

# Cleaning Up



Information on  
Clean Up and Repair of Flood Damaged Property



**FEMA**

Region III  
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## First Steps

*If your house or its understructure have been under water from recent flooding, you will need to take important steps to clean and dry your home thoroughly.*

**For your own safety, be sure to keep a barrier (e.g. rubber gloves, boots) between you and anything touched by floodwaters.**

1. Before you enter your home, be sure power company has turned the ELECTRICITY OFF and that GAS is also OFF.
2. Open doors and windows to allow moist air to escape and help with the drying process.
3. Remove all wet contents including furniture, carpets or rugs, clothing and food.
4. Discard all contaminated food products, even canned goods.



**To get rid of foul odors**, scrub all interior surfaces. Use hot sudsy water, followed by a rinse solution of 2 tablespoons of household bleach to a gallon of water. Or use a household disinfectant following the manufacturer's directions. Repeat scrubbing and rinsing until odors are gone.

**DO NOT MIX AMMONIA AND CHLORINE PRODUCTS...the combination produces TOXIC FUMES!!**

## Handling Food and Water After a Storm or Flood

*After a major storm or flood, you must assume that all water sources are contaminated until proven safe.*

**Discard food which has been touched by floodwaters.**

**Purify all water used for drinking, cooking, laundry, housecleaning, and bathing.**

Remember that not all soap is anti-bacterial, so read labels.

Do not try to purify water that has color, odor or contains solid matter.

## To disinfect water, use one of the following 4 methods:



1. **Boil** at a rolling boil for one minute or longer. (best method)
2. Add 1 teaspoon of liquid **chlorine bleach** per 5 gallons of water. Make sure the bleach contains 4 to 6 percent sodium hypochlorite as its only active ingredient.
3. Add 12 drops of **tincture of iodine** per gallon of water.
4. Buy **water purification tablets** available at most drug and sporting goods stores, and use according to directions on the package.

Thoroughly mix the purifying agent in the water and let stand for at least 30 minutes before using. To lessen the flat taste of boiled water, pour the water back and forth several times between two clean containers.

## ALL FLOODED FOODS SHOULD BE DISCARDED.

Even canned goods and unopened plastic and glass containers which appear undamaged may have small leaks which allow the contents to be contaminated.

**When in doubt, throw it out!**



# Cleaning & Salvaging the Interior of Your Home

Follow these four steps to make your home safe to reoccupy:

1. **Open framing cavities.**
2. **Remove wet insulation.**
3. **Disinfect and dry.**
4. **Rebuild with water-resistant materials.**

## Interior Walls

*Walls must be allowed to dry thoroughly from the inside out. The drying process may take weeks or even months, depending upon initial moisture content and drying conditions. Rebuilding too quickly and trapping moisture inside walls can cause continuing problems such as mold growth, insect infestations and deterioration of the wood and wood coverings.*



The recommended procedure:

1. **Remove wallboard or paneling to one foot above the line of highest flood water on at least one side of every wall.**
  - *In most cases the wall finish material will be easier and safer to replace than to clean and repair, so you may decide to remove both sides.*
  - *Likewise, it may be easier and safer to remove all of these materials than to stop at the minimum above the flood depth.*
  - *An exception might be an ornate or unique trim detail such as a cove moulding which would make the upper part of the wall worth saving.*
  - *Laminated paneling (plywood, hardboard) can sometimes be dried by prying out the bottom corner of the paneling and propping it away from the wall studs. The extent of damage will depend on how long it was submerged and how soon the drying process is started. Chances of delaminating are reduced if drying is slow and thorough.*
2. **Remove wet insulation and discard.**
  - *Most insulation will be ruined if water-soaked, and should be replaced.*
  - **Rigid foam** insulation can be removed and disinfected. Once it is completely dry, it can be reinstalled in the wall cavity.
3. **Wash and disinfect the exposed wall cavity and framing using hot soapy water scrub and bleach rinse described below. Allow to dry VERY thoroughly.**

