3. Mitigation Strategy

FEMA’s Local Mitigation Plan requirements encourage agencies at all levels, educational institutions, local residents, businesses, and the nonprofit sector to participate in the mitigation planning and implementation process. This broad public participation enables the development of mitigation actions that are supported by stakeholders and reflect the needs of the community.

The UK Mitigation Strategy update is based on marked progress from the 2010 mitigation plan, the results of the 2015 risk assessment and proposes projects and activities to mitigate natural hazards with a five-year action plan. The plan provides a proactive program of activities, projects, and programs that will help university students, faculty, staff, and other stakeholder groups to better mitigate, prepare, respond, and recover from disaster events.

The following Mitigation Strategy provides a comprehensive overview of the following sections:

- Mitigation Goals;
- Mitigation Actions; and
- University Mitigation Capabilities.
3.1 University Mitigation Capabilities

Each university has a unique set of capabilities, including authorities, policies, programs, staff, funding, and other resources available to accomplish mitigation and reduce long-term vulnerability. By reviewing the existing capabilities in each jurisdiction, the planning team can identify capabilities that currently reduce disaster losses or could be used to reduce losses in the future, as well as capabilities that inadvertently increase risks.

Throughout the plan update process, the planning team collected and reviewed information on the university’s capabilities to gain a better understanding of relevant programs, regulations, resources, and practices. This review is outlined in the following sections that describe mitigation activities that served as the basis for updating the university’s goals and action plan.

Organizations Involved with Mitigation

In order to reorganize the steering committee for the plan update, the planning team invited members from university and other local or regional organizations to participate in the plan development process. Not only are these members involved in the planning process, but they are also responsible for the implementation of relevant action items over the next five years. Below is a brief profile provided of each organization that participates in mitigation for UK:

**American Red Cross – Bluegrass Chapter**: The American Red Cross prevents and alleviates human suffering in the face of emergencies by mobilizing the power of volunteers and the generosity of donor. The Bluegrass Chapter serves Bourbon, Clark, Estill, Fayette, Harrison, Jessamine, Nicholas, Power, and Scott Counties. In the Bluegrass Region during the 2013 fiscal year, the American Red Cross assisted 572 families who were victimized by a disaster, provided services to 630 members of the military and their families, and trained nearly 16,000 individuals in lifesaving skills. This Division participated in the plan development process as an external stakeholder. To accomplish future mitigation actions for education, outreach, and disaster support, UK will rely on and reach out to the American Red Cross as needed.

**Analytics & Technologies (UKAT)**: UKAT provides enterprise level services and support including student computing services, SAP support, data center operations, learning systems support and high performance computing operations. The management team of UKAT plays a crucial role in responding to disaster events. This is through ensuring connectivity for communication needs to the campus community. UKAT participated in the plan update process and will serve on the mitigation planning workgroup throughout plan implementation.
Athletics: UK Athletics, specifically athletics operations staff are responsible for mitigation and preparedness and ensuring the safety of players and attendees during sporting events. To the right is a map of all UK Athletics facilities including, Commonwealth Stadium, Rupp Arena, and Memorial Coliseum. It was identified during the plan update process that Memorial Coliseum experiences flooding in loading dock areas, and athletic practice field consistently flood. Athletics operations staff will be involved in the mitigation planning workgroup throughout plan implementation.

Bluegrass Area Development District (ADD): The mission of the Bluegrass ADD is to enhance the economic of communities through planning to maximize resources, projects to promote development, and programs to improve the quality of life for the citizens of the region. As a regional partner to UK having served on the Mitigation Planning Workgroup, the Bluegrass ADD mitigation planning initiatives may provide partnership opportunities with future policy development, education and outreach initiatives, and funding application.

Campus Physical Plant Division (PPD): PPD serves students, faculty, and staff by maintaining the campus buildings and grounds. UK’s skilled craftspeople, mechanics, and maintenance employees maintain facilities, repair equipment, maintain the beauty of landscaping, clean facilities and provide heating, cooling, and electrical power. The mission of PPD is to provide support services for instructional, research, and public service functions of UK. Support services include maintenance of facilities and grounds, utilities, minor renovations, and other related services. PPD is responsible for the repair of UK facilities as a result of natural hazard events that are covered in this plan. They played a key role in identifying areas of concern for the risk assessment and mitigation actions to pursue over the next five years. PPD will continue to serve as a steering committee member and mitigation planning workgroup member to participate in plan implementation.

Capital Project Management (CPM): The mission of CPM is to serve as a liaison between the University clientele having capital construction needs, other University service units, and privately owned companies providing the necessary design, consulting and construction services. CPM develops and coordinates the University’s programmatic space requirements and reconciles those needs with available project funding, to maximize the programmed space. CPM has a critical role in managing and mandated design standards of which are crucial to ensuring mitigation measures are incorporated into the construction of new facilities, including generator installation, storm shelter designations, safe room construction, and other safety standards. CPM will continue to play a key role in the implementation of mitigation measures that protect people and property during the plan maintenance process.

