

**EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
REGARDING PROPOSED CHANGES TO THE 2007 CALIFORNIA BUILDING CODE (CBC)
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2
(HCD 02/07)**

The Department of Housing and Community Development (HCD) proposes to make necessary changes to the 2007 edition of the California Building Code (CBC), based on the 2006 International Building Code (IBC), as presented on the following pages. HCD further proposes to:

- Adopt necessary amendments to the model code;
- Repeal amendments to the model code that are no longer necessary.

LEGEND FOR EXPRESS TERMS:

1. **Existing California amendments with or without modification:** *All language appears in italics, modified language is underlined or in ~~strikeout~~.*
 2. **CBC language with California amendments:** CBC language shown in normal Arial 9 point; *California amendments to CBC text shown in italics, modified language is underlined or in ~~strikeout~~.*
 3. **Repealed text:** All language appears in ~~strikeout~~.
 4. **Notation:** Authority and Reference citations are provided at the end of each chapter.
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1. Amend Chapter 2, Section 202 “Definitions” as follows:

**CHAPTER 2
DEFINITIONS**

GRADE (Adjacent Ground Elevation) [HCD 1-AC] *is 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. [HCD 1 & HCD 2]** See Section 502.1.~~

~~**LIFT, PLATFORM (WHEELCHAIR), SPECIAL ACCESS. [HCD 1-AC]** See “Special Access Platform (Wheelchair) Lift” in Chapter 11A, Section 1107A.16-P, 42-L and Chapter 11B, Section 1102B.~~

~~**PLATFORM (WHEELCHAIR) LIFT. [HCD 1-AC]** See Chapter 11A, Section 1107A.16-P and Chapter 11B, Section 1102B.~~

~~**SPECIAL ACCESS LIFT. [HCD 1-AC]** See Chapter 11A, Section 1107A.19-S, and Chapter 11B, Section 1102B.~~

~~**TOEBOARD. [HCD 1-AC]** See Chapter 11A, Section 1107A.20-T.~~

TOWNHOUSE. A single-family dwelling unit constructed in a group of three or more attached units in which each unit extends from the foundation to the roof and with open space on at least two sides.

~~**[HCD 1-AC]** For applications required to provide accommodations for persons with disabilities, see Chapter 11A, Section 1107A.20-F.~~

NOTE:

Authority cited: Health and Safety Code Sections 17040, 17921, 17922, 18300, 18865 and 19990; and Government Code Sections 12955.1 and 12955.1.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990, 18620, 18630, 18640, 18670, 18690, 18691, 18873 through 18873.5 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

2. Amend Chapter 5, Section 502.1 “Definitions” as follows:

**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

502.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

~~**[HCD 1 and HCD 2]** “Grade or Grade plane” is 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. For additional information, see Health and Safety Code Section 19955.3 (d).~~

NOTE:

Authority cited: Health and Safety Code Sections 17040, 17921, 17922, 18300, 18865 and 19990; and Government Code Sections 12955.1 and 12955.1.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990, 18620, 18630, 18640, 18670, 18690, 18691, 18873 through 18873.5 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

3. Add a NOTE (for informational purposes) directly underneath the Chapter 11A heading as follows:

**CHAPTER 11A
HOUSING ACCESSIBILITY**

NOTE: *Dwelling units constructed as senior citizen housing may also be subject to the Unruh Civil Rights Act. Refer to Division I, Part 2 of the California Civil Code. For additional information regarding application, interpretation and enforcement, contact the California Department of Fair Employment and Housing.*

4. Amend Division I, Table of Contents, as follows:

Division I — APPLICATION, GENERAL PROVISIONS AND DEFINITIONS

Division I Table of Contents

Section 1101A Application

Section 1102A Building Accessibility

Section 1103A Design and Construction

Section 1104A ~~Group R Occupancies~~ Covered Multifamily Dwellings

Section 1105A ~~Group U Occupancies~~ Garages, Carports and Parking Facilities

Section 1106A Site and Building Characteristics

Section 1107A Definitions

5. Amend Section 1101A.1 as follows:

SECTION 1101A — APPLICATION

1101A.1 Scope. *The application and authority of this chapter are identified and referenced in Sections 108.2.1.2 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 spaces serving existing covered multifamily dwellings.*
- 3. Additions to existing buildings where the addition alone meets the definition of a covered multifamily dwelling.*
- 4. ~~Common use~~ Common use areas serving covered multifamily dwellings.*
- 5. Where the facade of a building 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 the purpose of determining the application of this chapter.*

These building standards generally do not apply to public accommodations such as hotels and motels. Public use areas, public accommodations and housing which is publicly funded as defined in Chapter 2, Chapter 11A, and Chapter 11B of this code are subject to provisions of the Division of the State Architect (DSA-AC) and are referenced in Section 109.1.1.

6. Amend Section 1102A.3.2 as follows:

SECTION 1102A — BUILDING ACCESSIBILITY

1102A.3.2 Multistory dwelling units in buildings with one or more elevators. *Multistory dwelling units, ~~i.e., townhouse and condominium-type construction,~~ 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. ~~All rooms and spaces located on the primary entry floor shall comply with the following:~~ At least 1 powder room or bathroom shall be located on the primary entry level.*
- 2. All rooms or spaces located on the primary entry level shall be served by an accessible route and shall comply with Division IV.*

7. Amend Section 1104A as follows:

SECTION 1104A — ~~GROUP R OCCUPANCIES~~ COVERED MULTIFAMILY DWELLINGS

8. Amend Sections 1105A and 1105A.1 as follows:

SECTION 1105A — ~~GROUP U OCCUPANCIES~~ GARAGES, CARPORTS AND PARKING FACILITIES

1105A.1 General. *~~Group U, Division 1, private-g~~ Garages, carports and other parking facilities which are accessory to covered multifamily dwelling units shall be accessible as required in Section 1109A. ~~Group U, Division 1, private garages include individual garages and multiple individual garages grouped together.~~*

9. Amend Sections 1107A.2-B, 1107A.12-L, 1107A.16-P, 1107A.19-S and 1107A.20-T as follows:

SECTION 1107A — DEFINITIONS

1107A.2-B

BATHROOM is, for the purposes of this chapter, a room which includes a water closet (toilet), lavatory (sink), and ~~a~~ bathtub and/or a shower. It does not include single-fixture facilities or those with only a water closet and lavatory. It does include a compartmented bathroom. A compartmented bathroom is one in which the fixtures are distributed among interconnected rooms. A compartmented bathroom is considered a single unit and is subject to the requirements of this chapter.

1107A.12-L

LIFT, PLATFORM (WHEELCHAIR). SPECIAL ACCESS. See "Special Access Platform (Wheelchair) Lift."

1107A.16-P

PLATFORM (WHEELCHAIR) LIFT is a hoisting and lowering mechanism equipped with a car or platform, or support which 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 by Section 1124A.11.

1107A.19-S

SPECIAL ACCESS LIFT is a hoisting and lowering mechanism equipped with a car or platform, or support which 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 by Section 1124A.11.

1107A.20-T

TOEBOARD is a vertical barrier erected along the open edges of floor openings or floor holes, platforms and runways.

TOWNHOUSE is a multistory dwelling unit.

