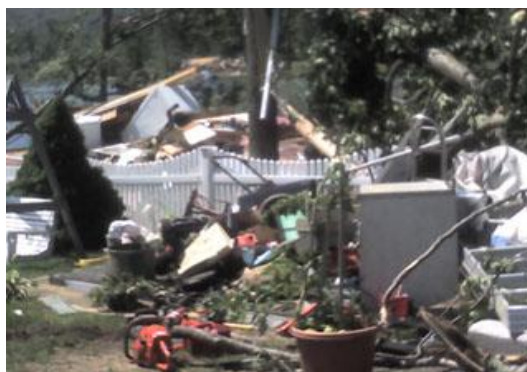


## After the Disaster: A Guide for Residents and Small Businesses About Managing Debris Waste



**A guidance document for town officials, residents, and small businesses dealing with solid waste after a natural disaster. Developed by the Northeast Recycling Council, Inc. with funding from the U.S. Environmental Protection Agency.**

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## After the Disaster: A Guide for Residents and Small Businesses About How to Manage Debris Waste

### Introduction

Removing debris and damaged items following a disaster presents challenges for homeowners and small businesses. The type of disaster, severity, and duration will impact the debris removal process. Travel may be difficult due to downed power lines, fallen trees, and other hazards, and law enforcement may be controlling access to the area. Even if you are allowed back into the area, there may be dangers in and around your home or business.

Begin by assessing the damage. It is important to protect the building, equipment, and belongings from additional damage. Small businesses may want to arrange for contractors to assist in the salvaging and securing of equipment. Buildings that are damaged extensively — or buildings where structural soundness is a concern — should not be entered until they have been examined and certified as safe by a building inspector or other government authority.

Homeowners and small business owners should contact local officials to determine how and where disaster debris will be collected, how materials should be separated, and when normal garbage and recycling services will resume. Your community will rely on you to follow instructions on keeping items separate for recycling, mulching/composting, and proper disposal. Your participation will help to ensure that debris is handled in a timely, cost-effective, and environmentally-sound manner.

### About this Guide

This guide provides general information about recovery of premises, belongings, and other items, as well as recycling and proper disposal of debris following a disaster. List items are arranged alphabetically, followed by one or more “key” words and information aimed at helping with the clean-up process. These “key” words are: **“Pre-disaster,”** which includes information that may help you better prepare for future disasters. Limited pre-disaster information is provided because this topic has been covered extensively by other organizations, including the Red Cross and FEMA. **“Recovery”** provides advice on salvaging and repairing damaged items. **“Recycling”** and **“Composting/mulching”** include general information for typically recyclable items. Some items may not be recyclable in your community. Contact the town office or local solid waste authorities if you need additional information on where to recycle items. **“Disposal”** outlines general information for discarding items that cannot be salvaged or recycled.

### General tips

- If you have immediate needs for food, clothing, and/or housing call the American Red Cross.
- Never enter a building unless you are sure that it is structurally sound and that there are no hazards such as spilled chemicals and exposed wires. Do not enter rooms where the ceiling sags from retained water.
- Do not enter the premises if flooded or if in standing water until the electricity and gas have been turned off. Power should be shut off at the main breaker or fuse

box on the service panel if electrical circuits and electrical equipment have gotten wet or are standing in or near water. Contact an electrician if accessing the main power switch requires standing in water. If you see sparks, broken electrical lines, or frayed wires, leave the premises and contact the electrical company. Have an electrician inspect damaged or water-saturated electrical devices, circuit breakers, and wiring. If there are gas connections into the structure, have the utility company check for leaks before restoring service. **If the utilities or fire department turned off the electricity or gas, call the utilities to restore these services. Do not try to do it yourself.**

- If power is off, consider entering the building only during daylight hours or use battery powered light sources.
- Do not use electrical appliances while on wet carpet or flooring. If the ceiling is wet from water damage or fire suppressing chemicals, do not use ceiling fixtures.
- Keep children and pets out of the affected area until clean-up has been completed.
- Be aware of abandoned and disoriented pets, wildlife, snakes, rodents, spiders, and other creatures that may have entered the home looking for shelter or food.
- Contact your insurance company as soon as possible. Take photos of all damage. Keep accurate records and receipts of clean-up and salvage work. Compile a list of losses (such as furniture and appliances). Do not wait for a claims adjuster to arrive before beginning clean-up, but keep damaged materials for proof of loss.
- If necessary, board up open windows, roofs, or other open areas in order to prevent additional damage.
- During clean-up work wear hard hats, goggles, heavy work gloves, and watertight boots with steel toes and insoles. If floodwaters or sewage went into the

premises, wear rubber boots and waterproof gloves. Have at least two fire extinguishers (with ABC ratings and UL rating of at least 10A) on hand. Make sure that all persons involved with cleaning after a flood have had a (up-to-date) tetanus shot. Wash hands and face often while cleaning and use a hand sanitizer.

- **Make a debris removal and cleaning plan.** STEP 1: Gather supplies: brooms, mops, buckets, hose, rubber gloves, rags, cleaning products (detergent, dish soap, trisodium phosphate), brushes/scrubbers, sponges, disinfectants (unscented chlorine bleach, Lysol), hand sanitizer, trash bags, nails, boards, clean sheets, plastic, or tarps for covers. STEP 2: Begin to sort damaged belongings into those that you think can be restored and those that need to be discarded. Start with items that will definitely be discarded, including opened food, flood-contaminated or heat-damaged cosmetics, medicines, medical supplies, toys, stuffed animals, pillows. *See listings below for recycling and proper disposal information.* STEP 3: Clean one room at a time. A two-bucket approach works well. Use one bucket for the cleaning solution and the other for the rinse water. Dip the mop, scrubber, or rag into the cleaning solution, wipe down items to be cleaned, rinse the mop or cloth in the rinse bucket, wring dry; repeat. This will keep the cleaning solution relatively unsoiled. Change rinse water frequently. Follow by disinfecting if flood-contaminated. *Use cleaning and disinfectant solutions suggested under each category below.* Remove mildew as necessary. Cover cleaned areas and items so that these areas remain clean during the ongoing clean-up process.
- If the structure is saturated from flood water, storm water, or fire suppression agents, it is important to dry it

out as soon as possible. Follow these steps: **STEP 1:** If weather permits, open windows and doors to help air dry the premises. Ventilate crawl spaces and basements. **STEP 2:** Consult an electrician prior to using or turning on electricity to determine if it is safe to use. **STEP 3:** If power is on and it is safe to do so, turn on air conditioning in the summer to circulate air and help to dry out the premises. Place fans in windows or doorways and blow air outwards to help remove excess moisture. Dehumidifiers will speed the process. Open closet doors and turn on lights. In the winter, if it is safe to do so, alternate opening the window with turning on the heat. **STEP 4:** Remove standing water with a “wet-dry” shop vacuum or the vacuum function of a carpet steam cleaner. (*Do not use a regular vacuum cleaner to remove water.*) It is not recommended to use an electric-powered water transfer pump or sump pump powered by your own electrical system unless the system is first checked out by an electrician. Wear rubber boots while operating equipment. Check the telephone directory under “rental services” to rent a “wet-dry” vacuum if needed.

Flooded basements should be pumped out gradually (about 1/3 of the water per day) to avoid structural damage. If the water is pumped out too rapidly, pressure from water on the outside could cause basement walls to collapse.