- *Ventilation is usually the best way to dry things out and can remove several gallons of water per day. Provide an entrance and exhaust opening for air to promote cross-ventilation. Place a fan in a window or door, blowing to the outdoors. Seal the rest of the opening with cardboard, plywood, or blankets so the fan can create a vacuum. Use other fans to circulate air over wet surfaces. Face fans into corners or other hidden areas.*
- *Heat increases the moisture-holding ability of the air. Use your furnace, if available, or large portable heaters to heat the air. Small space heaters will have little effect. As wood gets drier it may be helpful to heat the house for a few hours, then ventilate to exchange moist air with dry air.*
- *A dehumidifier can be used if outside air is humid. Dehumidifiers function most efficiently at warm temperatures.*
- ***Is it dry enough?** Use a wood moisture meter to check dryness. Wood should have a moisture content of less than 15 percent before drywall, paneling, or other coverings are placed on the wood. Lumberyards, hardware stores, or your local extension service may rent or loan meters.*

#### **4. Rebuild with water-resistant materials**

- *Rigid plastic foam insulation does not absorb water and is thus less destructive when wet. In most cases, building codes require that this type of insulation be covered with fire resistant material such as gypsum wallboard.*
- *Water-resistant gypsum wallboard (sometimes called “green board”) is preferable to regular wallboard. Portland-cement-based products such as concrete tile-backer board or fiber/cement board are better still, since they are not damaged by prolonged exposure to water.*
- *Marine plywood is made with waterproof glue. It is expensive, but may be appropriate if exposure to flooding is high.*

## **Exterior Walls**

*In many cases, exterior walls can be dried from the inside as described above. The process can be speeded by providing air exposure to the outside as well.*

**Masonry** will dry slowly, but should be undamaged except for possible cracking from settling. Follow instructions above for inside of masonry veneer walls.

For **lapped siding** (wood, asbestos, aluminum), remove strips or sections to dry insulation and framing. The type of sheathing will influence drying rate.

**Wooden boards** will dry slowly and some will warp. If possible, re-nail warped areas before they dry. Replace those that are too badly warped to salvage.

**Fiberboard sheathing** (material between studs and finish siding) is usually absorbent and will be difficult to dry. Some will disintegrate or separate and need to be replaced.

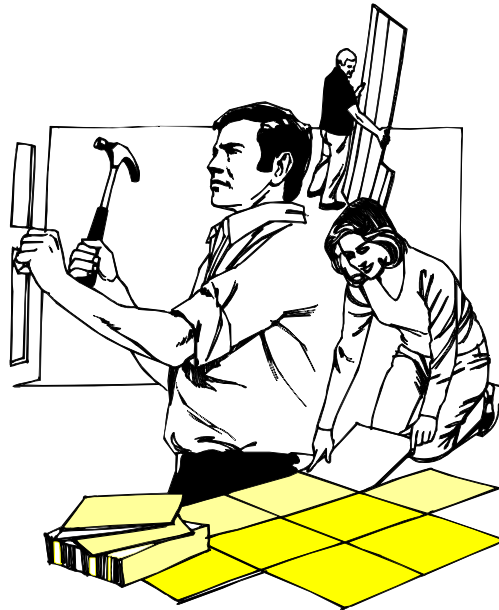
**Plywood** will need to be replaced if the layers separate (delaminate). Marine plywood will not warp or separate, but is expensive.

## Floors

Sections of **subfloors** that separate or swell must be replaced to avoid buckling. When floor coverings are removed, allow subfloors to dry thoroughly, even though it may take several months. Disinfect all wet surfaces to prevent mildew.

For **wood floors**, remove a board every few feet to reduce buckling caused by swelling. Ask a carpenter for tips on removing tongue-and-groove boards.

**Vinyl floors** with wood subflooring should be removed so the subflooring can be replaced. With concrete floors, removal isn't necessary except to hasten drying of the slabs. *Loose tiles may be replaced if the floor has not been soaked. If water has seeped under sheet flooring, remove the entire sheet.*



**Concrete floors** may be decontaminated and deodorized by soaking with a solution of 1 cup rock salt to one gallon of water.

Flood the floor with the solution and let dry; then sweep up the dried salt. **Note:** *This method may weaken newer concrete, causing the surface to chip or flake.*

