

FLOOD EMERGENCY OPERATIONS PLAN – APPENDIX E

1.0 Inspection and Maintenance Plans

- a. Exterior envelope of the structure, such as wall and foundation systems, to identify possible structural and waterproofing deficiencies such as cracks, water staining, and penetrations. [UPENN]
- b. All penetrations to the exterior of the structure. [UPENN]
- c. Slabs and wall/slab joints, including structural and drainage deficiencies. [UPENN]
- d. Flood shields, gates, panels, doors, glazing, barriers, and other components designed to provide dry floodproofing protection, including seals, gaskets, fasteners, and mounting hardware and tools. [CANNON]
 - The flood barrier assembly includes two removable metal panels supported by metal channels at each end. One channel is attached to a steel tube and the other is embedded in a solid concrete curb.
 - There are no flood shields, gates, panels, doors, or glazing associated with the assembly.
 - The University's maintenance department will perform visual inspection of all flood barrier components, practice of flood barrier installation, and review of the deployment plan with all responsible parties. Copies of this inspection plan will be posted with the stored panels in the Ott Center's main storage room and office.
 - Inspect the assembly:
 - Verify channels are securely fastened to column and curb.
 - Ensure compression bolts are intact, removable, and not worn or stripped.
 - Check neoprene gaskets in channels for cracks or deterioration.
 - Look for punctures or warping in panels; ensure they remain intact.
 - Clear debris from the floor and channels.
 - Confirm panels are stored in the Ott Center storage room.
 - Store panels per manufacturer's instructions; stack flat on a clean, dry floor.
 - Keep bolts and hardware in marked containers near the panels.
 - Store panel drawings and deployment plan with the panels.
 - Check all panels and supports for damage after a flood event. After a flooding event, verify all surfaces including the inside cavities of the panel is clean and free of debris.
- e. Sump pumps (or self-priming pumps) and interior drain system. [AHA]
 - The motor housing of pump is completely sealed and requires no service. Disassembly of the motor housing or alteration of the power cord voids all warranty.
 - Periodically unplug pump to inspect the inlet and remove any debris. Make sure your hands are dry and that you are not standing in water.
 - If pump clogs, unplug the pump from the power supply. Attach one end of a garden hose to a spigot and the other end to pump discharge. Turn on the spigot to run water through pump to clean it out.
 - If the pump becomes clogged, remove the screen and clean out the area. Debris in the intake should be routinely removed from the bottom of the pump to prevent damage to the pump, which will void the warranty.

- Interior and exterior drain piping.
- Inspect interior piping for signs of leakage on a yearly basis. Repair and Replace as needed.
- Inspect exterior discharge piping for obstructions on a yearly basis. Remove obstructions if present.

f. Emergency power systems. [AHA]

- Emergency power systems should be tested on a yearly basis and maintained in accordance with manufacturers recommendations.
- UPenn to provide yearly maintenance and testing procedure for generator and automatic transfer switch.

g. Testing of emergency generators, sump pumps, and other drainage measures. [AHA]

- Emergency Generator
 - With generator running, confirm outlet serving sump pump has 10v.
 - Confirm on a yearly basis.
- Sump pump
 - On a yearly basis remove sump pump and move to exterior of building.
 - Test sump using 5' gallon bucket of water.
- Confirm sump pump operates
- Confirm sump shuts off when water level drops to an 1/8" in bucket.
 - Reinstall or replace after testing is complete.

h. Backflow (non-return) valves or shutoff valves. [AHA]

- Remove sump pump discharge check valve and visually inspect for obstructions on a yearly basis.
- Reinstall or replace as needed after visual inspection.

i. Location of all flood shields, gates, panels, and other components including all hardware along with any materials or tools needed to seal the dry floodproofed area. [CANNON]

- All floodproofing components for the noted area are stored in the Ott Center's main storage room, room #1055.

j. Contact information for the manufacturer of the shields and other components to determine the availability of replacement gaskets, seals, and other parts and to ask questions. [CANNON]

National Flood Protection, LLC
A Division of Floodproofing.com
19 Mantua Road
Mt. Royal, NJ 08061
Office: 860-222-3055
www.nationalfloodprotection.us

k. Cadence of inspection and maintenance plan. [CANNON]

- Beginning in January 2026, inspections will be conducted annually