College of Agriculture: The College of Agriculture oversees programs occur on the majority of UK’s properties including Robinson Forest, 4-H camps, and other research facilities in and around the Commonwealth. Their participation in the plan update process has ensured that mitigation measures are incorporated on these facilities for the next five year. The College of Agriculture will continue to participate in the plan maintenance process for action items designated for these facilities, including the installation of generators at 4-H camps, and scheduling yearly visits by an arborists to assess tree management needs.
Mitigation Strategy

**College of Arts & Sciences:** The College of Arts & Sciences contains 18 departments with currently more than 5,800 undergraduate and graduate students and 440 faculty. The College Safety Officer participated in the plan update process on the mitigation steering committee and will continue to serve on the mitigation planning workgroup as it oversees plan implementation.

**Columbia Gas:** Columbia Gas of Kentucky is headquartered in Lexington and is an energy distributor that serves over 130,000 customers in 30 Kentucky counties, including the University of Kentucky. Columbia Gas served on the plan update steering committee and will continue to serve as an external partner when address mitigation actions pertaining to energy needs while managing disasters.

**Conference Housing:** UK offers Summer Conference Housing for student academic, athletic camps, and adult professional development conferences. Special attention will be made to facilities dedicated to these programming needs to ensure that preparedness and response procedures are communicated to attendees. Conference Housing will continue to be included in the plan maintenance process.

**Division of Laboratory Animal Resources (DLAR):** DLAR supports the biomedical research community at the University of Kentucky by providing the highest quality veterinary services and humane care and treatment to the animals under care. Through DLAR’s participation in the plan update process, UK was able to obtain animal count information for facilities located on and across UK facilities. This was important for identifying hazard vulnerabilities. DLAR will continue to participate in the mitigation planning workgroup on an as needed basis.

**Division of Crisis Management & Preparedness (CMP):** UK’S Division of Emergency Management was established in August 2004. The office expanded to the Division of Crisis Management and Preparedness in November 2011. The mission of CMP is to coordinate and facilitate effective campus disaster preparedness, mitigation, response and recovery activities to minimize the impacts of emergencies on the campus community, facilities, and environment. With a primary function of mitigation and preparedness plan development, CMP plays a key function to overseeing and implementing the action items included in the 2015-2020 mitigation plan update. CMP staff will coordinate and facilitate mitigation planning workgroup meetings on a bi-annual basis.

**Division of Student Affairs:** In order to enhance the academic mission, the Division of Student Affairs collaborates with the University and beyond to create a supportive and challenging environment that provides opportunities for student learning, engagement, and success. Through the provision of high quality programs, services, and facilities, the Division promotes student development and lifelong discovery; celebrates differences; and promotes global citizenship. Student Affairs plays a key role with preparedness and response among students. They will continue to participate in the plan maintenance and implementation of mitigation actions relevant to this division.

**Environmental Management Department:** The Environmental Management Department is responsible for ensuring the safe and timely pick up and management of hazardous waste and various other special waste streams generated at UK by on and off-campus location. This group provides various services regarding compliance with waste management, water and air quality regulations. The department provides opportunities for both live and on-line training programs related to hazardous waste management and DOT/IATA shipping requirements. Additional services provided include responding to spills/releases on a 24-hour basis, conducting site remediation and property audits and serving as the University’s primary resource for conducting investigations and abatement for asbestos and lead based paint. Although, this Department deals primarily with man-made hazards, the secondary effects due to natural hazard events is recognized and incorporated into the risk assessment and mitigation strategy for the 2015 plan update. The Environmental Management Department will continue to serve on the mitigation planning workgroup during plan implementation.
Mitigation Strategy

Executive Vice President for Finance & Administration (EVPFA): The core purpose of EVPFA is to support and serve the University and its students, faculty, staff, alumni, fans, and visitors with core values of integrity, service, team, innovation, and accountability. Risk Management is housed within EVPFA, and played another key role for information the mitigation plan update process, including providing insurance claim information to inform the risk assessment, and identifying future mitigation action items for the next five years. EVPFA, specifically Risk Management, will continue to participate in the plan maintenance process as a member of the mitigation planning workgroup.

Facilities Management: Facilities Management houses Campus Physical Plant, Medical Center Physical Plant, Capital Project Management, and Facilities Planning. These groups play a key role to ensuring mitigation measures are taken pre-, during, and post-construction. For this reason, Facilities Management will continue to play a role in the plan maintenance process through participation in the mitigation planning workgroup.

Good Samaritan Hospital: UK Good Samaritan Hospital is an acute-care facility with 302 licensed beds. Founded in 1888, the hospital has a long tradition of providing exceptional patient care in a community-hospital atmosphere. Its acquisition in 2007 by UK Healthcare added the resources of a major health care system. In the past, the hospital has explored and completed mitigation measures and will continue to serve as a member of the mitigation planning workgroup during plan maintenance.

Human Resources Administration: As an active voice in the strategic decisions that guide the University toward achieving its goals, Human Resources will deliver services and support the success of the University and the members of its community. Human Resources can play an important role to communicate with faculty and staff during the time of an emergency and dealing with the after-effects on employee benefits and pay. Human Resources participated in the plan update process and will continue to serve on the mitigation planning workgroup on an as needed basis.

Institutional Research and Advanced Analytics (IRAA): IRAA utilizes state-of-the-art methods and technologies to support strategic University decisions. This department analyzes institutional effectiveness, studies past trends, completes various analyses, delivers visualization and dashboards, monitors data quality and releases official institutional data to external stakeholders. For the purpose of the mitigation plan update, the planning team relied on IRAA to provide research content information that informed the risk assessment. IRAA will continue to participate in plan implementation, especially for the protection of research information from damage resulting from a hazard event.

