

E24-24

IBC: 1006.3.4, 1006.3.5 (New), 1006.3.5.1 (New), 1006.3.5.2 (New), 1006.3.5.3 (New), 1006.3.5.4 (New), 1006.3.5.5 (New), 1006.3.5.6 (New), 1023.12, 1031.2; IFC: [BE] 1006.3.4, 1006.3.5 (New), 1006.3.5.1 (New), 1006.3.5.2 (New), 1006.3.5.3 (New), 1006.3.5.4 (New), 1006.3.5.5 (New), 1006.3.5.6 (New), [BE] 1023.12, [BE] 1031.2

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2024 International Building Code

Revise as follows:

1006.3.4 Single exits.

A single *exit* or access to a single *exit* shall be permitted from any *story* or *occupiable roof* where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and exit access travel distance do not exceed the values in Table 1006.3.4(1) or 1006.3.4(2).
2. Group R-2 occupancies complying with Section 1006.3.5.
- ~~23.~~ Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the *level of exit discharge*, are permitted to have one *exit* or access to a single *exit*.
- ~~34.~~ Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.
- ~~45.~~ Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.
- ~~56.~~ Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
 - ~~5-1~~ 6.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.
 - ~~5-2~~ 6.2. Either the exit from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit access* outside the *dwelling unit's* entrance door provides access to not less than two *approved independent exits*.

TABLE 1006.3.4(1) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane and occupiable roofs over the first or second story above grade plane	R-2 ^{a, b, c}	4 dwelling units	125 feet
Fourth story above grade plane and higher	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 1031.
- b. This table is used for Group R-2 occupancies consisting of dwelling units. For Group R-2 occupancies consisting of sleeping units, use Table 1006.3.4(2).
- c. This table is for occupiable roofs accessed through and serving individual dwelling units in Group R-2 occupancies. For Group R-2 occupancies with occupiable roofs that are not accessed through and serving individual units, use Table 1006.3.4(2).

TABLE 1006.3.4(2) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY AND OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY AND OCCUPIABLE ROOF	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
First story above or below grade plane and occupiable roofs over the first story above grade plane	A, B ^b , E, F ^b , M, U	49	75
	H-2, H-3	3	25
	H-4, H-5, I, R-1, R-2 ^{a, c}	10	75
	S ^{b, d}	29	75
Second story above grade plane	B, F, M, S ^d	29	75
Third story above grade plane and higher	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 1031.
- b. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an occupiable roof of such buildings shall have a maximum exit access travel distance of 100 feet.
- c. This table is used for Group R-2 occupancies consisting of sleeping units. For Group R-2 occupancies consisting of dwelling units, use Table 1006.3.4(1).
- d. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

1006.3.4.1 Mixed occupancies.

Where one *exit*, or *exit access stairway* or *ramp* providing access to exits at other *stories*, is permitted to serve individual *stories*, mixed occupancies shall be permitted to be served by single *exits* provided that each individual occupancy complies with the applicable requirements of Table 1006.3.4(1) or 1006.3.4(2) for that occupancy. Where applicable, cumulative *occupant loads* from adjacent occupancies shall be considered to be in accordance with the provisions of Section 1004.1. In each *story* of a mixed occupancy *building*, the maximum number of occupants served by a single exit shall be such that the sum of the ratios of the calculated number of occupants of the space divided by the allowable number of occupants indicated in Table 1006.3.4(2) for each occupancy does not exceed one. Where *dwelling units* are located on a story with other occupancies, the actual number of *dwelling units* divided by four plus the ratio from the other occupancy does not exceed one.

Add new text as follows:

1006.3.5 Group R-2 occupancies. In Group R-2 occupancies, a single exit shall be permitted from any story or occupiable roof where the number of dwelling units served per exit at each story comply with one of the following:

1. The basement and first through sixth story above grade plane with a maximum of 4 dwelling units served per exit on each story.
2. The basement and first through third story above grade plane with a maximum of 6 dwelling units served per exit on each story.

Such building shall comply with Sections 1006.3.5.1 through 1006.3.5.6.

1006.3.5.1 Construction type. The building is Type IA, IB, IIA, or IV construction.

1006.3.5.2 Corridors. Dwelling units that do not open directly into an exterior exit stairway shall exit directly to a corridor complying with Section 1020.