## Carpets & Rugs

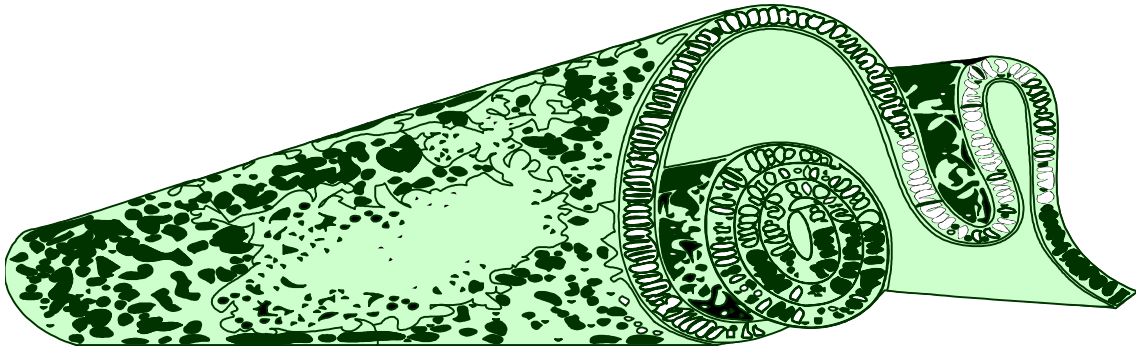
*Even with best efforts, wet carpet will be difficult to clean, and it will be a challenge to prevent mildew and odor problems. It is best to get professional cleaners to work on carpets and floors, but in some cases this may not be possible. In any case, begin cleanup as soon as possible.*

1. **Roll up carpet** and take outside to driveway, patio, or garage floor. If carpet is too heavy to move, lift off the floor and prop it up on sawhorses, old chairs, or other supports to drain. Perhaps it will be light enough to move outside after it drains.
2. **Remove the spongy pad** underneath and throw away. It is not salvageable.
3. Try cleaning a **glued-down carpet** in place before you attempt to pull it up, because the foam backing will probably be pulled apart. (See clean-in-place steps below). It may be best to sacrifice the carpet in order to save the floor under it. Use a power vacuum to extract water.

4. **Move carpet outside**, then clean floors first. Minimize odor and mildew in the house before dealing with the carpet.

## Cleaning Carpet Outdoors

1. Take carpet outside to lay flat on dry concrete area, such as a driveway, patio, or garage floor, preferably out in the sun.
2. Use a garden hose with strong spray nozzle. Start at one end and sweep the carpet with water. Do this at least twice.
3. Pour on an all-purpose ammonia or pine-sol-based cleaner and let it soak a few minutes. **(DO NOT mix ammonia and chlorine products together. This combination produces toxic fumes!)**
4. Sweep the carpet again, forcing the cleaning foam and dirt ahead of you.



5. Rinse thoroughly until all the cleaning foam has been removed. You must rinse before sanitizing (see instructions) to avoid production of toxic fumes that result when bleach and ammonia are mixed.
6. Use a **wet/dry vacuum** to get the water out of the carpet.
7. Dry quickly as possible (see drying instructions) to help avoid mildew.

## Cleaning Carpet in Your Home

Try this with glued-down carpet **ONLY** if your room has concrete floors and a drain.

1. Use a **wet/dry vacuum** to suck up as much water and mud as possible. Do not let electrical cords get wet.
2. If no power equipment is available, use a garden hose with a strong spray nozzle to flush out mud and water.
3. Start at the end farthest from the drain and follow steps listed under “cleaning carpet outdoors.” Sweep the carpet with water moving in the direction of the drain.
4. If cleaning is not successful or carpet gets mildewed, the only alternative is to tear out the carpeting.

## Sanitizing Carpet

*Bleach treatment will not guarantee that your carpet is safe, but it may work. Be warned that bleach will probably change carpet color, because carpet dyes are not designed for bleach resistance.*

1. Mix a solution of 1/2 cup of bleach per gallon of water, 2 1/2 cups per 5-gallon bucket. You may need more or less than 5 gallons depending on the size of your carpet.
2. While the carpet is still wet, use a small saucepan or measuring pitcher as a dipper and dribble the bleach solution over one section of the carpet. Rub it into the carpet with a plastic scrub brush. Wear rubber gloves to protect your hands. Let it set for about five minutes, then rinse with the hose.
3. Repeat the above steps until the entire carpet has been treated and rinsed.