- If electricity has not been restored, or it is not safe to turn it on, use a portable generator to power equipment to remove standing water. Never use a gasoline-powered pump, generator, pressure washer, or any other gasoline-powered tools inside a home, basement, garage, or other enclosed or partially enclosed structures, even if the windows and doors are open.

- If mold and mildew have developed, brush off items outdoors to prevent scattering mold spores in the house. If possible, vacuum floors, ceilings, and walls to remove mildew prior to cleaning. Use a HEPA filter vacuum cleaner if possible. Wear a protective HEPA filter mask to prevent breathing mold spores. Dry household belongings in the sun if possible (except wood furniture).
- Depending on the severity of damage, items that cannot be washed and disinfected should be removed and discarded, particularly if floodwater or sewage water contaminated. This may include mattresses; carpeting; carpet padding; rugs; upholstered furniture; pillows; foam-rubber items; stuffed animals; baby toys; books; wall coverings; and rubber, wood, and paper products. Wind and flooding can cause belongings to become embedded with fiberglass, glass shards, and other contaminants. These items should be thrown out because they will be too difficult to clean.
- Water damage can be associated with storms, flooding, and even fire. Restoration from water damage depends on the source. Flood waters often contain hazardous materials, including sewage and chemicals. Water is frequently used to extinguish fires; also water pipes often burst during fires. Regardless of the origin, restoration will depend on how quickly the structure and belongings can be dried. Mildew growth may occur no matter what the source of water.
- Mud and dirt debris from flooding should either be disposed at a landfill or buried deep into the ground (1-2 feet below the surface). Spread lime on top of it and then cover with clean soil. Make sure that children and pets cannot come into contact with it.

- Insulation (duct, piping, wall, etc.), drywall, floor tiles, asphalt roofing tiles, and other building materials may contain asbestos in homes or buildings constructed prior to the mid-1970s. Loose blown-in and batt insulation in homes built or remodeled between 1930 and 1950 may contain asbestos. Consult with a professional for safe removal guidelines and proper disposal of asbestos-containing debris.
- Fire damage may involve the clean-up of soot, smoke, chemical residue, and water. Soot residues are acidic and can cause plastics, furniture, appliances, and highly porous materials, such as marble, to discolor permanently. Within days, if not removed, soot will start to corrode metal. Open all doors and windows as soon as possible to reduce smoke odors. If weather is an issue, open as often as possible to allow fresh air to circulate through. Wear protective clothing when removing soot and smoke. Oils from hands can cause additional damage on permeable surfaces. Once it is safe to enter the premises, begin cleaning as soon as possible. Remove unsalvageable items and debris to reduce smoke odor and minimize recontamination of cleaned areas. Soot can be easily picked up on shoes and clothing. Avoid walking on carpet or touching soot covered surfaces as it can drive soot further into surfaces. Soot and extinguisher residue must be removed first using a powerful vacuum with a high efficiency filter to avoid blowing soot back into the air. Do not use a vacuum with a brush attachment or beater bars. Hold the vacuum nozzle slightly above the surface to lift the soot up. Start with the ceilings, walls and fixtures, and work your way down to the contents of the room, then to the floor. Cover clean areas and items as you continue to remove soot from the area so that these

areas remain clean during the ongoing clean-up process. Wash or wipe all household items, including knick-knacks. If the fire has warped or distorted the structure, consult a licensed general contractor.

- Fumes from dry-cleaning solvents and other chemical cleaners, including trisodium phosphate (TSP) and bleach, are toxic. Some may be flammable. If biocides are used to kill mold, make sure these chemicals have an Environmental Protection Agency (EPA) registration number on the bottle. Always read and follow usage and storage directions on the label. Never mix chemicals. Never mix ammonia or vinegar with chlorine bleach. Use with adequate ventilation. **Always wear rubber gloves when cleaning.**
- Small businesses may want to establish a “recovery team” that includes people assigned to do the following: administrative (decision making authority); recovery coordination (determines tasks to be done and sets priorities); salvage specialization (knows salvage procedures and contacts to get work done); record keeper (maintains records to document the damage); and work coordination (manages staff/clean-up crew).

**Advance planning can help!  
Keep in a secure location the following:**

- Emergency telephone contact list (physicians, family, etc.) and insurance coverage and contact information.
- List of clean-up resources such as where to purchase specialty cleaning supplies, rent shop vacuums, large fans, etc.
- List of sources for salvage materials, such as storage boxes.
- Contact list of professionals, such as plumbers and electricians.

## **Animal carcasses**

**Pre-disaster:** Farm and livestock operations should have an emergency management plan that includes carcass disposal. The plan should be developed well in advance of a disaster and be available at all times.

**Disposal:** Dispose of animal carcasses as soon as possible after a disaster. Small animals typically can be disposed of in regular trash. Place remains in a plastic trash bag and secure. However, in some states it is illegal to dispose of any carcasses in regular trash. Contact the local animal control officer or a veterinarian for assistance.

Consult the local health officer or state agricultural agency for recommendations on handling livestock carcasses. Options include burial, landfilling, incineration, composting, rendering, or another method approved by the local health officer. If on-site burial is to occur, bury carcasses at least 3-4 feet deep and at least 300 feet from wells and surface waters. Do not locate the burial site in an area with a high water table or in highly permeable soils. On-site burial may not be recommended following a flood.

Wear gloves and avoid direct contact with animal carcasses. Wash thoroughly following removal and disposal of a carcass.

## **Appliances and equipment**

**Pre-disaster:** Unplug small appliances, as they can be affected by electrical power surges. If power is lost, turn off major appliances in order to reduce the power surge when electricity is restored. Power surges can damage or destroy appliances. In a flood prone area consider elevating appliances and equipment on a platform.

**Recovery:** If appliances are wet, make sure electricity is turned off at the main fuse box or circuit breaker. Unplug appliances. Flood or water soaked refrigerators, freezers,



ovens and other appliances or equipment with foam insulation and sealed components may have little water damage. Tilt to drain appliances, if necessary. Dry refrigerators, freezers, washers, dryers, and electric ranges (remove back) by using a fan to circulate air around the appliance. Frost-free refrigerator models have sealed systems; use a fan to dry the motor.

Appliances and equipment exposed to water or steam, or significantly covered with mud or debris should be professionally serviced, cleaned, and sanitized in order to prevent stains and ensure proper working order. Metallic appliances that have been flooded should be properly grounded in order to prevent electric shock. Mud or dirt in a grounded outlet or adapter may prevent the grounding system from working properly and could electrocute anyone coming in contact with it. Steam and water can also remove lubricant from moving parts. Using equipment and appliances before they are properly cleaned can damage equipment and/or shock you.

*Call the local gas utilities to service gas ranges, heaters, and other gas appliances. Do not use any gas appliance until it has been checked by them.*

If appliances have been in or close to a fire, they should not be used until they have been checked out by professionals. Heat, soot, and fire-suppressing chemicals can damage electrical components.

If the appliance is in working order, remove items from on-top or inside the appliance. Clean and disinfect (interior and exterior) using a detergent and a sanitizing solution of 3/4 cup liquid chlorine bleach to 1 gallon of warm water). When salvaging beverage machines, coffee or tea urns, ice machines, glass washers, dishwashers, and other equipment with water connections, flush waterlines, faucet screens, and waterline strainers, and purge fixtures of any

standing water. As above, clean and sanitize thoroughly, including all fixtures.