Kentucky American Water: Kentucky American Water, based in Lexington, KY., provides quality, reliable water services to portions of a 10 county region, including the University of Kentucky. As an external stakeholder to the mitigation plan update process, Kentucky American Water provided input and will continue to be a partner in identifying future mitigation actions during the plan implementation.

Kentucky Geological Survey (KGS): The mission of KGS is to increase knowledge and understanding of the mineral, energy, and water resources, geologic hazards, and geology of Kentucky for the benefit of the Commonwealth of Kentucky and the nation. KGS plays a critical role to providing geologic datasets and information that informs the risk assessment of the HMP. KGS will continue to serve as a resource during plan implementation for the purpose of analyzing hazard probability, and providing geospatial education and information to the greater University community.
Mitigation Strategy

**Kentucky Risk MAP:** Kentucky Risk MAP is a collaborative effort between the Kentucky Division of Water (KDOW) and FEMA intended to better communicate flood risk across a variety of disciplines. The major tenets of Risk MAP include accurate flood hazard identification, identification of areas where major watershed changes have altered flooding characteristics resulting in the need for updated flood studies, integrating the products created through Risk MAP into regional and community hazard mitigation planning, and identifying and advancing mitigation actions that reduce flood risk in communities throughout the Commonwealth. As of the end of fiscal year 2013, Risk MAP has been deployed in eight HUC 8 watersheds, encompassing approximately 55 percent of the state’s population (see map below).

As seen above, RiskMAP has been deployed in Fayette County.


**Kentucky Utilities Company (KU):** KU is an electric utility based in Lexington, Ky. that serves 77 Kentucky counties, including Fayette County. KU served as a key external stakeholder in the plan update process and will remain a partner during plan implementation as UK plans their future utility needs.
Lexington Fayette Urban County Government (LFUCG) Division of Emergency Management (DEM): LFUCG DEM is the emergency management agency that manages Lexington Fayette County. For the purpose of informing the UK plan update, the LFUCG mitigation plan was referenced and DEM served on the steering committee. In the future, LFUCG DEM will be relied on for support in the completion of mitigation measures during plan implementation.

Lexington Division Fire & Emergency Services (LDFES): The Lexington Division of Fire and Emergency Services handles all types of fires from commercial business fires, to fires in residential occupancies, to natural gas fires, and vehicle fires. In addition, despite the relatively limited amount of rural areas in Fayette County, the LDFES also responds to several wildland-type fires each year. UK relies on the support of the LDFES during fire emergencies and will continue to involve this group as they plan for emergency response measures.

LFUCG Planning Services: LFUCG Planning Services’ mission is to provide a vision and strategy that will allow Lexington to grow and prosper while preserving, protecting, and enhancing existing neighborhoods, downtown, and the rural Bluegrass cultural landscape. LFUCG played a key role in examining flood mitigation approaches and floodplain management as LFUCG has a Floodplain Management Plan. For land use and other building decisions, UK will continue to rely on Planning Services for best practices and guidelines to consider when adoption mitigation measures during plan implementation.

Martin School for Public Policy & Administration: This School houses the Hazard Mitigation Grants Program (HMGP) office that provides support and expertise with FEMA funding, policy review and approval. During the plan update process, CMP relied on this office to help manage FEMA reporting requirements and plan review.

Mitigation Planning Workgroup: The UK Mitigation Planning Workgroup is a newly formed group that will oversee the plan maintenance and implementation over the next five years. This group will meet on a bi-annual basis and as needed.

Occupational Health & Safety: The mission of UK Health & Safety is to provide a safe and healthful campus for employees, students, and visitors to work and study. This requires more than just complying with regulations and guidelines. The programs, audits and activities that OHS staff members engage in are all part of an overall system designed to help prevent injuries and illnesses: anticipation, recognition, evaluation, and control. This department will continue to participate in the mitigation planning workgroup, as natural hazards can lead to secondary hazards such as exposure to hazardous materials and other health and safety issues.

Mitigation Programs and Compliance

The university participates in and produces policies and procedures that target to reduce vulnerabilities to disaster events on its campuses and facilities. Following is a brief description of these policies and procedures that have helped the university become more resilient over the past five years and beyond:

Building Emergency Action Plan (BEAP) Guidance: It’s the goal of UK to have each building develop a BEAP. The BEAP is developed by each department(s) that occupies a building. The BEAP provides basic direction to all building occupants regarding the needed actions to take during an emergency or crisis. It also identifies building and floor coordinators who take the lead in creating and updating the plan. Additionally, they may assist in enacting required emergency procedures should the need arise. The BEAP also establishes annual exercise schedules used to test the plan.

Types of emergencies covered under a BEAP may include (but are not limited to) the following:

- Fire
- Severe Weather
- Earthquake
Mitigation Strategy

- Utility Outage
- Workplace Violence/Terrorism
- Bomb Threat
- Medical Emergency

**Business Continuity Plan (BCP):** As departments pursue academic and research excellence on campus, all UK departments and units are required to complete a BCP to ensure departments are prepared to respond to various types of operational disruptions. For this, a BCP template was created to help plan for major disasters (e.g., total loss of a building) but also lesser interruptions to service (e.g., the computers are down). Completion of the plan gives each department a basic continuity and recovery plan.

