6.2 Nursing service.** The nursing service space shall comply with Section 1225.4.1.

**1225.6.6.3 Activity program.** The activity program space shall provide a minimum of 25 square feet (2.3 m<sup>2</sup>) of dining and recreation space per bed.

**1225.6.6.4 Indoor and outdoor space.** Shall be designated for the special treatment program.

**SECTION 1226 [OSHPD 3]  
CLINICS**

**1226.1 Scope.** The provisions of this section shall apply to outpatient clinical services of a hospital when provided in a freestanding building, primary care clinics, specialty clinics, and psychology clinics. Primary care clinics include free clinics, community clinics, employee clinics and optometric clinics. Specialty clinics include surgical clinics, chronic dialysis clinics, rehabilitation clinics and alternative birth centers (ABC).

**1226.2 Application.** All new buildings and additions, alterations or repairs to existing buildings, and conversion of space to a clinic use within existing buildings, subject to licensure by Licensing and Certification, California Department of Public Health, shall comply with applicable provisions of the California Electrical Code, California Mechanical Code, California Plumbing Code, California Fire Code, (Parts 3, 4, 5, and 9 of Title 24) and this section. OSHPD requirements apply to all facilities described above and are not dependent upon Occupancy Group designations.

**Exception:** See Section 1224.2.

**1226.2.1 Outpatient clinical services.** Hospitals providing outpatient clinical services and clinics licensed under Health and Safety Code Section 1200 providing services that are not covered by this section shall meet the applicable requirements in Section 1224.

**1226.2.2 Special services.** A general acute care hospital referenced in Health and Safety Code Section 1255 (d) (3) (E), that provides special services in conformance with Health and Safety Code Section 1255, shall meet all the provisions of Section 1224.28.3 in addition to Section 1226.2. The Office of Statewide Health Planning and Development (OSHPD) shall review any proposed construction or alteration for OSHPD compliance.

**1226.3 Definitions.** Refer to Section 1224.3.

**1226.4 General construction.** Clinics and outpatient clinical services under a hospital license shall comply with the following provisions wherever applicable.

**1226.4.1 Examination and treatment areas.**

**1226.4.1.1 Service spaces.** Refer to Section 1224.4.2.

**1226.4.1.2 Treatment spaces.** Refer to Section 1224.4.3.

**1226.4.1.3 Examination or treatment room.** Refer to Section 1224.4.4.1.

**1226.4.1.4 Airborne infection isolation exam/treatment room.** Refer to Section 1224.4.4.1.3.

**1226.4.2 Miscellaneous requirements.**

**1226.4.2.1 Station outlets.** When provided, refer to Section 1224.4.6.1.

**1226.4.2.2 Gas and vacuum systems.** When provided refer to Section 1224.4.6.2.

**1226.4.2.3 Hyberbaric facilities.** When provided, refer to Section 1224.4.6.3.

**1226.4.2.4 Laboratories.** Refer to Section 1224.4.6.4.

**1226.4.2.5 Nurse call systems.** Refer to Section 1224.4.6.5.

**1226.4.3 Corridors.**

**1226.4.3.1 Outpatient services.** Refer to Section 1224.4.7.3

**1226.4.3.2 Corridor width.** For clinics with bed/gurney patient(s) refer to Section 1224.4.7.1.

**1226.4.3.3 Light traffic.** Refer Section 1224.4.7.2.

**1226.4.3.4 Handrails.** For rehabilitation services space, refer to Section 1224.4.7.4.

**1226.4.3.5 Connections.** Refer to Section 1224.4.7.5.

**1226.4.4 Doors and door openings.**

**1226.4.4.1 Toilet room doors.** Refer to Section 1224.4.8.1.

**1226.4.4.2 Pocket doors.** Refer to Section 1224.4.8.2.

**1226.4.5 Windows.**

**1226.4.5.1 Window screens.** Refer to Section 1224.4.9.4.

**1226.4.5.2 Light and ventilation.** Refer to Section 1224.4.9.5.

**1226.4.6 Ceiling heights.**

**1226.4.6.1 Minimum height.** For minimum ceiling height requirements, refer to Section 1224.4.10.1.

**1226.4.6.2 Minimum height with fixed ceiling equipment.** Refer to Section 1224.4.10.2.

**1226.4.7 Interior finishes.**

**1226.4.7.1 Floor finishes.** Refer to Section 1224.4.11.1 and Table 1224.4.11.

**1226.4.7.1.1 Coved base.** Refer to Section 1224.4.11.1.1.

**1226.4.7.1.2 Wet cleaning.** Refer to Section 1224.4.11.1.3.

**1226.4.7.1.3 Airborne infection isolation exam/treatment room.** Refer to Section 1224.11.1.4.

**1226.4.7.2 Wall bases.**

**1226.4.7.2.1 Material.** Refer to Section 1224.4.11.2.1.

**1226.4.7.2.2 Wet cleaning.** Refer to Section 1224.4.11.2.2.

**1226.4.7.3 Wall finishes.** Refer to Section 1224.4.11.3.

**1226.4.7.4 Ceilings.** Ceiling finishes shall comply with Section 1224.4.11.4 and Table 1224.4.11.

**1226.4.8 Elevators.**

**1226.4.8.1 Elevator cab requirements.** Buildings over one story in height with accommodations or services for patients on floors without grade-level entrance shall provide at least one elevator in compliance with Section 3002.4.

**1226.4.8.2 Dimensions.** Elevators used for the routine transport of wheeled stretchers shall have minimum inside platform dimensions of 5 feet by 8 feet (1524 mm by 2438 mm) and a minimum clear door opening of 3 feet 8 inches (1118 mm).

**1226.4.9 Garbage, solid waste, medical waste and trash storage.** These facilities shall comply with the appropriate local health and environmental authorities' requirements, California Department of Public Health requirements for medical waste management, and comply with the following minimum requirements:

**1226.4.9.1 Location.** A location shall be provided for waste collection and storage with sufficient space based upon the volume of projected waste and length of anticipated storage. The location of compactors, balers, sharps containers, and recycling container staging at docks or other waste removal areas shall comply with Section 1224.4.2.

**1226.4.9.2 Enclosure.** A lockable room or screened enclosure of at least 25 square feet (2.32 m<sup>2</sup>) shall be provided for the washing and cleaning of garbage containers and for the storage of garbage, trash and other solid wastes.

**Exception:** This amount of space may not be required by the enforcing agency if there is a proposed method of handling and storage which requires a lesser amount of space. Additional space may be required by the enforcing agency when special operations or collection and disposal methods result in greater than usual accumulation of solid wastes.

The room or screened enclosure shall include the following:

1. **Floor and curb.** A concrete floor with a curb and with a drain connected to the sewer.
2. **Water.** Steam or hot water and cold water supplies in accordance with the California Plumbing Code.
3. **Size.** A minimum floor area of not less than 25 square feet (2.32 m<sup>2</sup>), the least dimension of which shall be 4 feet (1219 mm). This amount of space may not be required by the enforcing agency if there is proposed a method of handling, storage, or cleaning of containers which requires a lesser amount of space. Additional space may be required by the enforcing agency when special operations or collection and disposal methods

result in greater than usual accumulation of solid wastes.

**1226.4.9.3 Waste holding room.** As an alternative to the requirements in Section 1226.4.9.2, a holding room for medical waste and garbage may be provided.

**Exception:** This amount of space may not be required by the enforcing agency if there is a proposed method of handling and storage which requires a lesser amount of space. Additional space may be required by the enforcing agency when special operations or collection and disposal methods result in greater than usual accumulation of solid wastes.

The waste holding room shall comply with the following:

1. The waste holding room shall be a minimum of 25 square feet, with the least dimension of which is 4 feet.
2. The waste holding room shall have 100 percent exhaust ventilation.
3. All finishes in the waste holding room shall comply with the requirements in Section 1224.4.11.
4. The waste holding room shall have convenient access to an exterior door.

**1226.4.10 Compactors.** Trash compactor systems shall meet the drainage and wash-down requirements under Section 1226.4.9.2, Items 1 and 2.

**Exception:** If a dumpster system is proposed, operational procedures for handling and storage must be specifically approved by the local health officials.

**1226.4.11 Housekeeping room.** Refer to Section 1224.4.15.

**1226.4.12 Laundry and trash chutes.** Gravity-type laundry and trash chutes shall comply with Section 1224.4.16.

**1226.4.13 Support areas for examination and treatment rooms.**

**1226.4.13.1 Administrative center(s) or nurse station(s).** This area shall have space for counters and storage and shall have convenient access to handwashing fixtures (refer to Section 1224.3 for definition of handwashing fixture). It may be combined with or include centers for reception, charting and communication.

**1226.4.13.2 Medication station.** Provision shall be made for distribution of medications. This shall be done from a medicine preparation room or a self-contained medicine dispensing unit.

**1226.4.13.2.1 Medicine preparation room or area.** When provided, the entry of the medicine preparation room or area shall be under the visual control of the staff. This may be a part of the administrative center or nurse station and shall include all of the following:

1. Work counter

2. Sink
3. Lockable refrigerator
4. Convenient access to handwashing fixture
5. Locked storage for biologicals and drugs

When a medicine preparation room or area is to be used to store self-contained medicine dispensing units, the room shall be designed with adequate space to prepare medicines with the self-contained medicine-dispensing units present.

**1226.4.13.2.2 Self-contained medicine-dispensing unit.** When provided, the location of a self-contained medicine-dispensing unit shall be permitted in the clean workroom or at the administrative center or nurses' station, provided there is adequate security for medications and adequate lighting to easily identify drugs. Convenient access to handwashing fixture shall be provided.

**1226.4.13.3 Clean utility room.** A clean utility room shall be provided. If the room is used for preparing patient care items, it shall contain:

1. Work counter
2. Handwashing fixture
3. Storage facilities for clean and sterile supplies

If the room is used only for storage and holding as part of a system for distribution of clean and sterile materials, the work counter and handwashing fixture may be omitted. Soiled and clean utility rooms or holding rooms shall be separated and have no direct connection.

**1226.4.13.4 Soiled workroom or soiled holding room.** Soiled workroom or soiled holding room shall be provided and contain:

1. Clinic sink

**Exception:** For primary care clinics, a utility sink or patient toilet room equipped with a bedpan flushing device may be provided in lieu of a clinic sink. A utility sink may be used for soaking or rinsing and shall be provided as appropriate to the method of decontamination used.

2. Handwashing fixture
3. Work counter
4. Storage cabinets
5. A designated area for waste receptacle(s)
6. A designated area for soiled linen receptacle(s)

Where rooms are used for temporary holding of materials, provisions shall be made for separate collection, storage, and disposal of soiled materials. Soiled and clean utility rooms or holding rooms shall be separated and have no direct connection.

**1226.4.13.5 Sterile and pharmaceutical supply storage.** Separate storage for sterile supplies and pharmaceutical supplies shall be provided.