10. Amend Division II, Table of Contents, as follows:

Division II — EXTERIOR FACILITIES

Division II Table of Contents

Section 1108A General Requirements for Accessible Parking and Exterior Routes of Travel

Section 1109A Parking Facilities

Section 1110A Exterior Routes of Travel

Section 1111A Changes in Level on Accessible Routes

Section 1112A Curb Ramps on Accessible Routes

Section 1113A Walks and Sidewalks on an Accessible Route

Section 1114A Exterior Ramps and Landings on Accessible Routes

Section 1115A Exterior Stairways ~~along Accessible Routes~~

Section 1116A Hazards on Accessible Routes

11. Amend Section 1109A.2 as follows:

SECTION 1109A — PARKING FACILITIES

1109A.2 Parking facilities. Parking facilities shall include, but not be limited to, the following:

1. Garages.
2. Private garages (~~see Section 1105A for the application of building standards for accessibility~~).
3. Carports.
4. Off-street parking (parking lots/spaces).

12. Amend Section 1109A.2.1 as follows: [Related Section 1132A.2]

1109A.2.1 Private garages. ~~Group U, Division 1, p~~ Private garages ~~which are~~ accessory to covered multifamily dwelling units, shall be accessible as required in Section 1109A. ~~Group U, Division 1, p~~ Private garages include individual garages and multiple individual garages grouped together.

Exception: ~~An attached private garage attached to and which directly serves~~ serving a single covered multifamily dwelling unit ~~providing at least one of the following options: is an accessible garage if a person with a disability can exit the dwelling unit's accessible entry door by an accessible route and enter the garage from the driveway. The provisions in Section 1109A shall not apply.~~

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.

13. Amend Section 1109A.8.3 as follows:

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 ¼ inch (6.35 mm) per foot (2.083-percent gradient) in any direction.

14. Amend Section 1109A. 8.8 as follows:

1109A.8.8 Parking signage. Each accessible parking space reserved for persons with disabilities shall be identified by a ~~reflectorized~~ reflective sign permanently posted immediately adjacent to and visible from each stall or space, consisting of the "International Symbol of Accessibility" in white on a dark blue background. The sign shall not be smaller than 70 square inches (4516 mm²) in area and, when in a path of travel, shall be posted at a minimum height of 80 inches (2032 mm) from the bottom of the sign to the parking space finished grade. Signs may also be centered on the wall at the interior end of the parking space at a minimum height of 36 inches (914 mm) from the parking space finished grade, ground or sidewalk. ~~Van accessible spaces shall comply with Section 1109A.8.6 and shall have an additional sign or additional language stating "Van Accessible"~~ "Van Accessible" ~~mounted~~ below the symbol of accessibility.

Note: When assigned resident parking is provided, signage is not required, except for unassigned or visitor parking spaces.

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 license plates issued for persons with disabilities may be towed away at 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.

In addition to the above requirements, the surface of each accessible parking space shall have a surface identification duplicating either of the following schemes:

1. By outlining or painting the stall or space in blue and outlining on the ground in the stall or space in white or suitable contrasting color the “International Symbol of Accessibility”; or,
2. By outlining the “International Symbol of Accessibility” in white on blue background. The “International Symbol of Accessibility” shall be located so that it is visible to a traffic enforcement officer when a vehicle is properly parked in the space and shall be 36 inches high by 36 inches wide (914 mm by 914 mm).

Note: See Figures 11A-2A, 11A-2B and 11A-2C.

15. Amend Section 1111A.2 as follows:

1111A.2 Changes greater than ½ inch. Changes in level greater than ½ 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 ~~special access 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.

16. Amend Section 1114A.2 as follows: [Related Section 1132A.4]

SECTION 1114A EXTERIOR RAMPS AND LANDINGS ON ACCESSIBLE ROUTES

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.

17. Amend Section 1114A.6.1, Exceptions, as follows:

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% slope). Handrails on all ramps shall be continuous.

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.

18. Amend Sections 1115A, 1115A.1, 1115A.2, 1115A.4, 1115A.5 and 1115A.6.1 as follows:

SECTION 1115A EXTERIOR STAIRWAYS ALONG ACCESSIBLE ROUTES

1115A.1 General. Exterior stairways serving ~~floors or buildings on a site containing covered multifamily dwelling units required to be accessible~~ shall comply with this section.

Note: This section shall not apply to exterior stairways serving floors or dwelling units not required to be accessible.

1115A.2 Open risers. Open risers ~~shall~~ are not be permitted ~~along accessible routes 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.4 Nosing. Nosing shall not project more than ~~4 ¼~~ 1 ¼ inches (~~38.1~~ 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 ~~less~~ more than ~~60~~ 30 degrees (0.52 rad) from the ~~horizontal~~ vertical. (See Figure 11A-6A).

1115A.5 Striping for the visually impaired. ~~Where stairways occur outside a building along accessible routes, the upper approach and all treads shall be marked by a strip of clearly contrasting color at least a minimum of 2 inches (50.8 mm) wide to a maximum of 4 inches (101.6 mm) wide and placed parallel to and not more than 1 inch (25.4 mm) from the nose of the step or landing to alert the visually impaired. The strip shall be of a material that is at least as slip resistant as the treads of the stair. A painted strip shall be acceptable. 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.

1115A.6 Exterior stairway handrails.

1115A.6.1 Where required. Stairways shall have handrails on each side., ~~and every stairway required to be more than 88 inches (2235 mm) in width shall be provided with not less than one intermediate handrail for each 88 inches (2235 mm) of required width. Intermediate handrails shall be located equidistant from the sides of the stairway and comply with Section 1012.8.~~

Exception: Stairways serving an individual dwelling unit may have one handrail, except that stairways open on one or both sides shall have the handrails on the open side or sides.

19. Amend Section 1121A.2 as follows:

SECTION 1121A Changes in Level on Accessible Routes

1121A.2 Changes greater than one-half 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 ~~special access platform (wheelchair) lift~~. When stairs are located along or adjacent to an accessible route they shall comply with Section 1123A for interior stairways.

20. Amend Division III, Table of Contents, as follows:

Division III — BUILDING FEATURES

Division III Table of Contents

Section 1117A General Requirements for Accessible Entrances, Exits, Interior Routes of Travel and Facility Accessibility
Section 1118A Egress and Areas of Refuge
Section 1119A Interior Routes of Travel
Section 1120A Interior Accessible Routes
Section 1121A Changes in Level on Accessible Routes
Section 1122A Interior Ramps and Landings on Accessible Routes
Section 1123A Interior Stairways ~~along Accessible Routes~~
Section 1124A Elevators and ~~Special Access Platform~~ (Wheelchair) Lifts
Section 1125A Hazards on Accessible Routes
Section 1126A Doors
Section 1127A Common Use Facilities

21. Amend Sections 1123A, 1123A.1, 1123A.2, 1123A.4, 1123A.5, 1123A.6.1 and 1123A.6.2.3 as follows:

SECTION 1123A INTERIOR STAIRWAYS ALONG ACCESSIBLE ROUTES

1123A.1. General. Interior stairways serving ~~floors or buildings containing covered multifamily dwelling units required to be accessible~~ shall comply with this section.

1123A.2 Open risers. Open risers shall not be permitted ~~along accessible routes~~ on interior stairways.

Exception: Stairways within an individual dwelling unit.

1123A.4 Nosing. Nosing shall not project more than ~~1½~~ 1¼ inches (~~38.1~~ 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 ~~less more~~ than 60 30 degrees (0.52 rad) from the ~~horizontal~~ vertical. (See Figure 11A-6A)

1123A.5 Striping for the visually impaired. ~~The upper approach and the lower tread of each stair along routes required to be accessible shall be marked by a strip of clearly contrasting color at least 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 landing to alert the visually impaired. The strip shall be of material that is at least as slip resistant as the other treads of the stair. A painted strip shall be acceptable. Interior stairs shall have the upper approach and lower tread marked by a stripe providing clear visual contrast.~~

Exception: Stairways within an individual dwelling unit.

