

KSU Invests in Safety for Students and Faculty

Franklin County, KY - When Grey Mandeel was hired as the Safety and Compliance Officer for Kentucky State University (KSU) in 2005, his first priority was assessing the entire campus and for potential risks facing the faculty and students. His main focus was on natural hazards that might threaten the university, with a special concern for tornadoes. While the City of Frankfort and the surrounding areas of Kentucky have not experienced significant damage from tornadoes since a major outbreak of storms that occurred in 1974, the area has had fairly frequent potential threats.

Most buildings on the main campus were constructed from concrete block or stone, many having levels at least partially underground, providing the occupants with shelter. However, the Aquaculture Research facility and the Agricultural Research Farm did not offer any substantial protection from tornadoes or violent weather. Both are satellite locations some distance away from the main campus.

The Aquaculture facility had one building providing a relatively safe area, but the majority of structures were constructed of prefabricated materials, offering little protection from high winds. Even worse, the Research Farm had several of the prefabricated buildings, a barn and several glass greenhouses which, in the case of a direct impact from a tornado, would result in a field of deadly debris.

Mandel applied for a grant to provide for the installation of two tornado shelters. The grant was provided through the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program (HMGP). The grant was applied for and administered through the state agency responsible, which in this instance was the State Hazard Mitigation Officer (SHMO).

HMGP grants provide 75 percent of the funding for approved mitigation projects, leaving the applicant or state responsible for the remaining 25 percent. What many people who apply for HMGP grants do not realize is that the 25 percent can often be met through the use of in-kind matching funds. Examples of potential matches include billable labor hours, equipment use, and the cost of hiring such experts as architects, engineers and designers.

The final cost of the project totaled \$88,640, which included the design, materials and installation of the shelters. The grant portion of the total cost amounted to approximately \$63,000, leaving the university responsible for the remaining balance.

After the design process, the shelters took three weeks to install. The shelters look almost identical to the other buildings, at least on the outside. However, due to their design and construction, the shelters are rated to withstand the direct impact of 250-mph wind speeds.

"We do have some people who still like to go to the original building we used to use as a shelter, but I trust the science. I feel a responsibility for the students and staff so I'm glad to be able to send them someplace safe," said Dr. James Tidwell, Director of the Aquaculture Research facility.

The Research Farm originally provided no convenient safe haven for staff and students. In the past, when the risk of dangerous weather arose, occupants of the farm had no choice but to leave and head for somewhere safer. Eddie Reed, Research and Demonstration Farm Manager, is happy for the addition of the shelter.

"This is definitely a good thing," said Reed. "Before the shelter was built, we had all decided that if there was an instance where we just didn't have any time to get somewhere safe, we would have to head for a small pond that sits at the bottom of the dam. It's low to the ground and we thought that would be a relatively safe place to be."



While no tornadoes have impacted KSU or its satellite facilities since the installation of the shelters, there have been at least two occasions where people were sent to safety of the Aquaculture facility.

In 2011, KSU also received approval for a Pre-Disaster Mitigation grant from FEMA that allows them to complete a pre-disaster mitigation plan for the entire campus. Such a project involves detailed assessments of every potential hazard, both natural and man-made, and developing adequate protections and responses to every potential situation.

Mandeel is relieved that KSU was able to provide the shelters at the Aquaculture facility and the Research Farm. Mandeel says “The whole point of the mitigation is that you plan prior to something happening. You can’t put a price tag on someone being swept away by a tornado when you could have done something to prevent it. Compared to that, the cost of a tornado shelter is a drop in the bucket.”



KSU Aquaculture Tornado Shelter



KSU Aquaculture Tornado Shelter – inside view