To remove persistent odors in appliances, place about 3 ounces of activated charcoal (available at drugstores) in an open container inside the appliance. It is safe to place activated charcoal in food storage equipment. **WARNING:** Always use extreme caution when restarting equipment with electrical components. Nonworking but salvageable equipment may be able to have motors reconditioned or replaced.

**Recycling/Disposal:** Small appliances such as toasters and blenders that have water damage typically will need to be replaced due to the high cost of repairing. Equipment with fiberglass insulation or old Freon compressors that need recharging should be discarded if water saturated.

Equipment that has rusted or deteriorating surfaces, or if it includes flood-damaged wood/particle board or plastic laminate components should also be discarded.

*Nonworking refrigerators, freezers, and air conditioners will need to have Freon removed by a certified technician prior to recycling.* Most large appliances, particularly if they contain at least some metal, can be recycled as scrap metal once the Freon is removed.

### **Books, photographs, and important papers**



**Pre-disaster:** Always have important documents (insurance information, prescriptions, etc.) in one place for quick removal in case of evacuation. If there is sufficient time before the disaster, gather photographs and other documents to take with you if being evacuated or secure in plastic wrap or plastic tubs to help protect from water or moisture (place in a higher location in the dwelling or on top shelves if flooding is anticipated).

**Recovery:** Brush off mud or rinse book covers (hard and soft-back), photographs, and documents if dirty. Hold

books tightly shut when rinsing. Dry the book covers with a clean cloth and insert an absorbent material, such as a paper towel, every 25-50 pages. Alternate between drying and pressing pages to prevent mildew. Place books on their end with the pages separated and press by stacking books on top of each other. Pages can also be sprinkled with talcum powder or cornstarch; allow to sit for several hours and then brush off. Dry documents and photographs individually, face up, on absorbent material, or interleave with paper towels. Photographs can also be hung on a clothesline with clothespins.

All of these items can be frozen and cleaned later if necessary. Before freezing, wash or wipe off mud, wrap individually in wax paper, store in plastic bags and place in a frost-free freezer. A vacuum freezer will remove moisture from books without damaging pages. When ready to clean, thaw slowly, and air dry as above.

### **Brush—trees, branches, shrubs, and logs**



**Pre-disaster:** Trim brush away from house. Plan plantings to minimize potential damage to buildings during storms. Keep trees and shrubbery trimmed to help make trees more wind resistant by removing diseased or damaged limbs.

**Recovery:** It may be possible to straighten small trees (25 feet or less in height) damaged in a storm or flood water using guy wires or cables to secure. Grass and vegetation covered with ash and soot will continue to generate smoke odors. Use a garden hose to gently wash off residue.

**Mulch:** Flood or storm damaged large trees are difficult to save and may need to be removed. Stack brush, tree limbs, branches, and other vegetative materials in a pile. Keep separate from other debris. Use a chipper to chip materials on site. Or, take to a mulch or composting facility. Some communities may offer special curbside

collection of brush and landscape debris, or they may have a special site designated to bring materials for chipping.

### **Carpet, carpet padding, and rugs**



Recovery: As soon as possible remove water-saturated carpet and padding in order to prevent floor damage. Shake or beat small area rugs outside to remove dry mud or debris. Launder or professionally clean. Cleaning can also be done by draping rugs and hosing them down. Use a broom to work carpet cleaner into soiled spots. Wash with a solution of 2 tablespoons bleach to 1 gallon water to help prevent mildew; rinse well. (Bleach and other disinfecting solutions may affect carpet color. Spot clean to check.) A solution of 1 part 3% hydrogen peroxide to 5 parts water may be less damaging to rugs and may work to remove mildew from carpet. A pine oil product can be used on wool to help disinfect. Apply a solution of 1/4 teaspoon chlorine bleach (or another sanitizer) to 1 cup water to the carpet backing. Rinse several times. If possible hang outdoors in the sun and wind, exposing both the top and back side of the carpet to the sun to kill mold. Once the backing is dry, lay area rugs face-down on a clean, flat surface to dry, preferably in the sun. Dry the carpet and the floor completely before replacing the carpet.

If only slightly damp or if the carpet can't be removed, dry it as quickly as possible. Remove or lift draperies off the carpet by looping them through a coat hanger; place the hanger on the drapery rod. Remove furniture. Sop up excess water with clean dry towels, then use a wet/dry vacuum and dehumidifier. Clean with commercial rug shampoo containing disinfectant. Be sure to rinse well to remove soap residues. Lift up the carpet on sawhorses and ventilate with fans underneath. Do not lift tacked down carpet without professional help because it could promote

shrinkage in the carpet. Consider hiring a professional carpet cleaner who can remove mold from wall-to-wall carpets because these are very difficult to clean and dry sufficiently.

For carpets that are smoke damaged, consider a professional to clean carpets that cannot be removed. If cleaning yourself, use a commercial rug shampooer and shampoo specifically designed for removing soot and smoke from carpets and furniture. Spot clean first to ensure the colors don't run. Dust carpets with baking soda to get rid of smoke odor. Let settle at least a day and then vacuum up; repeat the process a few more times over the course of a week. If odor is overwhelming or does not dissipate, seek professional help.

Disposal: Padding typically cannot be cleaned and dried quickly enough to prevent the growth of molds and bacteria. Discard rugs contaminated by floodwaters that may have contained sewage or if rugs have remained underwater for more than 24 hours. Wrap in plastic and dispose with regular garbage if small enough or with mixed demolition debris.

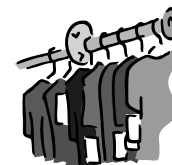
### **Ceiling tiles**

Recovery: Professional ceiling cleaners may be able to remove light smoke film from acoustic ceiling tile.

Disposal: Heavy smoke or soot buildup requires replacement of the tile. Discard if water saturated or contaminated by floodwater. Dispose with mixed demolition debris.

### **Clothing and accessories**

Recovery: Always test garments, linens, and other items before using any treatment. Follow manufacturer's cleaning instructions if known. Only use cleaners that are safe to come in contact with skin.





Wet items should be separated as soon as possible to prevent colors from running together. Brush off loose dirt. If stained, do not immerse in hot soapy water because the stains will set. Rinse in warm water until no more dirt can be removed, then wash in warm soapy water. Wash several times if necessary. Add a disinfectant at the end of the washing cycle; be careful when using bleach. Do not use chlorine bleach on wool, silk, or synthetics unless the clothing label states that it is okay. Have wool, silk, and rayon clothes dry-cleaned as soon as possible.

To remove mildew, wash with soap and warm water. Then rinse and dry in sun. If mildew is still noticeable, use lemon juice and salt, or a diluted solution of bleach.

Smoke odor and soot can sometimes be removed using 2 to 4 tablespoons trisodium phosphate or liquid Spic & Span and 1 cup household cleaner (such as Lysol) or bleach, to every gallon of warm water. Mix well, add clothes, and rinse with clear water. Dry thoroughly. Only use on articles that can be bleached. Another option is to wash articles in cold water with laundry detergent and 1 tablespoon of pure vanilla extract. Items may need to soak overnight and be washed several times to remove smoke odors. It is very difficult to remove soot from clothing and linens. If soot or mildew remains, ask a professional laundry for their opinion. A dry cleaning service that offers ozone treatment may be able to remove heavy smoke film from washable items.

