

E97-24

IBC: SECTION 202 (New), SECTION 202, 1022.1, 1022.3 (New), 1023.3.1, 1022.3.2 (New), 1022.3.2.1 (New), 1022.3.2.2 (New), 1022.3.2.3 (New), 1008.3, 1024.5; IFC: SECTION 202 (New), SECTION 202, [BE] 1022.1, 1022.3 (New), [BE] 1023.3.1, 1022.3.2 (New), 1022.3.2.1 (New), 1022.3.2.2 (New), 1022.3.2.3 (New), [BE] 1008.3, [BE] 1024.5

Proponents: Jenifer Gilliland, Seattle Department of Construction and Inspections, Washington Association of Building Officials Technical Code Development Committee (jenifer.gilliland@seattle.gov); Micah Chappell, Seattle Department of Construction and Inspections, Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov); Angela Haupt, City of Kirkland, Washington Association of Building Officials, Technical Code Development Committee (ashaupt@kirklandwa.gov)

2024 International Building Code

Add new definition as follows:

EXIT PATHWAY.

An exit component that serves to meet one or more means of egress design requirements and is open to sky.

Revise as follows:

[BE] EXIT. That portion of a *means of egress* system between the *exit access* and the *exit discharge* or *public way*. Exit components include exterior exit doors at the *level of exit discharge*, *interior exit stairways* and *ramps*, *exit passageways*, *exit pathways*, *exterior exit stairways* and *ramps* and *horizontal exits*.

1022.1 General.

Exits shall comply with Sections 1022 through 1027 and the applicable requirements of Sections 1003 through 1015. An *exit* shall not be used for any purpose that interferes with its function as a *means of egress*. Once a given level of *exit* protection is achieved, such level of protection shall not be reduced until arrival at the *exit discharge*. ~~Exits shall be continuous from the point of entry into the exit to the exit discharge.~~

Add new text as follows:

1022.3 Exit continuity.

Exits shall be continuous from the point of entry into the exit to the exit discharge. The path within exits is permitted to consist of any combination of interior exit stairways, interior exit ramps, exit passageways, exit pathways, exterior exit stairways, and exterior exit ramps.

Revise as follows:

~~1023.3.1~~ **1022.3.1 Extension.** Where an *exit passageway* is used to provide continuity of an *exit*, ~~*interior exit stairways* and *ramps* are extended to an *exit discharge* or a *public way* by an *exit passageway*~~, the *interior or exterior exit stairway* and *ramp* shall be separated from the *exit passageway* by a *fire barrier* constructed in accordance with Section 707 or a *horizontal assembly* constructed in accordance with Section 711, or both. The *fire-resistance rating of the exit passageway* shall be not less than that required for the *interior exit stairway* and *ramp*. A *fire door assembly* complying with Section 716 shall be installed in the *fire barrier* to provide a *means of egress* from the *interior or exterior exit stairway* and *ramp* to the *exit passageway*. Openings in the *fire barrier* other than the *fire door assembly* are prohibited. Penetrations of the *fire barrier* are prohibited.

Exceptions:

1. Penetrations of the *fire barrier* in accordance with Section 1023.5 shall be permitted.
2. Separation between an *interior exit stairway* or *ramp* and the *exit passageway* extension shall not be required where there are no openings into the *exit passageway* extension.
3. Separation between an *interior exit stairway* or *ramp* and the *exit passageway* extension shall not be required where the *interior exit stairway* and the *exit passageway* extension are pressurized in accordance with Section 909.20.4.

Add new text as follows:

1022.3.2 Exit pathways. Exit pathways shall be permitted to serve as an exit component in the means of egress system where they connect interior or exterior exit stairways and ramps of the same building and comply with the requirements in Section 1022.3.2.1 through 1022.3.2.3.

1022.3.2.1 Construction and openings. The floor, walls, and openings of the exit pathway shall be constructed in accordance with Section 1024 for exit passageways for a minimum horizontal distance of 10 feet from the edges of exit pathway and a minimum vertical distance of 10 feet from the floor of the exit pathway.

1022.3.2.2 Location. The exit pathway shall have a minimum fire separation distance of 10 feet (3048 mm) measured at right angles from the exterior edge of the exit pathway, to:

1. The closest interior lot line.
2. The centerline of a street, an alley, or public way.
3. An imaginary line between two buildings on the lot.

