**Chapter 24 One- And Two-Family Dwellings**

24.1 General Requirements

24.1.1 Application

24.1.1.1

This Chapter shall not be utilized by the Office of the State Fire Marshal during the plan review process, except when individual, specified sections are referenced by other Chapters of the Life Safety Code.

24.1.1.2\*

One- and two-family dwellings shall be limited to buildings containing not more than two dwelling units in which each dwelling unit is occupied by members of a single family with not more than three outsiders, if any, accommodated in rented rooms.

24.1.1.3

The requirements of this chapter shall apply to new buildings and to existing or modified buildings used as a one- or two-family dwelling according to the provisions of 1.3.1.

24.1.1.4 Administration

The provisions of Chapter 1, Administration, shall apply.

24.1.1.5 General

The provisions of Chapter 4, General, shall apply.

24.1.2 Classification of Occupancy

See 6.1.8 and 24.1.1.1.

24.1.3 Multiple Occupancies

24.1.3.1

Multiple occupancies shall be in accordance with 6.1.14 and 24.1.3.

24.1.3.2

No dwelling unit of a residential occupancy shall have its sole means of egress pass through any nonresidential occupancy in the same building, unless otherwise permitted by 24.1.3.2.1 or 24.1.3.2.2.

24.1.3.2.1

In buildings that are protected by an automatic sprinkler system in accordance with Section 9.7, dwelling units of a residential occupancy shall be permitted to have their sole means of egress pass through a nonresidential occupancy in the same building, provided that all of the following criteria are met:

The dwelling unit of the residential occupancy shall comply with Chapter 24.

The sole means of egress from the dwelling unit of the residential occupancy shall not pass through a high hazard contents area, as defined in 6.2.2.4.

24.1.3.2.2

In buildings that are not protected by an automatic sprinkler system in accordance with Section 9.7, dwelling units of a residential occupancy shall be permitted to have their sole means of egress pass through a nonresidential occupancy in the same building, provided that all of the following criteria are met:

The sole means of egress from the dwelling unit of the residential occupancy to the exterior shall be separated from the remainder of the building by fire barriers having a minimum 1-hour fire resistance rating.

The dwelling unit of the residential occupancy shall comply with Chapter 24.

The sole means of egress from the dwelling unit of the residential occupancy shall not pass through a high hazard contents area, as defined in 6.2.2.4.

24.1.3.3

Multiple dwelling units of a residential occupancy shall be permitted to be located above a nonresidential occupancy only where one of the following conditions exists:

Where the dwelling unit of the residential occupancy and exits therefrom are separated from the nonresidential occupancy by construction having a minimum 1-hour fire resistance rating

Where the nonresidential occupancy is protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7

Where the nonresidential occupancy is protected by an automatic fire detection system in accordance with Section 9.6

24.1.3.4

Atrium walls in accordance with 6.1.14.4.6 shall be permitted to serve as part of the separation required by 6.1.14.4.1 for creating separated occupancies on a story-by-story basis.

24.1.4 Definitions

24.1.4.1 General

For definitions, see Chapter 3, Definitions.

24.1.4.2 Special Definitions

Special terms applicable to this chapter are defined in Chapter 3 of this Code. Where necessary, other terms are defined in the text.

24.1.5 Classification of Hazard of Contents

The contents of residential occupancies shall be classified as ordinary hazard in accordance with 6.2.2.

24.1.6 Minimum Construction Requirements. (Reserved)

24.1.7 Occupant Load. (Reserved)

24.2\* Means of Escape Requirements

24.2.1 General

The provisions of Chapter 7 shall not apply to means of escape, unless specifically referenced in this chapter.

24.2.2 Number and Types of Means of Escape

24.2.2.1 Number of Means of Escape

24.2.2.1.1

In dwellings or dwelling units of two rooms or more, every sleeping room and every living area shall have not less than one primary means of escape and one secondary means of escape.

24.2.2.1.2

A secondary means of escape shall not be required where one of the following conditions is met:

The bedroom or living area has a door leading directly to the outside of the building at or to the finished ground level.

The dwelling unit is protected throughout by an approved automatic sprinkler system in accordance with 24.3.5.