# Storm-Soaked Clothing

**Wash with bleach or have dry cleaned.**

*When cleaning clothes soaked by flooding, remember that the floodwater is contaminated with sewage. Simply drying these clothes is not enough. For safety, they must be disinfected to kill harmful bacteria. Two tablespoons of liquid chlorine bleach per washer load will kill bacteria without substantially damaging washable clothes. Do not use more than two tablespoons per washer load unless all the clothes can be safely bleached. Dry cleaning is also effective.*

**Hints for successful cleaning of clothing:**

*Do not use bleach on wool, silk, feathers, and foam.*

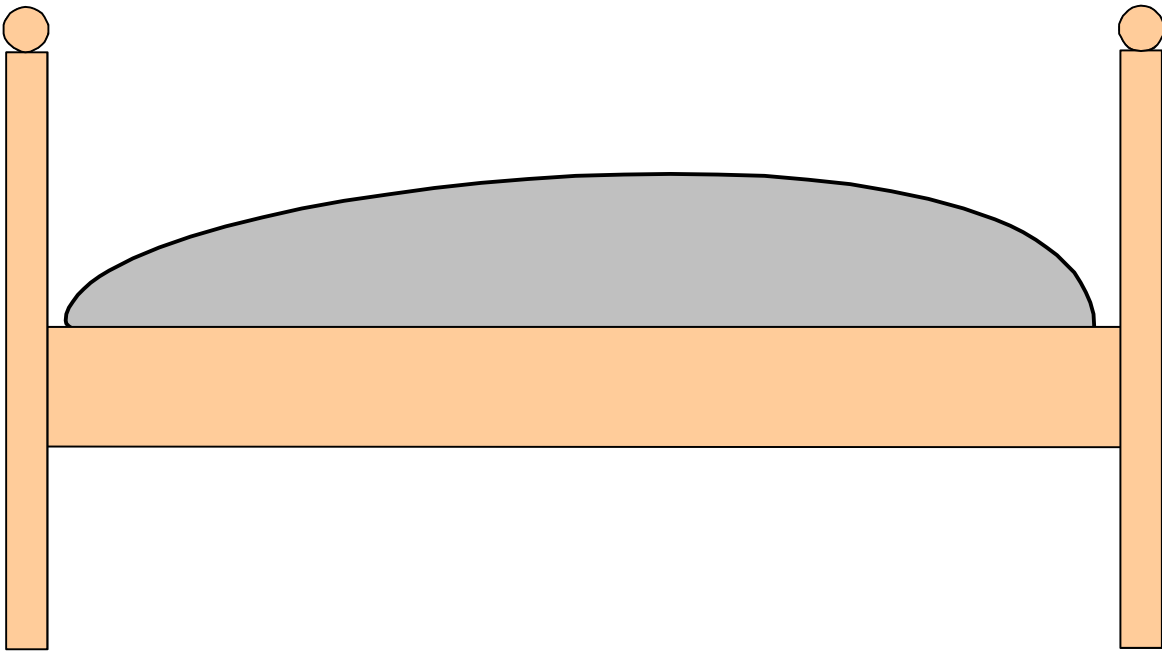
1. **Separate wet items** as soon as possible to keep clothing colors from running together. Sort out clothing that should be dry-cleaned. Do not mix flood-soiled clothes with clean clothes. Take care not to contaminate work surfaces.
2. **Items to be dry-cleaned** should be air-dried and taken to a cleaner as soon as possible. (If you suspect they may have been in sewage-contaminated water, wear plastic gloves.) Do not dry the clothes near a heat source such as a stove. Once dry, shake and brush clothing outdoors to remove as much soil as possible.
3. **Rinse washable items** several times in cold water. If badly soiled, soak overnight in cold water and an enzyme product or detergent. Wring out and air-dry if you're unable to machine wash.
4. **Machine wash clothes as soon as possible.** Use a heavy-duty detergent and a disinfectant such as two tablespoons of chlorine bleach, pine oil, or a phenolic disinfectant. Use highest water level possible, don't overload washer and use the hottest water temperature suitable for the garments. Select the longest wash cycle available. Dry in a dryer (if available) at the hottest temperature suitable for the fabric.
5. **Stained or very dirty** clothes may require adding appropriate bleach to the wash. Follow directions on the bleach containers and garment tags for types and amounts to use.
6. If an item is still stained after washing, **rewash** before drying. Drying may make some stains harder to remove.



## Mattresses

**Do not use a mattress that has been soaked with floodwater.**

If you decide to keep a flood-soiled mattress, it should be sterilized. A good innerspring mattress can be sanitized by a commercial renovating company. Ask your local public health department or extension agent for help in finding this service. It may be less expensive to buy a replacement new or reconditioned mattress.