**Campus Community Emergency Response Team (C-CERT):** The UKPD offers C-CERT training for faculty and staff. The primary purpose of C-CERT is to apply established CERT curriculum, adopted by the U.S. Department of Homeland Security, to the University environment. C-CERT members receive hands-on training in basic disaster response skills, such as fire safety and suppression, light search and rescue, disaster medical operations, team organization, disaster psychology and terrorism. Using training learned in the classroom and during exercises, C-CERT members can assist others in the neighborhood or workplace following an event when professional responders are not immediately available to help.

**Campus Evacuation Procedures:** UK has specific evacuation procedures for building occupants when a fire alarm is activated as all occupants must evacuate the building. These procedures are practices during regular drills.

**Cats Path to Preparedness:** This newsletter is distributed each semester to the entire campus community to communicate university and personal preparedness measures and to stay up to date with university policies and procedures during emergencies.

**Commonwealth of Kentucky Hazard Mitigation Plan (2013):** To produce the university plan update, UK relied upon guidelines set forth in the 2013 Commonwealth of Kentucky Hazard Mitigation Plan. This helps drive the way that analysis is conducted for the risk assessment and policy considerations when adopting new mitigation measures.

**Emergency Operations Center (EOC):** The primary EOC is currently located in the UK CMP at 520 Oldham Court. In the Fall of 2015, the EOC is due to relocate to "The 90" a 1,000 seat dining hall that is currently under construction.

**Kentucky Life Safety Code:** This code requires construction to assure a reasonable degree of safety for human life against the exigencies of fire and panic and insuring against fire loss.

**LFUCG Floodplain Ordinance:** In January 2001, an amended Floodplain Conservation and Protection Ordinance went into effect regulating development in the floodplain. Under the ordinance, no construction is allowed in the floodplain (unless granted a Local Special Use Permit). In addition, all buildings must be set back 25 feet from the floodplain and two feet above the base flood elevation. The requirements also incorporate best management practices for floodplains. UK refers to the Floodplain Ordinance when major land use decisions are made.
Mitigation Strategy

LFUCG Hazard Mitigation Plan (2013): The LFUCG Hazard Mitigation Plan provides the framework for programs and compliance throughout the county. UK references this policy document when decided on mitigation measures to pursue. Additionally, this plan provided vital information for the flood mitigation assessment of the UK HMP.

LFUCG Local Emergency Planning Committee (LEPC): UK is an active participant in the LFUCG LEPC and submits its required reports on an annual basis. UK also participates in training and exercises conducted by the LEPC.

LiveSafe Mobile Application: UK adopted a mobile application called LiveSafe that enables direct and discreet two-way communication with the UKPD using text, picture, video, and audio. The app has a simple homescreen that allows users to quickly access information on “Emergency Options” (911 button, UKPD emergency number, and two-way in app messaging with campus police), “Reporting Tips” providing the 12 categories of tip reporting, “SafeWalk” allowing users to assist with each other’s personal safety, “Safety Map” allowing the user to see a map of current location with nearby hospitals and other safety related locations, and “Org Info” with emergency procedures, safe rides, and on and off campus resource locations.

National Flood Insurance Program (NFIP) Compliance: UK falls under the jurisdiction of Lexington Fayette County’s floodplain regulations. LFUCG’s compliance includes the adoption and enforcement of floodplain management requirements, including regulating all new and substantially improved construction in Special Flood Hazard Areas (SFHAs) and floodplain identification and mapping, including any local requests for map updates. The Division of Planning serves as the local repository for the official FEMA Digital Flood Insurance Rate Maps (D-FIRM).

Official Design Standards: Design standards and guidelines regulate construction on the university’s campus including those elements related to natural hazard mitigation such as construction type, backup power generation, and other special considerations.

Severe Weather Communication and Procedures: UK follows severe weather procedures including announcements that are made in the event of severe weather. The procedures involve all aspects of UK, expect they are not applicable to employees of the UK HealthCare facilities. UK classes and work schedules are very rarely altered by the impacts of severe weather; however, the Executive Vice President for Finance and Administration and the President will make the final decision in the unlikely event that classes must be canceled or delayed, or when offices must be closed.

LFUCG Severe Weather Warning Systems: LFUCG Division of Emergency Management manages and coordinates the outdoor warning sirens with voice in various parks around Lexington Fayette County. These devices are activated from the 24 hour warning point at Police Headquarters on Main Street. The system is tested monthly with weekly diagnostic tests performed silently. Standard operating procedures are developed and reviewed annually. UK is in the vicinity of sirens located at UK (Wildcat Ct) and Woodland Park (801 E High St).
Mitigation Strategy

**LFUCG Cooperative Technical Partner (CTP) Agreement:** In order to make its flood insurance rate maps more accurate, LFUCG is participating as a FEMA Cooperating Technical Partner (CTP) with the Kentucky Division of Water. Information will be used to correct errors that have been found on the maps. FEMA will provide technical assistance, funding as available, and will accept the data as official.

**StormReady Campus:** Since 2003, UK is officially recognized as a StormReady Campus by the NWS. The certification means that UK has successfully met the criteria outlined by the NWS in its nationwide program to enhance community preparedness for severe storms and weather emergencies. With assistance from LFUCG DEM, severe weather safe areas have been identified in every building on campus and flood plans with designated safe rooms are made available for every building on campus. Special weather radios have been installed in the most populated buildings and in residence halls.

