

# Home Flood Damage Protocol for Re-building and Repair

The Mayor's Office of Community Development is providing this step-by-step protocol of how to clean a flooded house and prepare it for renovation. Correctly performing the initial cleaning and preparation will eliminate the need to repeat these actions later. Additionally, taking careful steps in the process will protect the air quality in the house and the health of the residents.

- Wear approved facemask during demolition or while inspecting the interior of the home. Gloves and a respirator that can filter mold spores (N-95 or better) are recommended.
- Open all windows and doors to allow fresh-air into the home. Use fans to exhaust air and mold spores to the outside.
- Remove all content items: furniture, clothing, appliances, etc. Keep them in their own pile as you move them to the street for pickup
- Remove wet carpeting and pads right away, as well as wet draperies and upholstery.
- Cut into wallboard and remove all wet and damp insulation, even if wallboard appears dry. Wet insulation will stay wet far too long, leading to the growth of hidden unhealthy mold and decay fungi inside the walls. If the floodwater level was less than 2½' (30"), the wall material (sheetrock, plaster, etc.) should be removed to a height of 4 feet to facilitate a full sheet of drywall. If the floodwater level was greater than 2½' (30"), the wall materials (sheetrock, plaster, etc.) should be removed to a height of 8 feet or the ceiling junction, whichever is higher.
- Wall paneling should be removed if it is swollen, is saturated drywall or insulation is behind the paneling.
- If the home is a raised foundation (Pier & Beam) it is recommended to install a fan(s) to circulate air in the crawl space to dry saturated materials.
- If your home was built before 1978, it could contain lead-based paint and asbestos materials. Disturbing such materials can create dangerous health hazards. Before you do that, learn more at [www.epa.gov/lead](http://www.epa.gov/lead) and [www.epa.gov/asbestos](http://www.epa.gov/asbestos), wear protective gear and use safe work practices.
- Remove and clean all floor surfaces until dust free. Clean with nonphosphate detergents because any phosphate residue is mold food. Also remove all exposed nails, staples, etc. from the stud walls and door frames.
- It is recommended to install fans or blowers to exhaust air to the outside and to have outside air in the interior of the home during the demolition process.
- Clorox is not strong enough to kill mold spores. They will regenerate. A mold killing chemical is necessary.

–Apply a mold killing agent to all the walls and floor as per the product specifications. There are several suggested products such as; Steri-Fab, which is sold by the gallon (500 sq. ft.) and can be applied with a pump sprayer. After two hours apply Bora-Care with Mold Care, sold by the gallon (1000 sq. ft.) which can also be applied with a pump sprayer as an additional method. The next suggested product is Consan Triple Action 20 Fungicide, sold by the gallon (32,000 sq. ft.). It also comes in a one-pint sprayer or 16 oz. container. These are just some of the products on the market.

While walls and subfloors are exposed, it is a great time to treat them with a penetrating borate solution to provide safe protection from termites and decay. The coating may also help to deter mold growth during the drying time.

–Close up the home and use de-humidifiers with fans to circulate the air until there is 9%-19% moisture content in all wood surfaces and preferably below <15%. Air conditioners can also help take moisture out of the air.

- It is recommended to have an architect, licensed building contractor or building inspector certify that the moisture reading in the home's building material structure is at the recommended level before renovation can begin.

– Test the moisture content of studs and sheathing using a reliable moisture meter before replacing insulation.

Note: Moisture meters are available at home improvement or hardware stores. They are probably not as accurate as those used by professionals. You may get a list of state contractors licensed for mold remediation at the LA State Board for Contractors website, <http://www.lslbc.louisiana.gov/contractor-search/search-type-contractor/> Choose mold remediation from the drop down menu. Their phone number is (225) 765-2301.

– Do not use vinyl wallpaper. That would prevent further drying to the inside.

- It is recommended to have a licensed electrician to inspect the electrical system and to change out all outlets and switches that were submerged by floodwater. If the electrical meter was pulled during the flood, an electrician will need a permit from the city.

Cleaning out and drying out a home after a flood can be an overwhelming job. Follow that with disinfecting and spraying to kill mold spores and you might have more than you can handle. If you need professional help you may find it in the phone directory under “Water Damage Restoration”. Be sure you sign a contract and ask to see their papers proving that they are licensed, insured and bonded.

–More information is at [www.epa.gov/mold](http://www.epa.gov/mold):. FEMA has excellent documents on-line: Cleaning Flooded Buildings and Restoration for Flooded Buildings.

See and learn more about hazard resistant housing at [www.LSUAgCenter.com/LaHouse](http://www.LSUAgCenter.com/LaHouse) and by visiting LaHouse Home and Landscape Resource Center in Baton Rouge. Find more information on the AgCenter website, [Flood 2016](#), including *Mold Removal Guidelines for Your Flooded Home*.

*This document is a compilation of information on the LSUAgCenter.com website and information gathered by Steve Hatcher, one of the experienced inspectors at the Mayor's Office of Community Development*

*The following definitions are from The National Voluntary Organizations Active in Disaster (NVOAD)*

## **Definitions**

The terminology used to describe the cleanup process is varied; this variance causes delays, confusion, and the duplication of services, ultimately hampering assistance delivery to clients. Below is a list of terminology to provide a baseline from which all National VOAD member organizations, partner, and affiliate organizations should operate.

**Assessment:** An evaluation of a request for assistance that includes an estimate of resources needed, safety concerns, and includes a written scope of work and the labor needed to accomplish it.

**Reclamation:** The salvaging, removing, and cleaning of personal items from the home that can be safely removed, such as family heirlooms and non-porous items—reclamation should be done with and at the direction of the homeowner.

**Interior Debris/Contents Removal:** Is the removal of flood-affected personal items, appliances, fixtures, and any other items that are not structural components of the home that were submerged or damaged by floodwaters. This step is considered complete when all items to be discarded have been removed from the structure and any remaining undamaged items are in a safe location.

**Muckout:** Is the removal of mud, muck, silt, and other typically semi-solid material from a home as a result of water inundation.

**Gutting:** Is the tearing out and removal of construction related materials from a home that has been damaged by water, including protruding nails in exposed studs and flooring. Gutting is considered complete when all damaged construction materials and protruding nails have been removed.

**Final Cleaning and Sanitizing** (post gutting, pre-mold treatment): The final and thorough cleaning of any remaining dried or wet remnants from the structure after gutting to prepare for mold control and treatment activities. Completion is typified by the absence of all nails, piles of dust/contaminates, standing water in the basement/crawlspace, and surfaces having been cleaned and rinsed of any dirt, mud, or other contaminants.

**Mold Control and Remediation:** Is the active and intentional process of using chemicals and other equipment such as dehumidifiers, fans, and air scrubbers to eradicate abnormal mold and mildew growth. Drying the structure, controlling humidity and bringing the moisture content of structural components to an accept level prior to repairing or rebuilding is also a key element of the process.

**Exterior Debris Removal:** Is typified by the removal of unwanted and damaged tree, vegetative, or other disaster debris from house sites, lawns, fields and forests and placing it in containers or in piles for disposal.