

Threat Assessment and Planned Response 2 – Floods

Threat Assessment: Flooding in the campus area will typically be the result of naturally occurring events like torrential rains which worsen during a high tide. Flooding can be a result due to building system failure. With building system failures the main goal is to isolate the problem. In naturally occurring events water damage most likely occurs in basements and ground floor areas of the campus buildings and housing for a short period of time. Some roof leaks may also occur due to the potential clogging of roof drains, gutters and downspouts from the debris from the many trees in the area which are part of the Arboretum. However, flooding of parking areas, walkways and public streets may isolate areas of the campus for longer periods of time. Usually there will be advance warnings of an impending storm and tidal information. Close coordination with local authorities and constant vigilance of areas known to flood will be necessary to minimize danger to persons, damage to property or loss of equipment. The greatest hazards during the storm will be electrical grounding of equipment and falling power lines.

Planned Response: The following summarizes the major operations in response to flooding.

Phase I Before- *Floods Due to Natural Occurrences*

Since advance warning of flooding conditions can usually be anticipated, the (ERT) Emergency Response Team will be activated if conditions warrant. In the mean time, preparations will be made to ensure all catch basins, drains, gutters and downspouts are cleared. Facilities emergency response personnel will be notified of a plan of action once information is gathered from ERT. Facilities personnel are put on-call for potential needs. Facilities personnel will clear gutters, drains and downspouts in campus buildings. Facilities personnel will clear roofs of debris and make any necessary repairs that are needed. Facilities will ensure portable equipment is operational and in specified locations. Facilities personnel will make sure all equipment is operational and in specified locations. Facilities personnel will test equipment at each building relating to water removal. Facilities personnel will install portable pumps to high priority areas in preparation of the flood. ERT members will send out necessary information as information is gathered via E2 campus, email notifications and signs posted on main entrances. Areas in young could be available for Facilities personnel needing places to stay during overnight storms

Incident Notification

The office of Safety and Security should be notified immediately upon discovery of a flood by dialing 617-745-3911

Once information is obtained, the "On-Call" Safety and Security Officer shall notify the Director of Facilities or Facilities Manager. The Emergency Response Team shall be activated.

Note: If laboratory buildings are affected by the flood, the existence, location, and quantity of any water reactive chemicals need to be determined.

Phase II During - Naturally Occurring Floods

Floods due to Natural occurrences shall be handled as follows:

- The main focus as the storm approaches will be to assist moving water away from buildings.
- Facilities Management shall check drainage around affected buildings to ensure it is functioning properly.
- Supplies such as sand bags, flash lights, submersible pumps, hoses, and emergency generators shall be obtained by representatives of the Facilities department to prevent the flow of water into buildings.
- Flood response personnel as designated by the Facilities department shall obtain personal protective equipment.
- If flooding occurs and water begins accumulating within the building, Facilities shall conduct a hazard assessment of flooded areas prior to entry by response personnel. The Facilities department in conjunction with the office of Safety and Security shall assess the following hazards: health hazards (e.g., contaminated water either hazardous or bio-hazardous); and physical hazards (e.g., building design, existence of submerged office or lab furniture, energized water, rushing water).
- If safe to do so, Facilities Management shall de-energize any electrical equipment and outlets in the affected areas. If flooding occurs, maintain all safe and reasonable efforts to protect the building.
- The building manager or designated personnel shall move any equipment or supplies possible and relocate to a higher floor in the building.
- All personnel not involved in flood response efforts shall be evacuated by the office of Safety and Security.
- The office of Safety and Security shall restrict access to the affected areas by appropriate means.

Phase II During - Floods Due to Building Systems

Floods due to building systems shall be handled as follows:

- Facilities Management shall determine the cause of the flood.
- If water is accumulating within the building, Facilities will conduct a hazard assessment of flooded areas prior to entry by response personnel.
- Facilities Management in conjunction with the office of Safety and Security shall assess the following hazards: health hazards (e.g., contaminated water either hazardous or bio-

hazardous); and physical hazards (e.g., building design, existence of submerged office or lab furniture, energized water, rushing water).

- If necessary and safe to do so, Facilities Operations shall de-energize any electrical equipment and outlets in the affected areas.
- Facilities Management shall take measures to stop the flow of water through the building (e.g., shut off valves controlling the flow of water).
- The building manager and other building personnel shall move any equipment or supplies possible and relocate to an unaffected area of the building.
- All personnel not involved in flood response shall be evacuated by the office of Safety and Security.
- The office of Safety and Security shall restrict access to the affected areas by appropriate means.

