



Community Safe Rooms

Every year, tornadoes, hurricanes, and other extreme windstorms cause numerous fatalities and injuries, and cost millions of dollars worth of property damage throughout the United States. Most businesses and public buildings, even new ones constructed according to current building codes, do not provide adequate protection for occupants seeking refuge from these events.

A community safe room can provide near-absolute protection for many community members, when it is constructed in accordance with FEMA criteria. A growing number of these safe rooms have saved lives in actual events.

What is a Safe Room?

A safe room is a room or structure specifically designed and constructed to resist wind pressures and wind-borne debris impacts during an extreme-wind event, like tornadoes and hurricanes, for the purpose of providing life-safety protection.

The criteria for a community safe room is contained in [FEMA P-361](#), *Safe Rooms for Tornadoes and Hurricanes: Guidance for Community and Residential Safe Rooms* (2015). The first edition of FEMA P-361 (2000) served as a legacy document for the development of ICC 500, *Standard for the Design and Construction of Storm Shelters* (2014). The ICC 500 document standardizes and codifies much of the design guidance provided in FEMA P-361. Both of these documents provide life-safety protection per ICC 500 and are designed to minimum building code requirements. However FEMA P-361 additionally designs to near-absolute protection which includes operation and emergency planning criteria. Moreover, for select criteria such as flood hazard elevation, FEMA P-361 is more conservative.



Seneca Intermediate School multi-purpose Community Safe Room, Seneca, MO.

Does Every Community Need a Safe Room?

Every state is at some risk from tornadoes and severe weather. The decision to build a community safe room can be based on a single factor or a collection of factors. Single factors are often related to the potential for loss of life or injury (e.g., officials at a hospital that cannot move patients in an intensive care unit, or officials at a school that takes care of a large number of children). The decision should be based on a thorough risk assessment that considers type of hazard, probability of event, occurrence and severity of event, and the vulnerability of community buildings and the size of the population at risk.

In most cases, the decision to construct a storm shelter or safe room is voluntary. However, a new provision in the 2015 *International Building Code* (IBC) requires storm shelters for certain buildings in high risk areas. Communities that adopt the 2015 IBC and are located in the 250 mph wind zone (see Figure B3-1 in FEMA P-361) must construct a storm shelter (that meets or

exceeds ICC 500) in any new schools, 911 call stations, emergency operation centers, and fire, rescue, ambulance, and police stations.

FEMA P-361 contains guidance on conducting risk assessments and provides a decision-making process that can help community officials and residents determine their need for a Community Safe Room.

Funding for Community Safe Rooms

Federal programs that provide funds for safe room construction include U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant (CDBG) funds, Federal Housing Administration (FHA) mortgage insured financing, the [FEMA Hazard Mitigation Grant Program \(HMGP\)](#), and the [Pre-Disaster Mitigation \(PDM\) grant program](#). Additionally, many states have developed initiatives for the construction of residential, public, and private safe rooms, including safe rooms in hospitals, emergency operations centers, first-responder facilities, schools, day care centers, manufactured home parks, private residences, community centers, senior centers, and campgrounds.

For more information about safe room funding and initiatives, visit this link: <http://www.fema.gov/safe-rooms/public-and-community-safe-rooms>.

Role of the Hazard Mitigation Officer

Planning and funding a community safe room can be a challenging task, but help is available. State and Tribal Hazard Mitigation Officers are experts in this field. They can help communities integrate safe rooms into local hazard mitigation plans and assist with the development of grant applications.

Hazard Mitigation Assistance (HMA) grant funding for safe rooms is provided to eligible states, tribes and territories that, in turn, provide the funding to local governments. Assistance with this process can be obtained by contacting the Hazard Mitigation Officer, who can provide detailed information on grant opportunities, application periods and eligibility requirements.

FEMA Best Practice

Following tornado damage in previous years, the town of Leesburg, AL, committed to building its own Safe Room, becoming the first town in Cherokee County, AL, to receive federal funds to build a Community Safe Room, in 2008.

Leesburg's dual purpose safe room opened on April 21, 2011. Less than a week later the safe room immediately proved its critical value, as storms hit the area during the devastating tornado outbreak that struck much of the Southeast U.S. that month.

Designed in accordance with FEMA 361, the 2,500 square-foot safe room is reinforced to withstand winds of 250 miles



Exterior view of Cherokee County's community safe room

The Multi-Purpose Safe Room

Community safe rooms can also be designed for multiple purposes, including community centers for manufactured home parks and gymnasiums, cafeterias or music rooms in public schools.

Safe Rooms and Flooding Hazards

Safe rooms should not be constructed where flood waters have the potential to endanger occupants within the safe room. Safe rooms in areas where flooding (storm surge) may occur during hurricanes should not be occupied during a hurricane. However, occupying such a safe room would be appropriate if the safe room will not be flooded by rains associated with other storm and tornado events.

Local building officials or local National Flood Insurance Program (NFIP) representatives can determine if a

proposed community safe room would be susceptible to local, riverine, or coastal flooding. The NFIP is aimed at reducing the impact of flooding on private and public

structures. For more information on the NFIP, including contacting a local representative, visit www.floodsmart.gov.

Useful Links and Resources

FEMA Safe Room Helpline: Saferoom@fema.dhs.gov

FEMA Safe Room Hotline: 1-866-927-2104

State Hazard Mitigation Officers:

<http://www.fema.gov/state-hazard-mitigation-officers>

For more information on FEMA's Hazard Mitigation Assistance (HMA) policy on the use of HMGP and PDM funds for Safe Rooms, visit:

<https://www.fema.gov/hazard-mitigation-assistance>

Safe Rooms for Tornadoes and Hurricanes: Guidance for Community and Residential Safe Rooms

(FEMA P-361), March 2015, 3rd Edition

<https://www.fema.gov/media-library/assets/documents/3140>

Taking Shelter from the Storm: Building a Safe Room for Your Home or Small Business

(FEMA P-320), December 2014, 4th Edition

<http://www.fema.gov/media-library/assets/documents/2009>

Tornado Protection: Selecting Refuge Areas in Buildings (FEMA P-431), FEMA, October 2009, 2nd Edition

<https://www.fema.gov/media-library/assets/documents/2246>

International Code Council (ICC)/National Storm Shelter Association (NSSA) Standard for the Design and Construction of Storm Shelters (ICC 500), 2014

<http://codes.iccsafe.org/app/book/toc/2014/American%20National%20Standard/ICC%20500-2014/index.html>

The FEMA Building Science Branch develops and produces multi-hazard mitigation guidance that focuses on creating disaster-resilient communities to reduce loss of life and property. Additional information from the FEMA Building Science Branch can be found at

<http://www.fema.gov/building-science> and <http://www.fema.gov/safe-rooms>