**1226.4.13.6 Sterilization facilities.** When provided, a sterilization facility shall meet the following applicable requirements:

**1226.4.13.6.1 Storage.** Each facility shall provide space for the storage of disposable sterile supplies or provide space for sterilization and disinfection equipment.

**Exception:** Facilities with contractual arrangements for outside autoclaving and sterilizing services.

**1226.4.13.6.2 Central sterile supply and sterilizing area.** When provided, rooms and spaces of the central supply and sterilizing area shall comply with the following:

1. **Soiled work area.** A receiving and gross cleaning area which shall contain work space and equipment for cleaning medical and surgical equipment and for disposal of or processing of soiled materials.
2. **Clean work area.** A clean work area which shall contain work space and equipment for sterilizing medical and surgical equipment and supplies.
3. **Sterilizing and equipment disinfection space.**
4. **Storage.** Space for sterile supplies and unsterile supplies.

**1226.4.13.6.3 Sterilizers.** When provided, all sterilizers and autoclaves which emit system steam exhaust shall be vented to the outside of the building. Such vents shall be independent from the plumbing vent system.

**Exception:** Small instrument sterilizers.

**1226.4.13.7 Nourishment room.** When provided, the nourishment room or area shall have all of the following:

1. Sink
2. Work counter
3. Refrigerator
4. Storage cabinets
5. Equipment for serving nourishment
6. A handwashing fixture, as defined in Section 1224.3, shall be located in the nourishment room or adjacent to the nourishment area.

**1226.4.14 Support areas for patients.**

**1226.4.14.1 Patient toilet room(s).** Toilet room(s) with a lavatory shall be provided separate from public use toilet(s) and shall be located to permit access from patient care areas without passing through publicly accessible areas.

**Exception:** For primary care clinics where the facility contains no more than three examination and/or treatment rooms, the patient toilet room shall be permitted to serve outpatient waiting room(s).

**1226.4.14.2 Specimen and/or blood collection facilities.** When provided, refer to Section 1224.4.4.2. Use of patient toilet room(s) shall be permitted for specimen collection.

**1226.4.15 General support services and facilities.**

**1226.4.15.1 Areas for off-site laundry services.** If linen is to be processed off site, the following shall be provided:

1. Soiled linen holding area or designated and dedicated area for soiled laundry cart.
2. Clean linen storage area that protects linen from soil or damage.

**1226.4.16 Public and administrative areas.**

**1226.4.16.1 Public.**

**1226.4.16.1.1 Reception.** A reception and information counter or desk shall be provided.

**1226.4.16.1.2 Outpatient waiting rooms.** Refer to Section 1224.4.5.

**1226.4.16.2 Administrative services.**

**1226.4.16.2.1 Medical records storage.** Outpatient clinics shall provide a health record service which shall comply with the following:

1. Work area for sorting and recording records for either paper or electronic media.
2. Storage area for records for either paper or electronic media.

**1226.4.16.2.2 Equipment and supply storage.** General storage facilities for office supplies and equipment shall be provided.

**1226.4.17 Support areas for staff.**

**1226.4.17.1 Staff toilet(s).** Provide staff toilet(s) in addition to and separate from, public and patient facilities. The areas shall contain toilet(s) and handwashing fixtures pursuant to the California Plumbing Code, Table 4-2.

**1226.4.17.2 Storage for employees.** Provide storage for staff personal effects with locking drawers or cabinets (may be individual desks or cabinets). Such storage shall be convenient to individual workstations and shall be staff controlled.

**1226.4.17.3 Staff lounge.** When provided, the lounge shall have adequate space to accommodate staff.

**OUTPATIENT CLINICAL SERVICES OF A HOSPITAL**

**1226.5 OUTPATIENT CLINICAL SERVICES OF A HOSPITAL.** A licensed hospital may elect to locate certain outpatient services in a freestanding outpatient clinical services building(s). To be considered a freestanding outpatient clinical services building the building must not be physically attached to a building in which inpatient services are provided. No more than 25 percent of the services provided in an outpatient clinical services building may be rendered to inpatients. Services that duplicate the basic services may be provided in freestanding building(s). These services, defined in Subsection (a) of the Health and Safety Code Section 1250,

must be in excess of the basic services, necessary for hospital licensure, required to be located in a hospital building under OSHPD jurisdiction.

Outpatient clinical services of a hospital in a freestanding outpatient clinical services building shall comply with Sections 1226.4.2 through 1226.4.8 and the provisions of this section. Outpatient clinical services of a hospital that are not addressed in the provisions of Section 1226 shall comply with applicable provisions of Section 1224.

**GENERAL SUPPORT AREAS FOR OUTPATIENT CLINICAL SERVICES** - Requirements for all service types.

**1226.5.1 Support areas for patients.**

**1226.5.1.1 Patient toilet room(s).** Refer to Section 1226.4.14.1.

**1226.5.1.2 Specimen and/or blood collection facilities.** When provided, refer to Section 1224.4.4.2.

**1226.5.2 General support services and facilities.**

**1226.5.2.1 Garbage, solid waste, medical waste, and trash storage.** Refer to Section 1226.4.9.

**1226.5.2.2 Housekeeping room.** Refer to Section 1224.4.15.

**1226.5.3 Public and administrative areas.**

**1226.5.3.1 Public area.**

**1226.5.3.1.1 Reception.** Refer to Section 1226.4.16.1.1.

**1226.5.3.1.2 Outpatient waiting room.** Refer to Section 1224.4.5.

**1226.5.3.1.3 Public toilet(s).** Refer to Section 1224.4.5.

**1226.5.3.1.4 Public telephone access.** Refer to Section 1224.4.5.

**1226.5.3.1.5 Drinking fountain(s).** Refer to Section 1224.4.5.

**1226.5.3.2 Administrative services.**

**1226.5.3.2.1 Medical records storage.** Refer to Section 1226.4.16.2.1.

**1226.5.3.2.2 Equipment and supply storage.** Refer to Section 1226.4.16.2.2.

**1226.5.4 Support areas for staff.**

**1226.5.4.1 Staff toilet(s).** Refer to Section 1226.4.17.1.

**1226.5.4.2 Storage for employees.** Refer to Section 1226.4.17.2.

**RADIOLOGICAL/IMAGING SERVICE SPACE**

**1226.5.5 Radiological/imaging service space.** When x-ray examination services, computerized tomography scanning, magnetic resonance imaging, ultrasound, and/or mammography services are provided, the radiological/imaging services space shall comply with the provisions of this section.

**1226.5.5.1 Support spaces for radiological/imaging services.** The following spaces are common to the imaging service area and are minimum requirements:

**1226.5.5.1.1 Patient toilet room(s).** In service spaces with procedure rooms that do not require dedicated patient toilets, provide a minimum of one patient toilet room within the service space, refer to Section 1226.4.14.1.

**1226.5.5.1.2 Outpatient change area.** A separate space shall be provided where outpatients change from street clothing. This shall include provisions for clothing storage, space for clothing change and gowning area. Dressing rooms shall be provided convenient to the imaging rooms.

**1226.5.5.1.3 Staff facilities.** In service space of three or more procedure rooms, staff toilet room(s) internal to the service space.

**1226.5.5.1.4 Handwashing fixtures.** Handwashing fixtures shall be located within the unit.

**1226.5.5.1.5 Imaging storage (active).** If imaging storage systems are used, provide a means of sorting and filing patient film or electronic media for immediate retrieval shall be provided.

**1226.5.5.1.6 Medication station.** Provision shall be made for locked storage of medications and drugs. Refer to Section 1226.4.13.2.

**1226.5.5.1.7 Areas for off-site laundry services.** Refer to Section 1226.4.15.1.

**1226.5.5.2 Radiation protection.** Radiation protection requirements for equipment refer to Section 1224.18.1.1.

**1226.5.6 X-ray examination services.** When provided, x-ray examination services space shall comply with the following:

1. X-ray room.
2. When shielded control alcove with protective view windows is provided, refer to Section 1224.18.1.1.
3. Fluoroscopy room, when provided, shall have a toilet room adjoining each fluoroscopy room, in addition to other toilet room facilities located adjacent to or in the immediate vicinity.
4. Space for processing images.
5. An office or other suitable area for viewing and reporting radiographic examination.

**1226.5.7 Computerized tomography (CT) scanning.** When provided, CT services space shall comply with the requirements of Section 1224.18.3.

**1226.5.8 Magnetic resonance imaging (MRI).** When provided, MRI services space shall comply with the requirements of Section 1224.18.4.

**1226.5.9 Ultrasound.** When ultrasound is provided, refer to Section 1224.18.5.

**1226.5.10 Mammography.** When mammography is provided, refer to Section 1224.18.6.

**GASTROINTESTINAL ENDOSCOPY**

**1226.5.11 Gastrointestinal endoscopy.** When provided, gastrointestinal endoscopy services space shall comply with Section 1224.39.3 and the provisions of this section:

**1226.5.11.1 Procedure Room(s).**

**1226.5.11.1.1 Space requirements.** Refer to Section 1224.39.3.1.1.

**1226.5.11.1.2 Handwashing fixture.** Refer to Section 1224.39.3.1.2.

**1226.5.11.2 Processing room.** Refer to Section 1224.39.3.2.

**1226.5.11.3 Pre-operative patient holding.** Refer to Section 1224.15.2.

**1226.5.11.4 Post-anesthesia recovery area.** Refer to Section 1224.16.

**1226.5.11.5 Communication system.** Refer to Section 1224.39.3.5.

**1226.5.11.6 Support areas for outpatient gastrointestinal endoscopy.**

**1226.5.11.6.1 Control station.** Refer to Section 1224.15.3.1.

**1226.5.11.6.2 Medication station.** Refer to Section 1226.4.13.2.

**1226.5.11.6.3 Soiled workroom.** Refer to Section 1224.15.3.7.

**1226.5.11.6.4 Clean utility room.** Refer to Section 1224.15.3.8.

**1226.5.11.6.5 Anesthesia workroom.** Refer to Section 1224.15.3.9.

**1226.5.11.6.6 Storage room(s) for equipment and supplies used in gastrointestinal endoscopy service space.** Refer to Section 1224.15.3.10.

**1226.5.11.6.7 Staff clothing change areas.** Refer to Section 1224.15.3.11.

**1226.5.11.6.8 Housekeeping room.** Refer to Section 1224.39.2, Item 7.

**1226.5.11.6.9 Cleanup room.** Refer to Section 1224.39.2, Item 4.

**1226.5.11.6.10 Sterile and pharmaceutical supply storage.** Refer to Section 1226.4.13.5.

**1226.5.11.7 Additional support areas for patients.**

**1226.5.11.7.1 Outpatient change area.** A separate space shall be provided where patients change out of their street clothing and are prepared for the procedure. This space shall include provisions for clothing storage, toilet room(s), sink, space for clothing change and gowning area.