1022.3.2.3 Path marking. Exit pathways shall be delineated or marked to clearly indicate the path of travel.

Revise as follows:

1008.3 Illumination required by an emergency electrical system. An emergency electrical system shall be provided to automatically illuminate the following areas in the event of a power supply failure:

1. In rooms or spaces that require two or more exits or access to exits:
 - 1.1. Aisles.
 - 1.2. Corridors.
 - 1.3. Exit access stairways and ramps.

2. In buildings that require two or more exits or access to exits:

- 2.1. Interior exit access stairways and ramps.
- 2.2. Interior and exterior exit stairways and ramps.

2.3 Exit pathways

~~2.3~~ 2.4 Exit passageways.

~~2.4~~ 2.5 Vestibules and areas on the level of discharge used for exit discharge in accordance with Section 1028.2.

~~2.5~~ 2.6 Exterior landings as required by Section 1010.1.5 for exit doorways that lead directly to the exit discharge.

3. In other rooms and spaces:

- 3.1. Electrical equipment rooms.
- 3.2. Fire command centers.
- 3.3. Fire pump rooms.
- 3.4. Generator rooms.
- 3.5. Public restrooms with an area greater than 300 square feet (27.87 m²).

1024.5 Openings.

Exit passageway opening protectives shall be in accordance with the requirements of Section 716.

Except as permitted in Section 402.8.7, openings in exit passageways other than unprotected exterior openings shall be limited to those necessary for *exit access* to the *exit passageway* from normally occupied spaces and for egress from the *exit passageway*.

Where an *interior exit stairway* or *ramp* is extended to an *exit discharge* or a *public way* by an *exit passageway*, the *exit passageway* shall comply with Section ~~1023.3.1~~ 1022.3.1.

Elevators shall not open into an *exit passageway*.

2024 International Fire Code

Add new definition as follows:

EXIT PATHWAY. An exit component that serves to meet one or more means of egress design requirements and is open to sky.

Revise as follows:

[BE] EXIT. That portion of a *means of egress* system between the *exit access* and the *exit discharge* or *public way*. Exit components include exterior exit doors at the *level of exit discharge*, *interior exit stairways* and *ramps*, *exit passageways*, exit pathways, *exterior exit stairways* and *ramps* and *horizontal exits*.

[BE] 1022.1 General.

Exits shall comply with Sections 1022 through 1027 and the applicable requirements of Sections 1003 through 1015. An *exit* shall not be used for any purpose that interferes with its function as a *means of egress*. Once a given level of exit protection is achieved, such level of protection shall not be reduced until arrival at the *exit discharge*. ~~*Exits shall be continuous from the point of entry into the exit to the exit discharge.*~~

Add new text as follows:

1022.3 Exit continuity. *Exits shall be continuous from the point of entry into the exit to the exit discharge. The path within exits is permitted to consist of any combination of interior exit stairways, interior exit ramps, exit passageways, exit pathways, exterior exit stairways, and exterior exit ramps.*

Revise as follows:

[BE] ~~1023.3.1~~ 1022.3.1 Extension.

Where an *exit passageway* is used to provide continuity of an exit, ~~*interior exit stairways and ramps are extended to an exit discharge or a public way by an exit passageway*~~, the *interior or exterior exit stairway* and *ramp* shall be separated from the *exit passageway* by a *fire barrier* constructed in accordance with Section 707 of the International Building Code or a *horizontal assembly* constructed in accordance with Section 711 of the International Building Code, or both. The *fire-resistance rating of the exit passageway* shall be not less than that required for the *interior exit stairway* and *ramp*. A *fire door assembly* complying with Section 716 of the International Building Code shall be installed in the *fire barrier* to provide a *means of egress* from the *interior or exterior exit stairway* and *ramp* to the *exit passageway*. Openings in the *fire barrier* other than the *fire door assembly* are prohibited. Penetrations of the *fire barrier* are prohibited.

