

STORM SHELTER REQUIREMENTS: PROTECTING ARKANSAS SCHOOLS

The recent adoption of the 2021 Arkansas Fire Prevention Code (AFPC) and Arkansas Legislative laws have created the need for clarity regarding the rules surrounding storm shelters in our states school buildings. The AFPC requires that all group E, Educational, Occupancies with an occupant load of more than 50 provide a storm shelter(s) in areas where the wind may exceed 250 mph during an event. The entire state of Arkansas is in this zone. The required shelters must comply with ICC 500 requirements for community tornado shelters. If your district has acquired FEMA funds, the shelter must also comply with FEMA P-361.

One of the most confusing aspects of the new code is how to calculate the occupancy for your shelters. The Arkansas Legislature passed an Act 764 to clarify the specific way districts can determine the size of their shelter to protect the students and faculty using the facility on a daily basis.

To determine the occupant capacity for the shelter, the occupant load must be calculated for all classrooms, vocational rooms and offices. The base calculations in the building code for occupancy is based on square footage of a space, for example an 850 square foot classroom can hold 43 occupants per code, even though Arkansas Department of Education (ADE) limits this to 30 students plus faculty. Each district will need to work with your local building official to determine the required occupant load. This could have an impact of an almost 35% increase in your shelter size if your code official requires fire code occupancy be used vs. ADE occupancy. Your design professional can walk you through these calculations.

Once occupancy load has been established your shelter must provide five square feet of clear floor space per occupant.

For a new school campus, shelters must be provided and be sized to accommodate the schools calculated occupant load. If a building is added to an existing campus, a shelter must be incorporated in this new addition and there are exceptions in the code that may allow the shelter to house the occupant load of the new building, not the entire existing campus.

Each situation is unique and WER Architects, along with your local building officials, can work together to determine what is appropriate for your new construction to best protect your students and staff in the event of a storm. If we can help in any way please let us know.

STORM SHELTER TERMINOLOGY

- **2021 Arkansas Fire Prevention Code:** Requires storm shelters in all educational buildings in Arkansas housing 50 people or more. Any new construction or addition must include a shelter if there is not an existing one that meets these requirements.
- **ICC-500:** The minimum code requirements your new shelter must meet. Including size, construction, ventilation, lighting and restroom requirements.
- **FEMA P-361:** The minimum code requirements your new shelter must meet in addition to ICC-500 if you are using FEMA funds.
- **Occupant Load:** The number of occupants your shelter must house.
- **Shelter must provide five square feet of clear floor space per occupant.**
- **New Construction must incorporate shelter space to house the occupants of that new construction, whether stand alone or an addition to an existing building.**

WER ARCHITECTS | Little Rock | Fayetteville

Matthew Swaim, AIA, Principal
mswaim@werarch.com

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