Where an elevation change of 30 inches (762 mm) or less occurs between a cross aisle and the adjacent floor or grade below, guards not less than 26 inches (660 mm) above the aisle floor shall be provided.

Exception: Where the backs of seats on the front of the cross aisle project 24 inches (610 mm) or more above the adjacent floor of the aisle, a guard need not be provided.

1008.12.2 Sightline-constrained guard heights. Unless subject to the requirements of Section 1008.12.3, a fascia or railing system in accordance with the guard requirements of Section 1003.2.12 and having a minimum height of 26 inches (660 mm) shall be provided where the floor or footboard elevation is more than 30 inches (762 mm) above the floor or grade below and the fascia or railing would otherwise interfere with the sightlines of immediately adjacent seating.

1008.12.3 Guards at the end of aisles. A fascia or railing system complying with the guard requirements of Section 1003.2.12 shall be provided for the full width of the aisle where the foot of the aisle is more than 30 inches (762 mm) above the floor or grade below. The fascia or railing shall be a minimum of 36 inches (914 mm) high and shall provide a minimum 42 inches (1067 mm) measured diagonally between the top of the rail and the nosing of the nearest tread.

1008.13 Bleacher footboards. Bleacher footboards shall be provided for rows of seats above the third row or being at such a point where the seating plank is more than 24 inches (610 mm) above the ground or floor below. Where the same platform is used for both seating and footrests, footrests are not required, provided each level or platform is not less than 24 inches (610 mm) wide. When projected on a horizontal plane, horizontal gaps shall not exceed 0.25 inch (6.4 mm) between footboards and seatboards. At aisles, horizontal gaps shall not exceed 0.25 inch (6.4 mm) between footboards. Where footboards are more than 30 inches (762 mm) above grade, openings between the seat and footboards shall not allow the passage of a sphere greater than 4 inches (102 mm).

1008.14 Bench seating. Where bench seating is used, the number of persons shall be based on one person for each 18 inches (457 mm) of length of the bench.

SECTION 1009
EMERGENCY ESCAPE AND RESCUE

1009.1 General. In addition to the means of egress required by this chapter, provisions shall be made for emergency escape and rescue in Group R as applicable in Section 101.2 and Group I-1 occupancies. Basements and sleeping rooms below the fourth story shall have at least one exterior emergency escape and rescue opening in accordance with this section. Such opening shall open directly into a public street, public alley, yard or court.

Exceptions:

1. In other than Group R-3 occupancies as applicable in Section 101.2, buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
2. In other than Group R-3 occupancies as applicable in Section 101.2, sleeping rooms provided with a door to a fire-resistance-rated corridor having access to two remote exits in opposite directions.
3. The emergency escape and rescue opening is permitted to open onto a balcony within an atrium in accordance with the requirements of Section 404 provided the balcony provides access to an exit and the dwelling unit or sleeping room has a means of egress that is not open to the atrium.
4. Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue windows.

1009.2 Minimum size. Emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (0.53 m^2).

Exception: The minimum net clear opening for emergency escape and rescue grade floor openings shall be 5 square feet (0.46 m^2).

1009.2.1 Minimum dimensions. The minimum net clear opening height dimension shall be 24 inches (610 mm). The minimum net clear opening width dimension shall be 20 inches (508 mm). The net clear opening dimensions shall be the result of normal operation of the opening.

1009.3 Maximum height from floor. Emergency escape and rescue openings shall have the bottom of the clear opening not greater than 44 inches (1118 mm) measured from the floor.

1009.4 Operational constraints. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools. Bars, grilles, grates, or similar devices are permitted to be placed over emergency escape and rescue openings provided the minimum net clear opening size complies with Section 1009.2 and such devices shall be releasable or removable from the inside without the use of a key, tool, or force greater than that which is required for normal operation of the escape and rescue opening. Where such bars, grilles, grates, or similar devices are installed in existing buildings, smoke alarms shall be installed in accordance with Section 907.2.10 regardless of the valuation of the alteration.