Exceptions:

1. Penetrations of the *fire barrier* in accordance with Section 1023.5 shall be permitted.
2. Separation between an *interior exit stairway* or *ramp* and the *exit passageway* extension shall not be required where there are no openings into the *exit passageway* extension.
3. Separation between an *interior exit stairway* or *ramp* and the *exit passageway* extension shall not be required where the *interior exit stairway* and the *exit passageway* extension are pressurized in accordance with Section 909.20.4 of the International Building Code.

Add new text as follows:

1022.3.2 Exit pathways. Exit pathways shall be permitted to serve as an exit component in the means of egress system where they connect interior or exterior exit stairways and ramps of the same building and comply with the requirements in Section 1022.3.2.1 through 1022.3.2.3.

1022.3.2.1 Construction and openings.

The floor, walls, and openings of the exit pathway shall be constructed in accordance with Section 1024 for exit passageways for a minimum horizontal distance of 10 feet from the edges of exit pathway and a minimum vertical distance of 10 feet from the floor of the exit pathway.

1022.3.2.2 Location. The exit pathway shall have a minimum fire separation distance of 10 feet (3048 mm) measured at right angles from the exterior edge of the exit pathway, to:

1. The closest interior lot line.
2. The centerline of a street, an alley, or public way.
3. An imaginary line between two buildings on the lot.

1022.3.2.3 Path marking. Exit pathways shall be delineated or marked to clearly indicate the path of travel.

Revise as follows:

[BE] 1008.3 Illumination required by an emergency electrical system.

An emergency electrical system shall be provided to automatically illuminate the following areas in the event of a power supply failure:

1. In rooms or spaces that require two or more exits or access to exits:
 - 1.1. *Aisles.*
 - 1.2. *Corridors.*
 - 1.3. *Exit access stairways and ramps.*
2. In buildings that require two or more exits or access to exits:
 - 2.1. Interior exit access stairways and ramps.
 - 2.2. Interior and exterior exit stairways and ramps.
 - 2.3 Exit pathways
 - ~~2.3~~ ~~2.4~~ Exit passageways.
 - ~~2.4~~ ~~2.5~~ Vestibules and areas on the level of discharge used for exit discharge in accordance with Section 1028.2.
 - ~~2.5~~ ~~2.6~~ Exterior landings as required by Section 1010.1.5 for exit doorways that lead directly to the exit discharge.
3. In other rooms and spaces:
 - 3.1. Electrical equipment rooms.
 - 3.2. Fire command centers.
 - 3.3. Fire pump rooms.
 - 3.4. Generator rooms.
 - 3.5. Public restrooms with an area greater than 300 square feet (27.87 m²).

[BE] 1024.5 Openings. *Exit passageway opening protectives shall be in accordance with the requirements of Section 716 of the*

International Building Code.

Except as permitted in Section 402.8.7 of the International Building Code, openings in *exit passageways* other than unprotected exterior openings shall be limited to those necessary for *exit access* to the *exit passageway* from normally occupied spaces and for egress from the *exit passageway*.

Where an *interior exit stairway* or *ramp* is extended to an *exit discharge* or a *public way* by an *exit passageway*, the *exit passageway* shall comply with Section ~~1023.3.1~~1022.3.1.

Elevators shall not open into an *exit passageway*.

Reason: The design of new buildings on small complex sites with steep or varying grades can result in buildings with multiple levels and entrances, towers of differing heights, parking garages that are partially underground with large roof decks near grade, etc. Complying with *means of egress* requirements can be difficult and some applicants propose using outdoor spaces such as roofs or roof decks as part of an *exit* or to connect *exit* components. There is no obvious code path allowing a surface like a roof or deck that is open to sky to be used to connect exit components without requiring it to be enclosed with an *exit passageway*, which is cost prohibitive.

Proposed Solution: Exit Pathway

This proposal combines *exit* continuity language from other Chapter 10 locations into Section 1022 Exits and adds new sections and definitions to establish a new option for connecting *exit* components, the *exit pathway*. The *exit pathway* has two attributes: it must be open to sky and is an *exit* component. An *exit pathway* is a delineated route that crosses a space that is open to sky and connects *exit* components, in a similar manner to how an *exit passageway* connects two *interior exit stairways* within a building (see Figure 1 below).