## Pillows

**Do not use flood-soaked pillows.**

*In most cases, it is impractical to safely sanitize pillows...*

**When in doubt, throw it out!**

# Drying Books, Papers, & Photos

**Documents and photographs are often the most precious items in flooded homes and thus justify exceptional efforts to preserve them.**

*The best opportunity to save these items is during the first 48 hours of their being wet. Waiting longer, after mold and mildew have set in, may make the task difficult or impossible. If an item is mildewed and can be replaced, throw it away.*

## **Hints for successful preservation of photos and documents:**

Using dehumidifiers and heaters can be more destructive than helpful. Drying too fast can make photos and documents warp and crack. Drying them slowly in a place where cool air can circulate is best.

Photo albums which allow the pictures to touch will require very careful handling (and perhaps good luck) because the photo surfaces often soften and melt together.

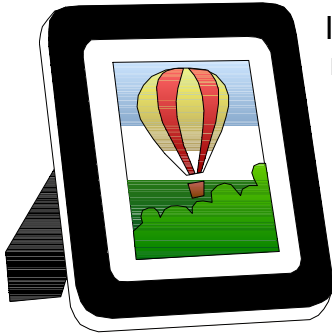
Photos on glass plates cannot be removed from the glass. If a photo is important to you, contact a photo finishing shop. The photo can be scanned into a computer, cleaned electronically and then reprinted, or can be re-photographed.

## **Books**

1. Place books on end with the leaves separated.
2. When they are partially dry, pile and press books to keep pages from crumpling.
3. Alternate between drying and pressing until books are thoroughly dry to help prevent mildew. Use a fan to hasten drying.
4. If books and papers are very damp, sprinkle cornstarch or talcum powder between leaves to absorb moisture. Leave powder for several hours then brush it off.
5. When books are nearly dry, apply low heat with an electric iron. Separate pages to prevent musty odors. This is tedious, so save the process for valuable books.
6. When books are thoroughly dry, close them and use C-clamps or weights to help them retain their shape.
7. Even if books and papers appear to have dried successfully, they may disintegrate rapidly because of materials in the floodwater. Any important documents or papers should be photocopied as a precaution.

## The Freezer Option

If you can't take time to deal with soggy photos and documents immediately, and you have access to a freezer, consider freezing documents (and some photos) to stop the decay process and buy some time. Place the items in plastic bags to protect against contamination



If a **book** is obviously wet and still closed, keep it closed to avoid more damage. Let it drain, then freeze it.

Freezing can be trickier for older photos and shouldn't be tried with those more than 50 years old. Electronic restoration is the most promising option for these.

Newer photos that have stuck together in piles also can be temporarily stored in a bucket of cold, clean water to minimize damage until you have time to work with them.

Separate them gently, and hang them on indoor lines with paper clips.

Photo albums which allow pictures to touch face-to-face are particularly difficult, because the photo surfaces often soften and melt together.

## Restoring Your Furniture

*Before starting to salvage damaged furniture, decide which pieces are worth restoring. Also, consider the replacement cost and value of each piece. If insurance allows part value on flood-damaged furniture, it may be financially worthwhile to apply the money to new articles, rather than make or pay for extensive repairs.*

**Antiques** are probably worth the time, effort, and expense of restoration. Unless damage is severe, you can probably clean, re-glue, or refinish antiques at home. Extensive repair or re-veneering work should be done at a reliable furniture repair shop.

**Solid wood** furniture can usually be restored unless the damage is too severe. You will probably need to clean, dry, and re-glue it.



Do not throw away solid wood furniture until it has dried and repair efforts can be assessed. Slightly warped boards may be removed and straightened or replaced.

**Wood veneered** furniture is usually not worth the cost and effort of repair, unless it has great antique or sentimental value. If veneer is loose in just a few places, you may be able to repair it. Veneered furniture repairs are usually best done by professional refinishers.

**Upholstered** furniture may be salvageable, depending on its general condition. Flooded pieces will need to be cleaned and dried, and mildew removed. In most cases, you will have to replace padding and upholstery. Since this is an expensive process, it might be wiser to apply the money toward a new piece of furniture.

You will not need to repair all pieces immediately. Any furniture worthy of repair should be completely cleaned, dried and stored in a dry, shady, well-ventilated place until you have time to repair it. Wooden furniture damaged by floods can best be salvaged through slow drying and proper repair.

