Getting back into your home safely

Building that has been flooded can be a dangerous place. This brochure will help you understand and protect you and your family from the hazards of flooded buildings. It will also provide you information about cleaning up and making your home safe to live in again.

Watch out for these dangers:

- Electrical hazards - Do not enter a flooded or wet building if the power is on. If any electrical circuits have gotten wet, turn off the power at the main breaker or fuse box and leave it off until the electrical wiring or equipment has been inspected and repaired by a licensed electrician and approved by your local building inspector.

- Structural damage - Do not enter a building if the framing or foundation is damaged. Look carefully before you enter. Leave immediately if shifting or unusual noises signal a possible collapse of the building. Contact your local building inspector for a safety inspection.

- Hazardous materials - Dangerous materials found in flooded homes may include pesticides, fuel oil, gasoline, chemicals and other substances that might have been brought in or spilled by flood waters. Damaged buildings may also contain asbestos and lead-based paint, which can cause health problems during cleanup. Practically any building material that is not obviously solid wood, metal, or glass could contain asbestos. Lead-based paint can be found pre-1978 housing and is still used in commercial and industrial buildings.

Clean and dry the right way:

Nonporous materials (materials that don’t soak up water) and furnishings and other surfaces should be thoroughly cleaned, disinfected and allowed to dry completely. First, scrub all surfaces with detergent and water and rinse well. (Scrubbing removes mold, mold spores, and the dirt that mold and mildew can grow on.) Then, disinfect everything. Liquid chlorine bleach should be used to disinfect and kill any remaining mold and mildew. Follow the instructions on the label and let the bleach solution remain on the surface for at least 15 minutes before rinsing and drying. After cleaning and disinfecting, you must completely dry each item or mold and mildew will return. To speed drying, keep fresh air circulating.

In conclusion, the most important thing you can do to protect yourself is to use common sense and be aware of safety and health risks. Do not enter a building that is clearly unsafe. If you have questions or need assistance, contact your local health department or building inspections office.

Other useful information for flood cleanup and health and safety issues can be found at the following web sites:

- NIOSH: www.cdc.gov/niosh/docs/94-123
- American Red Cross: http://redcross.org
- EPA: www.epa.gov/mold/moldguide.html
- N.C. Department of Health and Human Services Division of Public Health - Occupational and Environmental Epidemiology (919) 707-5900 | www.epi.state.nc.us/epi/oee
- N.C. Department of Crime Control and Public Safety Division of Emergency Management (919) 733-3867 | www.ncem.org

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Stay safe while you work:

- Wear a hard hat and safety goggles when there is a danger of falling materials.
- Wear leather work gloves to protect your hands from cuts, or rubber gloves to prevent exposure to hazardous chemicals.
- Wear rubber boots or hard-soled boots, preferably with steel toes, when working and lifting.
- Wear a facemask. When you enter a flooded building, wear a dust mask or respirator to reduce your exposure to mold. At hardware or home supply stores, look for a mask with "NIOSH" approval and an N-95 rating. Both of these marks should be on the respirator and the container. Read and follow the instructions on the mask package. Remember that dust masks will only provide protection against solid materials such as dusts and liquids. Dust masks provide no protection against gases and vapors. Dust masks are disposable and should be thrown away at the end of the day.

Stay alert. Accidents happen when people are tired. Take breaks you need, and drink plenty of fluids (bottled water, juice, soft drinks) to avoid dehydration. Never drink alcohol when you are working in a flooded building.

Stay alert for misplaced animals, snakes and biting or stinging insects.

Protect yourself from bacteria, viruses and other microorganisms. To keep from getting sick, wear rubber gloves while working; do not eat, drink, or smoke in the house; wash your hands frequently with soap and rinse with clean water.

Wet down mold. Before you touch, move, or clean moldy or mildewed materials, wet the mold with a soapy solution from a spray bottle to prevent the mold from getting into the air. Do this even if the material is already wet because the mold probably won’t be wet. Remember that mold can still make you sick even after you have sprayed disinfectants ("mold/mildew killer") to kill it.

Be careful lifting. To avoid back injuries when lifting or handling heavy and bulky loads like furniture or carpet, avoid lifting loads of more than 50 pounds per person.

Get help. Before you disturb or remove materials that may be hazardous, take precautions to prevent exposure. If there is a noticeable chemical odor and/or a spilled container of a hazardous material in the building, ask your local health department or fire department for help. If there is asbestos or lead paint in the building, call NC Health Hazards Control at (919) 707-5950.

Be prepared. If you get a cut or a puncture wound that is exposed to floodwater or the dirt it leaves behind, see a doctor. Make sure your tetanus immunization is up-to-date before you work on the house. Once immunized, adults should have a routine "booster" every ten years.

Take these steps:

If a flooded building is to be safely reoccupied, it must be completely dry. Dirt and trash left by the flood must be removed from building materials and furnishings. Moldy or mildewed items must be completely cleaned and disinfected or must be thrown away. If not, mold and mildew will return and possibly cause health problems for you and your family in the future.

Before going back to live in your home, take the following steps:

- Get the mess out. Remove all floodwater, dirt, and debris left behind by the floodwater.
- Remove mold and mildew. Any materials or furnishings that soaked up water should be removed from the building. Other moldy or mildewed building materials should be thoroughly cleaned and dried or removed and replaced.
- Check out the floors. Carpet and padding cannot be cleaned well enough to prevent mold and mildew from growing. Throw them away. Take out the flooring and sub-flooring if they cannot be completely cleaned and dried or if they have started to deteriorate. The remaining floor and/or sub-floor must be dried out completely and disinfected. Make sure no moisture is trapped in or on the sub-floor. Sub-flooring made of particleboard or plywood should be removed and replaced because it can’t be completely dried and disinfected. Crawl spaces should also be cleaned out and dried.

Dry out walls. Walls that were wet should be stripped to the studs and the insulation removed. Walls must remain open to allow them to completely dry. Other wall cavities should be inspected for visible mold growth. Any area inside a wall cavity with visible mold growth should be opened, cleaned, decontaminated and dried. The exterior of each building (siding, etc.) will need to be evaluated to see if any or all of the exterior materials should be removed. Plaster, brick and concrete block walls can probably be cleaned, disinfected and completely dried.

Check Heating Ventilation and Air-Conditioning Systems (HVAC). If the HVAC system or air ducts were flooded, use special care. The inside parts of heating and air-conditioning systems that contacted floodwater are hiding places for mold. If mold grows in the system, mold particles may get into the air and make people sick. The interior components (furnace, air-conditioner cooling coils, and fans) will need to be inspected, cleaned and decontaminated by professionals. Air registers (vents) and diffusers should be removed, cleaned, disinfected and reinstalled. Replace lined air ducts and ductboard that got wet. Bare sheet metal ductwork can be taken apart, washed, disinfected, dried, and put back together. Air duct cleaning services are not very effective in cleaning flooded air ducts and are only useful on bare sheet-metal ducts.