If delayed in getting damaged clothing or linens to the dry cleaners, remove shoulder pads and trimmings that might bleed. Soak for a short time in cold water with a small amount of mild detergent (such as Woolite). Rinse in cold water; gently squeeze out water and shake to avoid wrinkling. Fasten to hanger and air dry.

Wipe leather goods clean with a damp cloth (cold water), then a dry cloth. If still stained or mildewed, wipe with a cloth moistened with a solution of 1 cup rubbing alcohol to 1 cup water. Do not dry leather goods in heat or sun. When completely dry, clean again with saddle soap. Stuff crumpled paper into purses and shoes to retain shape. Rinse leather and suede jackets in cold water; dry away from heat and sun. Use a suede brush or steel wool on suede. Leave suitcases, purses, and similar items open to air dry.

### **Concrete floors and walls**

Recovery: Remove debris, mud, and standing water. Clean with hot water and laundry or dish detergent. Use a stiff brush to remove soot and stains. Disinfect with bleach solution of 1 cup bleach to 1 gallon of water.

Disposal: Concrete can sometimes be recycled. Check with local solid waste contacts. Otherwise, dispose with mixed demolition debris.

### **Countertops, cupboards, fixtures**

Recovery: Remove all items stored on counters and in cupboards. Clean with hot water and laundry or dish detergent. Use Lysol or similar cleaner for stubborn stains. Disinfect inside and outside with bleach solution if exposed to flood waters or contaminated materials. Use a solution of 1 cup bleach per 1 gallon water to remove mold from hard surfaces. Keep surface moist with solution for at least 15 minutes; rinse and dry. Metal surfaces exposed to water must be cleaned to prevent rust; use a cloth saturated with kerosene (use care — this is flammable).

Remove minor smoke film from washable surfaces by using a solution of heavy-duty cleaner or degreaser and a dash of water-soluble deodorizer from a local supermarket



or home improvement store. Or, add 1 tablespoon of pure vanilla extract to detergent to wash counters and other hard surfaces exposed to smoke or soot. Clean soot and residue from countertops, porcelain, metal, and aluminum fixtures with a mild detergent as soon as possible to prevent permanent tarnishing or etching. Apply a light coating of Vaseline or oil on metal fixtures to protect from additional corrosion.

**Disposal:** Dispose with mixed demolition debris. Metal fixtures can be recycled with scrap metal.

### **Curtains, drapes, and shades**

**Recovery:** Curtains and drapes that have been saturated with water may have permanent watermarks and discoloration. Disinfectants designed to kill mildew will more than likely harm curtain and drape material. If washable, take outdoors and shake out dirt. Hose off any wet or muddy items. Hang items on a line or spread them out to dry. Air and sun will help the fabrics dry and reduce mildew growth. Launder items as recommended on manufacturer's label.



If smoke or soot damaged, vacuum drapes thoroughly to remove soot. Wet or dry-clean depending on the fabric. If wet cleaning, add a water-soluble deodorizer to the cleaning solution to control residual smoke odor.

Items that require dry cleaning should not be washed. Discuss cleaning options for soot, smoke, and mold with professional dry cleaners.

Flood damaged shades, blinds, and shutters will be difficult to sanitize effectively without further damage. Mildew will be hard to remove from these items as well. Wood may swell and warp if wet. Items only splashed or smoke damaged can be cleaned with mild soap.

**Disposal:** Dispose of these items with regular garbage. Metal shades can be recycled with scrap metal. Larger

shutters should be discarded with bulky items or demolition debris.

### **Doors**

**Recovery:** Remove doorknobs. Unhinge and lay doors on a level surface, with wooden strips separating them to allow even drying with minimal warping. Wash with mild alkali solution (6 tablespoons of baking soda to a gallon of water). Allow door, frame, and jamb to completely dry before attempting to plane or fit replacement.



**Recycling/Disposal:** Recycle with wood or dispose with mixed demolition debris.

### **Drywall (gypsum or plaster board)**

**Recovery:** Replace damaged drywall with new material. Make vertical edge cuts at the centers of wood studs and nail each end of the repair sheet directly to a stud.

**Disposal:** Remove and discard, if damaged or wet. Drywall will warp even above the water level in a flood and will need to be discarded. Dispose with mixed demolition debris.

### **Electrical systems, control valves, switches**

**Predisaster:** In a flood prone area consider elevating the electrical system—switches and outlets 12 inches above either the 100-year flood level or the level of the highest known flood in your area.

**Recovery:** Make sure power is off. If mud or dirt covered, remove covers from outlets and fuse or breaker boxes. Flush with clean water. Dry contacts and spray with cleaner/lubricant. Before reconnecting systems have an electrician check for ground faults and other hazardous conditions.

Recycling/Disposal: Gas control valves, electric circuit breakers, fuses, wiring, and other devices that were submerged in water should be replaced. Ask the electrician about recycling these items. Mercury switches, such as thermostats, should be recycled.

### **Electronics — computers, televisions, printers, telephones, stereos, etc.**

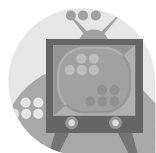
Pre-disaster: If flooding is anticipated, move items to the highest level possible in the home or building (upstairs, top of shelves). Cover items with plastic. Unplug all electronics and disconnect cable connections during storms and anticipated flooding.

Recovery: Do not attempt to operate or clean electronics exposed to water or steam. Move items to a dry area. For computers and printers, remove cases and use fans to circulate air around the equipment. *Do not attempt to open monitors or TVs for cleaning or repair.* Professional cleaning and repair is recommended. If equipment has been in or close to a fire, it should not be used until checked out by professionals. Heat, soot, and fire-suppressing chemicals can damage electrical components.

Recycling: Electronics should be recycled. Keep separate from other debris and contact the local solid waste authority for information.

### **Exterior walls (brick, stone, wood, paint, siding)**

Recovery: Clean with a non-abrasive household detergent. Rinse well. Agitate soot or mud with a soft-bristled brush, follow with pressure washing from bottom to top, and then rinse from top to bottom. Use a commercial mildew wash or mildew siding cleaner to clean mold and mildew. Painted surfaces can be scrubbed with a solution of 1/3



cup detergent that does not contain ammonia, 1 quart chlorine bleach, and 3 quarts water to remove mold.

Recycling/Disposal: Aluminum or steel siding that must be replaced can be recycled as scrap metal. Vinyl and wood siding should be disposed with mixed demolition debris.

### **Food**

Raw sewage, oil, chemical wastes, silt, and more can be brought into your home with floodwater, contaminating food, as well as cooking and serving ware. Heat from fires, toxic fumes created from burning materials, and chemicals used to fight fires can also affect food safety. Any disaster resulting in lasting power outages may require that food be discarded.

Pre-disaster: Turn the refrigerator and freezer to the coldest setting. Only open if absolutely necessary and close doors quickly. This will help preserve cold air in the units in the event of a power failure. If the electricity is expected to be off longer than 4 hours, add block ice or dry ice to the refrigerator/freezer. Wrap the frozen food in newspapers and blankets or use insulated boxes. Move food to a neighbor's freezer or a rented locker if possible.

