University of Louisville
Emergency Operations Plan
Annex for a
Urban Flash Flood Warning

Introduction and Assumptions

A Flash Flood Warning is issued for flooding that normally occurs within six hours of heavy or intense rainfall. This results in small creeks and streams quickly rising out of their banks. It also results in urban flooding when storm water exceeds the sewer system’s capacity. Dangerous flooding in low-lying flood prone areas, especially street and underpasses and in areas near creeks and streams develops very quickly and is a significant threat to life and/or property. Prior to a Flash Flood Warning, typically a Urban/Small Stream Flood Advisory is issued or a Flash Flood Watch.

Unlike our Severe Thunderstorms or Tornado warnings, flood warnings and watches are normally issued for extended periods of time. These warnings are normally issued for 2 to 4 hours, or longer. Even though rainfall may have subsided, flooding may persist for some time. The longer warning time allows for rainwaters to recede while keeping the public aware that flooding is still occurring and there is still a threat to life and/or property in the warned area.

Every situation is different. While this annex provides basic information and guidelines, the actual information and actions taken during an event may vary from those included in this document. University leadership should use this information as a basis for decisions that may be required to be made during a Flash Flood Warning.

Units with Assigned Responsibilities

Vice President Business Affairs
Building Emergency Coordinators
Communications and Marketing
Environmental Health and Safety
Physical Plant
University Police
Purchasing
Parking

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National Weather Service

The National Weather Service (NWS) issues the flood watches and warnings when they expect or are experiencing precipitation that may or is exceeding capacity of streams and sewers from carrying it to rivers. There are several types of watches and warnings that may be issued to warn the public:

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>URBAN/SMALL STREAM FLOOD ADVISORY</td>
<td>Alerts the public to flooding which is generally only an inconvenience (not life-threatening) to those living in the affected area. Issued when heavy rain will cause flooding of streets and low-lying places in urban areas. Also used if small rural or urban streams are expected to reach or exceed banks. Some damage to homes or roads could occur.</td>
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<tr>
<td>FLASH FLOOD WATCH</td>
<td>Indicates that flash flooding is a possibility in or close to the watch area. Those in the affected area are urged to be ready to take action if a flash flood warning is issued or flooding is observed. These watches are issued for flooding that is expected to occur within 6 hours after the heavy rains have ended.</td>
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<tr>
<td>FLASH FLOOD WARNING</td>
<td>A flood warning issued for life/property threatening flooding that will occur within 6 hours. It could be issued for rural or urban areas as well as for areas along the major rivers. Very heavy rain in a short period of time can lead to flash flooding, depending on local terrain, ground cover, degree of urbanization, amount of man-made changes to the natural river banks, and initial ground or river condition.</td>
</tr>
<tr>
<td>FLASH FLOOD STATEMENT</td>
<td>Flood Statement is issued to give the public follow-up information on current urban/small stream flooding, or general widespread flooding. A Flash Flood Statement is issued to inform the public about current flash flood conditions.</td>
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All four types of watches and warnings are issued by the NEWS and are broadcast over the NOAA Weather Radios and distributed by Law Information Network of Kentucky (LINK) (to all police agencies including U of L Police) and local media.

Emergency Notification

In order to communicate widely throughout the campus community, the UofL Alert system is typically used. Some Flash Flood warnings may pose no risk to any campus, while others may pose a significant risk. In the case of a Flash Flooding, the judgment of Alert Administrators must initially be relied upon to determine if a UofL Alert is issued. It is ultimately the responsibility of high level emergency management leadership (Vice President for Business Affairs, Police Chief or Assistant Police Chief or the Emergency Manager) to make sure a UofL Alert is issued if conditions warrant.
University Police, Office of Communications and Marketing or the Department of Environmental Health and Safety will typically issue the emergency notification if conditions warrant. Typically, the emergency message should be

“Flash Flood Warning, stay inside until further notice. If building is flooding move to higher floors. Do not walk through standing water.”

NOTE: Closing the campus would be a separate communications.

