TECHNICAL INFORMATION PAPER SERIES: FLOOD INSURANCE

AFTER THE FLOOD: SAFETY TIPS FOR HOMEOWNERS

Cleaning up a flood-ravaged home – one of the first steps toward recovery – can be a difficult and disheartening task. It can also be dangerous.

BEFORE YOU ENTER YOUR HOME

- Before entering the home, check for structural damage.
- Don't go in if there is any chance that the house, or parts of it, may collapse.
- Carefully check to make sure porch roofs and over- hangs still have all their supports.
- If you see damage, a building inspector or contractor should check the house **before you enter**.
- Once you are certain that the house is structurally safe to enter, make sure the electricity is turned off before you enter.
- Enter the house carefully. If the door sticks at the top, it could mean your ceiling is ready to fall. If you force the door open, wait outside the doorway in case debris falls. Check the ceiling for signs of sagging. Wind, rain or deep flooding may wet plaster or wallboard. It is very heavy, and will be dangerous if it falls.
- Upon entering the house, do not use matches, cigarette lighters or any other open flames, since gas may be trapped inside. Use an explosion-proof flashlight or chemical light stick to light your way.
- If you suspect a gas leak or smell gas, or if you hear blowing or hissing, open a window, leave the house and premises **immediately**, and call the gas company from a neighbor's house. Do not re-enter the house.
- Be aware of the dangers of electrical shock and the possibility of injuries caused by hidden sharp objects.
- Look out for animals, especially snakes. Animals lose their homes in floods, too. They may seek shelter in your home. Seek the assistance of an animal control officer to remove unwanted animals.

CONTAMINATION

Flood waters pick up sewage and chemicals from roads, farms and factories. If your home has been flooded, protect your family's health by cleaning up right away. Assume that anything touched by flood water is contaminated. Mud left by flood water can contain chemicals from sources as varied as your garden chemicals, a neighbor's propane tank, or the oven cleaner you stored in the kitchen. Homes with flood damage may have damp areas where molds, mildews and other organisms will grow quickly.

ELECTRICAL AND FIRE SAFETY

- First, double check to be sure that all power is disconnected. Even if the local electrical power is out, make sure the power is disconnected, preferably at the meter.
- Keep the power off until an electrician has inspected your system for safety.
- Unplug appliances and lamps, remove light bulbs and remove the cover plates of wall switches and outlets that got wet.
- If local building inspection officials allow you to disconnect wiring from switches and outlets, do so and throw away the switches and outlets. If your building inspector says that you cannot disconnect the wiring, pull them forward, away from the wall, and leave them connected.
- Stay away from downed power lines and electrical wires, and report these to the proper authorities. Electrocution is another major source of deaths in floods. Electric current passes easily through water.

FOOD AND WATER

- Do not eat any food or medicine that has been exposed to flood waters; they could contain harmful bacteria.
- Discard fruits, vegetables, boxed or bottled food, and medicines that were exposed to flooding; place them in a covered receptacle until final pickup or disposal. Be sure to destroy the contaminated food container so that no one else will eat the food inside.
- Wash cans and jars of food thoroughly with soap and hot water, using a brush, then immerse them in chlorinated water for at least 15 minutes, using three or four drops of laundry bleach to one gallon of water.
- Have your well checked before you begin using the water. Water from wells and cisterns located in the flooded areas may be unsafe and should not be used for drinking, cooking, brushing teeth, dishwashing, or laundry. If you drink unclean water, it could cause severe nausea, vomiting, diarrhea, or more severe illness.
- Until local authorities proclaim your water supply to be safe, boil water for drinking and food preparation vigorously for five minutes before using it.

CLEANING UP

- Don't let flood water sit for long.
- After the flood waters have subsided, begin draining the basement in stages, about a third of the water volume each day. Pumping out water too quickly may cause structural damage.
- Use a mop, squeegee or wet/dry vacuum cleaner to remove standing water.
- Remove as much mud as possible. Plan to disinfect the basement at a later date.
- Once you've checked the water system for leaks, hose down the inside of the house and its contents. It's best to use an attachment that sprays soap to wash and rinse the walls, floors, furniture, sockets, electrical boxes, and other major items that got muddy.
- Remove heating and cooling registers and ducts, then hose the ducts to prevent contaminated air from blowing through the ducts at a later date.
- After hosing duct work, wash with a disinfectant or sanitizer that is phenolic or pine-oil based.
- If ducts are in concrete or otherwise inaccessible, have them cleaned professionally.
- Use a combination of household bleach (½ cup laundry bleach per gallon of water) and soap to rinse walls, floors and other mold-contaminated areas.

- This will eliminate fungal problems and their inherent dangers. (It is better to wash first, then rinse with the bleach solution.)
- Follow directions on containers and take particular note of warnings. Do not mix cleaning compounds containing ammonia with bleach.
- Wash clothing and linens as soon as possible to prevent mold and mildew and to disinfect laundry.
- Discard clothing, carpets, upholstered furniture, toys, bedding, and similar items that cannot be cleaned and disinfected. Do not leave these damp and moldy items lying about while waiting for disposal, as they may create a dangerous breeding ground for germs that could cause a variety of illnesses.
- Disinfect all washable and colorfast exterior surfaces (including children's toys, play equipment and outdoor furniture) which may have come in contact with flood waters.
- Remove loose dirt and debris from affected exterior surfaces with a power hose; keep the surface wet with a solution of ¾ cup household bleach per gallon of water for 5-15 minutes; rinse thoroughly with a power hose to remove residue.