24.2.2.2 Primary Means of Escape

The primary means of escape shall be a door, stairway, or ramp providing a means of unobstructed travel to the outside of the dwelling unit at street or the finished ground level.

24.2.2.3 Secondary Means of Escape

The secondary means of escape, other than an existing approved means of escape, shall be one of the means specified in 24.2.2.3.1 through 24.2.2.3.4.

24.2.2.3.1

It shall be a door, stairway, passage, or hall providing a way of unobstructed travel to the outside of the dwelling at street or the finished ground level that is independent of and remote from the primary means of escape.

24.2.2.3.2

It shall be a passage through an adjacent nonlockable space, independent of and remote from the primary means of escape, to any approved means of escape.

24.2.2.3.3\*

It shall be an outside window or door operable from the inside without the use of tools, keys, or special effort and shall provide a clear opening of not less than 5.7 ft2 (0.53 m2). The width shall be not less than 20 in. (510 mm), and the height shall be not less than 24 in. (610 mm). The bottom of the opening shall be not more than 44 in. (1120 mm) above the floor. Such means of escape shall be acceptable where one of the following criteria is met:

The window shall be within 20 ft (6100 mm) of the finished ground level.

The window shall be directly accessible to fire department rescue apparatus as approved by the authority having jurisdiction.

The window or door shall open onto an exterior balcony.

Windows having a sill height below the adjacent finished ground level shall be provided with a window well meeting all of the following criteria:

The window well shall have horizontal dimensions that allow the window to be fully opened.

The window well shall have an accessible net clear opening of not less than 9 ft2 (0.82 m2) with a length and width of not less than 36 in. (915 mm).

A window well with a vertical depth of more than 44 in. (1120 mm) shall be equipped with an approved permanently affixed ladder or with steps meeting both of the following criteria:

The ladder or steps shall not encroach more than 6 in. (150 mm) into the required dimensions of the window well.

The ladder or steps shall not be obstructed by the window.

24.2.2.3.4

It shall be a bulkhead complying with 24.2.7 and meeting the minimum area requirements of 24.2.2.3.

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24.2.2.3.5

Ladders or steps that comply with the requirements of 24.2.2.3.3(4)(c) shall be exempt from the requirements of 7.2.2.

24.2.2.3.6

Bars, grilles, grates, or similar devices shall be permitted to be installed on windows, doors, or window wells used for means of escape, provided that all the following criteria are met:

The device is equipped with approved release mechanisms that are openable from the inside without the use of a key or special knowledge or effort.

The building is equipped with smoke alarms installed in accordance with 24.3.4.1.

The device does not conceal the location of the means of escape from emergency rescue personnel.

The device does not reduce the size of the opening as required by 24.2.2.3.3.

24.2.2.4 Two Primary Means of Escape

In buildings, other than existing buildings and other than those protected throughout by an approved, supervised automatic sprinkler system in accordance with 24.3.5, every story more than 2000 ft2 (185 m2) in area within the dwelling unit shall be provided with two primary means of escape remotely located from each other.

24.2.3 Arrangement of Means of Escape

Any required path of travel in a means of escape from any room to the outside shall not pass through another room or apartment not under the immediate control of the occupant of the first room or through a bathroom or other space subject to locking.

24.2.4 Doors

24.2.4.1

Doors in the path of travel of a means of escape, other than bathroom doors in accordance with 24.2.4.2 and doors serving a room not exceeding 70 ft2 (6.5 m2), shall be not less than 28 in. (710 mm) wide.

24.2.4.2

Bathroom doors and doors serving a room not exceeding 70 ft2 (6.5 m2) shall be not less than 24 in. (610 mm) wide.

24.2.4.3

Doors shall be not less than 6 ft 6 in. (1980 mm) in nominal height.

24.2.4.4

Every closet door latch shall be such that children can open the door from inside the closet.

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24.2.4.5

Every bathroom door shall be designed to allow opening from the outside during an emergency when locked.

24.2.4.6

Doors shall be swinging or sliding.