**Terrorism & Weapons of Mass Destruction:** UK emergency response staff has received training for any event that might disrupt normal daily activities, such as terrorism or the use of a weapon of mass destruction. UKPD attend regularly scheduled training sessions and response is incorporated into the Emergency Operations Plan.

**Tornado Weather Spotter Program:** The National Weather Service sponsors The Weather Spotter program. UKEM and UKPD are trained as Weather Spotters. These trained people are the local eyes for the National Weather Service and help the NWS warn the public of possible severe weather.

**UK Alert Notification System:** The University of Kentucky utilizes an emergency notification system, UK Alert, to communicate official information during an emergency or crisis situation that disrupts normal campus operations or threatens the health or safety of members of the campus community.

All University of Kentucky students, staff, and faculty are automatically registered in UK Alert with their official university e-mail address. We encourage students, staff, and faculty to add other contact information, such as mobile numbers and personal e-mails, to their UK Alert accounts. Parents, media, visitors, and other interested parties may register for UK Alert on a voluntary self-subscription basis.

Depending on the emergency and the location, an alert may be sent using all of the methods, or a combination of the alert methods.

UK Alert uses the following methods to send immediate notifications:

- **Text Messages**—sent to phone numbers that have been entered by the individual user.
- **Phone Calls**—sent to phone numbers that have been entered by the individual user.
- **Email**—to all uky.edu email addresses.
- **Outdoor Sirens**—Blue Emergency Notification Towers are strategically placed at 26 locations across campus to provide outdoor alert tones and broadcast emergency messages. These emergency notification towers are illuminated at all times and flash when activated. The messages are pre-recorded and will provide basic information, such as “Dangerous Situation. Seek shelter immediately”. More details, such as the location of the incident, will be provided in the text message, email, and on the VoIP phones.
Mitigation Strategy

UK CMP Website: For all information related to UK CMP, the public can access a website containing information on UK Alert, Emergency Response Guidance, Disaster Preparedness and Planning, Severe Winter Weather, Business Continuity Planning, C-CERT, Hazard Mitigation Plan, and the LiveSafe Safety App.

Mitigation Successes

The university mitigation program activities summarized in this sub-section demonstrates the university’s ongoing efforts to mitigate the effects of natural hazards. Since the initial plan approval, the mitigation strategy has been monitored, updated and evaluated as ongoing programs are implemented.

Below are listed those action items and associated projects that were marked are complete from the 2010 Mitigation Strategy:

- London and Dawson Spring 4-H camps were connected to city sewer.
- Construction on retention and channel modification projects (Alumni Drive) began in 2012 when $8 million was awarded for improvements to an existing culvert at Alumni Drive and Nicholasville Road with the creation of retention basins and permeable pavement near Commonwealth Stadium.
- NWS approved shelters are identified with new construction and renovation projects. Shelter locations have been included in evacuation plans, when able and are also includes in Building Emergency Action Plans (BEAPs).
- Education on personal preparedness is provided annually during national campus awareness month, staff appreciation day, Agriculture Roundup, Residence Advisor orientation, Women’s Forums, and UK partners with the LFUCG Local Emergency Planning Committee raffle off disaster kits. Other education initiatives completed include the creation of a ‘Cats Path to Preparedness’ newsletter, Lab Safety Day.
- UK completed a stormwater credit project to obtain an MS4 permit through LFUCG.
- The university passed standards for lightning protection in buildings that being constructed or existing that have major IT connections.
- A storm shelter was installed beneath Feltner 4-H Camp, constructed for 375 people. It is two rooms, with men’s and women’s bathrooms and a small utility area with a sink and storage cabinets. It is climate controlled with electric heat pumps.
- A new management system was developed for hazard events and procedures established for storm shelter areas.
- BEAPs are now required of buildings and shall include evacuation plans, shelter locations, and continuity of operations.
- In December 2014, completed a five year update of the 2009 Stormwater Quality Management Plan.
- University Design and Construction Standards have been established to include sections on safety and signage.
- Alternative sources to main power were identified and secured as three separate substations exist for alternative sources of power.
- A video was produced for the new security systems and ‘Safe Walk’ for severe winter weather. A promotional video was also produced for the university’s safety app.
- A retaining wall was constructed at Robinson Forest through FEMA Public Assistance funding.
Mitigation Strategy

- On a regular basis, communication links and roles are exercised on the severe weather plan and using the emergency call book.
- Resident Advisors and Campus Recreation Staff are trained in fire response and conduct fire drills twice a semester.
- In 2010, through a Legislative Pre-Disaster Mitigation (L-PDM) grant, the university installed an emergency generator at WUKY and a transfer switch at the main transmission site.
- Through the same L-PDM grant UKPD installed/replaced 8 emergency notification towers.
- Communication warning systems were installed including informacast desktop notification, social media boards, an automated website that activates when an alert is sent.
- Design standards were developed for internal notification through speakers (includes amber and clear strobes).
- Awareness building of UK Alert is addressed in every newsletter and a bi-annual test is conducted to increase education and awareness. It is also promoted through UK 101, and new employee orientation.