REPLACE ESSENTIAL SAFETY DEVICES

- Replace all gas control valves, electric circuit breakers, ground fault circuit interrupters (GFCIs), and fuses that have been under water; this will help prevent electrocutions, explosions and fires. Even if these safety devices appear to function after being submerged, they are unfit for continued use and cannot be repaired. They may eventually fail, causing electrocutions, explosions or fires.
- Have other parts of gas and electric appliances that have been submerged (such as fans, motors, electric circuits, and venting systems) evaluated by a qualified technician for continued safe operation. You may need to replace entire appliances.
- Replace smoke alarms and carbon monoxide (CO) detectors that have been submerged.
- Clean or replace fire extinguishers.
- Make sure that all electrical appliances and devices are unplugged **before** power is restored.

KEEP YOURSELF CLEAN AND HEALTHY

Continued long hours of work, combined with emotional and physical exhaustion and losses from damaged homes and temporary job layoffs, can create a highly stressful situation which can increase your risk of injury and emotional crisis. This can make you more vulnerable to stress-induced illnesses and disease. Emotional support from family members, neighbors and local mental health professionals can help to prevent more serious stress-related problems in the difficult months ahead. You can reduce your risk of injury and illness in several ways.

- First, set priorities for clean-up tasks and pace the work over several days (or weeks). Avoid physical exhaustion.
- Resume a normal sleep schedule as quickly as possible. Get plenty of rest and take frequent breaks before exhaustion builds up.
- Take advantage of disaster relief programs and services in your community.
- Be alert to emotional exhaustion or strain.
- When family members and neighbors are unavailable for emotional support, consult professionals at community health and mental health centers.

Follow these basic safety and health tips when working in areas that have been flooded:

- Do not attempt to move unidentified dislodged containers without first contacting the local fire department or hazardous materials team. Flood waters can dislodge tanks, drums, pipes, and equipment, which may contain hazardous materials such as pesticides or propane.
- Use appropriate personal protective equipment to keep yourself safe as you clean up. You may need a hard hat, goggles, heavy work gloves, respirators, and watertight boots with steel toe and insole (not just steel shank).
- Excessive noise from equipment such as chain saws, backhoes, tractors, pavement breakers, blowers, and dryers may cause ringing in the ears and subsequent hearing damage. If you are working with any noise over which you must

shout to be heard, wear earplugs or other hearing protection devices.

- Always wash your hands with soap and clean water after working in the area.
- Thoroughly wash all clothing and parts of your body that may have come in contact with sewage or other contaminants or hazardous substances or chemicals. Use soap and clean water. Use waterless sanitizers if uncontaminated water is not available.
- Be careful not to track sewage or other contaminated material into the living quarters of a house.
- Do not use gasoline-powered equipment (generators, pumps, pressure washers, etc.) indoors, because of the risk of carbon monoxide (CO) poisoning.

GETTING AROUND SAFELY

- Emergency workers will be assisting people in flooded areas. You can help them by staying off the roads and out of the way. Keep listening to the radio for news about what to do, where to go, or places to avoid.
- Roads may still be closed because they have been damaged or are covered by water. Flood waters often erode roads and walkways. Barricades have been placed for your protection. If you come upon a barricade or a flooded road, turn around and go another way. Don't try to assess the depth of the water on a road. If the road is covered, don't cross it. Don't drive over low-water bridges.
- If your vehicle stalls, get away from it and get to higher ground. A car will float in as little as two feet of water. More people drown in their cars than anywhere else.
- Remember that standing water may be electrically charged from underground or downed power lines.
- Be careful walking around. Flooding may have caused familiar places to change, and steps and floors are often slippery with mud.
- Do not walk through flooded areas. As little as six inches of moving water can knock you off your feet.
- Stay away from areas subject to additional flooding, such as low areas, stream beds and ditches.
- Stay on firm ground.
- Be especially careful at night or in dark conditions when it is harder to see flood dangers.
- Flooded areas can be covered with debris, including nails and broken glass. Flood waters and debris may hide live animals or animal carcasses, and flood waters are often contaminated with biohazards (sewage, medical waste, animal waste and carcasses) or other hazardous materials (fuels, asbestos, farm chemicals, etc.). Wear appropriate personal protective equipment if you come in contact with flood waters.
- To reduce the risk of drowning; avoid working alone, and wear a Coast Guard-approved life jacket when you are working in or near flood waters.

GETTING HELP

- Listen to the radio to find out where to go for assistance, that may be provided by the state or federal government or other organizations, or call the American Red Cross.
- The American Red Cross can help you by providing you with a voucher to purchase new clothing, groceries, essential medications, bedding, essential furnishings, and other items to meet emergency needs. The American Red Cross can also provide you with a clean-up kit: mop, broom, bucket, and cleaning supplies.
- Contact your insurance agent or carrier to discuss claims.
- If you hire clean-up or repair contractors, be sure they are qualified to do the job. Be wary of people who drive through neighborhoods offering help in cleaning up or repairing your home. Check references.

SOURCES OF INFORMATION AND ASSISTANCE

American Red Cross (www.redcross.org)

Environmental Protection Agency (www.epa.gov)

Federal Emergency Management Agency (www.fema.gov)

National Electrical Manufacturers Association (www.nema.org)

National Institutes for Occupational Safety and Health (www.cdc.gov/niosh/flood.html)