Recovery: If the refrigerator/freezer was not under water, food that contains ice crystals or remained at 40°F or below can be refrozen or cooked. If just splashed, food in metal cans, rigid plastic containers, or glass jars can be salvaged if the surface is not dirty, rusted and pitted, creased or dented, swollen or leaking, or otherwise damaged. Food in sealed, airtight metal cans salvaged from flooding or a fire are safe to use if the cans have not bulged, or become dented or rusted. Make sure the seal is tight, remove labels, wash off and disinfect by immersing for 2 minutes in a solution of 2 tablespoons of liquid bleach and a gallon of water. Rinse in clean water; air dry. Use a permanent marker or grease pencil to re-label containers.



Compost/Disposal: Discard or compost all garden produce (including root vegetables), fresh fruits and vegetables, boxed foods, open packages, items in soft packaging, or screw-top plastic or glass bottles that may have been wet, or in contact with contaminated material, such as flood waters. Throw out all food in refrigerators/freezers submerged in floodwaters. Discard perishable foods (including meat, poultry, fish, eggs, and leftovers) that have been above 40°F for two hours or more. Glass and plastic jars that are soiled around the cap or closure, or have a defective closure, dented cap or crown should be discarded. Discard food that has been submerged in floodwater, including food and beverages sealed in glass or plastic bottles or jars, as well as jams, jellies, and other canned foods sealed under paraffin. Throw out canned foods that are bulging, opened, or damaged. Discard or compost home-canned foods that were submerged in flood waters. Empty jars and rings can be sterilized for reuse; discard the flat cover. Throw away food and beverages exposed to heat, smoke, or soot. **Food that has an unusual odor, color, or texture should be discarded.**

### **Furniture**

Recovery: Before cleaning heavily damaged wood furniture, consider consulting with a professional. Look in the phone directory under “furniture repairing or restoration.” If exposed to water, take furniture to a shaded and sheltered area outside to allow it to dry slowly (do not dry wood furniture in the sun because it will warp). If not possible, prop up on wood blocks to enhance drying underneath. Scrub off mud and dirt using a stiff brush and cleaning solution. Special cleaning products for specific furniture materials are often available otherwise wash with mild soap. Wipe with soft cloth and buff.



Remove all drawers, slides, and other working parts. If drawers are stuck, they may need to be pushed out from the back. Clean drawers and other parts; store inside away from heat and sun to allow them to dry slowly. Disinfect if exposed to floodwaters. To disinfect wood use one of the following: chlorine bleach solution ( $\frac{3}{4}$  cup bleach to 1 gallon of water); spray with a phenol product (such as Lysol); or brush it with an undiluted pine oil disinfectant. Follow directions on the label. Wait until completely dry to refinish or wax. Reglue as necessary. It may take several weeks to several months for furniture to dry completely.

Remove soot and smoke by using a mild soap or detergent or mix together 4 to 6 tablespoons of trisodium phosphate and 1 cup household cleaner or chlorine bleach to every gallon of warm water. Rinse with clear warm water and dry thoroughly. If smoke odors remain, add 1 tablespoon of pure vanilla extract to detergent and wash furniture; rinse and wipe with clean, dry towel. Smoke odor on furniture cushions may be removed by dusting with baking soda. Allow to sit for a day or two, and then vacuum. Repeat as necessary. If odor is overwhelming or does not dissipate, contact a professional furniture repairer.

If mold forms, wipe with a cloth soaked in a mixture of borax dissolved in hot water. Furniture that has been slightly damaged from moisture may have white spots or scum on varnished surfaces. These may be removed with a cloth dampened with ammonia ( $\frac{1}{2}$  cup in  $\frac{1}{2}$  cup water), camphor, or essence of peppermint. Immediately wipe dry and rub with furniture wax or polish or a solution of half cup turpentine and a half cup of linseed oil.

Keep lamps and other items off furniture until completely dry. Prop up or remove furniture cushions to allow for better drying. Severely damaged leather furniture

may require a professional cleaning. For minor cleaning, wipe with cold, damp cloth. Damaged veneered furniture should be repaired by an expert. If mold has grown into the inner parts of furniture it can be sent to a dry cleaning or storage company for drying and fumigation.

**Disposal:** Furniture that cannot be salvaged should be discarded with bulky items.

### **Home heating, ventilating, and air-conditioning (HVAC) systems**

**Recovery:** If floodwaters have entered the premises, the HVAC system should be checked and cleaned by a maintenance or service professional who is experienced in mold removal and prevention. Once the system is serviced and it is safe to turn it on, use it to help remove excess moisture from your home. Remove and replace water-soaked pipe insulation.

If exposed to smoke or soot, change the air filter(s) in the furnace if it uses forced air; change at least once a month for the first year. Inspect units and ductwork. If soot, ash, and smoke residue are found, the system should be professionally checked and cleaned prior to starting in order to avoid spreading soot that may be in the duct work. Before beginning clean-up of the premises, tape damp cheesecloth over returns and supply registers to prevent loose soot in the air from entering the HVAC system.

### **Household hazardous waste — oil, pesticides, paints, cleaners, etc.**

Cleaning and other hazardous products can cause toxic fumes and other hazards if opened, or mixed with each other. If you smell a noxious odor, or your eyes water from fumes, open a window and leave the premises. Call the fire department for help.



**Pre-disaster:** Store hazardous materials in properly labeled containers. Keep containers sealed and stored in plastic tubs or in storage cabinets. Store corrosive, flammable, and reactive products in separate tubs or on separate shelves.

**Disposal:** Clean up any spilled chemicals carefully; wear gloves. Discard spilled chemicals and rags used for cleaning according to the advice of local authorities. Store unwanted chemicals securely and keep for disposal at a household hazardous waste collection event.

### **Insulation**

**Disposal:** Remove and discard wet fiberglass, mineral wool, or cellulose insulation. Wet insulation will cause wood sills and studs to retain moisture, leading to decay and mildew formation. Spray the wall cavity with a disinfecting solution and allow to dry completely before replacing insulation. This may take weeks in humid weather. Dispose of discarded insulation with regular garbage or mixed demolition debris. Removal of insulation that may contain asbestos should only be done by a professional. Check the telephone directory under “asbestos abatement and removal service” or consult with an insured demolition contractor.

### **Kitchen utensils, dishes, drinking glasses or cups, cutting boards, pots, and pans**

**Recovery:** Utensils, dishes, pots, and pans made of glass, metal, or ceramics can be sanitized. Follow these steps: **STEP 1:** Wash items thoroughly with hot soapy water. All water used must be certified safe for use. (Consult with local authorities about sanitizing water.) All handles and other parts should be removed and scrubbed separately. A stiff brush works best to get into corners. **STEP 2:** Rinse all items carefully in non-



contaminated, hot water. **STEP3:** Sanitize items by completely immersing each for 10 to 15 minutes in a solution made from 2 tablespoons unscented chlorine bleach in 1 gallon hot water. Do not use bleach on silverware, metal utensils, and pots and pans because it causes them to darken. Instead, boil in water for 10 minutes. **STEP 4:** Remove items from sanitizing solution and let air dry on a clean and sanitized dish rack.

Polish pots, pans, flatware, etc., with a fine-powdered cleaner; polish copper and brass with salt sprinkled on a piece of lemon, or salt sprinkled on a cloth saturated with vinegar. Cast iron skillets may rust if exposed to water or dampness. Remove rust with a steel wool scouring pad. Sterilize in a bleach solution and re-season.