**NUCLEAR MEDICINE**

**1226.5.12 Nuclear medicine.** When provided, nuclear medicine services space shall comply with Section 1224.34 and the provisions of this section:

**1226.5.12.1 Radiation protection.** When provided, refer to Section 1224.34.1.1.

**1226.5.12.2 Nuclear medicine room.** Refer to Section 1224.34.1.2.

**1226.5.12.3 Radiopharmacy.** When provided, refer to Section 1224.34.1.3.

**1226.5.12.4 Support areas for nuclear medicine services.**

**1226.5.12.4.1 Cleanup.** Refer to Section 1224.34.2.2.

**1226.5.12.4.2 Dose administration area.** Refer to Section 1224.34.2.5.

**1226.5.12.4.3 Holding.** Refer to Section 1224.34.2.6.

**1226.5.12.4.4 Patient dressing rooms.** Refer to Section 1224.34.2.7.

**1226.5.12.4.5 Patient toilet room(s).** Refer to Section 1224.34.2.8.

**1226.5.12.4.6 Staff toilet room(s).** Refer to Section 1224.34.2.9.

**1226.5.12.4.7 Handwashing fixtures.** Refer to Section 1224.34.2.10.

**1226.5.12.4.8 Control desk and reception.** Refer to Section 1226.5.3.

**1226.5.12.4.9 Clean linen storage.** A storage area for clean linen shall be provided.

**1226.5.12.4.10 Soiled and contaminated material.** Refer to Section 1224.34.2.13.

**1226.5.12.5 Radiotherapy service space.** When provided, radiotherapy service space shall comply with the following provisions of this section:

**1226.5.12.5.1 Radiation protection.** Refer to Section 1224.34.3.2.

**1226.5.12.5.2 Room sizes.** Refer to Section 1224.34.3.3.

**1226.5.12.5.3 General support area.** Refer to Section 1224.34.3.4.

**1226.5.12.6 Additional support areas for linear accelerator.**

**1226.5.12.6.1 Mold room.** Refer to Section 1224.34.4.1.

**1226.5.12.6.2 Block room.** Refer to Section 1224.34.4.2.

**1226.5.12.7 Additional support areas for cobalt room.**

**1226.5.12.7.1 Hot lab.**

**1226.5.12.8 High dose rate brachytherapy room.**

**CANCER TREATMENT/INFUSION THERAPY**

**1226.5.13 Cancer treatment/infusion therapy service space.** When provided, cancer treatment/infusion therapy service space shall comply with the provisions of this section:

**1226.5.13.1 Treatment area.**

**1226.5.13.1.1 Location.** Refer to Section 1224.39.4.2.1.

**1226.5.13.1.2 Nurses' station(s).** Refer to Section 1224.39.4.2.2.

**1226.5.13.1.3 Individual patient treatment areas.** Refer to Section 1224.39.4.2.3.

**1226.5.13.1.4 Handwashing fixtures.** Refer to Section 1224.39.4.2.4.

**1226.5.13.1.5 Privacy.** Refer to Section 1224.39.4.2.5.

**1226.5.13.1.6 Medication dispensing.** Refer to Section 1224.39.4.2.6.

**1226.5.13.1.7 Examination room.** Refer to Section 1224.39.4.2.7.

**1226.5.13.1.8 Clean utility room.** Refer to Section 1224.39.4.2.8.

**1226.5.13.1.9 Soiled utility room.** Refer to Section 1224.39.4.2.9.

**1226.5.13.1.10 Nourishment station.** Refer to Section 1224.39.4.2.10.

**1226.5.13.1.11 Housekeeping room.** Refer to Section 1224.39.4.2.11.

**1226.5.13.1.12 Supplies.** Refer to Section 1224.39.4.2.12.

**1226.5.13.1.13 Storage.** Refer to Section 1224.39.4.2.13.

**1226.5.13.1.14 Clean linen storage.** Refer to Section 1224.39.4.2.14.

**1226.5.13.1.15 Patient storage.** Refer to Section 1224.39.4.3.2.

**PRIMARY CARE CLINICS**

**1226.6 PRIMARY CARE CLINICS.** Primary care clinics and outpatient clinical services of a hospital providing services equivalent to a primary care clinic shall comply with Sections 1226.4.3 through 1226.4.8 and the provisions of this section.

**1226.6.1 Examination and treatment areas.**

**1226.6.1.1 Examination room(s).** Refer to Section 1224.4.4.1.

**1226.6.1.2 Treatment room(s).** Treatment room(s) for minor procedures (e.g. minor surgical procedures, casting), if provided, shall have a minimum area of 120 square feet (11.15 m<sup>2</sup>), the least dimension of which shall be 10 feet (3048 mm), excluding such spaces such as vestibules and work counters, and shall meet the requirements in Section 1224.4.4.1.

**1226.6.2 Support areas for examination rooms.**

**1226.6.2.1 Administrative center or nurse station.** Refer to Section 1226.4.13.1.

**1226.6.2.2 Medication station.** Refer to Section 1226.4.13.2.

**1226.6.2.3 Clean utility room.** Refer to Section 1226.4.13.3.

**1226.6.2.4 Soiled workroom or soiled linen holding.** Refer to Section 1226.4.13.4.

**1226.6.3 Support areas for patients.**

**1226.6.3.1 Patient toilet room(s).** Refer to Section 1226.4.14.1.

**1226.6.3.2 Specimen collection and/or blood collection facilities.** When provided, refer to Section 1224.4.4.2.

**1226.6.4 General support services and facilities.**

**1226.6.4.1 Garbage, solid waste, medical waste and trash storage.** Refer to Section 1226.4.9.

**1226.6.4.2 Housekeeping room.** Refer to Section 1224.4.15.

**1226.6.5 Public and administrative areas.**

**1226.6.5.1 Public area.**

**1226.6.5.1.1 Reception.** Refer to Section 1226.4.16.1.1.

**1226.6.5.1.2 Outpatient waiting room.** Refer to Section 1224.4.5.

**1226.6.5.1.3 Public toilet(s).** Refer to Section 1224.4.5.

**1226.6.5.1.4 Public telephone access.** Refer to Section 1224.4.5.

**1226.6.5.1.5 Drinking fountain(s).** Refer to Section 1224.4.5.

**1226.6.5.2 Administrative services**

**1226.6.5.2.1 Medical records storage.** Refer to Section 1226.4.16.2.1.

**1226.6.5.2.2 Equipment and supply storage.** Refer to Section 1226.4.16.2.2.

**1226.6.6 Support areas for staff.**

**1226.6.6.1 Staff toilet(s).** Refer to Section 1226.4.17.1.

**1226.6.6.2 Storage for employees.** Refer to Section 1226.4.17.2.

**SURGICAL CLINICS**

**1226.8 SURGICAL CLINICS.** Outpatient surgical clinics, and outpatient clinical services of a hospital providing services equivalent to a surgical clinic, shall comply with Sections 1226.4.2 through 1226.4.8 and the provisions of this section.

**1226.8.1 Outpatient surgical service space.**

**1226.8.1.1 Operating room(s).** Refer to Section 1224.39.2, Item 1.

**1226.8.1.2 Preoperative patient holding.** Refer to Section 1224.15.2.

**1226.8.1.3 Post-anesthesia recovery area.** Refer to Section 1224.16.

**1226.8.2 Support areas for outpatient surgery.**

**1226.8.2.1 Control station.** Refer to Section 1224.15.3.1.

**1226.8.2.2 Supervisor's office or station.** Refer to Section 1224.15.3.2.

**1226.8.2.3 Substerile areas.** When provided, refer to Section 1224.15.3.3.

**1226.8.2.4 Medication station.** Refer to Section 1226.4.13.2.

**1226.8.2.5 Scrub facilities.** Refer to Section 1224.15.3.5.

**1226.8.2.6 Clock.** Refer to Section 1224.15.3.6.

**1226.8.2.7 Soiled workroom.** Refer to Section 1224.15.3.7.

**1226.8.2.8 Clean utility room.** Refer to Section 1224.15.3.8.

**1226.8.2.9 Anesthesia workroom.** Refer to Section 1224.15.3.9.

**1226.8.2.10 Equipment storage room(s) for equipment and supplies used in outpatient surgery.** Refer to Section 1224.15.3.10.

**1226.8.2.11 Staff clothing change areas.** Refer to Section 1224.15.3.11.

**1226.8.2.12 Housekeeping room.** Refer to Section 1224.39.2, Item 7.

**1226.8.2.13 Cleanup room.** Refer to Section 1224.39.2, Item 4.

**1226.8.2.14 Sterile and pharmaceutical supply storage.** Refer to Section 1226.4.13.5.

**1226.8.2.15 Sterilization facilities.** Refer to Section 1226.4.13.6.

**1226.8.3 Support areas for patients.**

**1226.8.3.1 Patient toilet room(s).** Refer to Section 1226.4.14.1.

**1226.8.3.2 Outpatient change area.** A separate space shall be provided where patients change out of their street clothing and are prepared for the procedure. This space shall include provisions for clothing storage, toilet room(s), sink, space for clothing change and gowning area.

**1226.8.4 General support services and facilities.**

**1226.8.4.1 Garbage, solid waste, medical waste and trash storage.** Refer to Section 1226.4.9.

**1226.8.4.2 Areas for off-site laundry services.** Refer to Section 1226.4.15.1.

**1226.8.5 Public and administrative areas.**

**1226.8.5.1 Public area.**

**1226.8.5.1.1 Reception.** Refer to Section 1226.4.16.1.1.

**1226.8.5.1.2 Outpatient waiting room.** Refer to Section 1224.4.5.

**1226.8.5.1.3 Public toilet(s).** Refer to Section 1224.4.5.

**1226.8.5.1.4 Public telephone access.** Refer to Section 1224.4.5.

**1226.8.5.1.5 Drinking fountain(s).** Refer to Section 1224.4.5.

**1226.8.5.2 Administrative services**

**1226.8.5.2.1 Medical records storage.** Refer to Section 1226.4.16.2.1.

**1226.8.6 Support areas for staff.**

**1226.8.6.1 Staff toilet(s).** Refer to Section 1226.4.17.1.

**1226.8.6.2 Storage for employees.** Refer to Section 1226.4.17.2.

**CHRONIC DIALYSIS CLINICS**

**1226.9 CHRONIC DIALYSIS CLINICS.** Chronic dialysis clinics and outpatient clinical services of a hospital providing

services equivalent to a chronic dialysis clinic shall comply with Sections 1226.4.3 through 1226.4.8 and the provisions of this section.

**1226.9.1 Examination and treatment rooms.**

**1226.9.1.1 Examination room(s).** An examination room with a handwashing fixture shall be provided with a minimum clear floor area of 100 square feet (9.29 m<sup>2</sup>).

