

**CHANGE TYPE:** Modification

**CHANGE SUMMARY:** Storm shelter requirements have been relocated to Chapter 3. The required occupant capacity is now limited to the total occupant load of the classrooms, vocational rooms and offices in the school while the maximum distance of travel has been deleted.

**2021 CODE:**

### **SECTION 303 STORM SHELTERS**

**303.1 Storm shelters.** This section applies to the construction of storm shelters constructed as rooms or spaces within existing buildings for the purpose of providing protection during storms that produce high winds, such as tornadoes and hurricanes. Such structures shall be designated to be hurricane shelters, tornado shelters, or combined hurricane and tornado shelters. Such structures shall be constructed in accordance with this code and ICC 500.

**303.2–1106.1 Addition to a Group E occupancy.** Where an addition is added to an existing Group E occupancy located in an area where the shelter design wind speed for tornados is 250 mph in accordance with Figure 304.2(1) of ICC 500 and the occupant load in the addition is 50 or more, the addition shall have a storm shelter constructed in accordance with ICC 500.

**Exceptions:**

1. Group E day care facilities.
2. Group E occupancies accessory to places of religious worship.
3. Additions meeting the requirements for shelter design in ICC 500.

**303.2.1–1106.1.1 Required occupant capacity.** The required occupant capacity of the storm shelter shall include all buildings on the site, and shall be the ~~greater of the following:~~

- ~~1. The total occupant load of the classrooms, vocational rooms and offices in the Group E occupancy.~~



Photo courtesy of FEMA

School storm shelter with open and closed shutters.

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### Storm Shelters

2. The occupant load of any indoor assembly space that is associated with the Group E occupancy.

**Exceptions:**

1. Where an addition is being added on an existing Group E site, and where the addition is not of sufficient size to accommodate the required occupant capacity of the storm shelter for all of the buildings on-site, the storm shelter shall at a minimum accommodate the required capacity for the addition.
2. Where approved by the code official, the required occupant capacity of the shelter shall be permitted to be reduced by the occupant capacity of any existing storm shelters on the site.

**1106.1.2 Location.** ~~Storm shelters shall be located within the buildings they serve, or shall be located where the maximum distance of travel from not fewer than one exterior door of each building to a door of the shelter serving that building does not exceed 1,000 feet (305 m).~~

**303.2.2 1106.1.3 Occupancy classification.** ~~The occupancy classification for storm shelters shall be determined in accordance with Section 423.3 of the *International Building Code*.~~

**502.8 Additions to Group E facilities.** ~~For additions to Group E occupancies, storm shelters shall be provided in accordance with Section 1106.1.~~

**1301.2.3.1 Additions to Group E facilities.** ~~For additions to Group E occupancies, storm shelters shall be provided in accordance with Section 1106.1.~~

**CHANGE SIGNIFICANCE:** Storm shelter requirements have been moved from the prescriptive and work area methods and relocated to Chapter 3 to apply generally to all compliance methods. In addition, a new Section 303.1 clarifies the difference between storm shelters used solely during a tornado or hurricane and emergency shelters used after such events, requiring that a storm shelter comply with the International Code Council's standard ICC 500. This language is now consistent with *International Building Code* (IBC) Section 423.

In the *2018 International Existing Building Code* (IEBC), schools had to have a shelter suitable to house everyone who might be in a large assembly space on the site, such as a public library, football field, performing arts center, equestrian arena, natatorium, competition basketball arena or professional development center. Now, only the total occupant load of the students and staff need to be accommodated. The reasoning considers the fact that the code does not require storm shelters for the entire population that outdoor venues, such as outdoor football fields, can accommodate. It should not be necessary for schools to increase the size of the shelters based on their public assembly spaces. The assembly areas do not add to the normal population of students in school nor to the number of staff who are associated with those students. The additional people at the facility outside of school hours elect to be in those assembly areas, similar to any commercial or other public assembly area.

Section 1106.1.2 also previously required that storm shelters be within 1,000 feet of the buildings they serve. While the 1,000-foot maximum travel limit may be appropriate for new schools, it can be an undue hardship for existing buildings. The location of an addition may be limited by a variety of building and site constraints. Good disaster management practices will typically give schools a response time long enough to be able to move students to on-site shelters as appropriate.

A reference to IBC Section 423 has also been added, as it provides clarification of the occupancy classification of the storm shelter based upon whether it is a standalone structure or part of another occupancy.



This excerpt is taken from *Significant Changes to the International Building Code®*, 2021 Edition. The Significant Changes series takes you directly to the most important changes that impact projects. Key changes are identified then followed by in-depth discussion of how the change affects real-world application. Photos, tables and illustrations are included to further clarify application. Available for the IBC, IRC, IFC, IECC and IPC/IMC/IFGC, the Significant Changes publications are very useful training and review tools for transitioning to a new code edition.