24.2.4.7\*

No door in any means of escape shall be locked against egress when the building is occupied. All locking devices that impede or prohibit egress or that cannot be easily disengaged shall be prohibited.

24.2.4.8

All locking devices that impede or prohibit egress or that cannot be easily disengaged shall be prohibited.

24.2.4.9

Floor levels at doors in the primary means of escape shall comply with 7.2.1.3, unless otherwise permitted by any of the following:

In existing buildings, where the door discharges to the outside or to an exterior balcony or exterior exit access, the floor level outside the door shall be permitted to be one step lower than the inside, but shall not be in excess of 8 in. (205 mm).

In new buildings, where the door discharges to the outside or to an exterior exit access, an exterior landing with not more than a 7 in. (180 mm) drop below the door threshold and a minimum dimension of 36 in. (915 mm) or the width of the door leaf, whichever is greater, shall be permitted.

A door at the top of an interior stair shall be permitted to open directly onto a stair, provided that the door does not swing over the stair and the door serves an area with an occupant load of fewer than 50 persons.

24.2.4.10

Forces to open doors shall comply with 7.2.1.4.5.

24.2.4.11

Latching devices for doors shall comply with 7.2.1.5.3.

24.2.5 Stairs, Ramps, Guards, and Handrails

24.2.5.1

Stairs, ramps, guards, and handrails shall be in accordance with 7.2.2 for stairs, 7.2.5 for ramps, and 7.2.2.4 for guards and handrails, as modified by 24.2.5.1.1 through 24.2.5.1.3.

24.2.5.1.1

The provisions of 7.2.2.5, 7.2.5.5, and 7.7.3 shall not apply to stairs and ramps.

24.2.5.1.2

If serving as a secondary means of escape, stairs complying with the fire escape requirements of Table 7.2.8.4(a) or Table 7.2.8.4(b) shall be permitted.

24.2.5.1.3

If serving as a secondary means of escape, ramps complying with the existing ramp requirements of Table 7.2.5.3(b) shall be permitted.

24.2.5.2

Interior stairways shall be provided with means capable of providing artificial light at the minimum level specified by 7.8.1.3 for exit stairs, measured at the center of treads and on landing surfaces within 24 in. (610 mm) of step nosings.

24.2.5.3

For interior stairways, manual lighting controls shall be reachable and operable without traversing any step of the stair.

24.2.5.4

The clear width of stairs, landings, ramps, balconies, and porches shall be not less than 36 in. (915 mm), measured in accordance with 7.3.2.

24.2.5.5

Spiral stairs and winders in accordance with 7.2.2.2.3 and 7.2.2.2.4 shall be permitted within a single dwelling unit.

24.2.5.6

No sleeping rooms or living areas shall be accessible only by a ladder, a stair ladder, an alternating tread device or folding stairs, or through a trap door.

24.2.6 Hallways

24.2.6.1

The width of hallways, other than existing approved hallways, which shall be permitted to continue to be used, shall be not less than 36 in. (915 mm).

24.2.6.2

The height of hallways, other than existing approved hallways, which shall be permitted to continue to be used, shall be not less than 7 ft (2135 mm) nominal, with clearance below projections from the ceiling of not less than 6 ft 8 in. (2030 mm) nominal.

24.2.7 Bulkheads

Diagram

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Bulkhead Enclosures

24.2.7.1 Bulkhead Enclosures

Where provided, bulkhead enclosures shall provide direct access to the basement from the exterior.

24.2.7.2 Bulkhead Enclosure Stairways

Stairways serving bulkhead enclosures that are not part of the required primary means of escape, and that provide access from the outside finished ground level to the basement, shall be exempt from the provisions of 24.2.5.1 when the maximum height from the basement finished floor level to the finished ground level adjacent to the stairway does not exceed 8 ft (2440 mm), and the finished ground level opening to the stairway is covered by a bulkhead enclosure with hinged doors or other approved means.

24.2.8\* Grab Bars and Stanchions for Bathtubs, Bathtub-Shower Combinations, and Showers

Upcodes Diagrams

24.2.8.1 General

24.2.8.1.1

New bathtubs, bathtub-shower combinations, and showers shall be provided with grab bars or stanchions unless otherwise permitted by 24.2.8.1.2.