**1226.9.1.2 Treatment room(s).** When provided, refer to Section 1224.4.4.1.

**1226.9.1.3 Individual patient treatment areas.** Individual patient treatment areas shall contain at least 80 square feet (7.44 m<sup>2</sup>). There shall be at least a 4-foot (1219 mm) space around and between beds and/or lounge chairs. In addition, the following shall be provided:

1. **Location.** The treatment area may be an open area and shall be separate from administrative area and outpatient waiting room.
2. **Privacy.** An open unit shall be designed to provide visual privacy for each patient.

**1226.9.1.4 Reception.** Refer to Section 1226.4.16.1.1.

**1226.9.1.5 Outpatient waiting room.** Refer to Section 1224.4.5.

**1226.9.1.6 Bloodborne infection isolation room.** A minimum of one bloodborne infection isolation room of at least 120 square feet (11.15 m<sup>2</sup>) of clear floor space shall be provided for patients. This room shall contain a counter and handwashing fixture.

**1226.9.1.7 Airborne infection isolation exam/treatment room.** When provided, refer to Section 1224.4.4.1.3.

**1226.9.1.8 Home training.** When provided in the unit, a private treatment area of at least 120 square feet (11.15 m<sup>2</sup>) shall be provided for patients who are being trained to use dialysis equipment at home. This room shall contain counter, handwashing fixture(s), and a separate drain for fluid disposal.

**1226.9.2 Support areas for examination and treatment rooms.**

**1226.9.2.1 Administrative center or nurse station.** Administrative center or nurse station shall be located within the dialysis treatment area and designed to provide visual observation of all patient stations. In addition, refer to Section 1226.4.13.1 for nurses' station(s) requirements.

**1226.9.2.1.1 Handwashing fixtures.** Handwashing fixture(s) shall be located convenient to the administrative center or nurses' station and patient treatment areas. There shall be at least one handwashing fixture serving no more than four stations. These shall be uniformly distributed to provide equal access from each patient station. Refer to Section 1224.3 for the definition of a handwashing fixture.

**1226.9.2.2 Medication station.** Refer to Section 1226.4.13.2.

**1226.9.2.3 Clean utility room.** Refer to Section 1226.4.13.3.

**1226.9.2.4 Soiled workroom or soiled linen holding.** Refer to Section 1226.4.13.4.

**1226.9.2.5 Housekeeping room.** Provide adjacent to and for the exclusive use of the unit. In addition, this room shall be a minimum floor area of 15 square feet and shall include the following:

1. Service sink or floor receptor
2. Supply storage
3. Housekeeping equipment storage

**1226.9.2.6 Nourishment room.** When provided, refer to Section 1226.4.13.7.

**1226.9.2.7 Sterilization facilities.** When provided, refer to Section 1226.4.13.6.

**1226.9.3 Administrative services.** Provide office and clinical work space including the following:

**1226.9.3.1. Medical records storage.** Refer to Section 1226.4.16.2.1.

**1226.9.3.2 Equipment and supply storage.** Refer to Section 1226.4.16.2.2.

**1226.9.4 Support areas for patients.**

**1226.9.4.1 Patient toilet room(s).** Provide patient toilet room(s) directly accessible from treatment area. The toilet shall be equipped with bedpan flushing attachment(s). Refer to Section 1226.4.14.1.

**1226.9.4.2 Patient storage.** Provide space for storage of patient clothing and personal items.

**1226.9.4.3 Specimen collection facilities.** When provided, refer to Section 1224.4.4.2.

**1226.9.5 General support services and facilities.**

**1226.9.5.1 Garbage, solid waste, medical waste and trash storage.** Refer to Section 1226.4.9.

**1226.9.5.2 Areas for off-site laundry services.** Refer to Section 1226.4.15.1.

**1226.9.5.3 Reprocessing room.** When dialyzers are reused, a reprocessing room is required and sized to perform the functions required and include one-way flow of materials from soiled to clean with provisions for a refrigerator for temporary storage of dialyzer, decontamination/cleaning areas, sinks, processors, computer processors and label printers, packaging area, dialyzer storage and disinfectants storage.

**1226.9.5.4 Repair room.** When required, an equipment repair and breakdown room shall be equipped with a handwashing fixture, deep service sink, work counter and storage cabinet. Provide water supply and drain connection for testing machines.

**1226.9.5.5 Mixing room.** Each facility using a central batch delivery system shall provide, either on the premises or through written arrangements, individual delivery systems for the treatment of any patient requiring special dialysis solutions. The mixing room shall also include a sink, storage space and holding tanks.

**1226.9.5.6 Water treatment room.** The water treatment equipment shall be located in an enclosed room.

**1226.9.6 Support areas for staff.**

**1226.9.6.1 Staff toilet(s).** Refer to Section 1226.4.17.1.

**1226.9.6.2 Storage for employees.** Refer to 1226.4.17.2.

## REHABILITATION CLINICS

**1226.10 REHABILITATION CLINICS.** Rehabilitation clinics and outpatient clinical services of a hospital providing services equivalent to a rehabilitation clinic shall comply with Sections 1226.4.3 through 1226.4.8 and the provisions of this section.

## SUPPORT AREAS FOR THERAPY SERVICES.

**1226.10.1 Support area for patients.**

**1226.10.1.1 Patient toilet room(s).** Refer to Section 1226.4.14.1.

**1226.10.2 General support.**

**1226.10.2.1 Garbage.** Refer to Section 1226.4.9.

**1226.10.2.2 Housekeeping.** Refer to Section 1224.4.15.

**1226.10.2.3 Areas for off-site laundry services.** Refer to Section 1226.4.15.1.

**1226.10.3 Public and administrative.**

**1226.10.3.1 Public area.**

**1226.10.3.1.1 Reception.** Refer to Section 1226.4.16.1.1.

**1226.10.3.1.2 Outpatient waiting room.** Refer to Section 1224.4.5.

**1226.10.3.1.3 Toilet(s).** Refer to Section 1224.4.4.5.

**1226.10.3.1.4 Drinking fountain.** Refer to Section 1224.4.4.5.

**1226.10.3.1.5 Telephone.** Refer to Section 1224.4.4.5.

**1226.10.3.2 Administrative services.** Provide office and clinical work space including the following:

**1226.10.3.2.1 Medical records storage.** Refer to Section 1226.4.16.2.1.

**1226.10.3.2.2 Equipment and supply storage.** Refer to Section 1226.4.16.2.2.

**1226.10.4. Support areas for staff.**

**1226.10.4.1 Staff toilet(s).** Refer to Section 1226.4.17.1.

**1226.10.4.2 Storage for employees.** Refer to Section 1226.4.17.2.

**REHABILITATION THERAPY SERVICE SPACES.**

**1226.10.5 Physical therapy service space.** A physical therapy service space shall be provided. The service space shall comply with the following provisions:

1. **Individual treatment area(s).** Refer to Section 1224.35.2, Item 1.
2. **Handwashing fixture(s).** Refer to Section 1224.35.2, Item 2.
3. **Exercise area.** Refer to Section 1224.35.2, Item 3.
4. **Clean linen and towel storage.** Refer to Section 1224.35.2, Item 4.
5. **Storage for equipment and supplies.** Refer to Section 1224.35.2, Item 5
6. **Separate storage for soiled linen, towels and supplies.** Refer to Section 1224.35.2, Item 6.

**1226.10.6 Occupational therapy service space.** When an occupational therapy service is provided, the service space shall comply with following provisions:

1. **Work areas and counters.** Refer to Section 1224.35.3, Item 1.
2. **Handwashing fixture(s).** Refer to Section 1224.35.3, Item 2.
3. **Storage for supplies and equipment.** Refer to Section 1224.35.3, Item 3.
4. **Area for teaching daily living activities.** Refer to Section 1224.35.3, Item 4.

**1226.10.7 Speech pathology and/or audiology service space.** When speech pathology and/ or audiology service(s) is provided, the service space shall comply with the following provisions:

1. **Interview, consultation and treatment space.** Refer to Section 1224.35.4, Item 1.
2. **Waiting area.** Refer to Section 1224.35.4, Item 2.
3. **Handwashing fixture.** Refer to Section 1224.35.4, Item 3.
4. **Testing unit.** If an audiology service is provided. Refer to Section 1224.35.4, Item 4.

**ALTERNATIVE BIRTHING CLINICS**

**1226.11 ALTERNATIVE BIRTHING CLINICS.** Alternative birthing clinics and outpatient clinical services of a hospital providing services equivalent to alternative birthing clinics shall comply with Sections 1226.4.3 through 1226.4.8 and the provisions of this section:

**1226.11.1 Birthing service space.**

**1226.11.1.1 Birthing room.** A birthing room shall have a minimum clear floor area of 200 square feet (18.58 square meters), including the newborn care area. A birthing room shall have a minimum clear dimension of 12 feet (3658 mm). The maximum number of beds per room shall be one.

**1226.11.1.2 Location.** Birthing rooms shall be located out of the path of unrelated traffic and under direct supervision of the facility staff.

**1226.11.1.3 Nurse call system.** A nurse call system shall be located in the birthing room which will alert the nearest continually staffed administrative center or nurses' station. Refer to Section 1224.4.6.5 for requirements.

**1226.11.1.4 Hand-washing stations.** A handwashing fixture, as defined in Section 1224.3, shall be located within or directly outside the room. If the fixture is located within the room, the fixture may be screened or within openable casework.

**1226.11.1.5 Lighting.** Lighting capable of 1076 lux (100 footcandles) at working surfaces shall be provided. Dimmer switches may be used.

**1226.11.1.6 Window.** Each birthing room shall have an outside window. Refer to Sections 1224.4.9.4 and 1224.4.9.5.

**1226.11.1.7 Privacy.** Windows or doors within a normal sightline that would permit observation into the room shall be arranged or draped, as necessary, for mother and newborn privacy.

**1226.11.1.8 Newborn care area.** When provided, a separate newborn care area shall be provided that is in addition to the birthing room.

**1226.11.1.9 Examination room.** When provided, the examination room shall meet the requirements of Section 1224.4.4.

**1226.11.2 Support areas for birthing services.**

**1226.11.2.1 Administrative center or nurse station.** Refer to Section 1226.4.13.1.

**1226.11.2.2 Medication station.** Refer to Section 1226.4.13.2.

**1226.11.2.3 Clean utility room.** Refer to Section 1226.4.13.3.

**1226.11.2.4 Soiled utility or soiled holding room.** Refer to Section 1226.4.13.4.

**1226.11.2.5 Crash cart space.** Space for storing crash cart shall be provided.

**1226.11.2.6 Clean-up room.** Each birthing room shall have access to a clean-up room with a handwashing fixture and work space which is separate from any sterilizing facilities. The clean-up room shall provide 24 square feet (2.23 m<sup>2</sup>) per birthing room up to eight rooms, with no dimensions less than 6 feet (1829 mm).