University of Kentucky
Campus Map
As a framework to revise and update the university’s mitigation strategy, the planning team and steering committee revisited the 2010 plan goals and made changes and updates through a consensus building process. Information needed for this revision was collected during two steering committee meetings, small group work sessions, individual stakeholder meetings, and multiple email correspondences and phone calls.

The following reviewed goals were determined by the university to reflect the current and future desired state of mitigation from the years 2015-2020:

<table>
<thead>
<tr>
<th>Goal</th>
<th>Goal Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GOAL 1</strong></td>
<td>Protect lives and reduce injuries from hazards and threats.</td>
</tr>
<tr>
<td><strong>GOAL 2</strong></td>
<td>Protect university property, organizational information, and research from hazards and threats.</td>
</tr>
<tr>
<td><strong>GOAL 3</strong></td>
<td>Enhance existing, or develop new University policies and practices that are designed to reduce damaging effects from hazards and threats.</td>
</tr>
<tr>
<td><strong>GOAL 4</strong></td>
<td>Build stronger partnerships between government, educational institutions, business, and the community.</td>
</tr>
<tr>
<td><strong>GOAL 5</strong></td>
<td>Build disaster preparedness through mitigation education and outreach.</td>
</tr>
</tbody>
</table>
3.3 Mitigation Actions

Mitigation actions are project ideas put forth by plan stakeholders that the university has committed to pursuing over the next five years. The plan includes action items to be implemented and administered, including the university departments responsible for completion, potential funding sources, an implementation timeframe, and preliminary benefit cost prioritization. The Planning Team developed both a ‘Five-year Mitigation Action Workbook’ in an Excel spreadsheet and will incorporate select action items into a new system for tracking disaster management efforts.

The new method for mitigation plan development and maintenance will be conducted in recently adopted disaster management system called CHAMPS, the Community Hazard Assessment and Mitigation Planning System. The statewide system improves communication, coordination, and tracking of mitigation efforts. In CHAMPS, communities may build resiliency through use of the following five modules:

- **Apply for and manage PROJECTS**
  This module provides a guided process to apply, submit, and manage funded projects in collaboration with multiple contributors.

- **Build a COMMUNITY PROFILE**
  This module provides a snapshot of your community’s assets and events.

- **Identify FUNDING**
  This module provides information on funding opportunities and disaster declaration status.

- **Develop PLANS**
  This module provides a guided process to develop, review, maintain, and update customized policy documents.

- **Conduct ASSESSMENTS**
  This module provides a guided process to create and conduct standardized assessments for comparing community capabilities.

While the following mitigation action plan is laid out traditionally in this plan documents, a new dimension is introduced to the action plan. This added dimension allows the UK HMP to become a living document inside CHAMPS, where the XX action items set forth below are continuously tracked for progress and are managed at multiple levels (local, regional, state).

UK can begin considering the utilization of CHAMPS for the purpose of implementing particular action items in the UK HMP. First, is to think about which action items can be completed in the system. To provide this context, the action plan shown below suggests modules that may apply to certain action items. For additional explanation on how these strategies will be applied, see the Plan Maintenance section of this plan document.
The updated five year action plan addressed each of the thirteen identified hazards. For action items that are all-encompassing, an ‘all-hazards’ category was added. To the right is a count of the actions/projects for the hazard categories that were examined in the risk assessment.

A table of 33 mitigation action items are listed below in the Five-Year Action Plan, which was influenced by the results of the risk assessment. Each action item contains information on the preliminary benefit-cost for prioritization, the timeframe planned for completion, applicable hazard categories addressed, the description, responsible agencies, funding considerations, and how to use CHAMPS to accomplish said action item.

Below demonstrates a sample row format of one action item:

<table>
<thead>
<tr>
<th>Action</th>
<th>Benefit/Cost</th>
<th>Timeframe</th>
<th>Hazards Addressed</th>
<th>Description</th>
<th>Offices Responsible</th>
<th>Funding Consideration</th>
<th>CHAMPS Module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2.1</td>
<td>Medium</td>
<td>Ongoing</td>
<td>Severe Storm, Tornado</td>
<td>Evaluate storm protection rooms in existing buildings.</td>
<td>Capital Planning Safety &amp; Compliance</td>
<td>External</td>
<td>Build assessment</td>
</tr>
</tbody>
</table>

Following is an explanation of each column within the five-year action plan:

**Action**
Each action item is numbered based on the corresponding goal.

**B/C**
Color-coded to demonstrate priority based on the benefit-cost results for each action item (see Appendix XX for an explanation of benefit-cost prioritization)

<table>
<thead>
<tr>
<th>B/C</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Very High</td>
<td></td>
</tr>
</tbody>
</table>

**Timeframe**
Goals for completion are broken down as follows:
- Annually – To be conducted each year
- Monthly – To be conducted each month
- X years to X years – Reads as is
- As Needed – To be conducted when necessary
### Mitigation Strategy