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.

1123A.6 Interior stairway handrails.

1123A.6.1 Where required. Stairways shall have handrails on each side, ~~and every stairway required to be more than 88 inches (2235 mm) in width shall be provided with not less than one intermediate handrail for each 88 inches (2235 mm) of required width. Intermediate handrails shall be located equidistant from the sides of the stairway and comply with Section 1012.8.~~

Exception: Stairways serving an individual dwelling unit may have one handrail, except that stairways open on one or both sides shall have the handrails on the open side or sides.

1123A.6.2.3 Handrail extension. Handrails shall extend a minimum of 12 inches (305 mm) beyond the top nosing and 12 inches (305 mm), plus the tread width, beyond the bottom nosing. Where the extension creates a hazard, the termination of the extension shall be rounded or returned smoothly to floor, wall or post. Where the stairs are continuous from landing to landing, the inner rail shall be continuous and need not extend out into the landing. (See Figures 11A-6A and 11A-6E).

Exception: Stairways within an individual dwelling unit.

22. Amend Sections 1124A, 1124A.3.3.2, 1124A.4 and 1124A.11 as follows:

SECTION 1124A ELEVATORS AND SPECIAL ACCESS PLATFORM (WHEELCHAIR) LIFTS

1124A.3.3.2 Car control buttons. Passenger elevator car controls shall have a minimum dimension of $\frac{3}{4}$ inch (49.05 19.1 mm) and shall be raised $\frac{1}{8}$ inch (~~3.17~~ 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 ~~5/8-inch-minimum (15.88 15.9 mm) Arabic numeral, standard alphabet~~ raised characters ~~or~~ and standard raised symbols that comply with Sections 1143A.8 and 1143A.9 immediately to the left of the control button. A Contracted Grade 2 Braille symbol that conforms to Section 1124A.3.3.4 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. **Note:** (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.4 Hall call buttons. Call operation buttons shall be centered 42 inches (1067 mm) above the floor. Buttons shall be a minimum of $\frac{3}{4}$ inch (49.05 19.1 mm) in size and shall be raised $\frac{1}{8}$ inch (~~3.17~~ 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.

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.11 Special Access Platform (wheelchair) lifts. ~~Special access 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; the State of California, the Department of Industrial Relations, Division of Occupational Safety and Health 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, Sections 3093 to 3094.5, Part 7 of the California Code of Regulations, Title 24.

23. Amend Section 1127A.7.2 as follows:

SECTION 1127A — COMMON USE FACILITIES

1127A.7.2 Identification symbols. ~~Doorways leading to men's sanitary facilities shall be identified by an equilateral triangle ¼ inch thick (6.4 mm) with edges 12 inches (305 mm) long and a vertex pointing upward. Women's sanitary facilities shall be identified by a circle, ¼ inch thick (6.4 mm) and 12 inches (305 mm) in diameter. Unisex sanitary facilities shall be identified by a circle ¼ inch thick (6.4 mm), 12 inches (305 mm) in diameter with a ¼ inch thick (6.4 mm) triangle superimposed on the circle and within the 12-inch (305 mm) diameter. These geometric symbols shall be centered on the door at a height of 60 inches (1524 mm) and their color and contrast shall be distinctly different from the color and contrast of the door. Doorways leading to sanitary facilities 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 60 inches (1524 mm) above the finish floor or ground surface measured to the center of the symbol. 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.10, Item 1 for additional signage requirements applicable to sanitary facilities.~~

~~**Note:** See also Section 1143A.10 for additional signage requirements applicable to sanitary facilities.~~

24. Add Sections 1127A.7.2.1, 1127A.7.2.2 and 1127A.7.2.3 as follows:

1127A.7.2.1 Men's sanitary facilities. Men's sanitary facilities shall be identified by an equilateral triangle, ¼ 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, ¼ 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, ¼ inch (6.4 mm) thick and 12 inches (305 mm) in diameter with a ¼ 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.

25. Amend Section 1131A.2 as follows:

Division IV — DWELLING UNIT FEATURES

Division IV Table of Contents

Section 1128A Covered Dwelling Units
Section 1129A Reserved
Section 1130A Accessible Route within Covered Multifamily Dwelling Units
Section 1131A Changes in Level
Section 1132A Doors
Section 1133A Kitchens
Section 1134A Bathing and Toilet Facilities
Section 1135A Laundry Rooms
Section 1136A Electrical Receptacle, Switch and Control Heights

SECTION 1131A CHANGES IN LEVEL

1131A.2 Changes greater than ½ inch. ~~Changes in level greater than ½ inch (12.7 mm) shall be made by means of a ramp, elevator or special access platform (wheelchair) lift. See Section 1122A for ramps and Section 1124A.11 for special access platform (wheelchair) lifts.~~

26. Amend Section 1132A.2 as follows: [Related Section 1109A.2.1]

SECTION 1132A DOORS

1132A.2 Interior doors and secondary exterior doors. Except as allowed by Section 1109.A.2, ~~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 a ~~an attached~~ garage attached to a single-story dwelling unit.

27. Amend Section 1132A.4 as follows: [Related Section 1114A.2]

1132A.4 Level floor or landing. See also Chapter 10, Section 1003.3.1.6.2. 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 ½ 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 ½ 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 ½ 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.)
- ~~4.5.~~ In buildings containing covered multifamily dwelling units, the floor or landing immediately outside the entry may be sloped up to ¼ inch (6.35 mm) per foot (12 inches) (305 mm) in a direction away from the primary entrance of the dwelling unit for drainage.

28. Amend Section 1132A.5.1 as follows:

1132A.5.1 General. 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.

Exceptions:

1. A 39 inch (991 mm) length is acceptable when a minimum clear opening width of 34 inches (864 mm) is provided.
2. 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.

Note: See Section 1110A.5.3, Item #4.

29. Amend Section 1134A.2, Option 2, as follows: [Related Section 1114A.2]

SECTION 1134A BATHING AND TOILET FACILITIES

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 Section 1127A.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. (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 Section 1127A.4.*

When Option 2 is used, all additional bathrooms must comply with Items 8 through 12 above.

When two or more bathrooms are provided within the same dwelling unit and a bathtub is installed in one bathroom and a shower stall is installed in a second bathroom, both the bathtub and at least one shower stall shall comply with Section 1134A.

29-A. Amend Section 1134A.3 as follows:

1134A.3 Powder rooms. ~~All powder rooms located on floor levels required to be accessible shall be designed to comply with Section 1134A.2, Option 2, Items 8 through 12, 4 through 6 of this section. 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, 4 through 7 of this section.~~

~~1. **Accessible Route.** Powder rooms shall be provided with an accessible route into and through the powder room and shall comply with Section 1134A.4.~~

~~2. **Doors.** If a door is provided, it shall comply with the requirements of Section 1132A.5.~~

~~3. **Water Closets.** Water closets shall comply with Section 1134A.7.~~

~~4. **Lavatories, Vanities, Mirrors and Towel Fixtures.** Lavatories, vanities, mirrors and towel fixtures shall comply with Section 1134A.8.~~

~~5. **Strike Edge Maneuvering Space.** 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.~~

~~6. **Accessible Switches, Outlets and Controls.** Switches, outlets and controls shall comply with Section 1142A.~~

~~7. **Reinforced Walls for Grab Bars.** Reinforced walls to allow for the future installation of grab bars around the toilet shall comply with Section 1134A.7 for water closets. Grab bars shall comply with Section 1127A.4.~~

30. Amend Section 1134A.6 as follows:

1134A.6 Showers. Showers required to be accessible shall comply with this section.