**1226.11.2.7 Ice-making equipment.** Each facility shall have equipment to provide ice for treatments and nourishment. Ice-making equipment shall be permitted in the clean utility or the nourishment room/area. Ice intended for human consumption shall be provided in the nourishment station and shall be served from self-dispensing ice-makers.

**1226.11.2.8 Nourishment room or area.** When provided, refer to Section 1226.4.13.7.

**1226.11.2.9 Medical gas outlets.** When provided, oxygen and suction capabilities may be portable or piped.

**1226.11.3 Support areas for mother and newborn.**

**1226.11.3.1 Patient toilet room(s).** Each birthing room shall have direct access to a private toilet room with lavatory, shower or tub and nurse call system. Facilities for cleaning bedpans shall be provided in the toilet room.

**1226.11.4 General support services and facilities.**

**1226.11.4.1 Housekeeping room.** Refer to Section 1224.4.15.

**1226.11.4.2 Garbage, solid waste, medical waste and trash storage.** Refer to Section 1226.4.9.

**1226.11.4.3 Areas for off-site laundry services.** Refer to Section 1226.4.15.1.

**1226.11.5 Public and administrative areas.**

**1226.11.5.1 Public area.**

**1226.11.5.1.1 Reception.** Refer to Section 1226.4.16.1.1.

**1226.11.5.1.2 Outpatient waiting room.** Refer to Section 1224.4.5.

**1226.11.5.1.3 Public toilet(s).** Refer to Section 1224.4.5.

**1226.11.5.1.4 Public telephone.** Refer to Section 1224.4.5.

**1226.11.5.1.5 Drinking fountain.** Refer to Section 1224.4.5.

**1226.11.5.2 Administrative services.**

**1226.11.5.2.1 Medical records storage.** Refer to Section 1226.4.16.2.1.

**1226.11.5.2.2 Equipment and supply storage.** Refer to 1226.4.16.2.2.

**1226.11.6 Support areas for staff.**

**1226.11.6.1 Staff toilet(s).** Refer to Section 1226.4.17.1.

**1226.11.6.2 Storage for employees.** Refer to Section 1226.4.17.2.

**1226.11.6.3 Staff lounge.** Refer to Section 1226.4.17.3.

**1226.11.6.4 Staff clothing change area.** When provided, a changing room with shower shall be provided for staff to change into work attire.

**PSYCHOLOGY CLINICS**

**1226.12 PSYCHOLOGY CLINICS.** Psychology clinics and outpatient clinical services of a hospital providing services equivalent to a psychology clinic shall comply with Sections 1226.4.3 through 1226.4.8 and the provisions of this section.

Psychology clinics shall provide at least an interview room, consulting room and group therapy room.

**1226.12.1 Public and administrative area.**

**1226.12.1.1 Public area.**

**1226.12.1.1.1 Reception.** Refer to Section 1226.4.16.1.1.

**1226.12.1.1.2 Outpatient waiting room.** Refer to Section 1224.4.5.

**1226.12.1.1.3 Public toilet(s).** Refer to Section 1224.4.5.

**1226.12.1.1.4 Drinking fountain.** Refer to Section 1224.4.5.

**1226.12.1.1.5 Public telephone.** Refer to Section 1224.4.5.

**1226.12.1.2 Administrative Area.**

**1226.12.1.2.1 Medical Records storage.** Refer to Section 1226.4.16.2.1.

**1226.12.1.2.2 Equipment and supply storage.** Refer to Section 1226.4.16.2.2.

**SECTION 1227 [OSHPD 4]  
CORRECTIONAL TREATMENT CENTERS**

**1227.1 Scope.** The provisions of this section shall apply to correctional treatment centers.

**1227.2 Application.** New buildings and additions, alterations or repairs to existing buildings subject to licensure shall comply with applicable provisions of the California Electrical Code, California Mechanical Code, California Plumbing Code, and California Fire Code (Parts 3, 4, 5, and 9 of Title 24) and this section.

**1227.3 Definitions.**

**BASIC SERVICES** for correctional treatment centers are those services required for licensure as a correctional treatment center, including medical, surgical, psychiatrist, psychologist, nursing, pharmacy and dietary. See "Optional services."

**HAND WASHING FIXTURE** is a special application sink having a water supply spout mounted so the discharge point is at least 5 inches (127 mm) above the fixture rim and equipped with hot and cold supply controls not requiring direct contact of the hands for operation. The fixture cannot be equipped with an aerator and wrist or elbow blade handles. Gooseneck spouts shall not be used in correctional treatment centers.

**LICENSING AGENCY** is the California Department of Public Health.

**OPTIONAL SERVICES** are inpatient or outpatient services which are not required to be provided by law or regulation for licensure. An optional service, when provided, must accommodate the provisions of this section. See "Basic services."

**OUTPATIENT SERVICE** is an organizational unit of the correctional treatment center which provides nonemergency health care services to patients.

**1227.4 GENERAL CONSTRUCTION.**

**1227.4.1 Services/systems and utilities.** Correctional treatment centers shall comply with this section.

**1227.4.1.1 Oxygen, vacuum and medical air.** Correctional treatment centers shall comply with the requirements of Section 1224.4.6 wherever applicable.

**1227.4.2 Service spaces.** Spaces for dietary, laundry, morgue, ambulance entrance, receiving areas, power plants, mechanical equipment, incinerator, garbage can cleaning, automobile parking and storage areas for garbage, trash and medical gases shall be located and constructed to minimize noise, steam, odors and hazards in patient care areas and bedrooms.

**1227.4.3 Treatment spaces.** Radiology, laboratory, pharmacy and physical therapy spaces shall not be located in nursing units, surgical units, perinatal units, nursery areas, central sterilization rooms, food service areas, power plants, mechanical equipment rooms, maintenance shops, general storage, laundry, employees' dressing or housekeeping facilities.

**1227.4.4 Exam room.** If an exam room is provided, it shall have a minimum clear floor area of 80 square feet (7.43 m<sup>2</sup>), the least dimension of which shall be 8 feet (2438 mm).

**1227.4.5 Treatment room.** Unless specified elsewhere, if a treatment room is provided, it shall have a minimum clear floor area of 120 square feet (11.15 m<sup>2</sup>), the least dimension of which shall be 10 feet (3048 mm). A minimum of 3 feet (914 mm) is required between the sides and foot of the bed/gurney/table and any wall or other fixed obstruction. The room shall contain an examination light, a work counter for medical equipment, a handwashing fixture, cabinets, medication storage and counter for writing or electronic documentation.

**1227.5 CORRIDORS.**

**1227.5.1 Width.** The minimum width of corridors shall be 8 feet (2438 mm).

**Exception:** Patient-care corridors in correctional treatment centers for psychiatric care of patients who are not bedridden shall have a minimum clear and unobstructed width of 6 feet (1829 mm). For the purpose of this section, bedridden patients shall be defined as patients confined to beds who would be transported or evacuated in beds or litters.

**1227.5.2 Service corridors width.** Service corridors with anticipated light traffic volume for nonpatient use may be reduced to a width of 5 feet (1524 mm) if approved by the enforcing agency.

**Exception:** Corridors in administrative and business areas may be reduced to a width of 44 inches (1118 mm).

**1227.5.3 Handrails.** Corridors for patient traffic in areas providing skilled nursing, intermediate, care or rehabilitation services shall be furnished with a handrail on both sides at a height not less than 30 inches (762 mm) or greater than 36 inches (914 mm).

**1227.5.4 Connections.** Corridor systems shall connect all patient rooms and essential services.

**1227.6 DOORS AND DOOR OPENINGS.**

**1227.6.1 Toilet room doors.** Doors to toilet rooms shall have an opening of not less than 32 inches (813 mm) clear in width and shall be equipped with hardware which will permit the door to swing outward or in a manner to negate the need to

push against a patient who may have collapsed within the toilet room.

**1227.6.2 Pocket doors.** Pocket sliding doors are not permitted.

**Exception:** Doors not serving as exit doors from administration areas.

**1227.6.3 Door view windows.** Doors to patient bedrooms shall be provided with a view window with a minimum area of 288 square inches (0.186 square meters). Window sill height shall not be higher than 42 inches (1067 mm) from the floor.

**1227.7 WINDOWS AND SCREENS.**

**1227.7.1 Natural light.** Rooms approved for the housing of patients shall be provided with natural light by means of glazed openings.

**1227.7.2 Screens.** When windows are operable, they shall be provided with insect screens of 16 meshes to the inch.

**1227.7.3 Light and ventilation.** All portions of a building used by patients, personnel or other persons shall be provided with artificial light and a mechanically operated ventilating system as specified in the California Electrical Code and the California Mechanical Code.

**1227.7.4 Patient viewing windows.** Each patient bedroom shall be provided with viewing windows from the corridor to allow full and unobstructed visual observation of the patient.

**1227.8 CEILING HEIGHTS.**

**1227.8.1 Minimum height.** The minimum height of ceilings shall be 8 feet (2438 mm).

**Exception:** Closet, toilet rooms and bathroom minimum ceiling heights shall not be less than 7 feet (2134 mm).

**1227.8.2 Minimum height with fixed ceiling equipment.** Rooms containing ceiling-mounted, major fixed equipment or ceiling-mounted surgical light fixtures shall have ceiling heights to accommodate the equipment or fixtures and their normal movement.

**1227.9 INTERIOR FINISHES**

**1227.9.1 Floor finishes.**

**1227.9.1.1 Floor finishes.** Shall be smooth, waterproof and durable.

**Exception:** Upon written appropriate documented request, the enforcing agency may grant approval of the installation of carpet. See Table 1224.4.11.

**1227.9.1.2 Resilient flooring.** If used in toilet and bathing rooms, shall be continuous and extend upward onto the walls at least 5 inches (127 mm).

**1227.9.2 Wall bases.**

**1227.9.2.1 Materials and installation.** The material and textures of bases and the installation thereof shall be such as to minimize dust-catching surfaces, moisture, infiltration and the harboring of vermin.

**Exception:** In locations where carpet is permitted as a floor finish material, the use of carpeted base

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(coved or strip base) up to a maximum height of 5 inches (127 mm) is also permissible.

**1227.9.2.2 Wood bases.** Wood bases are prohibited except in administration departments and other offices described in Section 1227.16.

**Exceptions:** Wall bases in kitchens, operating rooms, delivery rooms, emergency operating rooms, cast rooms, special procedure rooms and other areas which are subject to wet cleaning methods shall be made integral and coved with the floor, and constructed without voids at the intersection of floor and wall surfaces.

**1227.9.3 Walls.** Interior wall finishes shall be smooth, washable and durable.

**1227.9.4 Ceilings.** Ceiling finishes shall be in compliance with Table 1224.4.11.

**Exceptions:** Walls and ceiling finish requirements do not apply to boiler rooms, mechanical equipment rooms, administration departments, other offices, enclosed stairways, maintenance shops and similar spaces.