Phase III After- Floods Due to Natural Occurrences or Building System Failure

Recovery for floods due to natural occurrences or building system failures shall be handled as follows:

- Facilities Management shall determine if any building systems (e.g., fire alarm, fire suppression), building equipment (e.g., elevator, heating, ventilating and air conditioning equipment), or building materials have been affected and the extent of the damage.
- If the water is not considered hazardous or bio-hazardous, Facilities Operations shall initiate water removal activities.
- Areas affected will be remediated further with air movers and dehumidifiers to remove moisture and prevent mold from forming.
- Facilities Management shall immediately contact remediation professionals if damaged building materials need to be removed or dried and disinfected or when the water is hazardous or bio-hazardous.
- Facilities Management shall coordinate with the remediation contractor to determine the proper remediation procedures and ensure these procedures are followed;
- Facilities Management shall contact, coordinate, and manage outside contractors for installation of new building materials.
- Building administrators will assist with work orders input and other needs.
- The affected areas shall be evaluated for safety hazards (e.g., open walls, building materials, tools left out in the area) or any health concerns (e.g., mold/fungal growth due to the flood or contaminated materials). Once those concerns have been addressed and resolved, Facilities Operations and the office of Safety and Security shall declare areas safe for re-occupancy.
- Facilities and security will work closely communicating with affected areas and departments
- Plans for correction will be made. Notification of delays will proceed if needed

Re-Occupancy

Facilities Management shall be responsible for assessing areas affected by a flood for re-occupancy. The affected areas shall be declared ready for re-occupancy when the construction work is complete or near complete and no longer poses a hazard to the occupants. The area shall be assessed to ensure that all wall and floor openings are closed up, tools and equipment have been removed from the area, and building systems (e.g., ventilation, fire alarm, fire suppression) have been restored.

EQUIPMENT AVAILABLE

- (3) PEDESTAL FANS
- (5) WET/DRY VACS- VARIOUS SIZES
- (3) AIR MOVERS
- (2) CARPET EXTRACTORS
 - (1) HOT WATER
 - (1) CARPET EXTRACTOR
- (1) STEAM CLEANER
- (6) ELECTRIC SUMP PUMPS W/HOSES
- (3) GAS SUMP PUMPS W/HOSES
- SMALL GENERATOR
- WATER ABSORBANT PADS
- RAIN GEAR/BOOTS
- (2) LEAK DIVERTERS
- (3) TRUCKS (1) CARGO VAN

EQUIPMENT NEEDED

- AIR MOVERS
- DEHUMIDIFIERS
- LARGER GENERATOR
- DAMP RID BAGS
- LEAK DIVERTERS
- PLASTIC ROLLS

LOCATONS OF HIGH FLOOD AREAS

- LAHUE FIELD SIDE COACHES ENTRANCE
- SPANGE BASEMENT
- GARDNER HALL DATACENTER
- MUNRO BASEMENT
- NEASE LIBRARY-IRC
- WATERSTON PARKING LOT
- SHRADER HALL STREET SIDE ENTRANCE BY ANIMAL LAB
- MEMORIAL ENTRY TO UNDERGROUND

LOCATIONS OF EQUIPMENT

- MUNRO BASEMENT- EQUIPMENT ROOM
 - AIR MOVERS
 - CARPET EXTRACTORS
 - WET/DRY VACS
- FACILITIES GARAGE
 - WET/DRY VACS
 - WATER ABSORBANT PADS
 - LEAK DIVERTERS
 - 2ND FLOOR PLUMBING SUPPLIES
- BLACK TRAILER
 - GAS PUMPS
 - ELECTRIC PUMPS
 - HOSES
 - BACK FLOW PREVENTERS
- SPANGE BASEMENT
 - GENERATOR
- BOILER ROOM
 - ELECTRIC PUMPS
 - HOSES
 - RAIN GEAR

VENDOR/SUPPLIER CONTACT LIST

FLOOD

HVAC

Richard McDonald
All American Mechanical
617-828-9366

PLUMBING

Matt Bache
Bache Plumbing
781-413-4667

DRAINAGE

New England Drain
617-328-7750

ELECTRICAL

LPC Electric
Pat Shores
617-797-3806

Ron Wright

EQUIPMENT

BAYSTATE RENTAL
153 Brook Road
Quincy, MA 02169
(617) 479-5095

TRANSFORMERS-HIGH POWER

Island Lighting & Power Systems
Jarrod O'Neil
Jarrod@lpsystems.com
508-384-3882

RESTORATION SERVICES

SERVPRO of Brockton
86 Finnell Drive, Unit 2
Weymouth, MA 02188
mattosf@servproofmetrori.com
Tel: (508) 588-2154

EXCAVATION

Sean Farrell Excavation
617-293-7660

Appendix A
Flood Watch Locations