1. **Size.** ~~When a one or more shower stalls is are provided within the same dwelling unit, at least one shower stall shall 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 ½ inch (12.7 mm) per foot in any direction and shall slope toward the rear to a drain located within 6 inches (152.4 mm) of the rear wall. The floor surfaces shall be of Carborundum or grit-faced tile or of material providing equivalent slip resistance.~~

~~2. 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.~~

~~3.4. 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.

~~4.5. Thresholds.~~ When a threshold (~~a recessed drop~~) is used, it shall be a maximum of $\frac{1}{4}$ 2 inches (42.7 50.8 mm) in height and have a beveled or sloped angle not exceeding ~~45 degrees~~ from the 1 unit vertical in 2 units horizontal.

~~5.6. 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 pound-force (22.2 N). Lever operated, push type and electronically controlled mechanisms are examples of acceptable designs.

~~6.7. 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 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 showers enclosures shall be of a shatter-resistant type.

31. Amend Section 1134A.7 as follows:

1134A.7 Water closets. Water closets in bathrooms or powder rooms required to be accessible shall comply with this section.

~~1. Floor Space. The water closet shall be located in a space a minimum of 36 inches (914 mm) in clear width with 48 inches (1219 mm) minimum clear space provided in front of the water closet. This space may include maneuverable space under a lavatory, if provided and arranged so as not to impede access. 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:** In covered multifamily dwelling units, the water closet may be located in a space 48 inches (1219 mm) in clear width with 36 inches (914 mm) of clear space provided in front of the water closet. 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 one side of the fixture. In locations where water closets are adjacent to walls, vanities, lavatories or bathtubs, the centerline of the fixture shall be a minimum of 18 inches (457 mm) from the obstacle. The other (nongrab bar) side of the water closet shall be a minimum of 48 inches (457 mm) from the centerline of the fixture to the finished surfaces of adjoining walls, vanities or from the edge of a lavatory.~~

~~2. ... (no change to text)~~

~~3. ... (no change to text)~~

~~4. ... (no change to text)~~

32. Amend Section 1150A.1 as follows:

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.2 3.1, the provisions of this section do not apply to multistory dwelling units in nonelevator buildings, i.e., townhouses.

NOTE:

Authority cited: Health and Safety Code Sections 17040, 17921, 17922, 18300, 18865 and 19990; and Government Code Sections 12955.1 and 12955.1.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990, 18620, 18630, 18640, 18670, 18690, 18691, 18873 through 18873.5 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

33. Amend Figure 11A-6A “WARNING STRIPING AND HANDRAIL EXTENSIONS”:

Figure 11A-6A (see attached)

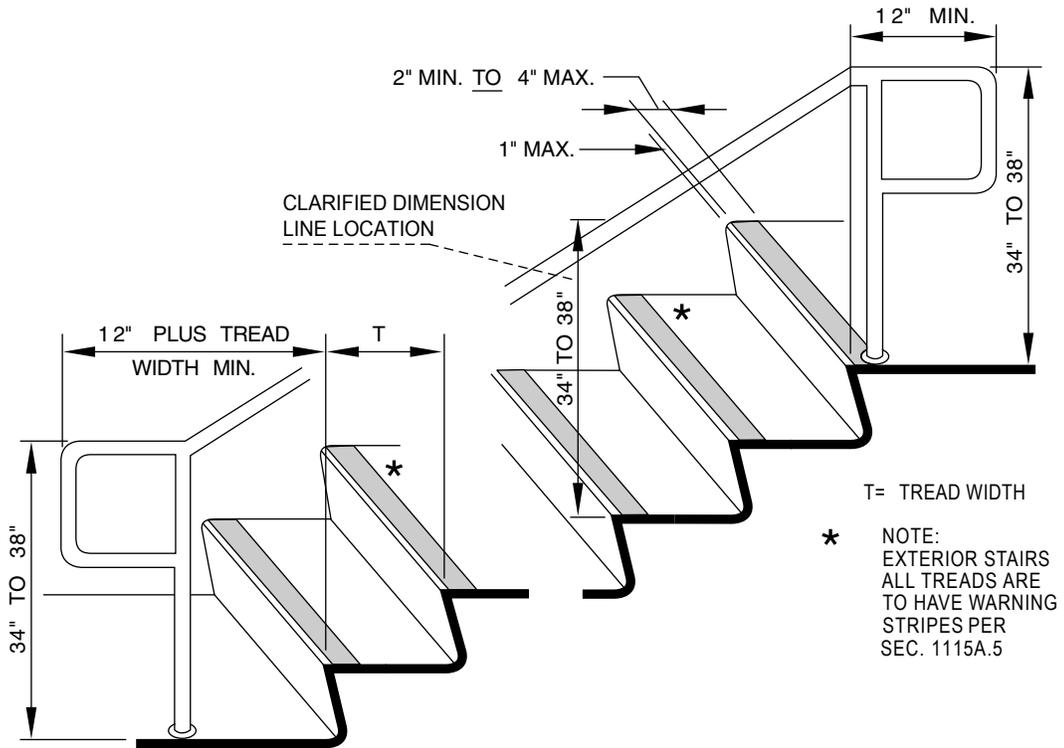
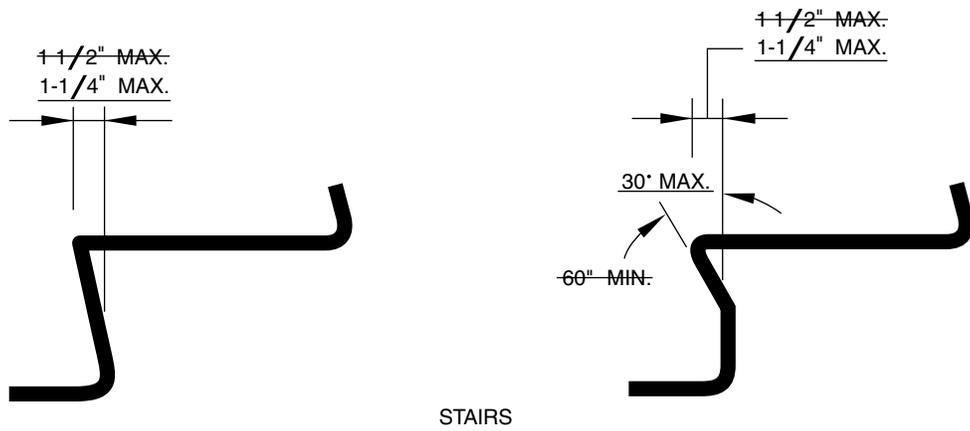
34. Add Figures 11A-8J, 11A-8K, 11A-9L and 11A-9M:

Figures 11A-8J “Platform at Secondary Exterior Door”; 11A-8K “Ramp at Secondary Exterior Door”; 11A-9L “Shower with Water Closet”; and 11A-9M “Wing Wall or Cabinet at Water Closet” are added (see attached.)

NOTE:

Authority cited: Health and Safety Code Sections 17040, 17921, 17922, 18300, 18865 and 19990; and Government Code Sections 12955.1 and 12955.1.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990, 18620, 18630, 18640, 18670, 18690, 18691, 18873 through 18873.5 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.



THESE DIAGRAMS ILLUSTRATE THE SPECIFIC REQUIREMENTS OF THESE REGULATIONS AND ARE INTENDED ONLY AS AN AID FOR BUILDING DESIGN AND CONSTRUCTION.