Take **submerged** or **wet** furniture outdoors, and remove as many drawers, slides, and removable parts as possible. Drawers and doors will probably be stuck tight. Do not try to force them out from the front. With a screwdriver or chisel, remove the back and push out the drawer from behind.

After you have removed all the movable parts, clean off mud and dirt, using a hose if necessary.

Take all furniture indoors and store it where it will dry slowly. Furniture left in the sunlight to dry will warp and twist out of shape.

When furniture is dry, re-glue it if necessary. You will need tools and clamps to re-glue some pieces. Before you start, decide whether you have the time, equipment and ability to do the work. Consult an experienced furniture restorer if necessary. Many books are available on the subject.

To re-glue loose joints or rungs, cut or scrape off old glue so the area will be as clean and free of glue as possible. Use a white all-purpose glue, following directions on the container. Hold parts together with rubber rope tourniquets or clamps. To prevent damage from ropes or clamps, pad the contact points with cloth.

## **Damp furniture - removing white spots**

White spots or a cloudy film may develop on damp furniture that has not been submerged.

If the entire surface is affected, rub with a damp cloth dipped in (a) turpentine or camphorated oil or (b) in a solution of 1/2-cup household ammonia and 1/2 cup of water. Wipe dry at once and polish with wax or furniture polish.

If color is not restored, dip 3/0 steel wool in oil (boiled linseed, olive, mineral, or lemon). Rub lightly with the wood grain. Wipe with a soft cloth and re-wax.

For deep spots, use a drop or two of ammonia on a damp cloth. Rub at once with a dry cloth. Polish. Rubbing cigarette ashes, powdered pumice or a piece of walnut into spots may also help remove them. Be sure to wear rubber gloves when using these solutions.

If spots remain after all efforts to remove them, the piece should be refinished.

## Cleaning Your Furniture

Always wear rubber gloves when using cleaning solutions or working with flood-damaged or moldy furniture.

Read fiber content labels.

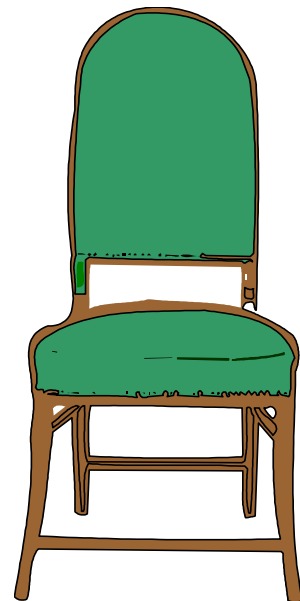
Test a hidden area using a solution of lukewarm soapy water (1 tablespoon soap to 1 quart water) or a bleach solution (1 tablespoon bleach to a pint of water) to see if color is removed or fabric shrinks. Allow to dry, then decide if the fabric can be cleaned. Sponge fabric to remove dirt, and use bleach solution to remove and prevent molds. Fabric may be removed from frame to clean, depending on the damage.

Remove tacks, nails, braid, and other fasteners.

Remove and destroy cotton padding. Polyester and foam rubber padding can be cleaned, dried and reused in the furniture.

Wipe down wooden frames with a 2 tablespoons bleach to gallon water solution to remove or prevent mold or mildew. Wipe dry and allow to air dry in an open shady place (never dry furniture in direct sunlight).

Dry springs and other metal parts. If rust has formed, you may need to replace or clean. Use steel wool and coat with paint. A light oil could be wiped on metal parts to help prevent later rusting. Many major manufacturers keep records of fabric or metal parts, which can be ordered from the dealer for replacement.



Be sure all parts are dry before reassembling.

A reliable furniture repair shop will give estimates on the cost of redoing furniture. Also, consider replacement cost and the value of each piece. If insurance allows partial value on flood-damaged furniture, it may be financially worthwhile to apply the money toward new articles, rather than pay for extensive repairs.

## Electrical Service

### Cleaning and Drying Your Electrical System

Electrical wiring and equipment exposed to flood waters can be extremely dangerous if re-energized without replacement or reconditioning. Although it may not be apparent, its components may have been severely damaged. Contamination and sediment may have become lodged in the equipment.

**For guidance on how to proceed, contact a licensed electrician or local officials responsible for electrical safety.**

In an emergency, pull the electrical meter from its base to disconnect the power. Notify the electrical company that you broke the seal.