Information Distribution

After the initial notification has taken place, the campus community will still need additional information. This information is important, and may require additional activations of the UofL Alert System.

If further announcements are required and the situation is not life threatening, the university will use Louisville Today as its mechanism to communicate pertinent information. The Office of Communications and Marketing is responsible for issuing and updating information. Examples of emails directing the university community to information in UofL Today are listed below:

Initial Notification Email

There is a Flash Flood Warning for Louisville and both the HSC and Belknap Campus are experiencing flooding. Classes are cancelled for the day and evening. Please stay inside your building and do not move outside until notified that it is safe. If you building is being flooded, move to higher floors and notify Public Safety at 852-6111.

Update Email

The flooding around HSC and Belknap Campuses continues to pose a risk to people even though the rain has stopped. Please continue to remain in your building until the water level recedes and you are notified that it is safe to leave the building.

A story on the flood, including a list of buildings involved and safety tips, is on UofL Today, http://louisville.edu/uofltoday.

Expiration Email

The Flash Flood Warning has expired and the water on HSC and Belknap Campuses has receded. You may leave your building, but remember to avoid standing water and if crossing streets avoid and manholes with missing covers.
A story on the flood, including a list of buildings involved and safety tips, is on UofL Today, http://louisville.edu/uofltoday.

Building/Unit/Department Actions

Building Emergency Coordinators (BEC)

BECs should notify the building occupants that they should remain inside until the notification is issued to allow them to leave campus. They should also instruct people on the lowest floor and/or basement that they should move to higher floors if water begins to enter the building. BECs should notify 911 or the University Police of any emergencies in the building (i.e., injured person, fire). Building conditions (i.e., flooding, power outage) should be reported to the Physical Plant Work Control Offices (852-6241 for Belknap and 852-5695 for HSC).

BECs should monitor the situation closely and if advised to, they should notify building occupants that they may leave the building and to take appropriate precautions.

University Police

University Police would retain its primary responsibility to respond to campus emergencies. As conditions warrant, University Police would assist in blocking streets and roadways to prevent vehicles from entering areas that are flooded. This should only be attempted if not putting the Officer at risk.

Non-Sworn Security Officers may be used to man traffic control points in support of any traffic control plan to prevent vehicle from entering flooded areas and in transporting barricades and other traffic control equipment from storage to areas where traffic is being limited. This should only be attempted if not putting the Officer at risk.

University Parking

University Parking would support the traffic control operations by both transporting barricades and other traffic control equipment and manning traffic control points to prevent vehicles from entering the flood area. This should only be attempted if not putting the Officer at risk. During an emergency, Parking Officers assigned to traffic control points would report directly to the Police Commander.

Physical Plant

Physical Plant staff would respond to building emergencies only if able to do so safely. Physical Plant (PP) staff should not risk walking or driving through standing water. If already in a building prone to flooding, PP staff should take appropriate actions to prevent water from entering the building. This should only be attempted if not putting the staff member at risk.
PP staff would also replace any manhole covers that were dislodged during the flood. If manhole covers were found to be missing, they would notify MSD to get replacements.

Once the Warning has expired and water has receded to allow moving through campus safely, PP staff should assess buildings in the flood area and report damage to the appropriate work control center.

**Department of Environmental Health and Safety**

The Department of Environmental Health and Safety (DEHS) would not have any roles during the actual flood, but after the water has receded DEHS would have several tasks. DEHS would assist PP in determining the level of damage caused to buildings by the flood. Any damage involving building materials suspected to be asbestos would be evaluated by DEHS. Additionally, DEHS would assess the condition of the Chemistry Department Stockroom. This area is prone to flooding and does pose unique risks that require DEHS assistance in the efforts to return to normal. The same holds true for any laboratory space or other area that is damaged if it involves chemicals, radioactive materials or biological agents.

**Purchasing**

Purchasing would not have any roles during the actual flood, but after the water receded, they would support all operations by focusing on logistical issues. Purchasing would procure emergency supplies and equipment during the aftermath of the flood. Purchasing would also assist in the procurement of services required to return the university to normal.