**Disposal:** Kitchen items made of porous material, such as wood, plastic, or rubber—including wooden cutting boards and utensils, plastic utensils, baby bottles, nipples, and pacifiers—should be thrown out if they have come in contact with floodwater, contaminated materials, or fire suppressant agents.

### **Linens**

**Recovery:** If caked with mud and dirt, take outdoors and shake out. Hose off any wet, muddy items. Hang items on a line or spread them out to dry. Air and sun will help the fabrics dry and will help slow mildew growth. Launder items in an enzyme detergent in warm water as soon as possible. If items can be bleached, wash a second time in hot water with chlorine bleach to sanitize them and help control mildew.

Wash comforters, blankets, and quilts one at a time to allow for thorough cleaning. Rinse heavy items at least 3 times in clean water following the wash or disinfecting. Make sure stains are removed before drying linens in a dryer, or stains will set. Remove mildew or stains in

comforters by washing with soap and water and drying in the sun.

Electric blankets that have been submerged in water should be discarded because they may have wire damage. If just dirty, follow the manufacturer's instructions for cleaning and disinfecting.

Shake and brush dirt from the wool blankets. Dry clean if recommended; otherwise, soak in lukewarm detergent suds without agitation for 5 minutes. Turn two or three times by hand. Spin off water, and dry flat. Use a disinfectant other than chlorine bleach.

For washable linens that are smoke or soot damaged, add a water-soluble deodorizer to the cleaning solution to control residual smoke odor. Hang to dry in warm place or in direct sunlight.

Discuss additional cleaning options for soot, smoke, and mold with professional dry cleaners.

**Disposal:** Discard comforters, sleeping bags, and other stuffed items contaminated by floodwater that may contain sewage because they will be difficult to disinfect thoroughly. It is virtually impossible to get smoke odor out of comforters, sleeping bags, and other heavy, stuffed items. Dispose of these items with regular garbage.

### **Linoleum floors**

**Recovery:** If water gets underneath linoleum, it can cause odors and warp the wood sub-floor. Carefully remove sheet or tile linoleum if bulging in order to allow the sub-flooring to dry completely. If the linoleum is brittle, try a heat lamp to soften it so it can be rolled up without breaking. If not damaged, the flooring can be re-cemented after the sub-floor has completely dried.

If the flooring is not bulging and the subfloor is not saturated, carefully puncture any blisters in the tile with a small nail and hammer. Re-cement flooring by forcing

linoleum paste through the nail hole. Dilute regular linoleum paste, use a hand syringe and shoot adhesive through the nail hole. Weight the linoleum down with boards or bricks. Undamaged tiles can be reapplied with fresh cement once the subfloor is completely dried.

If fire damaged, remove soot and corrosive residue with a mild detergent as soon as possible to prevent permanent etching of the floor.

**Disposal:** Broken linoleum can be removed with a chisel and a hoe. Dispose with regular garbage or mixed demolition debris. **CAUTION:** Older linoleum (more than 20 years old) contains asbestos and must be professionally removed and disposed.

### **Locks/hinges**

**Recovery:** If damaged, take apart and clean working parts with kerosene, then wipe with oil. If locks cannot be removed, squirt machine oil through a bolt opening or keyhole, and turn the knob to distribute the oil. Clean and oil door hinges.

### **Mattresses and pillows**

**Recovery:** If only damp or slightly wet, clean the surface. Air dry in the sun, if possible, and then spray thoroughly with a disinfectant. It is too difficult to recondition an innerspring mattress at home. Companies that build or repair mattresses may be able to sanitize or renovate good quality damaged mattresses. The services may not be available in many communities, however. It may also not be cost effective.

If minor damage from fire and smoke, clean and deodorize using commercially available cleaning solutions or products.

If it is necessary to temporarily use a more severely damaged mattress, remove as much dirt and debris as



possible and put it in the sun to dry; cover it with rubber or plastic sheeting.

Pillows filled with feathers or synthetic material can be washed. Brush off surface dirt first. Machine wash in warm water. Use extra rinse cycle. Machine dry with towels to speed drying or hang on clothesline. Follow manufacturer's directions for cleaning foam rubber or urethane pillows, or soak in cool water, then machine wash; air dry.

**Disposal:** Typically, water soaked mattresses should be disposed because they cannot be adequately dried to prevent mildew. Mattresses that smell musty indicate the presence of mold, which is unhealthy to breathe. Dispose of mattresses and pillows contaminated by flood or sewage water. It is virtually impossible to get smoke odor out of pillows; feathers and foam retain smoke odor. Dispose with bulky materials at the solid waste transfer station or contact solid waste officials. Mattresses may require special handling, disposal, and fees.

### **Medicines and cosmetics**

**Disposal:** Do not use if exposed to heat, smoke, soot, or floodwaters. Do not throw unwanted medicines down the toilet or drain. Consult with solid waste authority for unwanted medications collection or other disposal guidance.



### **Money**

**Recovery:** Handle burned or damaged money as little as possible. Carefully encase each bill or portion of a bill in plastic wrap for preservation. (If it is wet, dry it first.) If at least half or more of the bill is intact, take the remainder to a Federal Reserve Bank for replacement. Ask your personal bank for the nearest one. Or mail the burned or torn money via First Class Registered Mail to: U.S.

Treasury Department, Main Treasury Building, Room 1123, Washington, D.C. 20220. Mutilated or melted coins can be taken to the Federal Reserve Bank, or mailed via First Class Registered Mail to: Superintendent, U.S. Assay Office 32 Old Slip, New York, NY 10005. Keep a record of the amount of money sent and when. If U.S. Savings Bonds have been mutilated or destroyed, write to: U.S. Treasury Department, Bureau of Public Debt, Division of Loans and Currency, 537 South Clark St., Chicago, IL 60605, Attn: Bond Consultant. Include name(s) on bonds, approximate date or time period when purchased, denominations, and approximate number of each.

### **Pipes/Plumbing**

Pre-disaster. If a severe ice or snow storm is anticipated, consider draining pipes and adding non-toxic antifreeze to the boiler system.

Recovery: Have wells pumped and tested before personal use, such as drinking or hygiene.

Recycling/Disposal: Broken metal piping can be recycled as scrap metal. PVC piping should be discarded with mixed demolition debris.

### **Propane tanks**

Pre-disaster. Turn off propane tanks to reduce fire potential in case tanks become damaged or dislodged.

Recovery: Propane tanks can present a danger of fire or explosion. Do not attempt to move if damaged or dislodged. Call the fire department or propane service provider.

Recycling: If nonrefillable tanks are undamaged and emptied contact local solid waste authorities for recycling opportunities.

### **Roof shingles**

Recovery: Remove debris. Inspect for damage. To remove mold from asphalt shingles and fiberglass panels, wash with 3 parts chlorine bleach and 1 part water at the rate of 1 gallon for about 40 square feet. For wood shingles, scrub with a mixture of 1 quart chlorine bleach and 1 ounce detergent that does not contain ammonia in 3 quarts water. Rinse well. If stains remain, increase bleach concentration. Control runoff as this solution will damage metal rain gutters and plants.

Recycling/Disposal: Some companies may recycle asphalt shingles. Otherwise dispose as mixed demolition waste.