The purpose of the changes in each section is as follows:

1022.1 General. The last sentence, “*Exits* shall be continuous from the point of entry into the *exit* to the *exit discharge*,” is being relocated to section 1022.3 to create a new section, Exit continuity.

1022.3 Exit continuity. This section addresses two important aspects of an *exit*: they must be continuous from beginning to end and an *exit* can be a combination of several different *exit* components, including the new *exit pathway*.

This proposal also adds *exterior exit stairways and ramps* to the list of exit components that can be daisy-chained together to form the egress path to the exit discharge or public way. Using Figure 1 as an example, if the delineated *exit pathway* crosses the podium of a podium building, in many designs, an *exterior exit stairway* (minus the stair penthouse shown in the figure) is used to get from the podium level to the public way. The language in the current code (1023.3, Exception) would not allow this, yet the level of safety of an *exterior exit stairway* is presumed to be the same as the other *exit* components.

1022.3.1 Extension. The *exit passageway* extension requirement used to separate the *interior or exterior exit stairway and ramp* from the *exit passageway* is being relocated from Section 1023.3.1 into Section 1022.3.1. *Exit* continuity needs to be maintained through all components of an *exit*, not just *interior exit stairways* and ramps, so the relocation to Section 1022, the general exiting section, is more appropriate.

1022.3.2 Exit pathways: Adds scoping language for the new *exit pathway* section.

1022.3.2.1 Construction and openings: The floors and walls of the *exit pathway* would be protected like an *exit passageway*, but there would be no ceiling that needs protection. The exit pathway is protected from fires below by requiring the horizontal assembly required in 1024.3 to extend 10 feet from the edge of the pathway. Where there is a minimum of 10 feet of horizontal separation between the edge of the *exit pathway* and other parts of the building, then no walls would be required. However, where *building* walls are less than 10 feet from the edge of *exit pathway*, they must be protected for a vertical distance of 10 feet (see Figure 2 below).

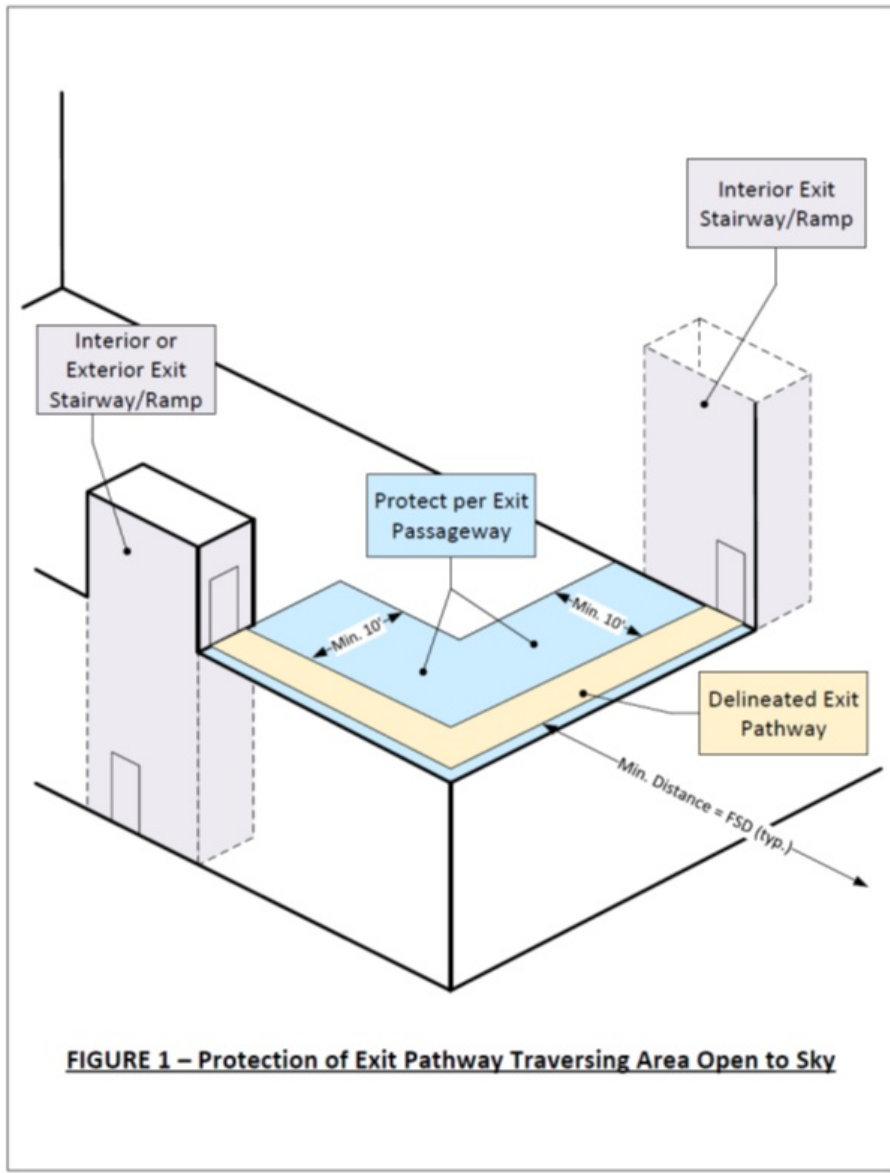
1022.3.2.2 Location: The hazard of adjacent buildings is mitigated with a requirement to have 10 feet of *fire separation distance* between the edge of the *exit pathway* and the lot line, centerline of the right-of-way, or an imaginary lot line, which is similar to how Section 1027.5 protects exterior stairs.