1009.5 Window wells. An emergency escape and rescue opening with a finished sill height below the adjacent ground level shall be provided with a window well in accordance with Sections 1009.5.1 and 1009.5.2.

1009.5.1 Minimum size. The clear horizontal dimensions of the window well shall allow the emergency escape and rescue opening to be fully opened and provide a minimum accessible net clear opening of 9 square feet (0.84 m^2), with a minimum dimension of 36 inches (914 mm).

1009.5.2 Ladders or steps. Window wells with a vertical depth of more than 44 inches (1118 mm) shall be equipped with an approved permanently affixed ladder or steps. Ladders or rungs shall have an inside width of at least 12 inches (305 mm), shall project at least 3 inches (76 mm) from the wall and shall be spaced not more than 18 inches (457 mm) on center vertically for the full height of the window well. The ladder or steps shall not encroach into the required dimensions of the window well by more than 6 inches (152

TABLE 8-1 Emergency escape and rescue openings*

	Inches					
Width	20	20.5	21	21.5	22	22.5
Height	41	40	39.1	38.2	37.3	36.5
Width	23	23.5	24	24.5	25	25.5
Height	35.7	34.9	34.2	33.5	32.8	32.2
Width	26	26.5	27	27.5	28	28.5
Height	31.6	31	30.4	29.8	29.3	28.8
Width	29	29.5	30	30.5	31	31.5
Height	28.3	27.8	27.4	26.9	26.5	26.1
Width	32	32.5	33	33.5	34	34.5
Height	25.7	25.3	24.9	24.5	24.1	24

*Minimum net clear width/height combinations to obtain a net opening of 5.7 square feet.

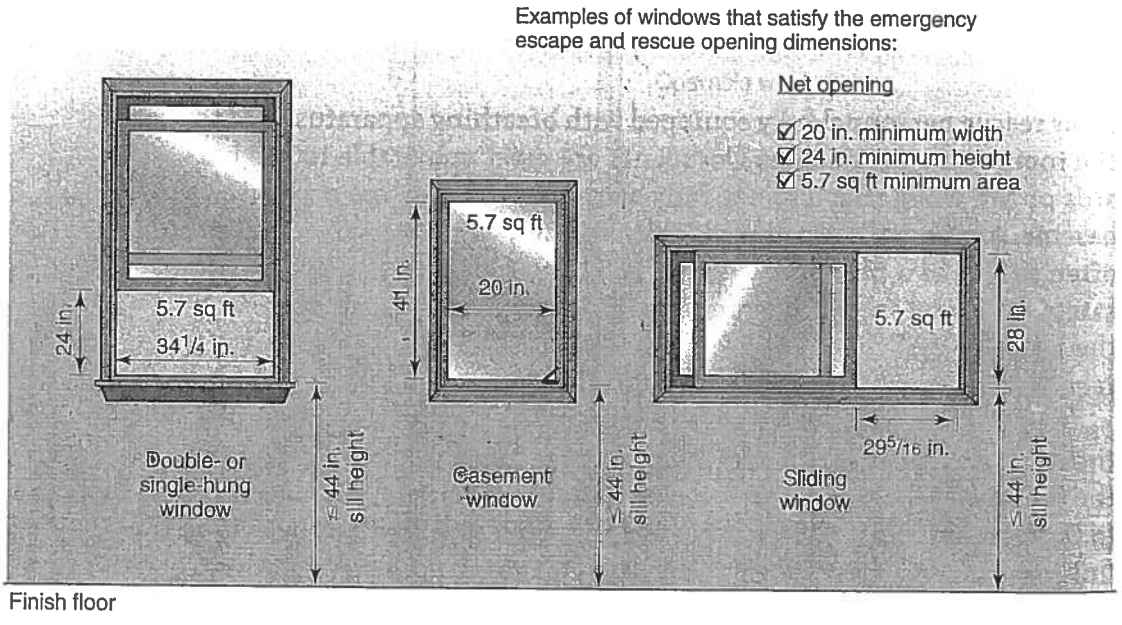

FIGURE 8-19 Emergency escape and rescue windows

window well
3'x 3'