24.2.8.1.2\*

Grab bars or stanchions shall not be required in showers where the transition from the room floor to the shower floor does not exceed 0.5 in. (13 mm) in height and all shower surfaces are slip resistant when wet.

24.2.8.1.3

Where provided, grab bars or stanchions shall comply with 24.2.8.2 through 24.2.8.4.

24.2.8.1.4

All dimensions shall be measured to the centerline of the grab bar or stanchion unless otherwise stated.

24.2.8.2\* Vertical Grab Bar or Stanchion

A vertical grab bar shall be provided on the control end wall or the end wall opposite the control end wall of the bathtub or bathtub-shower combination in accordance with 24.2.8.2.1, or shall be provided as a vertical stanchion in accordance with 24.2.8.2.3. For showers, either a vertical grab bar that is usable by a person stepping into and out of the shower enclosure in accordance with 24.2.8.2.2, or a vertical stanchion in accordance with 24.2.8.2.3, shall be provided.

24.2.8.2.1\* Bathtub End Wall Vertical Grab Bars

Diagram

End wall vertical grab bars for bathtubs shall comply with all of the following:

Vertical grab bars shall have a length of not less than 36 in. (914 mm).

Vertical grab bars shall be located between 24 in. (610 mm) and 27 in. (686 mm) above the finished floor, measured to the lower end.

Vertical grab bars shall be installed at the end that is least obstructed for entry and egress.

Vertical grab bars shall be located between 9 in. (228 mm) and 12 in. (305 mm) from the access side of the bathtub or bathtub-shower combination, measured horizontally from the exterior plane of the bathtub or bathtub-shower combination.

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Bathtub: Grab Bars at End Walls (NFPA)

24.2.8.2.2 Shower Grab Bars

Vertical grab bars for showers shall comply with all of the following:

Vertical grab bars shall have a length of not less than 24 in. (610 mm).

Vertical grab bars shall be located between 36 in. (914 mm) and 39 in. (991 mm) above the finished floor, measured to the lower end.

Vertical grab bars shall be located within 30 in. (760 mm), measured horizontally, of the vertical plane of the control end wall of the shower.

24.2.8.2.3\* Vertical Stanchions

Vertical stanchions shall be fixed to the floor or the bathtub and either the room ceiling or an adjacent wall and shall comply with all of the following:

Stanchions shall be located within 6 in. (150 mm), measured horizontally, of the outside or outer edge of the bathtub, bathtub-shower combination, or shower.

Stanchions shall be located within 30 in. (760 mm), measured horizontally, of the vertical plane of the control end wall of a bathtub or bathtub-shower combination.

24.2.8.3 Non-Access Side Grab Bar or Horizontal Stanchion

For bathtubs and bathtub-shower combinations, a diagonal grab bar in accordance with 24.2.8.3.1, a horizontal grab bar in accordance with 24.2.8.3.2, or a horizontal stanchion in accordance with 24.2.8.3.3 shall be provided at the non-access side of the bathtub.

24.2.8.3.1\* Non-Access Side Diagonal Grab Bars

Diagonal grab bars shall comply with all of the following:

Diagonal grab bars shall have a length of not less than 24 in. (600 mm).

Diagonal grab bars shall be located so the higher end is closest to the control end wall.

Higher ends of diagonal grab bars shall be located a maximum of 12 in. (305 mm) from the control end wall.

Higher ends of diagonal grab bars shall be located 25 in. (635 mm) minimum and 27 in. (685 mm) maximum above the rim of the bathtub.

Lower ends of diagonal grab bars shall be located 8 in. (203 mm) minimum and 10 in. (254 mm) maximum above the rim of the bathtub.

24.2.8.3.2 Non-Access Side Horizontal Grab Bars

Horizontal grab bars shall comply with all of the following:

Horizontal grab bars shall be located 8 in. (205 mm) minimum and 10 in. (255 mm) maximum above the bathtub rim.

Horizontal grab bars shall be located so one end is 12 in. (305 mm) maximum from the control end wall and the other end is located 24 in. (610 mm) maximum from the opposite, or head, end of the bathtub.