1006.3.5.3 Travel distance. Maximum exit access travel distance shall be not more than 125 feet (38.1 m). Travel distance from the exit access door of the unit to the exit door for the stairway shall be not more than 25 feet (7.62 m).

1006.3.5.4 Exit stairways. Means of egress shall be provided from each story above the level of exit discharge by an interior exit stairway or exterior exit stairway. Exit stairways shall be protected with 2-hour fire barriers in accordance with Section 707 or a 2-hour horizontal assemblies in accordance with Section 711. An interior exit stairway shall be a smokeproof enclosure in accordance with with

Section 909.20.

1006.3.5.5 Emergency escape and rescue openings. Emergency escape and rescue openings shall be provided in accordance with Section 1031.

1006.3.5.6 Mixed occupancies. Mixed occupancies shall be permitted at and below the level of exit discharge. Other occupancies shall not have direct access to the Group R-2 occupancy portion of the building or to the exit stairway serving the Group R-2 occupancy.

Exception: Parking garages and occupied roofs that serve the Group R-2 occupancy shall be permitted to have direct access to the exit stairway.

Revise as follows:

1023.12 Smokeproof enclosures.

Where required by Section 403.5.4, 405.7.2, ~~or~~ 412.2.2.1 or 1006.3.5.4, interior exit *stairways* and *ramps* shall be *smokeproof enclosures* in accordance with Section 909.20.

1031.2 Where required.

In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

1. Group R-2 occupancies located in *stories* with only one *exit* or access to only one *exit* as permitted by Tables 1006.3.4(1) and 1006.3.4(2) and Section 1006.3.5.5.
2. Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way*, or to an *egress balcony that leads to a public way*.

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit door* or *exit access door* that opens directly into a *public way* or to a *yard*, *court* or exterior egress balcony that leads to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m²) in floor area shall not be required to have *emergency escape and rescue openings*.
4. *Storm shelters* are not required to comply with this section where the shelter is constructed in accordance with ICC 500.
5. Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the *building* is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, *sleeping rooms* in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
 - 5.1. One *means of egress* and one *emergency escape and rescue opening*.
 - 5.2. Two *means of egress*.

2024 International Fire Code

Revise as follows:

[BE] 1006.3.4 Single exits.

A single *exit* or access to a single *exit* shall be permitted from any story or *occupiable roof*, where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and exit access travel distance do not exceed the values in Table 1006.3.4(1) or 1006.3.4(2).
2. Group R-2 occupancies complying with Section 1006.3.5.
23. Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the *level of exit discharge*, are permitted to have one *exit* or access to a single *exit*.
34. Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.
45. Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.
56. Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
 - 5-1 6.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.
 - 5-2 6.2. Either the exit from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit access* outside the *dwelling unit's* entrance door provides access to not less than two *approved independent exits*.

[BE] TABLE 1006.3.4(1) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES

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[BE] TABLE 1006.3.4(2) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

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	H-2, H-3	3	25
	H-4, H-5, I, R-1, R-2 ^{a, c}	10	75
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- b. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an occupiable roof of such buildings shall have a maximum exit access travel distance of 100 feet.
- c. This table is used for Group R-2 occupancies consisting of sleeping units. For Group R-2 occupancies consisting of dwelling units, use Table 1006.3.4(1).
- d. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

[BE] 1006.3.4.1 Mixed occupancies.

Where one *exit*, or *exit access stairway* or *ramp* providing access to *exits* at other stories, is permitted to serve individual stories, mixed occupancies shall be permitted to be served by single *exits* provided that each individual occupancy complies with the applicable requirements of Table 1006.3.4(1) or 1006.3.4(2) for that occupancy. Where applicable, cumulative *occupant loads* from adjacent occupancies shall be considered to be in accordance with the provisions of Section 1004.1. In each story of a mixed occupancy building, the maximum number of occupants served by a single *exit* shall be such that the sum of the ratios of the calculated number of occupants of the space divided by the allowable number of occupants indicated in Table 1006.3.4(2) for each occupancy does not exceed one. Where *dwelling units* are located on a story with other occupancies, the actual number of *dwelling units* divided by four plus the ratio from the other occupancy does not exceed one.