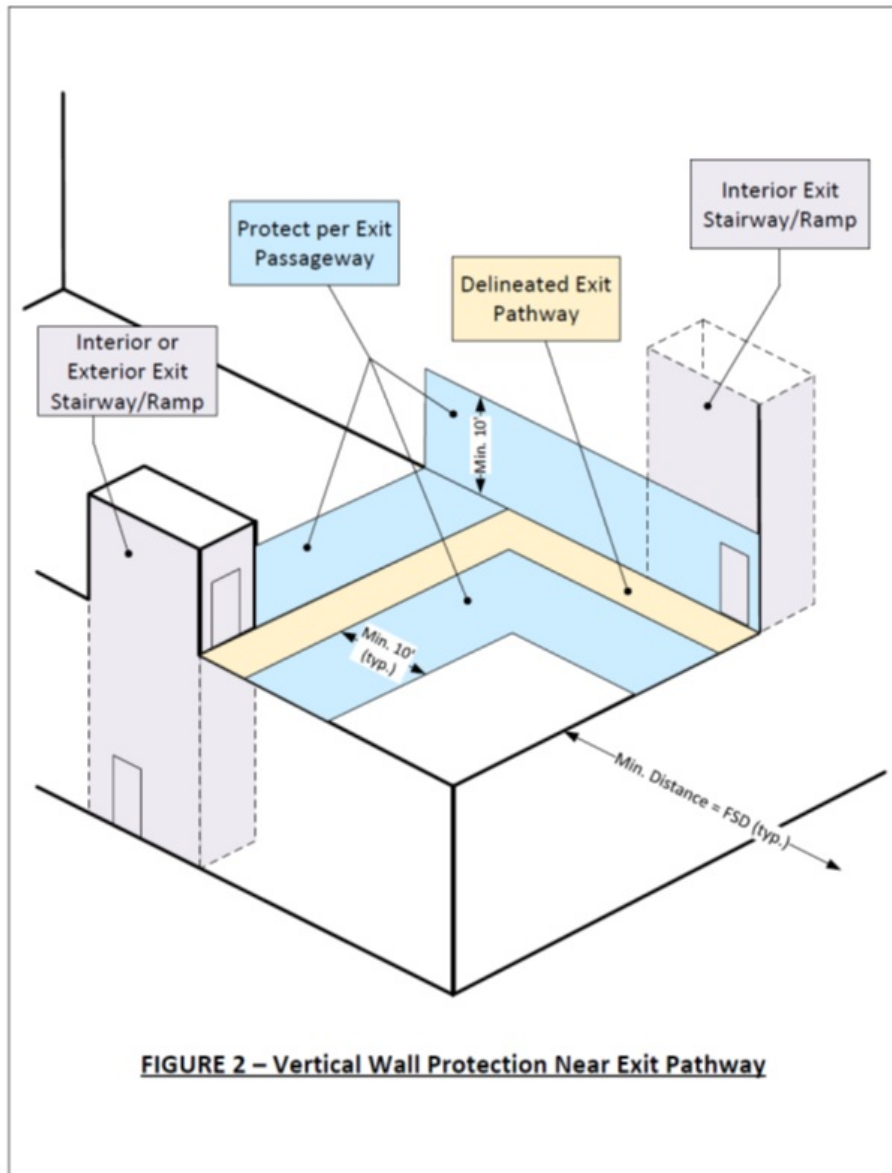
1022.3.2.3 Path marking: Marking the *exit pathway* is required. It can be disorienting to leave an exit stairway or other area and suddenly find yourself in an open to sky area that isn't at grade. Providing a visual cue for the *exit pathway* will allow people to get to the other exit component efficiently in the event of an emergency.