FIGURE 11A-6A—WARNING STRIPING AND HANDRAIL EXTENSIONS

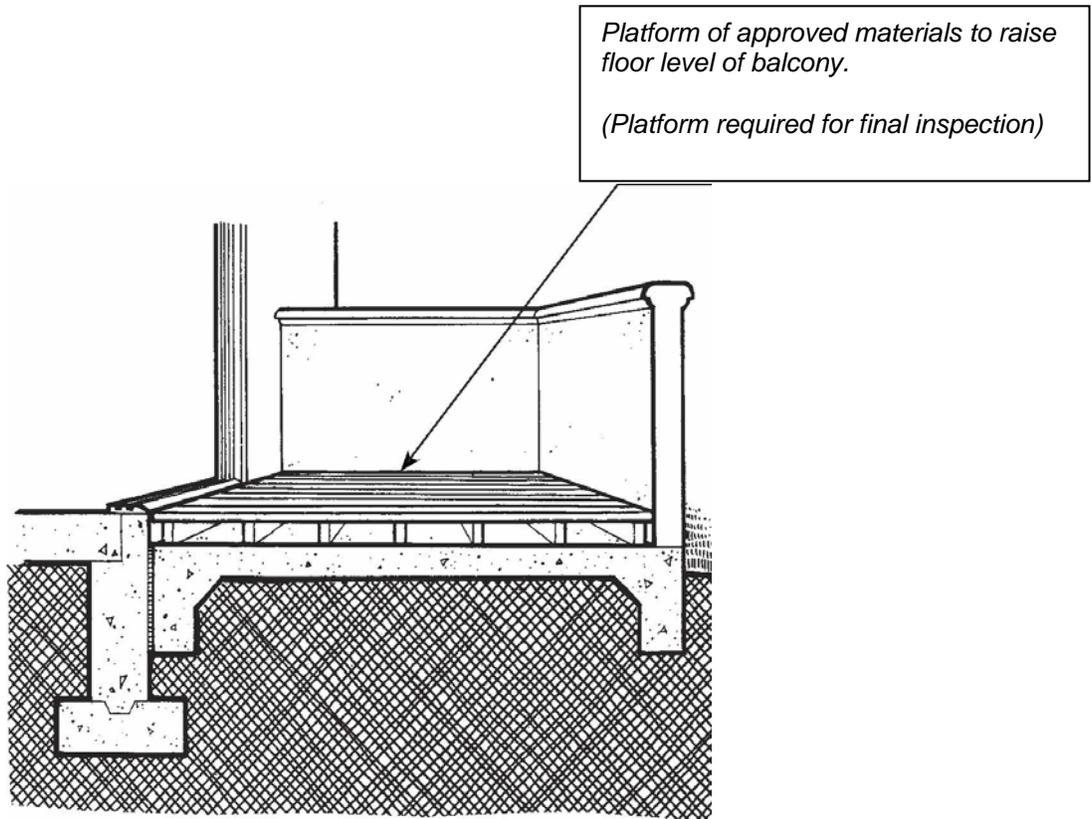


FIGURE 11A-8J – PLATFORM AT SECONDARY EXTERIOR DOOR

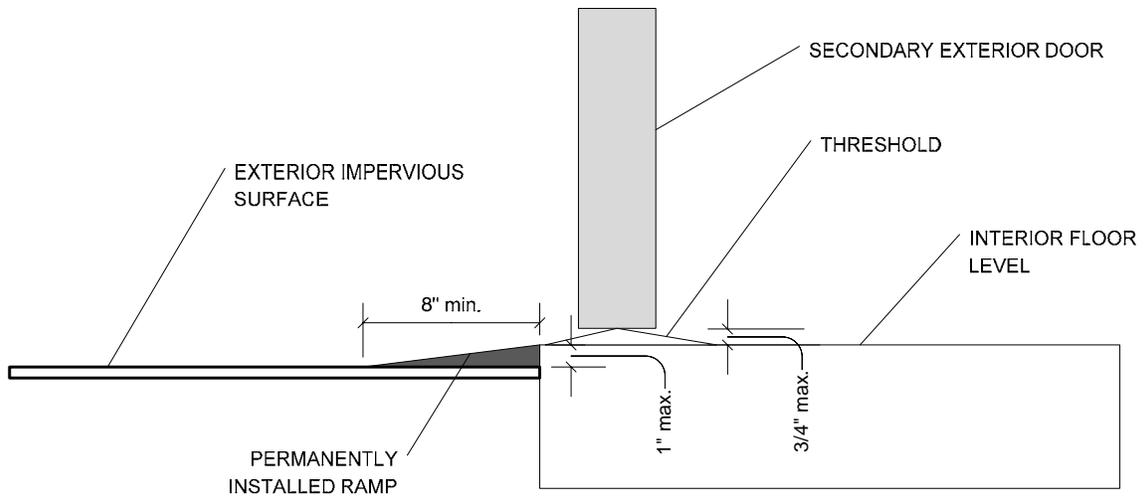


FIGURE 11A-8K – RAMP AT SECONDARY EXTERIOR DOOR

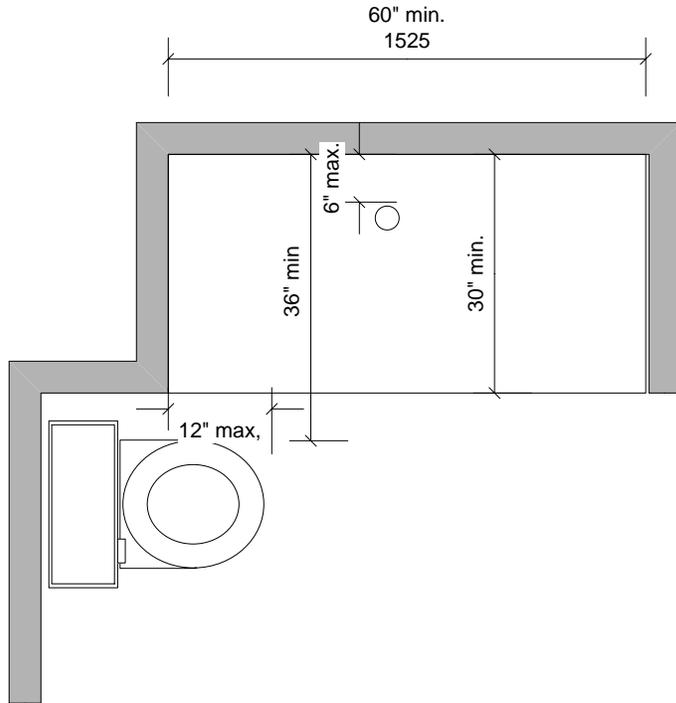


FIGURE 11A-9L – SHOWER WITH WATER CLOSET

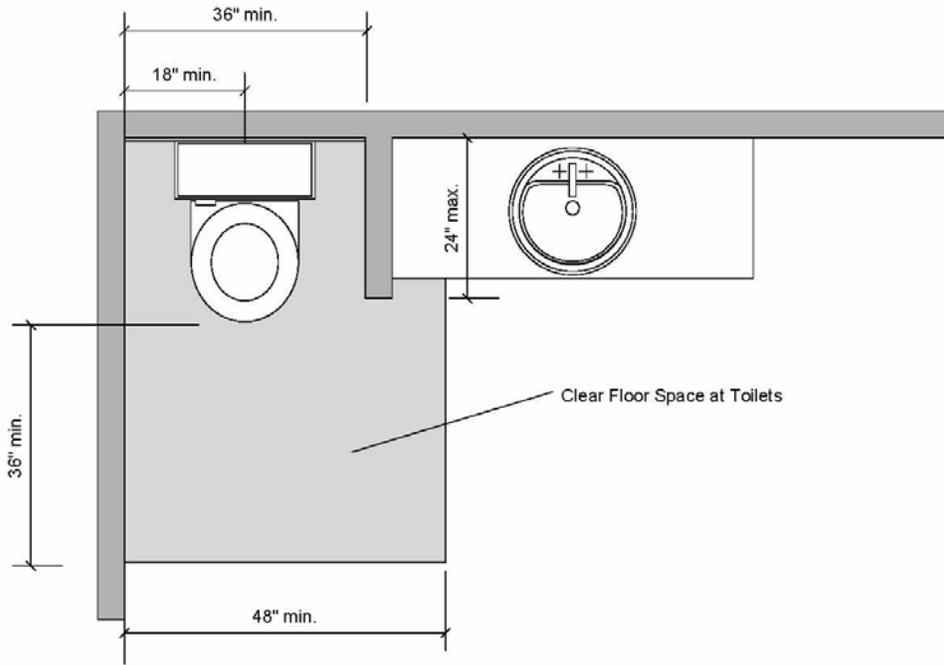


FIGURE 11A-9M – WING WALL OR CABINET AT WATER CLOSET

35. Amend Chapter 16, Section 1609.1.1 as follows:

CHAPTER 16 STRUCTURAL DESIGN

SECTION 1609 – WIND LOADS

1609.1 Applications. Buildings, structures and parts thereof shall be designed to withstand the minimum wind loads prescribed herein. Decreases in wind loads shall not be made for the effect of shielding by other structures.

1609.1.1 Determination of wind loads. Wind loads on every building or structure shall be determined in accordance with Chapter 6 of ASCE 7 [*HCD 1 & HCD 2*] or *provisions of the Alternate All-heights Method in Section 1609.6*. The type of opening protection required, the basic wind speed and the exposure category for a site shall be determined in accordance with Section 1609 or ASCE 7. Wind shall be assumed to come from any horizontal direction and wind pressures shall be assumed to act normal to the surface considered.

Exceptions:

1. Subject to the limitations of Section 1609.1.1.1, the provisions of SBCCI SSTD 10 shall be permitted for applicable Group R-2 and R-3 buildings.
2. Subject to the limitations of Section 1609.1.1.1, residential structures using the provisions of the AF&PA WFCM.
3. Designs using NAAMM FP 1001.
4. Designs using TIA/EIA-222 for antenna-supporting structures and antennas.

...

36. Add Sections 1609.6, 1609.6.1 and 1609.6.1.1 as follows:

1609.6 [HCD 1 & HCD 2] Alternate all-heights method. *The alternate wind design provisions in this section are simplifications of the ASCE 7 Method 2-Analytical Procedure.*

1609.6.1 Scope. *As an alternate to ASCE 7 Section 6.5, the following provisions are permitted to be used to determine the wind effects on regularly shaped buildings, or other structures which meet all of the following conditions:*

1. *The building or other structure is less than or equal to 75 feet height having height to least width ratio of 4 or less, or the building or other structure has a fundamental frequency greater than or equal to 1 hertz.*
2. *The building or other structure is not sensitive to dynamic effects.*
3. *The building or other structure is not located on a site for which channeling effects or buffeting in the wake of upwind obstructions warrant special consideration.*
4. *The building shall meet the requirements of a simple diaphragm building as defined in ASCE 7 Section 6.2.*

1609.6.1.1 Modifications. *The following modifications shall be made to certain subsections in ASCE 7: Section 1609.6.2 Symbols and Notations that are specific to this section are used in conjunction with the Symbols and Notations in ASCE 7 Section 6.3.*

37. Add Section 1609.6.2 as follows:

1609.6.2 Symbols and notations. *Coefficients and variables used in the Alternate All-Heights Method equations are as follows:*

C_{net}	=	<i>net-pressure coefficient based on $K_g [(G) (C_p) - (GC_{pi})]$, Ref. Table 1609.6.2(2)</i>
G	=	<i>Gust effect factor equal to 0.85 for rigid structures per ASCE 7 Section 6.5.8.1.</i>
K_d	=	<i>Wind directionality factor per ASCE 7 Table 6-4.</i>