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2. The basement and first through third story above grade plane with a maximum of 6 dwelling units served per exit on each story.

Such building shall comply with Sections 1006.3.5.1 through 1006.3.5.7.

1006.3.5.1 Construction type.

The building is Type IA, IB, IIA, or IV construction.

1006.3.5.2 Corridors. Dwelling units that do not open directly into an exterior exit stairway shall exit directly to a corridor complying with Section 1020.

1006.3.5.3 Travel distance. Maximum exit access travel distance shall be not more than 125 feet (38.1 m). Travel distance from the exit access door of the unit to the exit door for the stairway shall be not more than 25 feet (7.62 m).

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1006.3.5.5 Emergency escape and rescue openings. Emergency escape and rescue openings shall be provided in accordance with Section 1031.

1006.3.5.6 Mixed occupancies. Mixed occupancies shall be permitted in the building provided there are no exit access doors into the dwelling units or dwelling unit corridors directly from the other occupancies. Other occupancies shall not communicate with the Group R-2 occupancy portion of the building or with a single-exit stairway.

Exception: Parking garages and occupied roofs that serve the Group R-2 occupancy shall be permitted to communicate with the exit

stairway.

Revise as follows:

[BE] 1023.12 Smokeproof enclosures.

Where required by Section 403.5.4, 405.7.2, ~~or~~ 412.2.2.1 or 1006.3.5.4, interior exit *stairways* and *ramps* shall be *smokeproof enclosures* in accordance with Section 909.20.

[BE] 1031.2 Where required.

In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

1. Group R-2 occupancies located in *stories* with only one *exit* or access to only one *exit* as permitted by Tables 1006.3.4(1) and 1006.3.4(2) and Section 1006.3.5.5.
2. Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way*, or to an egress balcony that leads to a *public way*.

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit door* or *exit access door* that opens directly into a *public way* or to a *yard, court* or exterior egress balcony that leads to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m²) in floor area shall not be required to have *emergency escape and rescue openings*.
4. *Storm shelters* are not required to comply with this section where the shelter is constructed in accordance with ICC 500.
5. Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, sleeping rooms in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
 - 5.1. One *means of egress* and one *emergency escape and rescue opening*.
 - 5.2. Two *means of egress*.

Attached Files

- **Single-stair proposal attachment.pdf**
<https://www.cdpassess.com/proposal/10412/30836/files/download/4800/>

Reason: Please refer to our attachment for an in-depth discussion of life safety and other issues.

The 2024 International Building Code allows buildings up to three stories of R-2 occupancy to have up to four dwelling units at each story served by a single exit. Our proposal acknowledges the rising demand for infill multifamily development and a growing movement across the United States to modify local building codes for this purpose. We recommend enabling a single exit to serve up to six stories of R-2 occupancy above the grade plane, or up to six units per floor in cases of at most three stories.

In return for the increased height or dwelling unit allowance, buildings would adhere to more stringent conditions than a traditional building. The building would be of Type IA, IB, IIA, or IV 1-hour fire resistant construction, dwelling units could not directly access the exit, active or passive smoke control systems would be required in the single exit, and there would be strict limits on travel distances and the

number of dwelling units per floor. The whole suite of ordinary fire safety measures contained in the IBC – access to the building by fire apparatus, fire sprinklers, etc. – would also still apply.

Our language is adapted from codes in Seattle, Honolulu, New York City, and Western European countries, collectively forming the most rigorous set of conditions for six-story buildings in the developed world. The limitations and requirements in our proposal match or exceed those in cities, suburbs, and rural areas around the developed world, where fire death rates are at or below the United States median. Within the U.S., Seattle, Honolulu, and New York City have allowed buildings with generally fewer restrictions, to no ill effect or local controversy, and no major fires that we are aware of.

Our proposal is intentionally cautious and may be subject to adjustment in future code cycles based on additional research and experience, expanding possibilities for such construction.

Bibliography: See attached.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

We believe the cost of constructing multifamily buildings on small lots will decrease by roughly 7 percent, in line with the reduction in circulation area required.

Estimated Immediate Cost Impact Justification (methodology and variables):

See attachment for details.