#### 3.2 Mitigation Actions

<table>
<thead>
<tr>
<th>Hazards Addressed</th>
<th>Lists the hazard type.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Description of the action or mitigation project.</td>
</tr>
<tr>
<td>Responsible Agency</td>
<td>University departments and other outside organizations responsible for leading, participating, and working to complete this action item.</td>
</tr>
<tr>
<td>Funding Consideration</td>
<td>Many of the projects are grant dependent and as a result will rely on the grant process, approvals and resulting timeline. Many of the projects can be integrated into job descriptions or standard operating procedures.</td>
</tr>
<tr>
<td></td>
<td>External</td>
</tr>
<tr>
<td></td>
<td>Internal</td>
</tr>
<tr>
<td>CHAMPS Module(s)</td>
<td>A new element to the action plan. If applicable, this box will show which CHAMPS modules may serve as a resource to accomplishing that particular action item. The modules are as follows:</td>
</tr>
<tr>
<td>Community Profile</td>
<td>Store community assets and record hazard events.</td>
</tr>
<tr>
<td>Assessments</td>
<td>Conduct assessments through a guided process.</td>
</tr>
<tr>
<td>Plans</td>
<td>Develop plans through a guided process.</td>
</tr>
<tr>
<td>Funding</td>
<td>Access information on funding opportunities.</td>
</tr>
<tr>
<td>Projects</td>
<td>Apply for and manage grants and projects.</td>
</tr>
</tbody>
</table>

To supplement the following Five-Year Action Plan, FEMA’s “Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards” contains other mitigation project ideas for each of the examined hazards. These ideas could be considered upon the progression of UK’s Mitigation Program.
## Mitigation Strategy

### Protect lives and minimize injuries from hazard events.

<table>
<thead>
<tr>
<th>Action</th>
<th>Benefit-Cost</th>
<th>Timeframe</th>
<th>Hazards Addressed</th>
<th>Description</th>
<th>Offices Responsible</th>
<th>Funding</th>
<th>CHAMPS Module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Medium</td>
<td>1-2 years</td>
<td>Flood</td>
<td>Construct retention and channel modification projects (Alumni Drive).</td>
<td>Facilities Management</td>
<td>Grants Internal External</td>
<td>Projects Manage Projects</td>
</tr>
<tr>
<td>1.2</td>
<td>High</td>
<td>3-5 years</td>
<td>All-hazards</td>
<td>Install Generators at identified university facilities.</td>
<td>CMP Physical Plant Division</td>
<td>Internal External</td>
<td>Projects Apply for Funds</td>
</tr>
<tr>
<td>1.3</td>
<td>Very High</td>
<td>As Needed</td>
<td>Forest Fire</td>
<td>Conduct fuel break restoration (4-H camps)</td>
<td>College of Agriculture</td>
<td>Internal</td>
<td>-</td>
</tr>
<tr>
<td>1.4</td>
<td>Very High</td>
<td>As Needed</td>
<td>Severe Storm Tornado</td>
<td>Identify NWS approved shelters in new and existing buildings.</td>
<td>CMP EHS</td>
<td>Internal</td>
<td>Projects Apply for funds</td>
</tr>
<tr>
<td>1.5</td>
<td>High</td>
<td>3-5 years</td>
<td>Severe Storm Tornado</td>
<td>Build storm shelters for 4-H camps.</td>
<td>College of Agriculture</td>
<td>External</td>
<td>Projects Apply for funds</td>
</tr>
<tr>
<td>1.6</td>
<td>High</td>
<td>As Needed</td>
<td>All Hazards</td>
<td>Identify and procure additional warning communication systems (digital media boards, network pop-ups, voice-over IP, etc.)</td>
<td>MP Div. of Student Affairs Housing IT</td>
<td>Internal External</td>
<td>Projects Apply for funds</td>
</tr>
<tr>
<td>1.7</td>
<td>High</td>
<td>As Needed</td>
<td>Severe Storm Tornado</td>
<td>Identify areas and pursue safe room construction.</td>
<td>CMP College of Agriculture</td>
<td>Internal External</td>
<td>Projects Apply for funds</td>
</tr>
</tbody>
</table>
### Mitigation Strategy

#### 2 Protect university property, organizational information, and research from hazards and threats.

<table>
<thead>
<tr>
<th>Action</th>
<th>Benefit-Cost</th>
<th>Timeframe</th>
<th>Hazards Addressed</th>
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<th>Offices Responsible</th>
<th>Funding</th>
<th>CHAMPS Module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>High</td>
<td>As Needed</td>
<td>Severe Storm</td>
<td>Install Lightning Protection for campus buildings.</td>
<td>Facilities Management</td>
<td>Internal</td>
<td><img src="#" alt="Projects" /> Apply for Funds</td>
</tr>
<tr>
<td>2.2</td>
<td>Medium</td>
<td>3-5 years</td>
<td>Hailstorm</td>
<td>Re-do utility lines at all 4-H camps throughout the state so that they are underground.</td>
<td>College of Agriculture</td>
<td>Internal External</td>
<td><img src="#" alt="Projects" /> Apply for Funds</td>
</tr>
<tr>
<td>2.3</td>
<td>Medium</td>
<td>3-5 years</td>
<td>All Hazards</td>
<td>Identify location and secure funding for new police department.</td>
<td>CMP</td>
<td>Internal External</td>
<td><img src="#" alt="Projects" /> Apply for funds</td>
</tr>
<tr>
<td>2.4</td>
<td>Medium</td>
<td>3-5 years</td>
<td>Flood</td>
<td>Construct underground retention for Press Avenue watershed.</td>
<td>Facilities Management</td>
<td>Internal External</td>
<td><img src="#" alt="Projects" /> Apply for funds</td>
</tr>
<tr>
<td>2.5</td>
<td>Medium</td>
<td>On-going</td>
<td>Flood</td>
<td>Develop an Emergency Flood Protection Management system for UK’s Good Samaritan Hospital.</td>
<td>Facilities Management</td>
<td>Unidentified</td>
<td><img src="#" alt="Plans" /> Develop procedures</td>
</tr>
</tbody>
</table>