P_{net}	=	<i>Design wind pressure to be used in determination of wind loads on buildings or other structures or their components and cladding, in lb/ft^2 (N/m^2).</i>
q_s	=	<i>Wind velocity pressure in lb/ft^2 (N/m^2). (Per Table 1609.6.2(1))</i>

38. Add Sections 1609.6.3, 1609.6.4, 1609.6.4.1, 1609.6.4.2, 1609.6.4.3, 1609.6.4.4 and 1609.6.4.4.1 as follows:

1609.6.3 Design equations. *When using the Alternate All-Heights Method, the Main-Wind-Force-Resisting System (MWFRS), and Components and Cladding of every structure shall be designed to resist the effects of wind pressures on the building envelope in accordance with Equation (16-36).*

$$P_{net} = q_s K_z C_{net} [I K_{zt}] \quad \text{(Equation 16-36)}$$

Design wind forces for the MWFRS shall not be less than $10 lb/ft^2$ ($0.48 KN/m^2$) multiplied by the area of the structure projected on a plane normal to the assumed wind direction. See ASCE Section 6.1.4 for criteria. Design net wind pressure for components and cladding shall not be less than $10 lb/ft^2$ ($0.48 KN/m^2$) acting in either direction normal to the surface.

1609.6.4 Design procedure. *The MWFRS and the components and cladding of every building or other structure shall be designed for the pressures calculated using Equation (16-36).*

1609.6.4.1 Main wind-force-resisting systems. *The MWFRS shall be investigated for the torsional effects identified in ASCE 7 Figure 6-9.*

1609.6.4.2 Determination of K_z and K_{zt} . *velocity pressure exposure coefficient, K_z , shall be determined in accordance with ASCE 7 Section 6.5.6.6 and the Topographic Factor, K_{zt} , shall be determined in accordance with ASCE 7 Section 6.5.7.*

1. *For the windward side of a structure, K_{zt} and K_z shall be based on height z . For leeward and side walls, and for windward and leeward roofs, K_{zt} and K_z shall be based on mean roof height h .*

1609.6.4.3 Determination of net pressure coefficients, C_{net} . *For the design of the Main Wind-Force-Resisting-System and for Components and Cladding, the sum of the internal and external net pressure shall be based on the net pressure coefficient C_{net} .*

1. *The pressure coefficient, C_{net} , for walls and roofs shall be determined from Table 1609.6.2(2).*
2. *Where C_{net} may have more than one value, the more severe wind load combination shall be used for design.*

1609.6.4.4 Application of wind pressures. *When using the Alternate All-Heights Method, wind pressures shall be applied simultaneously on, and in a direction normal to, all building envelope wall and roof surfaces.*

1609.6.4.4.1 Components and cladding. *Wind pressure for each component or cladding element is applied as follows using C_{net} values based on the effective wind area, A , contained within the zones in areas-of-discontinuity of width and/or length "a", "2a" or "4a" at: corners of roofs and walls; edge strips for ridges, rakes and eaves; or field areas on walls or roofs as indicated in Figures in Table 1609.6.2(2) in accordance with the following:*

1. *Calculated pressures at local discontinuities acting over specific edge strips or corner boundary areas.*

2. Include "field" (zone 1, 2 or 4, as applicable) pressures applied to areas beyond the boundaries of the areas-of-discontinuity.
3. Where applicable, the calculated pressures at discontinuities (zones 2 or 3) shall be combined with design pressures that apply specifically on rakes or eave overhangs.