### 1227.10 ELEVATORS.

**1227.10.1 Patient elevators** shall have minimum inside platform dimensions of 5 feet by 8 feet (1524 mm by 2438 mm) and a minimum clear door opening of 4 feet, 0 inches (1118 mm).

**1227.10.2 Passenger elevators** shall have minimum inside platform dimensions of 4 feet, 8 inches by 7 feet, 4 inches (1422 mm by 2236 mm).

**1227.10.3 Buildings over one story in height with accommodations or services for patients on floors without grade level entrance** shall provide at least one passenger or patient elevator.

**1227.10.4 If bed patients are accommodated on one or more floors, other than the main entrance floor or where operating rooms or delivery rooms are above or below the main entrance floor,** at least one patient elevator shall be provided.

**1227.10.5 At least one patient elevator and one service elevator** shall be provided in correctional treatment centers with a capacity of 60 to 149 beds on floors other than the main entrance floor.

**1227.10.6 At least one patient elevator, one passenger elevator and one service elevator** shall be provided in hospitals with a capacity of 150 or more beds on floors other than the main entrance floor.

**1227.10.7 If elevators in the correctional institution meet the above size requirements and are easily accessible,** the elevators need not be duplicated in the correctional treatment centers.

**1227.11 GARBAGE-SOLID WASTE AND TRASH STORAGE.** Rooms or screening enclosures shall be provided for the washing and cleaning of garbage containers and for the storage of garbage, trash, and other solid wastes. Such rooms or screening enclosures shall include the following:

1. A concrete floor with a curb and with a drain connected to the sewer.
2. Steam or hot-water and cold-water supply.
3. A minimum floor area of .5 square feet (0.046 m<sup>2</sup>) per bed, but not less than 25 square feet (2.32 m<sup>2</sup>), the least dimension of which shall be 4 feet (1219 mm).
4. A method of limiting access to the material except by authorized persons.

### BASIC SERVICES

#### 1227.12 NURSING SERVICE SPACE.

**1227.12.1 Patient bedrooms.** Patients shall be accommodated only in rooms with the following minimum floor area, exclusive of toilet rooms, wardrobes, entrance vestibules, and fixed furnishings or equipment.

1. Single-patient rooms: 110 square feet (10.22 m<sup>2</sup>).
2. Multi-patient rooms: 80 square feet (7.43 m<sup>2</sup>) per bed.

**1227.12.2 Distance.** A minimum distance of 3 feet (914 mm) shall be provided between beds and 4 feet (1219 mm) between the foot of beds and walls or fixed objects in multi-patient rooms, and 3 feet (914 mm) in single-patient rooms.

**1227.12.3 Airborne infection isolation rooms.** Single rooms shall be provided for the isolation of patients with airborne communicable disease at a ratio of one room for each 35 beds, or major fraction thereof. At least one airborne infection isolation room shall be provided. Airborne infection isolation rooms shall be labeled with the words "Airborne Infection Room" on or adjacent to the anteroom side of the door between the isolation room and the anteroom.

**1227.12.3.1 Alternates.** Alternate designs for modifications to isolation rooms in operation prior to the effective date of this section may be utilized when it can be demonstrated that the alternate design meets performance requirements, without compromising any health or life-safety requirement.

**1227.12.3.2 Anteroom doors.** Airborne infection isolation room(s) shall have self-closing and latching devices on all anteroom doors.

**1227.12.3.3 Anteroom.** A separate anteroom shall be provided between the airborne infection isolation room and the corridor, which shall constitute the primary entrance to the negative pressure isolation room. This anteroom shall have a handwashing fixture, work counter at least 3 feet (914 mm) long, cabinets and space to gown and to store clean and soiled materials. There shall be a view window from the anteroom to the isolation room and means to allow for airflow from the anteroom into the negative pressure isolation room. Doors shall be aligned to allow large equipment to be wheeled into the airborne infection isolation room unless a secondary door complying with Section 1227.12.3.4 is provided. One anteroom may serve no more than two airborne infection isolation rooms.

**1227.12.3.4 Secondary entry.** When a secondary entry is provided directly from the corridor to the negative-pressure isolation room, secondary doors shall be pro-

vided with locking devices which are readily openable from the room side and which are readily openable by the facility staff on the other side. When key locks are used on isolation rooms, keys shall be located at the nurses' station in a prominent readily accessible location.

**1227.12.3.5 Adjoining toilet facilities.** Each isolation room shall have its own toilet room facilities with an emergency nurse call system, a lavatory, a shower providing a seat or a space for a shower chair and a toilet equipped with a bedpan flushing attachment with a vacuum breaker.

**1227.12.3.6 Sealed-tight room.** Airborne infection isolation room perimeter walls, ceiling, floors, doors and penetrations shall be sealed tightly to minimize air infiltration from the outside or from other spaces.

**1227.12.4 Protective environment rooms.** Protective environment rooms for the protection of certain immunosuppressed patients may be provided by the facility. Protective environment rooms shall be labeled "Protective Environment Room" on or adjacent to the anteroom side of the door between the isolation room and the anteroom.

**1227.12.4.1 Anteroom doors.** Airborne infection isolation room(s) shall have self-closing and latching devices on all anteroom doors.

**1227.12.4.2 Anteroom.** A separate anteroom shall be provided between the protective environment room and the corridor or adjoining space which shall constitute the only entrance to the protective environment isolation room. This anteroom shall have a handwashing fixture, work counter at least 3 feet (914 mm) long, cabinets and space to gown and to store clean and soiled materials. There shall be a view window from the anteroom to the positive-pressure isolation room. There shall be means to allow for airflow from the protective environment room into the anteroom. Anteroom doors shall be aligned so that large equipment can be wheeled into the isolation room. One anteroom may serve no more than one protective environment room.

**Exception:** Alternate designs for protective environment rooms, without individual anterooms, may be approved by the enforcement agency when it can be demonstrated that the alternate design meets the requirements of the California Mechanical Code and does not compromise or alter any health or fire-protection component, assembly or system.

**1227.12.4.3 Toilet room(s).** Adjoining toilet room facilities shall meet the requirements of Section 1227.12.3.5.

**1227.12.4.4 Sealed-tight room.** Protective environment room perimeter walls, ceiling, floors, doors and penetrations shall be sealed tightly to minimize air infiltration from the outside or from other spaces.

**1227.12.5 Identification.** Each patient room shall be labeled with an identification number, letter or combination of the two.

**1227.12.6 Observation rooms.**

**1227.12.6.1 Observation rooms.** Provide for disturbed/special patients at a ratio of one room for each 30 beds or major fraction thereof. At least one observation room shall be provided in each nursing service unit.

**1227.12.6.2 Viewing windows.** Observation rooms shall be provided with viewing windows to allow full and unobstructed visual observation of the patient. They shall be located near the nurses' station and toilet room facilities.

**1227.12.6.3 Appendages and equipment.** Rooms shall be free of appendages and equipment which could facilitate suicide or self-mutilation.

**1227.12.7 Nurses' station.** A nurses' station shall be provided within each nursing unit.

**1227.12.7.1 Components.** Nurses' stations shall be provided with a cabinet, a desk, space for records, a bulletin board, a telephone, and a specifically designated and lockable and illuminated medicine storage compartment, and a handwashing fixture. If a separate medicine room is provided, it shall have a lockable door and a medicine sink. This sink cannot replace the required nurses' station handwashing fixture.

**1227.12.7.2 Size.** Nurses' stations serving 25 or less beds shall have a minimum floor area of 100 square feet (9.29 m<sup>2</sup>). Nurses' stations servicing more than 25 beds shall have a minimum floor area of 125 square feet (11.6 m<sup>2</sup>). The minimum dimension of any nurses' station shall not be less than 8 feet (2438 mm).

**1227.12.7.3 Distance.** The distance between the nurses' station entrance and the center of the doorway of the most remote patient bedroom shall not exceed 90 linear feet (27432 mm).

**Exception:** This section does not preclude designs based on primary nursing concepts incorporating more than one single nursing station of less than 100 square feet (9.29 m<sup>2</sup>) each and an additional work space or station for unit clerk/receptionist junctions.

**1227.12.7.4 Correctional officer.** A separate space for the correctional officer may adjoin the nurses' station but shall not be included in the minimum square footage requirement for a nurses' station.

**1227.12.8 Utility rooms.** Utility rooms shall be provided in each nursing unit. Soiled and clean utility or holding rooms shall be separated and have no direct connection.

**1227.12.8.1 Clean utility room.** Clean utility rooms shall contain a work counter, handwashing fixture and storage facilities unless the room is used only for storage and holding as part of a system for distribution of clean and sterile supplies, in which case the work counter and handwashing fixture may be omitted.

**1227.12.8.2 Soiled workroom or soiled holding room.** Soiled utility rooms shall contain a flushing-rim clinical sink or equivalent flushing-rim device, handwashing fixture, work counter, waste receptacles and linen



**1227.18 STORAGE.**

**1227.18.1 General storage.** Correctional treatment centers shall provide combined general and specialized storage space in accordance with the following:

1–10 beds	120 square feet (11.15 m <sup>2</sup> ) minimum
11–100 beds	12 square feet (1.11 m <sup>2</sup> ) per bed
over 100 beds	1,200 square feet (111.48 m <sup>2</sup> ) plus 5 square feet (0.46 m <sup>2</sup> ) per bed for each bed over 100

**1227.18.2 Specialized storage.** Specialized storage spaces shall include the following:

1. **Linen.** Separate and enclosed facilities for clean and soiled linen in each nursing unit. The clean linen storage space shall have a minimum area of 10 square feet (0.93 m<sup>2</sup>) and may be within the clean utility room. The soiled linen collection space shall have an area of no less than 10 square feet (0.93 m<sup>2</sup>), and may be within the soiled utility room.
2. **Supply.** One supply storage space having a minimum area of 15 square feet (1.39 m<sup>2</sup>) shall be provided in each nursing unit. Supply storage may be within the clean utility room used only as part of a system for distributing clean and sterile supplies.
3. **Wheelchairs.** A room or space shall be provided in each nursing unit for wheelchairs and stretchers. The wheelchair and stretcher space shall have a minimum area of 15 square feet (1.39 m<sup>2</sup>).
4. **Storage.** Sterile and unsterile supplies shall be stored separately.

**1227.19 EMPLOYEE DRESSING ROOMS AND LOCKERS.**

**1227.19.1 Minimum facilities.** Correctional treatment centers shall provide the following:

1. **Dressing rooms.** Separate dressing rooms for male and female personnel with lockers, lavatory and toilet(s).

**Exception:** If provided for the correctional treatment center staff in adjacent correctional institutions, dressing rooms and lockers need not be duplicated.

**1227.20 HOUSEKEEPING ROOM.**

**1227.20.1** A securely lockable housekeeping room with service sink and supply storage spaces shall be provided in each nursing unit.