### Large Electrical Appliances

*Floodwater causes many problems when it gets into appliances, and satisfactory repairs may be so difficult and time-consuming as to be not worth the effort. Further, newer appliances are, by law, more energy-efficient and may pay for themselves in electricity savings.*

*Many flood-damaged appliances **can** be salvaged, but will need extreme care before reuse. It is always preferable to have these repairs made by a professional service person. Following disasters, however, individuals who have these skills often are very busy, and the owner of the appliance may find it necessary to make repairs. Many small appliances, including television sets, microwave ovens, and radios, are more electronic than electrical. Most small appliances or electronic devices are not economical to repair.*

Appliances that are insulated, such as ranges, ovens, freezers, refrigerators, and water heaters, need to have wet insulation removed or dried in place. Newer freezers and refrigerators include foam insulation that will not require removal.

1. Approach a flooded or wetted appliance with caution. Water can short-circuit an electrical appliance so that parts, which don't normally conduct electricity, can shock you.

2. Disconnect power to the building or to the circuit, which feeds the suspected appliance. Then unplug the appliance.

3. Disconnect all switches, contacts, motors, and electrical wiring. Make a diagram of the connections, or list the steps you took to disconnect these items; this will help you remember how to reassemble the parts.

4. Avoid the temptation to hose the appliance down. You might get water into places the flood didn't reach. Clean with small amounts of water and cloth rags. Use common household grease-cutter cleaners, followed by clean water to remove ammonia. Then rinse with chlorine bleach solution, one tablespoon chlorine bleach to 1 gallon clean water. Dry with a towel. Allow the parts to dry for several days before reconnecting.

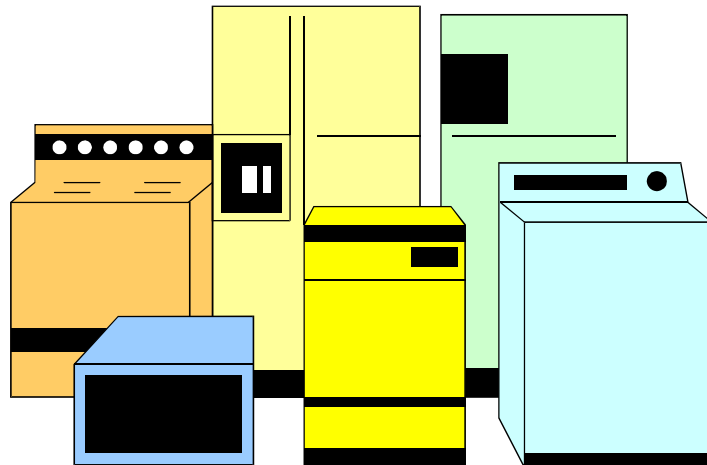
5. Use spray-on drying agents to help in the displacement of moisture in contacts, motors, and so forth.

6. Re-assemble the disconnected parts referring to your diagram or list of steps.

7. Make sure the appliance is dry and properly grounded before reconnecting.

8. With the circuit still off, plug the appliance into the outlet. Make sure the appliance is turned off before turning on the circuit at the breaker panel.

9. Turn on the circuit. Check the wall outlet and appliance for shorting or smoke. If the breaker kicks out or the fuse blows, **DO NOT RESET**.





## Removing Debris After the Disaster

Cleanup after a disaster is a major problem. Debris from trees, shrubs, and buildings may be everywhere. Even though extra resources may be provided to the community to help with disaster cleanup, it may be some time before collection is possible. You may have to dispose of some items on your own.

Some damaged materials and debris may be useful, such as tree trunks for lumber and trees for firewood and as erosion control.

Proper cleanup and disposal will prevent future health and injury risks and may save time and money. Debris removal will reduce the potential for nesting by rodents, snakes, and insects, or at least keep those infestations in a concentrated area away from the home.

Be careful around damaged buildings and trees. These may fall if damaged severely. Broken glass, nails, and sharp limbs may cause injury. Snakes, animals, and insects may be hidden in this debris.



The cost of debris removal may be covered by your homeowner's insurance. For guidance on tax considerations and appraisal needs, contact a professional accountant or tax adviser. Also, after disasters, the county, state, or federal government sometimes provides cleanup help. Local codes and regulations may be relaxed for a brief period following the disaster.

Contact your insurance agent and review your policy to see what coverage you have for tree and debris removal. Document damage by photographs or video if possible; otherwise, make a descriptive listing of the damage.