3.2 Mitigation Actions
### Mitigation Strategy

#### 3.2 Mitigation Actions

<table>
<thead>
<tr>
<th>Action</th>
<th>Benefit-Cost</th>
<th>Timeframe</th>
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<th>Offices Responsible</th>
<th>Funding</th>
<th>CHAMPS Module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Medium</td>
<td>As Needed</td>
<td>All Hazards</td>
<td>Establish procedures and guidance for Student Affairs to manage hazardous events that might affect students and campus community.</td>
<td>CMP Div. of Student Affairs UKPD Operations</td>
<td>Internal</td>
<td>![Plans] Develop procedures</td>
</tr>
<tr>
<td>3.2</td>
<td>Medium</td>
<td>Annually</td>
<td>All Hazards</td>
<td>Schedule visit by arborist to all 4-H Camps and other Agriculture facilities in order to assess trees and provide suggestions for regular branch trimming and tree removal.</td>
<td>CMP Physical Plant Division</td>
<td>Internal</td>
<td>-</td>
</tr>
<tr>
<td>3.3</td>
<td>Medium</td>
<td>1-2 years</td>
<td>All Hazards</td>
<td>Conduct tree inventory on main campus.</td>
<td>Physical Plant Division</td>
<td>Internal</td>
<td>-</td>
</tr>
<tr>
<td>3.4</td>
<td>Very High</td>
<td>As Needed</td>
<td>All Hazards</td>
<td>Complete development of Building Emergency Action Plans for all university buildings.</td>
<td>CMP Institution-wide</td>
<td>Departmental</td>
<td>![Plans] Develop procedures</td>
</tr>
<tr>
<td>3.5</td>
<td>Medium</td>
<td>1-2 years</td>
<td>All Hazards</td>
<td>Require incorporation of emergency instructions into campus policies.</td>
<td>CMP Housing Provost Real Estate Services Fire Marshal</td>
<td>Internal</td>
<td>![Plans] Develop procedures</td>
</tr>
<tr>
<td>3.6</td>
<td>Very High</td>
<td>As Needed</td>
<td>All Hazards</td>
<td>Enforce current and update University Design and Construction Standards for new university-owned development.</td>
<td>CPMD Facilities Management</td>
<td>Internal External</td>
<td>-</td>
</tr>
</tbody>
</table>

Enhance existing, or develop new university policies and practices that are designed to reduce damaging effects from hazards and threats.
### 3 Mitigation Actions

<table>
<thead>
<tr>
<th>Action</th>
<th>Benefit-Cost</th>
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<th>CHAMPS Module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.7</td>
<td>Medium</td>
<td>As Needed</td>
<td>All Hazards</td>
<td>Assess and recommend back-up power generation needs campus-wide.</td>
<td>Facilities Management</td>
<td>External</td>
<td>-</td>
</tr>
<tr>
<td>3.8</td>
<td>Medium</td>
<td>Annually</td>
<td>All Hazards</td>
<td>Assess the structural condition of all buildings owned by the University.</td>
<td>Facilities Management</td>
<td>Internal</td>
<td>-</td>
</tr>
<tr>
<td>3.9</td>
<td>Very High</td>
<td>Annually</td>
<td>All Hazards</td>
<td>Maintain and exercise communication links and roles.</td>
<td>Institution-wide</td>
<td>Internal</td>
<td>-</td>
</tr>
<tr>
<td>3.10</td>
<td>Very High</td>
<td>Bi-annually</td>
<td>All Hazards</td>
<td>Train Campus Recreation staff and resident advisors (RA’s) to respond to campus emergency hazards.</td>
<td>Campus Recreation Residence Life</td>
<td>Internal</td>
<td>-</td>
</tr>
<tr>
<td>3.11</td>
<td>Medium</td>
<td>As Needed</td>
<td>All Hazards</td>
<td>Provide support for Business Continuity Plan (BCP) development campus wide.</td>
<td>CMP</td>
<td>Internal</td>
<td>-</td>
</tr>
<tr>
<td>3.12</td>
<td>Medium</td>
<td>Bi-annually</td>
<td>All Hazards</td>
<td>Establish Hazard Mitigation Workgroup to monitor five-year action plan and review disaster management measures.</td>
<td>CMP</td>
<td>Internal</td>
<td>-</td>
</tr>
<tr>
<td>3.13</td>
<td>Medium</td>
<td>As Needed</td>
<td>All Hazards</td>
<td>Record disaster management information in the statewide Community Hazard Assessment and Mitigation Planning System (CHAMPS).</td>
<td>CMP</td>
<td>Internal</td>
<td>-</td>
</tr>
<tr>
<td>3.14</td>
<td>Medium</td>
<td>2-3 years</td>
<td>Flood</td>
<td>Conduct a storm water management study - Review Sanitary sewer system.</td>
<td>Facilities Management EHS</td>
<td>Internal</td>
<td>-</td>
</tr>
</tbody>
</table>

3.2 Mitigation Actions

---

Enhance existing, or develop new university policies and practices that are designed to reduce damaging effects from hazards and threats.