39. Add Tables 1609.6.2(1) and 1609.6.2(2) as follows:

Table 1609.6.2(1)
Wind Velocity Pressure (q_s) at Standard Height of 33 Feet^{a,b,c}

<u>BASIC WIND SPEED, V (mph)</u>	<u>85</u>	<u>90</u>	<u>100</u>	<u>105</u>	<u>110</u>	<u>120</u>	<u>125</u>	<u>130</u>	<u>140</u>	<u>150</u>	<u>160</u>	<u>170</u>
<u>PRESSURE, q_s (psf)</u>	<u>18.5</u>	<u>20.7</u>	<u>25.6</u>	<u>28.2</u>	<u>31.0</u>	<u>36.9</u>	<u>40.0</u>	<u>43.3</u>	<u>50.2</u>	<u>57.6</u>	<u>65.5</u>	<u>74.0</u>

a. For wind speeds not shown, use $q_s = 0.00256 V^2$

b. Multiply by 1.61 to convert to km/h

c. Multiply by 0.048 to convert to kN/m²

Table 1609.6.2(2) – Net Pressure Coefficients, C_{net} ^{a,b,c}

<u>STRUCTURE OR PART THEREOF</u>	<u>DESCRIPTION</u>	<u>C_{net} FACTOR</u>	
		<u>Enclosed</u>	<u>Part Enclosed</u>
	<u>WALLS:</u>		
	<u>Windward Wall</u>	<u>0.43</u>	<u>0.11</u>
	<u>Leeward Wall</u>	<u>-0.51</u>	<u>-0.83</u>
	<u>Side Wall</u>	<u>-0.66</u>	<u>-0.97</u>
	<u>Parapet Wall</u>		
	<u>Windward</u>	<u>1.28</u>	<u>1.28</u>
	<u>Leeward</u>	<u>-0.85</u>	<u>-0.85</u>
	<u>ROOFS:</u>		
	<u>Wind perpendicular to ridge</u>		
	<u>Leeward roof or flat roof</u>	<u>-0.66</u>	<u>-0.97</u>
	<u>Windward roof slopes:</u>		
	<u>Slope < 2:12 (10°)</u>		
	<u>Case 1</u>	<u>-1.09</u>	<u>-1.41</u>
	<u>Case 2</u>	<u>-0.28</u>	<u>-0.60</u>
	<u>Slope = 4:12 (18°)</u>		
	<u>Case 1</u>	<u>-0.73</u>	<u>-1.04</u>
	<u>Case 2</u>	<u>-0.05</u>	<u>-0.37</u>
	<u>Slope = 5:12 (23°)</u>		
	<u>Case 1</u>	<u>-0.58</u>	<u>-0.90</u>
	<u>Case 2</u>	<u>0.03</u>	<u>-0.29</u>
	<u>Slope = 6:12 (27°)</u>		
	<u>Case 1</u>	<u>-0.47</u>	<u>-0.78</u>
	<u>Case 2</u>	<u>0.06</u>	<u>-0.25</u>
	<u>Slope = 7:12 (30°)</u>		
	<u>Case 1</u>	<u>-0.37</u>	<u>-0.68</u>
	<u>Case 2</u>	<u>0.07</u>	<u>-0.25</u>
	<u>Slope 9:12 (37°)</u>		
	<u>Case 1</u>	<u>-0.27</u>	<u>-0.58</u>
	<u>Case 2</u>	<u>0.14</u>	<u>-0.18</u>
	<u>Slope 12:12 (45°)</u>	<u>-0.15</u>	<u>-0.47</u>

	<u>Wind parallel to ridge and flat roofs</u>	<u>-1.09</u>	<u>-1.41</u>	
	<u>Non Building Structures: Chimneys, Tanks and Similar Structures:</u>			
		<u>h/D</u>		
		<u>1</u>	<u>7</u>	
		<u>25</u>		
	<u>Square (Wind normal to face)</u>	<u>0.99</u>	<u>1.07</u>	
	<u>Square (Wind on diagonal)</u>	<u>0.77</u>	<u>0.84</u>	
	<u>Hexagonal or Octagonal</u>	<u>0.81</u>	<u>0.97</u>	
	<u>Round</u>	<u>0.65</u>	<u>0.81</u>	
	<u>Open Signs and Lattice Frameworks</u>	<u>Ratio of solid to gross area</u>		
		<u>< 0.1</u>	<u>0.1 to 0.29</u>	
		<u>0.3 to 0.7</u>		
	<u>Flat</u>	<u>1.45</u>	<u>1.30</u>	
	<u>Round</u>	<u>0.87</u>	<u>0.94</u>	
<u>2. Components and Cladding not in areas of discontinuity – Roofs and overhangs</u>	<u>Roof Elements and slopes</u>	<u>Enclosed</u>	<u>Partially Enc.</u>	
	<u>Gable or Hipped Configurations (Zone 1)</u>			
	<u>Flat < Slope < 6:12 (27°)</u>			
	<u>Positive</u>	<u>10 SF or less</u>	<u>0.58</u>	<u>0.89</u>
		<u>100 SF or more</u>	<u>0.41</u>	<u>0.72</u>
	<u>Negative</u>	<u>10 SF or less</u>	<u>-1.00</u>	<u>-1.32</u>
		<u>100 SF or more</u>	<u>-0.92</u>	<u>-1.23</u>
	<u>Overhang: Flat < Slope < 6:12 (27°)</u>			
	<u>Negative</u>	<u>10 SF or less</u>	<u>-1.45</u>	
		<u>100 SF or more</u>	<u>-1.36</u>	
		<u>500 SF or more</u>	<u>-0.94</u>	
	<u>6:12 (27°) < Slope < 12:12 (45°)</u>			
	<u>Positive</u>	<u>10 SF or less</u>	<u>0.92</u>	<u>1.23</u>
		<u>100 SF or more</u>	<u>0.83</u>	<u>1.15</u>
	<u>Negative</u>	<u>10 SF or less</u>	<u>-1.00</u>	<u>-1.32</u>
		<u>100 SF or more</u>	<u>-0.83</u>	<u>-1.15</u>

	<u>Monosloped Configurations (Zone 1)</u>	<u>Enclosed</u>	<u>Partially Enc.</u>	
	<u>Flat < Slope < 7:12 (30°)</u>			
	<u>Positive</u>	<u>10 SF or less</u>	<u>0.49</u>	
		<u>100 SF or more</u>	<u>0.72</u>	
	<u>Negative</u>	<u>10 SF or less</u>	<u>-1.26</u>	
		<u>100 SF or more</u>	<u>-1.40</u>	
	<u>Tall flat topped roofs h> 60'</u>		<u>Enclosed</u>	
	<u>Flat <slope < 2:12 (10°) (Zone 1)</u>			
	<u>Negative</u>	<u>10 SF or less</u>	<u>-1.34</u>	
		<u>500 SF or more</u>	<u>-1.32</u>	
<u>3. Components and Cladding in areas of discontinuities – Roofs and overhangs</u>	<u>Roof Elements and slopes</u>		<u>Enclosed</u>	
	<u>Gable or Hipped Configurations at Ridges, Eaves and Rakes (Zone 2)</u>			
	<u>Flat < Slope < 6:12 (27°)</u>			
	<u>Positive</u>	<u>10 SF or less</u>	<u>0.58</u>	
		<u>100 SF or more</u>	<u>0.72</u>	
	<u>Negative</u>	<u>10 SF or less</u>	<u>-1.68</u>	
		<u>100 SF or more</u>	<u>-1.49</u>	
	<u>Overhang for Slope Flat < Slope < 6:12 (27°)</u>			
	<u>Negative</u>	<u>10 SF or less</u>	<u>-1.87</u>	
		<u>100 SF or more</u>	<u>-1.87</u>	
	<u>6:12 (27°) < Slope < 12:12 (45°)</u>		<u>Enclosed</u>	<u>Partially Enc.</u>
	<u>Positive</u>	<u>10 SF or less</u>	<u>0.92</u>	<u>1.23</u>
		<u>100 SF or more</u>	<u>0.83</u>	<u>1.15</u>
	<u>Negative</u>	<u>10 SF or less</u>	<u>-1.17</u>	<u>-1.49</u>
		<u>100 SF or more</u>	<u>-1.00</u>	<u>-1.32</u>
	<u>Overhang for 6:12 (27°) < Slope < 12:12 (45°)</u>			

