



Commission Approves Safe Shelter Policy in Shawnee County

Full Mitigation Best Practice Story

Shawnee County, Kansas

Shawnee, KS - A tornado with a wind speed of 250 miles per hour could destroy mostly any man-made structure in its path, except for an 8 by 10 foot ground-level room reinforced with a wood frame and a thin sheet of steel.



A storm safety room has become a requirement for all multiple-family structures built in Shawnee, Kansas. The County’s planning commission approved a policy in June 2005, requiring developers to include such a room in every multiple-family residence.

“If the safe room is designed to the regulations that FEMA has provided, then FEMA describes the level of protection as near absolute,” said FEMA Civil Engineer Bob Franke. “Except for the very, very strongest tornado, these rooms are going to withstand pretty much any storm they face.”

There are three different publications developers can refer to in order to meet design and reinforcement specifications. The reason the room works so well, according to Franke, is not because of the materials used but the design. If many of the rooms are reinforced with plywood, then there must be something about the way it is constructed that makes people inside safe from the extreme dangers of a tornado.

“It doesn’t necessarily have to have concrete or a steel door,” he said. “It’s all about the way it’s constructed and put together.”

Franke said the room, if designed to specifications, would be able to withstand not only a tornado with 250 mph winds, but also a 15-pound missile traveling 100 mph. The foundation would need to be on the ground, so the room would have to be on the ground floor, he added.

In Shawnee and other places with high tornado activity, safe rooms have proven to be more effective than basements.

Another reason the commission approved the safe room policy was that it did not raise construction costs as long as it is built simultaneously with the new structure.

If a developer appears before the planning commission and he or she does not abide by the safe room policy, the commission would, in all likelihood, disapprove the building permit. Some county officials are hoping the policy will extend to single-family homes in the near future.

Activity/Project Location

Geographical Area: **Single County (County-wide)**

FEMA Region: **Region VII**

State: **Kansas**

County: **Shawnee County**

Key Activity/Project Information

Sector: **Private**
Hazard Type: **Tornado**
Activity/Project Type: **Building Codes; Safe Rooms/Community Shelters**
Structure Type: **Safe Room/Community Shelter**
Activity/Project Start Date: **06/2005**
Activity/Project End Date: **Ongoing**
Funding Source: **Property Owner, Residential**

Activity/Project Economic Analysis

Cost: **Amount Not Available**

Activity/Project Disaster Information

Mitigation Resulted From Federal
Disaster? **Unknown**
Value Tested By Disaster? **Unknown**
Repetitive Loss Property? **Unknown**

Reference URLs

Reference URL 1: <http://www.fema.gov/hazard/tornado/index.shtm>
Reference URL 2: <http://www.accesskansas.org/kdem/>

Main Points

- A storm safety room is a requirement for all multiple-family structures being built in Shawnee, Kansas, now that the County's planning commission approved a policy requiring developers to include such a room in every multiple-family residence.
- There are three different publications developers can refer to in order to meet design and reinforcement specifications.
- The room would be able to withstand not only a tornado with 250 mph winds, but also a 15-pound missile traveling 100 mph.