### **Septic systems and sewer lines**

Recovery: If septic tank is damaged, conserve water, limit flushing, laundering, etc. until repaired. If septic tank, drainfield, or pump station is under water, turn off power to the system. Once floodwaters subside, turn on the pump manually to gradually send wastewater back into the drainfield. Have damaged septic tanks and leaching systems serviced as soon as possible, as these present health hazards. Do not flush toilets if there is a concern of broken sewer lines.

### **Sinks/plumbing fixtures**

Recovery: Clean with hot water and laundry or dish detergent. To protect from additional corrosion from soot, apply a light coating of Vaseline or oil on metal fixtures.

Recycling/Disposal: Damaged metal sinks and piping can be recycled as scrap. PVC and plastic piping can be disposed with mixed demolition debris. Remove and discard pipe insulation if wet. Piping insulation installed prior to the mid-1970s may contain asbestos. This material is hazardous and must be properly handled and disposed.





Contact local or state solid waste authorities for disposal information.

### **Subfloors**

Recovery: If damaged or saturated, plywood or OSB subfloors will separate or swell. Remove affected sections and replace in order to keep the floor covering from buckling. Use fans and a dehumidifier to dry. Allow to dry completely before installing new flooring. It may take several months for the subfloor to dry. Check the subfloor for warping prior to installing new flooring. CAUTION: Settled or bulged flooring may indicate foundation damage.

Disposal: Dispose with mixed demolition debris.

### **Tile or terrazzo floors**

Recovery: If wood sub-flooring was used as the underlayment, the ceramic tile or terrazzo should be removed. Thoroughly dry or replace the underlying material. Clean the tiles and reinstall using a moisture-proof sealant or adhesive. If partially damaged, remove loose pieces and allow the underlayment to dry completely. Re-cement the tiles.

Disposal: Dispose of damaged tiles in regular garbage or mixed demolition debris.

### **Toys, stuffed animals, other children's belongings**

Recovery: Items that have suffered minor smoke damage may be washed using similar techniques as for clothing. If splashed with storm water, wash and dry thoroughly.

Disposal: Any item that has been contaminated with soot, heavy smoke, or flood waters should be discarded with regular household trash.

### **Upholstered furniture**

Recovery: Depending on the fabric and extent of damage, upholstered furniture may require professional cleaning. Refer to the telephone directory under "furniture repair and restoration." Vacuum or brush off dirt; use a vacuum to remove soot. If cleaning on your own, remove cushions and clean separately. Clean using a solution of 1/4 cup powdered detergent mixed in one quart hot water. Lightly sponge on suds only (not water) and blot dry. Brush pile fabric in one direction only. Allow to completely dry and brush or vacuum residue. Use a cloth dampened with diluted alcohol (1 cup rubbing alcohol to 1 cup water) to wipe mildew. Use fans or dehumidifiers near upholstered furniture to help dry or set outside under shelter if warm. Do not remove cushion covers because they may shrink. Before placing furniture back on the floor or carpet, put foil, wooden, or plastic blocks under the legs to prevent the furniture from staining the floor and to allow for continued drying.

Use baking soda to get rid of smoke odor. Dust the furniture with baking soda and allow to set for at least a day. Then vacuum it up and repeat the process a few more times over the course of a week. If using a cleaning solution, add a water-soluble deodorizer to the solution to control residual smoke odor. If odor is overwhelming or does not dissipate, seek professional help.

Severely damaged or flood-water-contaminated furniture may be difficult or impossible to salvage. Water will leave the fabric stained. Mud and silt can penetrate the padding. Mildew can grow inside and outside the padding. Consult an upholsterer about the condition of the wood, springs, and frame for reupholstering. Ask for a cost estimate, as it may be less expensive to replace the furniture.

If it seems worth the effort to salvage, strip the furniture of coverings and stuffing. Wash coverings, if salvageable. Discard stuffing if floodwater contaminated or heavily smoke damaged. Disinfect the frame if contaminated by flood waters (see wood furniture, above). Dry the frame thoroughly using a fan and indirect heat. Place outdoors under shade or cover for limited periods, if possible (not in the direct sun). As the frame dries it may need to be disinfected again to remove mildew. Glue loose joints. Oil springs and coat metal parts with rust-inhibiting paint. **Disposal:** Dispose of cushions, padding, and stuffing in regular garbage or with demolition debris. If the entire piece needs to be disposed, consult with local solid waste or town officials about furniture disposal or discard in bulky bins at the transfer station.

### **Vehicles**

**Recovery:** Vehicles with minor flood or fire damage may be repairable, but as with restoring other personal belongings, time is a factor. Water damage can become irreparable in a short period. Contact your insurance company to have the vehicle examined by a professional. Both fire and water can damage electrical and mechanical systems. Sewage, sand, and other debris can harm the engine. Do not attempt to start the car until it has been examined—have the vehicle towed. Mold growth in the interior is probable in flood damaged vehicles; carpet and padding must be removed and cleaned.



**Recycling:** Most metal scrap yards or junk auto dealers will haul nonsalvageable vehicles for recycling. Consult the telephone directory under “automobile wrecking and salvage” or “scrap metal.”

### **Walls and ceilings**

**Recovery:** If walls are not straight or ceilings are not level, closely examine the underlying foundations for movement or undermining. Evidence of settling or cracking may also indicate that the structural condition of the premises has been weakened. It may be necessary to dig down to the footings and reinforce or replace any that have settled. Check walls with a level. Brace walls if necessary. Replace or repair sill plates (mudsill), sole plates and anchorage where needed.

In flooded or water saturated structures, open, clean, decontaminate, and dry out cavities in walls, floors, and ceilings as soon as possible to prevent mold and mildew growth. Removing siding strips or plaster from the upper and lower parts of the walls may be sufficient. It may take several weeks to thoroughly dry.

Start cleaning at the upper part of the premises and work down to the first floor or basement. Remove mud, loose dirt, and debris as soon as possible. If water or mud damaged, wash walls while still wet, if possible. Plaster and stucco can be repaired while still damp. Wipe plaster walls and ceilings gently with a slightly damp cloth. Plaster may take weeks or even months to dry. If saturated for a significant amount of time old plaster may disintegrate and need replacing or covering up.

Wash painted walls with a mild soap or detergent. Wash a small area at a time, working from the floor up. Then rinse the wall with clear water immediately. Ceilings should be washed last.

Flood or water saturated laminated paneling (plywood or Masonite) may separate and warp, depending on the length of time it remains saturated.

To remove mold that has grown into the wood under paint or varnish, use 4 to 6 tablespoons of trisodium

phosphate and 3/4 cups household bleach to 1 gallon of water. Rinse well with clean water. Allow wood to dry thoroughly. Walls contaminated by floodwaters or sewage backflow should be disinfected with a solution of 1 cup of bleach to 5 gallons of water.

It is difficult to remove soot from painted surfaces, wallboard, plaster, wallpaper, exposed wood, and other porous surfaces. Papered or flat painted walls damaged by soot should be cleaned by a professional. For minor damage, use a "dry chemical sponge" to remove soot. These are specially designed sponges that are available from professional cleaning supply companies. Start with the ceiling and work down the walls from the top. Once the soot is removed, clean with soap and water or a mild solution of citrus cleaner or degreaser. Minor soot and smoke may be removed from walls and floors by using a mild soap or detergent or mix together 4 to 6 tbsp. trisodium phosphate and 1 cup household cleaner, Lysol, or chlorine bleach to every gallon of warm water. Rinse with clear warm water and dry thoroughly. Wash a small area of the wall at a time. Then rinse the wall with clear water immediately. Wash ceiling last.