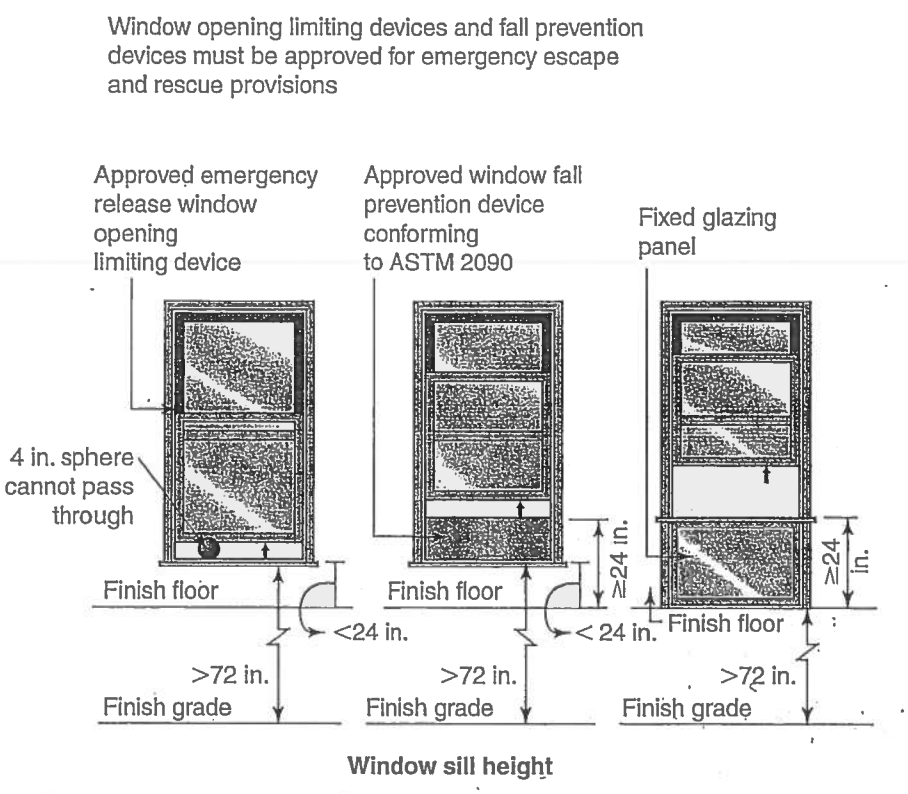

FIGURE 8-18 Alternatives to 24-inch window-sill height

allow rescue personnel fully equipped with breathing apparatus to enter the room from the outside. Occupants are most vulnerable to the hazards of fire when they are not fully alert or when they are occupying a basement, a space that traditionally has few windows or doors and often serves as a play or recreation area. The code addresses these life-safety issues by requiring an emergency escape and rescue opening in the basement and in every sleeping room. In addition, habitable attics require an emergency escape and rescue opening.

In order for emergency escape and rescue openings to effectively serve their intended purpose, the code prescribes a maximum sill height above the floor of 44 inches and a minimum net opening size of 5.7 square feet (5.0 square feet if the sill is not more than 44 inches above or below the finish grade). Width and height may be any number of combinations to achieve the minimum required opening area, provided the net width of the opening is not less than 20 inches and the net height not less than 24 inches (Table 8-1 and Figures 8-19 and 8-20). **[Ref. R310]**

In an emergency, occupants need to move quickly and easily to an outside space. Therefore, the code requires that the prescribed opening dimensions be obtained by the normal operation of the emergency escape and rescue opening, usually a window or door, without the need for a key, tool, or any special knowledge. This precludes the removal of a window sash or mechanical fasteners to obtain the required opening dimensions.