<u>Negative</u>	<u>10 SF or less</u>	<u>-1.70</u>	
	<u>100 SF or more</u>	<u>-1.53</u>	
<u>Monosloped Configurations at Ridges, Eaves and Rakes (Zone 2)</u>			
<u>Flat < Slope < 7:12 (30°)</u>			
<u>Positive</u>	<u>10 SF or less</u>	<u>0.49</u>	<u>0.81</u>
	<u>100 SF or more</u>	<u>0.41</u>	<u>0.72</u>
<u>Negative</u>	<u>10 SF or less</u>	<u>-1.51</u>	<u>-1.83</u>
	<u>100 SF or more</u>	<u>-1.43</u>	<u>-1.74</u>
<u>Tall flat topped roofs h> 60'</u>		<u>Enclosed</u>	<u>Partially Enc.</u>
<u>Flat < slope < 2:12 (10°) (Zone 2)</u>			
<u>Negative</u>	<u>10 SF or less</u>	<u>-2.11</u>	<u>-2.42</u>
	<u>500 SF or more</u>	<u>-1.51</u>	<u>-1.83</u>
<u>Gable or Hipped Configurations at Corners (Zone 3)</u>			
<u>Flat < Slope < 6:12 (27°)</u>		<u>Enclosed</u>	<u>Partially Enc.</u>
<u>Positive</u>	<u>10 SF or less</u>	<u>0.58</u>	<u>0.89</u>
	<u>100 SF or more</u>	<u>0.41</u>	<u>0.72</u>
<u>Negative</u>	<u>10 SF or less</u>	<u>-2.53</u>	<u>-2.85</u>
	<u>100 SF or more</u>	<u>-1.85</u>	<u>-2.17</u>
<u>Overhang for Slope Flat < Slope < 6:12 (27°)</u>			
<u>Negative</u>	<u>10 SF or less</u>	<u>-3.15</u>	
	<u>100 SF or more</u>	<u>-2.13</u>	
<u>6:12 (27°) < Slope < 12:12 (45°)</u>			
<u>Positive</u>	<u>10 SF or less</u>	<u>0.92</u>	<u>1.23</u>
	<u>100 SF or more</u>	<u>0.83</u>	<u>1.15</u>
<u>Negative</u>	<u>10 SF or less</u>	<u>-1.17</u>	<u>-1.49</u>
	<u>100 SF or more</u>	<u>-1.00</u>	<u>-1.32</u>
<u>Overhang for 6:12 (27°) < Slope < 12:12 (45°)</u>			

	<u>Negative</u>	<u>10 SF or less</u>	<u>-1.70</u>	
		<u>100 SF or more</u>	<u>-1.53</u>	
<u>Monosloped Configurations at corners (Zone 3)</u>				
<u>Flat < Slope < 7:12 (30°)</u>				
	<u>Positive</u>	<u>10 SF or less</u>	<u>0.49</u>	<u>0.81</u>
		<u>100 SF or more</u>	<u>0.41</u>	<u>0.72</u>
	<u>Negative</u>	<u>10 SF or less</u>	<u>-2.62</u>	<u>-2.93</u>
		<u>100 SF or more</u>	<u>-1.85</u>	<u>-2.17</u>
	<u>Tall flat topped roofs h> 60'</u>		<u>Enclosed</u>	<u>Partially Enc.</u>
<u>Flat < slope < 2:12 (10°) (Zone 3)</u>				
	<u>Negative</u>	<u>10 SF or less</u>	<u>-2.87</u>	<u>-3.19</u>
		<u>500 SF or more</u>	<u>-2.11</u>	<u>-2.42</u>
<u>4. Components and cladding not in areas of discontinuity – Walls and parapets</u>	<u>Wall Elements: h ≤ 60' (Zone 4)</u>		<u>Enclosed</u>	<u>Partially Enc.</u>
	<u>Positive</u>	<u>10 SF or less</u>	<u>1.00</u>	<u>1.32</u>
		<u>500 SF or more</u>	<u>0.75</u>	<u>1.06</u>
	<u>Negative</u>	<u>10 SF or less</u>	<u>-1.09</u>	<u>-1.40</u>
		<u>500 SF or more</u>	<u>-0.83</u>	<u>-1.15</u>
	<u>Wall Elements: h > 60' (Zone 4)</u>			
	<u>Positive</u>	<u>20 SF or less</u>	<u>0.92</u>	<u>1.23</u>
		<u>500 SF or more</u>	<u>0.66</u>	<u>0.98</u>
	<u>Negative</u>	<u>20 SF or less</u>	<u>-0.92</u>	<u>-1.23</u>
		<u>500 SF or more</u>	<u>-0.75</u>	<u>-1.06</u>
	<u>Parapet Walls</u>			
<u>Positive</u>			<u>2.87</u>	<u>3.19</u>
<u>Negative</u>			<u>-1.68</u>	<u>-2.00</u>
<u>5. Components and Cladding in areas of discontinuity - Walls and parapets</u>	<u>Wall Elements: h ≤ 60' (Zone 5)</u>		<u>Enclosed</u>	<u>Partially Enc.</u>
	<u>Positive</u>	<u>10 SF or less</u>	<u>1.00</u>	<u>1.32</u>

	<u>500 SF or more</u>	<u>0.75</u>	<u>1.06</u>
<u>Negative</u>	<u>10 SF or less</u>	<u>-1.34</u>	<u>-1.66</u>
	<u>500 SF or more</u>	<u>-0.83</u>	<u>-1.05</u>
<u>Wall Elements: h > 60' (Zone 5)</u>			
<u>Positive</u>	<u>20 SF or less</u>	<u>0.92</u>	<u>1.23</u>
	<u>500 SF or more</u>	<u>0.66</u>	<u>0.98</u>
<u>Negative</u>	<u>20 SF or less</u>	<u>-1.68</u>	<u>-2.00</u>
	<u>500 SF or more</u>	<u>-1.00</u>	<u>-1.32</u>
<u>Parapet Walls</u>			
<u>Positive</u>		<u>3.64</u>	<u>3.95</u>
<u>Negative</u>		<u>-2.45</u>	<u>-2.76</u>

a. Linear interpolation between values in the table is acceptable.

b. For open buildings, multispans gable roofs, stepped roofs, sawtooth roofs, domed roofs, solid free standing walls and solid signs apply ASCE 7.

c. Some Cnet values have been grouped together. Less conservative results may be obtained by applying ASCE 7.

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NOTE:

Authority cited: Health and Safety Code Sections 17040, 17921, 17922, 18300, 18865 and 19990; and Government Code Sections 12955.1 and 12955.1.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990, 18620, 18630, 18640, 18670, 18690, 18691, 18873 through 18873.5 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.