Contact local authorities to see what provisions have been made for disposal of building debris and for trees, limbs, and brush (vegetative debris). Public collection, local dumping or burning of certain materials may be provided.

Where debris pickup is done by the city/county, separate tree litter and other vegetative debris from building debris.

Do not burn any debris unless authorized. Control any burning carefully, and do not burn during windy or rainy conditions.

## Handling and Burning Debris

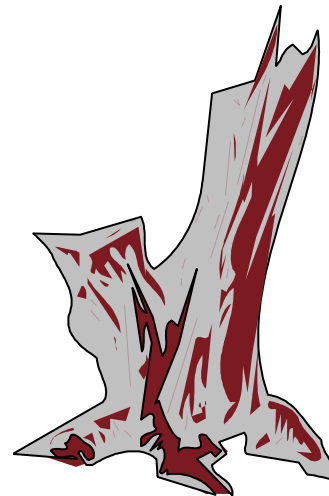
*Some items, that have been flooded, may have chemical or biological contamination. Wear rubber gloves and protective clothing when handling hazardous items.*

1. Collect wet or damaged insulation carefully and bag if possible. Glass fibers (as in insulation) will irritate skin and lungs after contact or if inhaled
2. Handle old siding and roofing carefully and bag if possible. Old building materials may contain asbestos.
3. In areas where burning has been permitted:
  - ◆ Do not burn asphalt roofing, vinyl siding, or any form of treated lumber. The smoke can cause eye and lung irritation or other problems.
  - ◆ Reduce smoke problems by not burning at night.
  - ◆ Follow any other burning guidelines and regulations announced by local officials.

## Tree Debris and Removal

*Reduce burden on landfills by using or composting on-site as much tree and plant waste as possible.*

1. Cut suitable trees for firewood. Fallen trees should be cut within one year for use as firewood, and the stacked wood should be protected from rain. The thermal content of wood decreases as decay increases. Ash, oak, and pecan make very good firewood. Pine and gum would be better used for other purposes. Firewood splitters may be available for rent.
2. Make mulch and compost. Most tree waste will be decayed within several years, and it provides a valuable source of organic matter. Nitrogen fertilizer can be added to mulch and organic matter to break it down sooner. Chippers may be available for rent.
3. Use tree sections as framing for raised beds, for temporary bridges and for erosion control on steep, eroding sites. With the approval of wildlife and fish authorities, they may be piled in rural areas for wildlife habitat or fish shelters. Fish shelters should be firmly secured in flowing waters to prevent downstream blockage of waterways.



4. When cut off at or above the ground, many favorite trees will sprout from the stump and grow again. Trim neatly and make clean cuts on any trees needing pruning. Contact local nurseries or your county agent for pruning advice.
5. Dead tree stumps left in the ground will decay, sometimes producing large holes. This will take several years. To speed up the process, consider using a stump grinder where large trees have been lost. The occasional addition of nitrogen fertilizer to the top of a grooved stump will also promote rapid decay.

## Removing Mud & Debris from the Basement

1. Turn off the electricity, preferably at the meter.
2. Check outside cellar walls for possible cave-ins, evidence of structural damage, or other hazards.
3. Turn off gas or fuel service valves.
4. Open doors and windows, or use blowers to force fresh air into the basement.



Shovel out the mud and debris while it is still moist. Hose walls to remove as much silt as possible before it dries. Floors and walls may need sanitizing, particularly if sewage has entered the basement. Scrub walls and floors with a sanitizing solution made of 1/2 cup of household cleaning bleach to 1 gallon of water.

Concrete floors may be decontaminated and deodorized by soaking with a solution of 1 cup rock salt to one gallon of water. Flood the floor with the solution and let dry; then sweep up the dried salt. **Note:** *This method may weaken newer concrete, causing the surface to chip or flake.*

Oil stains in basements caused by overturned or damaged oil tanks may be a problem after flooding. Available commercial products help neutralize fuel oil. Other products are available in powder form, or aerosol spray for hard-to reach places. To remove oil stains and destroy odor, wipe up excess oil, shake or spray product on the spot according to manufacturer's directions, and let it set.

In houses without basements, the area below the floor may be completely filled with mud. Remove the mud as soon as possible to avoid rotting joists or foundation wood. Have the house jacked up, if necessary, to make sure all mud is removed.

Sources: Part of this material is based upon work supported by the U.S. Department of Agriculture Cooperative State Research, Education, and Extension Service.

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