24.2.8.3.3 Non-Access Side Horizontal Stanchions

Non-access side horizontal stanchions, extending full length and fixed between end walls of bathtub, shall be located 8 in. (205 mm) minimum and 10 in. (255 mm) maximum above the bathtub rim.

24.2.8.4\* Grab Bar and Stanchion Details

24.2.8.4.1

Grab bars and stanchions shall be circular in cross section with a minimum diameter of 11/4 in. (32 mm) and a maximum diameter of 2 in. (51 mm).

24.2.8.4.2

Where adjacent to a surface or water control, grab bars and stanchions shall provide a clearance for hand grasp of 11/2 in. (38 mm) minimum.

24.2.8.4.3

Grab bars and stanchions shall be designed and constructed to maintain, throughout their service life and with the effects of water, the structural loading conditions in accordance with the building code.

24.3 Protection

24.3.1 Protection of Vertical Openings. (Reserved)

24.3.2 Protection From Hazards. (Reserved)

24.3.3 Interior Finish

24.3.3.1 General

Interior finish shall be in accordance with Section 10.2.

24.3.3.2 Interior Wall and Ceiling Finish

Interior wall and ceiling finish materials complying with Section 10.2 shall be Class A, Class B, or Class C.

24.3.3.3 Interior Floor Finish. (Reserved)

24.3.3.4 Contents and Furnishings

Contents and furnishings shall not be required to comply with Section 10.3.

24.3.4 Detection, Alarm, and Communications Systems

24.3.4.1

Smoke alarms or a smoke detection system shall be provided in accordance with either 24.3.4.1.1 or 24.3.4.1.2, as modified by 24.3.4.1.3.

24.3.4.1.1\*

Smoke alarms shall be installed in accordance with 9.6.2.10 in all of the following locations:

All sleeping rooms

\*Outside of each separate sleeping area, in the immediate vicinity of the sleeping rooms

On each level of the dwelling unit, including basements

24.3.4.1.2

Dwelling units shall be protected by an approved smoke detection system in accordance with Section 9.6 and equipped with an approved means of occupant notification.

24.3.4.1.3

In existing one- and two-family dwellings, approved smoke alarms powered by batteries shall be permitted.

24.3.4.2 Carbon Monoxide Alarms and Carbon Monoxide-Detection Systems

24.3.4.2.1

Carbon monoxide alarms or carbon monoxide detectors in accordance with Section 9.12 and 24.3.4.2 shall be provided in new one- and two-family dwellings where either of the following conditions exists:

Dwelling units with communicating attached garages, unless otherwise exempted by 24.3.4.2.3

Dwelling units containing fuel-burning appliances or fuel-burning fireplaces

24.3.4.2.2\*

Where required by 24.3.4.2.1, carbon monoxide alarms or carbon monoxide detectors shall be installed in the following locations:

Outside of each separate dwelling unit sleeping area in the immediate vicinity of the sleeping rooms

On every occupiable level of a dwelling unit, including basements, and excluding attics and crawl spaces

24.3.4.2.3

Carbon monoxide alarms and carbon monoxide detectors as specified in 24.3.4.2.1(1) shall not be required in the following locations:

In garages

Within dwelling units with communicating attached garages that are open parking structures as defined by the building code

Within dwelling units with communicating attached garages that are mechanically ventilated in accordance with the mechanical code

24.3.5.1\*

All new one- and two-family dwellings shall be protected throughout by an approved automatic sprinkler system in accordance with 24.3.5.2.

24.3.5.2

Where an automatic sprinkler system is installed, either for total or partial building coverage, the system shall be in accordance with Section 9.7.

24.3.5.3

Automatic sprinkler systems in accordance with NFPA 13, NFPA 13R, or NFPA 13D shall be permitted.

24.4 Reserved

24.5 Building Services

24.5.1 Heating, Ventilating, and Air-Conditioning

24.5.1.1

Heating, ventilating, and air-conditioning equipment shall comply with the provisions of Section 9.2.

24.5.1.2

Unvented fuel-fired heaters shall not be used unless they are listed and approved.

24.5.2 Reserved