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**1227.21 SERVICE SPACES.** Service spaces, such as laboratory, radiology and any other services approved by the licensing agency, shall comply with the applicable space requirements of Sections 1224 and 1225. Service spaces shall also comply with applicable provisions of the California Building Standards Administrative Code (Part 1).

**1227.22 OUTPATIENT SERVICES.** The following shall be provided or made available to a outpatient service space.

**1227.22.1 Waiting.** Waiting area(s) shall be provided with access to toilet room facilities and a drinking fountain both meeting the requirements of Sections 1231.3.1, 1231.3.2 and 1231.3.3.

**1227.22.1.1 Holding cell.** If a temporary holding cell or room is used for this purpose, it shall comply with Section 1231.2.2.

**Exception:** The minimum floor area shall be 80 square feet (7.43 m<sup>2</sup>).

**1227.23 24-HOUR MENTAL HEALTH CARE SERVICES.**

**1227.23.1 Program/dining space.** Provide within the Correctional Treatment Center for use by mental health treatment program patients, as is consistent with security requirements. Program/dining space shall be provided with a minimum floor area of 30 square feet (2.79 m<sup>2</sup>) per patient served at a given time.

**1227.23.2 Mental health treatment.** Correctional treatment centers providing a mental health treatment program shall include one safety room for every 30 mental health treatment program beds or fraction thereof, and one observation room providing direct observation of every portion of the room for every 15 mental health beds or fraction thereof. At least one safety room and one observation room shall be provided.

**1227.23.3 Safety rooms.** Safety rooms shall be constructed so as to provide video camera observation capability. Safety rooms shall comply with the design criteria requirements of Section 1231.2.5 for a safety cell.

**SECTION 1228  
Reserved**

**SECTION 1229  
Reserved**

**SECTION 1230 [BSCC]  
MINIMUM STANDARDS FOR JUVENILE FACILITIES**

**1230.1 Design criteria for required spaces.**

**1230.1.1 Reception/intake admission.** In each juvenile hall, space used for the reception of minors pending admission to juvenile hall shall have the following space and equipment:

1. Weapons lockers as specified in Section 1230.2.9;
2. A secure room for the confinement of minors pending admission to juvenile hall as specified in Section 1230.1.2;

In each juvenile hall, camp and ranch, space used for the reception of minors pending admission to these facilities shall have the following space and equipment:

3. Access to a shower;
4. A secure vault or storage space for minors, valuables;

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5. Telephones accessible to minors; and
6. Access to hot and cold running water for staff use.

**1230.1.2 Locked holding room.** A locked holding room shall:

1. Contain a minimum of 15 square feet (1.4 m<sup>2</sup>) of floor area per youth;
2. Provide no less than 45 square feet (4.2 m<sup>2</sup>) of floor space and have a clear ceiling height of 8 feet (2438 mm) or more;
3. Contain seating to accommodate all youth as specified in Section 1230.2.8;
4. Be equipped with a toilet, wash basin and drinking fountain as specified in Section 1230.2, unless a procedure is in effect to give the youth access to a toilet, wash basin and drinking fountain;
5. Maximize visual supervision of youth by staff; and
6. Have an outward swinging or lateral sliding door.

**1230.1.3 Natural light.** Visual access to natural light shall be provided in locked sleeping rooms, single occupancy sleeping rooms, double occupancy sleeping rooms, dormitories and day rooms. Natural light may be provided by, but is not limited to, skylights or windows in dayrooms, windows in adjacent exterior exercise areas, and in sleeping rooms and/or dormitories.

**1230.1.4 Corridors.** Corridors in living units shall be at least 8 feet (2438 mm) wide.

**Exception:** Where room doors are staggered, or if rooms are located on only one side, corridors shall be at least 6 feet (1829 mm) wide.

**1230.1.5 Living unit.** A living unit shall be a self-contained unit containing locked sleeping rooms, single and double occupancy sleeping rooms, or dormitories, day-room space, toilet, wash basins, drinking fountains and showers commensurate to the number of youth housed. A living unit shall not be divided in a way that hinders direct access, supervision, immediate intervention or other action if needed. In juvenile halls, the number of youth housed in a living unit shall not exceed 30.

**1230.1.6 Locked sleeping rooms.** Locked sleeping rooms shall be equipped with an individual or combination toilet, wash basin and drinking fountain. Doors to locked sleeping rooms shall swing outward or slide laterally.

**1230.1.7 Single occupancy sleeping rooms.** Single occupancy sleeping rooms shall provide the following:

1. A minimum of 70 square feet (1.78 m<sup>2</sup>) of floor area;
2. A minimum clear ceiling height of 8 feet (2438 mm); and,
3. The door into this room shall swing outward or slide laterally and be provided with a view panel, a minimum of 144 square inches (92,903 mm<sup>2</sup>), constructed of security glazing.

**1230.1.8 Double occupancy sleeping rooms.** Double occupancy sleeping rooms shall provide the following:

1. A minimum of 100 square feet (9.3 m<sup>2</sup>) of floor area;
2. A minimum clear ceiling height of 8 feet (2438 mm) and a minimum width of 7 feet (2134 mm); and,
3. The door into this room shall swing outward or slide laterally and be provided with a view panel, a minimum of 144 square inches (92,903 mm<sup>2</sup>), constructed of security glazing.

**1230.1.9 Dormitories.** Dormitories shall provide the following:

1. A minimum of 50 square feet (4.6 m<sup>2</sup>) of floor area per minor with the minimum size of a dormitory being 200 square feet (18.6 m<sup>2</sup>) of floor area and a minimum 8-foot (2438 mm) clear ceiling height;
2. Designed for no fewer than four minors;
3. Dormitories in juvenile halls shall be designed for no more than 30 minors;
4. Camps shall conform to Items 1 and 2.

**1230.1.10 Dayrooms.** Dayrooms shall contain 35 square feet (3.3 m<sup>2</sup>) of floor area per minor. Access must be provided to toilets, wash basins, drinking fountains and showers as specified in Section 1230.2.

**1230.1.11 Physical activity and recreation areas.** Indoor / outdoor physical activity and recreation areas shall be designed as follows:

1. Facility capacity	Minimum indoor outdoor recreation space
----------------------	-----------------------------------------

40 or less	9,000 square feet (836 m <sup>2</sup> )
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41 to 274	225 square feet (21 m <sup>2</sup> ) per minor up to 61,650 square feet (5727 m <sup>2</sup> )
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275 or more	61,650 square feet (5727 m <sup>2</sup> ), plus 145 square feet (13.47 m <sup>2</sup> ) for each minor beyond 274 [up to a maximum of 87,120 square feet (8093 m <sup>2</sup> )]
-------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

- 1.1. At least one quarter of the dedicated indoor/ outdoor space shall be a paved or like surface.
- 1.2. The required recreation area shall contain no single dimension less than 40 feet (12.2 m).
2. A portion of the dedicated space for physical activity and recreation shall be out-of-doors and be of sufficient size and equipped in such a manner to allow compliance with Title 15, Section 1371, which requires at least one hour per day of outdoor activity for each detained minor.
3. Lighting of outdoor recreation areas shall be provided to allow for evening activities and to provide security.
4. Access must be provided to a toilet, wash basin and drinking fountain as specified in Section 1230.2.

## CALIFORNIA BUILDING CODE – MATRIX ADOPTION TABLE CHAPTER 14 – EXTERIOR WALLS

(Matrix Adoption Tables are non-regulatory, intended only as an aid to the user.

See Chapter 1 for state agency authority and building applications.)

Adopting agency	BSC	SFM	HCD			DSA			OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4								
Adopt entire chapter	X																			
Adopt entire chapter as amended (amended sections listed below)							X	X	X	X		X								
Adopt only those sections that are listed below		X																		
Chapter / Section																				
1401		X																		
1402		X																		
1403.4		X																		
1403.5		X																		
1404		X																		
1405		X																		
1405.1.1							X	X	X	X		X								
1406		X																		
1407		X																		
1408		X																		
1410							X	X	X	X		X								

*The Office of the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures regulated by other state agencies pursuant to Section 1.11.*



**TABLE 1505.1<sup>a</sup>**  
**MINIMUM ROOF COVERING**  
**CLASSIFICATION FOR TYPES OF CONSTRUCTION**

IA	IB	IIA	IIB	IIIA	IIIB	IV	VA	VB
B	B	B	C	B	C	B	B	C

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m<sup>2</sup>.

a. Unless otherwise required in accordance with *Chapter 7A*.

**1505.1.1 Roof coverings within very high fire hazard severity zones.** *The entire roof covering of every existing structure where more than 50 percent of the total roof area is replaced within any one-year period, the entire roof covering of every new structure, and any roof covering applied in the alteration, repair or replacement of the roof of every existing structure, shall be a fire-retardant roof covering that is at least Class A.*

**Exception:** *The requirements shall not apply in any jurisdiction that adopts the model ordinance approved by the State Fire Marshal pursuant to Section 51189 of the Government Code or an ordinance that substantially conforms to the model ordinance and transmits a copy to the State Fire Marshal.*

**1505.1.2 Roof coverings within state responsibility areas.** *The entire roof covering of every existing structure where more than 50 percent of the total roof area is replaced within any one-year period, the entire roof covering of every new structure and any roof covering applied in the alteration, repair or replacement of the roof of every existing structure shall be a fire-retardant roof covering that is at least Class B.*

**Exception:** *Areas designated as moderate fire hazard severity zones.*

**1505.1.3 Roof coverings within all other areas.** *The entire roof covering of every existing structure where more than 50 percent of the total roof area is replaced within any one-year period, the entire roof covering of every new structure, and any roof covering applied in the alteration, repair or replacement of the roof of every existing structure, shall be a fire-retardant roof covering that is at least Class C.*

**1505.1.4 Roofing requirements in a Wildland-Urban Interface Fire Area.** *Roofing requirements for structures located in a Wildland-Urban Interface Fire Area shall also comply with Section 705A.*

**1505.2 Class A roof assemblies.** Class A roof assemblies are those that are effective against severe fire test exposure. Class A roof assemblies and roof coverings shall be listed and identified as Class A by an approved testing agency. Class A roof assemblies shall be permitted for use in buildings or structures of all types of construction.

**Exceptions:**

1. Class A roof assemblies include those with coverings of brick, masonry or an exposed concrete roof deck.
2. Class A roof assemblies also include ferrous or copper shingles or sheets, metal sheets and shingles,

clay or concrete roof tile or slate installed on non-combustible decks or ferrous, copper or metal sheets installed without a roof deck on noncombustible framing.

3. Class A roof assemblies include minimum 16 oz/sq. ft. (0.0416 kg/m<sup>2</sup>) copper sheets installed over combustible decks.

**1505.3 Class B roof assemblies.** Class B roof assemblies are those that are effective against moderate fire-test exposure. Class B roof assemblies and roof coverings shall be listed and identified as Class B by an approved testing agency.