If the walls retain smoke odor from fire damage, do not remove wall panels. This will cause the odor to spread. Wash the walls and let dry. Seal the walls with a pigmented shellac found at home centers and paint stores. Cover the walls with drywall, wallpaper or paint. To remove smoke odor from ceilings, scrape off any texturing compound, then wash and seal with a pigmented shellac found at home centers and paint stores.

Allow walls, ceilings, and all woodwork to completely dry before repainting, adding new wallpaper, or redecorating. If the damage was substantial, use a primer before painting. Consult a paint store for further instructions.

***Disposal:*** Discard plaster, wallboard, wallpaper, paneling, and other absorbent materials contaminated by floodwater. Dispose with mixed demolition debris.

### **Wallpaper**

***Recovery:*** Remove if badly soaked or contaminated with flood or storm water. Use a commercial paste to paste loose edges or sections. Contact your wallpaper dealer or installer for information on wallpaper cleaners. Use commercial putty-like wallpaper cleaner to clean unwashable wallpaper. Washable wallpaper can be cleaned with mild soap or detergent. Use two sponges and two buckets, one for the cleaning solution and the other for rinse water. Start cleaning the paper at the top and work down to the floor, washing and rinsing a small area at a time. Work quickly so paper does not become soaked. Grease spots can be removed by applying a paste of dry-cleaning fluid with cornstarch or talcum powder. Allow the fluid to dry and then brush it off.

To reduce the chances of mold and mildew growth, wipe down all surfaces that have been wet with a solution of 1 cup of bleach to a gallon of water. First, test painted, textured, or wallpapered surfaces to ensure that the bleach solution will not discolor these surfaces. Wipe a small area of the surface with the bleach solution, and allow to dry at least 24 hours.

### **Wells and water systems**

***Recovery:*** If water pipes are damaged turn off the main water valve. Have well systems checked and a bacteriological test done to ensure that well water was not contaminated by flood waters. Waste water system valves at ground level should also be examined for physical damage following a storm. Contact the local health department if there is concern.

**CAUTION:** Check with local authorities or observe reports on drinking water safety. Always purify water until you are certain it is safe to use. Sanitize by: boiling vigorously for 3 minutes; adding ½ teaspoon of unscented chlorine bleach per 2½ gallons of water; or adding 12 drops of tincture of iodine per gallon of water. Implement home water conservation measures as necessary.



### **Windows**

**Recovery:** Clean smoke-covered windows by adding one part rubbing alcohol to five parts window cleaner. Disinfect frames if exposed to flood waters and to clean mildew.

**Disposal:** Discard broken glass and window frames with mixed demolition debris or household garbage (double wrap in plastic).

### **Wood decks**

**Recovery:** Scrub untreated wood with a mix of 1 quart bleach, 1 ounce detergent that does not contain ammonia, in 3 quarts water. Rinse well. If stains remain, increase bleach concentration. Allow to dry before painting or enclosing.

**Mulching/Disposal:** Untreated wood may be mulched. Otherwise, dispose as mixed demolition waste.

### **Wood flooring, wood paneling, and woodwork**

**Recovery:** Remove rugs and other items from floors as quickly as possible. Mop up excess water. Remove mud and debris. Use a stiff bristle brush and detergent and water to scrub. A 5 to 10 percent solution of borax, with a few drops of kerosene in the water can be used on woodwork; apply with a damp cloth. Use a mild alkali solution (5 tablespoons washing soda — “sal soda” or sodium carbonate — or trisodium phosphate to 1 gallon of

water) to remove mildew. Wash with ¾ cup bleach to 1 gallon water to disinfect. Clean paneling and woodwork from top to bottom. Rinse with clean water.

Allow to dry thoroughly before attempting to straighten warped or buckled floors. Flooring will expand. Removing a board every few feet may reduce buckling caused by swelling. Alternatively, remove the trip boards along with one board along each end of the floor. The wood should shrink back to normal once dry. Reattach edge and trip boards; re-nail where necessary. Try flattening buckling floorboards with nails. Buckled floor boards can be pulled back to plane or sand rough surfaces or small humps. If surface finish is damaged refinishing should repair appearance. If the damage is severe, the flooring may need to be removed and re-laid or replaced. Tongue-and-grooved flooring should be inspected by a carpenter or flooring professional. To prevent mold, basement floors must be removed to allow thorough drying after cleaning and disinfecting. Drying of wood subflooring may take several months.

Severely water- or fire-damaged wood or laminate floors may require professional advice. Look in the telephone directory under “floor cleaning.”

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## Local Disaster Recovery Contact Information

**Town Office:**

**Emergency Management:**

**Solid Waste Contact:**

**County Extension Office:**

### **New Hampshire Contacts & Resources**

**New Hampshire Red Cross:** (800) 244-2214

**NH Department of Safety, Homeland Security and  
Emergency Management:** [www.nh.gov/safety](http://www.nh.gov/safety)  
(603) 271-2231 In State and Local  
(800) 852-3792 Toll Free  
(800) 735-2964 TTY/TDD Relay Services

**New Hampshire Department of Environmental Services**  
[www.des.state.nh.us/programs.asp](http://www.des.state.nh.us/programs.asp); (603) 271-3911.  
Information on asbestos removal, mold assessment and mold  
removal, household hazardous waste, and more.

**New Hampshire Disaster Animal Response Team (NH-  
DART);** [www.newhampshiredart.org](http://www.newhampshiredart.org); [nhdart@msn.com](mailto:nhdart@msn.com)

### **Helpful Contacts & Resources**

**American Red Cross:** [www.redcross.org](http://www.redcross.org); (800) REDCROSS  
(800) 733-2767 or (800) 257-7575 (Español); check the Web  
site or telephone directory for local offices.

**FEMA (Federal Emergency Management Administration):**  
[www.fema.gov](http://www.fema.gov); (800) 621-FEMA (3362); TTY (800) 462-7585

**Small Business Administration Disaster Assistance  
Program:**  
[www.sba.gov/services/disasterassistance/index.html](http://www.sba.gov/services/disasterassistance/index.html);  
(800) 659-2955.

**Association of Small Business Development Centers**  
[www.asbdc-us.org/Resources/Disaster.html](http://www.asbdc-us.org/Resources/Disaster.html); (703) 764-9850.  
Links for disaster assistance and recovery for small  
businesses.

**Institute of Inspection, Cleaning and Restoration  
Certification (IICRC):** [www.certifiedcleaners.org](http://www.certifiedcleaners.org);  
(800) 835-4624. Has a free hotline and website directory to find  
trained and certified professionals in your area.

**Restoration Dry Cleaning Network:** [www.crdn.com](http://www.crdn.com);  
(800) 520-CRDN (2736). To locate a professional dry cleaners  
or textile restoration service.

**The University of Missouri Extension**  
<http://extension.missouri.edu/pdf/YourFloodedHome.pdf>  
"Resources for Your Flooded Home" provides an excellent in-  
depth discussion of cleaning flood-damaged homes.

*Photo credits: University of New Hampshire Cooperative Extension;  
The Union Leader.com, 7/24/08; MyFox.com 7/24/08; WBZTV.com,  
7/24/08.*