1008.3 Illumination required by an emergency electrical system: To coordinate with the change requiring illumination made in 1002.3.2.4, *exit pathways* is added as item 2.3, requiring the emergency electrical system to automatically illuminate the pathway if there

is a power failure. Ambient lighting is not an effective substitute for artificial lighting especially in dense urban environments. Areas like podium plazas, may get little ambient light because of shadows from neighboring buildings and the top floor of many high-rise buildings are stepped back and of a such height that no other building is nearby that can provide the ambient light necessary to light the *exit pathway*. In recognition of the limitations of ambient lighting, the code hasn't relied on the use of ambient lighting to light the exit discharge since the 2018 IBC.

1024.5 Openings: The reference to 1023.3.1 is being changed to 1022.3.1 to reflect the relocation of the extension section for *exit passageways* in 1023 to 1022.3.1. See comments on 1022.3.1.





Cost Impact: Decrease

Estimated Immediate Cost Impact:

Much depends on what the applicant proposes and what the building official will approve for delineating or marking the exit pathway. Barriers and guards could make sense depending on if amenities are provided on the roof or other outdoor surface. It is more likely that striping and paint will be used. The exit pathway may need to be redone or touched up in the future. A cursory review of online prices for traffic striping paint and pavement marking tape revealed the following:

Paint

HD Supply Solutions: \$70.39 to \$199.00 per gallon [HD Supply Solutions](#)

Pavement marking tape (retroreflective polymer pavement marking tape)

(yellow) 3M Stamark 24"x30 yard: \$320 [Uline](#); \$416.78 [Stop-Painting.com](#)

3M Stamark Surface Preparation Adhesive P50, 1 gallon: \$85.07 [Industrial General Store](#)

An analysis of the cost of luminous of egress path markings, such as those required by Section 1025, is not included as they are generally not designed for outdoor use.

Estimated Immediate Cost Impact Justification (methodology and variables):

This change provides a new option to use an exit pathway across a roof to connect two exit components and an exterior exit stairway or ramp to be used as one of the connected components. It is not creating a new requirement, so there is no cost impact or most likely a decrease in cost.

Currently, the only way an outdoor portion of a building like a roof or roof deck can be used as part of the *exit* would be to put enclose that portion of the roof in an exit passageway. Exit passageways are required to have fire resistance rated construction on the floor, ceiling and walls for the entire length of the exit passageway. With this change, at a minimum, someone opting to use the exit pathway approach where other portions of the surface are within 10 feet of the pathway or where the pathway is within a fire separation distance of 10 feet would not need to rate its ceiling while still rating its walls and floor. This is a cost reduction because they don't need to rate the ceiling of what would normally be required, an exit passageway. In cases where the exit pathway is more than 10 feet away from other items on the roof and adjacent buildings, only the floor of would need to be rated. Again, this represents a cost reduction from full compliance with the requirements of an exit passageway. In addition, many podium buildings have roofs and other outdoor surfaces that may already be appropriately fire resistance rated due to other code requirements and nothing would need to be required other than marking and lighting the path. This is also a cost reduction from full compliance with an exit passageway. Exit passageways are required to be provided with lighting and markings, so the minimal lighting and path marking requirements for the exit pathways would certainly cost the same or possibly less.

There could be costs associated with maintaining the exit pathway markings over time, depending on the material or product approved by the building official.

The lighting would not present increased costs over lighting already required in an exit pathway.