**1505.4 Class C roof assemblies.** Class C roof assemblies are those that are effective against light fire-test exposure. Class C roof assemblies and roof coverings shall be listed and identified as Class C by an approved testing agency.

**1505.5 Nonclassified roofing.** Nonclassified roofing is approved material that is not listed as a Class A, B or C roof covering.

**1505.6 Fire-retardant-treated wood shingles and shakes.** *Fire-retardant-treated wood shakes and shingles are wood shakes and shingles complying with UBC Standard 15-3 or 15-4 which are impregnated by the full-cell vacuum-pressure process with fire-retardant chemicals, and which have been qualified by UBC Standard 15-2 for use on Class A, B or C roofs.*

*Fire-retardant-treated wood shakes and shingles shall comply with ICC-ES EG107 and with the weathering requirements contained in Health and Safety Code Section 13132.7(j). Each bundle shall bear labels from an ICC accredited quality control agency identifying their roof-covering classification and indicating their compliance with ICC-ES EG107 and with the weathering requirements contained in Health and Safety Code Section 13132.7(j).*

*Health and Safety Code Section 13132.7(j). No wood roof covering materials shall be sold or applied in this state unless both of the following conditions are met:*

- (1) *The materials have been approved and listed by the State Fire Marshal as complying with the requirements of this section.*
- (2) *The materials have passed at least five years of the 10-year natural weathering test. The 10-year natural weathering test required by this subdivision shall be conducted in accordance with standard 15-2 of the 1994 edition of the Uniform Building Code at a testing facility recognized by the State Fire Marshal.*

**1505.7 Special purpose roofs.** Special purpose wood shingle or wood shake roofing shall conform with the grading and application requirements of Section 1507.8 or 1507.9. In addition, an underlayment of 5/8-inch (15.9 mm) Type X water-resistant gypsum backing board or gypsum sheathing shall be placed under minimum nominal 1/2-inch-thick (12.7 mm) wood structural panel solid sheathing or 1-inch (25 mm) nominal spaced sheathing.

**1505.8 Building integrated photovoltaic systems.** Rooftop installed *building integrated* photovoltaic systems that serve

as the roof covering shall be *listed and labeled for* fire classification in accordance with Section 1505.1.

**1505.9 Photovoltaic panels and modules.** *Effective January 1, 2015. Rooftop mounted photovoltaic systems shall be tested, listed and identified with a fire classification in accordance with UL 1703. The fire classification shall comply with Table 1505.1 based on the type of construction of the building.*

**SECTION 1506  
MATERIALS**

**1506.1 Scope.** The requirements set forth in this section shall apply to the application of roof-covering materials specified herein. Roof coverings shall be applied in accordance with this chapter and the manufacturer’s installation instructions. Installation of roof coverings shall comply with the applicable provisions of Section 1507.

**1506.2 Compatibility of materials.** Roofs and roof coverings shall be of materials that are compatible with each other and with the building or structure to which the materials are applied.

**1506.3 Material specifications and physical characteristics.** Roof-covering materials shall conform to the applicable standards listed in this chapter. In the absence of applicable standards or where materials are of questionable suitability, testing by an approved agency shall be required by the building code official to determine the character, quality and limitations of application of the materials.

**1506.4 Product identification.** Roof-covering materials shall be delivered in packages bearing the manufacturer’s identifying marks and approved testing agency labels required in accordance with Section 1505. Bulk shipments of materials shall be accompanied with the same information issued in the form of a certificate or on a bill of lading by the manufacturer.

**SECTION 1507  
REQUIREMENTS FOR ROOF COVERINGS**

**1507.1 Scope.** Roof coverings shall be applied in accordance with the applicable provisions of this section and the manufacturer’s installation instructions.

**1507.2 Asphalt shingles.** The installation of asphalt shingles shall comply with the provisions of this section.

**1507.2.1 Deck requirements.** Asphalt shingles shall be fastened to solidly sheathed decks.

**1507.2.2 Slope.** Asphalt shingles shall only be used on roof slopes of two units vertical in 12 units horizontal (17-percent slope) or greater. For roof slopes from two units vertical in 12 units horizontal (17-percent slope) up to four units vertical in 12 units horizontal (33-percent slope), double underlayment application is required in accordance with Section 1507.2.8.

**1507.2.3 Underlayment.** Unless otherwise noted, required underlayment shall conform to ASTM D 226, Type I, ASTM D 4869, Type I, or ASTM D 6757.

**1507.2.4 Self-adhering polymer modified bitumen sheet.** Self-adhering polymer modified bitumen sheet shall comply with ASTM D 1970.

**1507.2.5 Asphalt shingles.** Asphalt shingles shall comply with ASTM D 225 or ASTM D 3462.

**1507.2.6 Fasteners.** Fasteners for asphalt shingles shall be galvanized, stainless steel, aluminum or copper roofing nails, minimum 12 gage [0.105 inch (2.67 mm)] shank with a minimum <sup>3</sup>/<sub>8</sub> inch-diameter (9.5 mm) head, of a length to penetrate through the roofing materials and a minimum of <sup>3</sup>/<sub>4</sub> inch (19.1 mm) into the roof sheathing. Where the roof sheathing is less than <sup>3</sup>/<sub>4</sub> inch (19.1 mm) thick, the nails shall penetrate through the sheathing. Fasteners shall comply with ASTM F 1667.

**1507.2.7 Attachment.** Asphalt shingles shall have the minimum number of fasteners required by the manufacturer, but not less than four fasteners per strip shingle or two fasteners per individual shingle. Where the roof slope exceeds 21 units vertical in 12 units horizontal (21:12), shingles shall be installed as required by the manufacturer.

**1507.2.7.1 Wind resistance.** Asphalt shingles shall be tested in accordance with ASTM D 7158. Asphalt shingles shall meet the classification requirements of Table 1507.2.7.1(1) for the appropriate maximum basic wind speed. Asphalt shingle packaging shall bear a label to indicate compliance with ASTM D 7158 and the required classification in Table 1507.2.7.1(1).

**Exception:** Asphalt shingles not included in the scope of ASTM D 7158 shall be tested and labeled to indicate compliance with ASTM D 3161 and the required classification in Table 1507.2.7.1(2).

**TABLE 1507.2.7.1(1)  
CLASSIFICATION OF ASPHALT  
ROOF SHINGLES PER ASTM D 7158<sup>a</sup>**

NOMINAL DESIGN WIND SPEED, <i>V<sub>asd</sub></i> <sup>b</sup> (mph)	CLASSIFICATION REQUIREMENT
85	D, G or H
90	D, G or H
100	G or H
110	G or H
120	G or H
130	H
140	H
150	H

For SI: 1 foot = 304.8 mm; 1 mph = 0.447 m/s.

a. The standard calculations contained in ASTM D 7158 assume exposure category B or C and building height of 60 feet or less. Additional calculations are required for conditions outside of these assumptions.

b. *V<sub>asd</sub>* shall be determined in accordance with Section 1609.3.1.

# HISTORY NOTE APPENDIX

## California Building Code Title 24, Part 2, California Code of Regulations (CCR)

For prior code history, see the History Note Appendix to the *California Building Code (CBC)*, 2010 Triennial Edition effective January 1, 2011.

1. BSC 03/12, SFM 02/12, OSHPD 03/12 & 04/12, DSA-SS 02/12, HCD 06/12, HCD 08/12, DSA-AC 01/12, BSCC 01/12, CDPH 01/12, SLC 01/12 — Adoption of the 2012 edition of the *International Building Code* published by the International Code Council, for incorporation into the *2013 California Building Code*, CCR Title 24, Part 2 with amendments for State regulated occupancies effective on January 1, 2014.
2. Errata to correct editorial errors within the preface as well as throughout various chapters in this code. Effective January 1, 2014.
3. OSHPD EF 01/14—Emergency regulations based on AB 980 (Chapter 663 Statutes of 2013). Delete Section 1226.7, Chapter 12, Part 2, Title 24. Approved as an emergency on April 22, 2014, filed with Secretary of State on April 23, 2014 and effective April 23, 2014.
4. SFM EF 01/14—Emergency regulations to amend Section 1505.9, Chapter 15, Part 2, Title 24 for a delayed effective date of UL 1703 fire classification. Approved as an emergency on April 22, 2014, filed with Secretary of State on April 23, 2014 with a delayed effective date of January 1, 2015.
5. *2013 Intervening Cycle Supplement; BSC 02/13, CDPH 01/13, DSA-AC 01/13, HCD 02/14 & HCD 04/13, OSHPD 01/13 & 02/13, SFM 01/13 – Approved by the California Building Standards Commission on July 22, 2014. Published on January 1, 2015 and effective July 1, 2015.*



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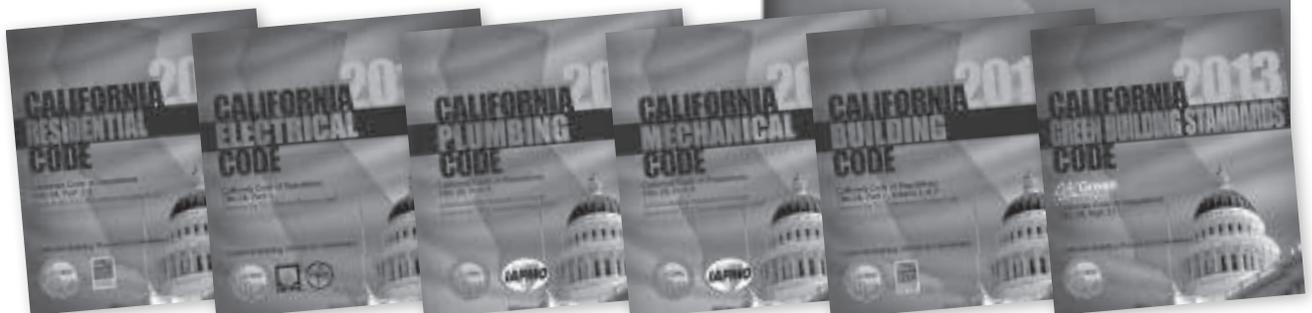
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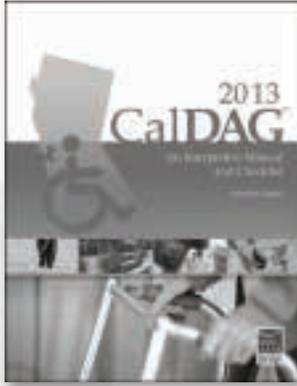
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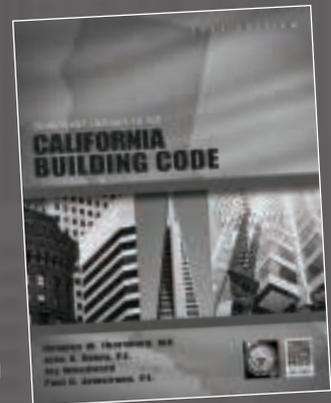
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