



CLEANUP DEFINITIONS AND PRACTICES

Overview

The housing committee, in recognition of the absence of a document highlighting best practices and standard operating guidelines, has created an overview addressing cleanup activities conducted by National VOAD organizations. The intent of this guide is to improve coordination during cleanup activities following a disaster by creating a common foundation upon which standardized language, definitions, and organizational accountability can be grown; with the intended result being greater efficiencies, cohesiveness, and increased speed and consistency at which cleanup activities are conducted.

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.

Safety Practices and Hazardous Materials

This information is for reference only; this is not a comprehensive list. Each organization involved in cleanup must establish protocols and procedures to ensure the safety of their volunteer work force.

General Safety

- Brief all volunteers regarding safe practices and safety hazards and go over site work plan
- Ensure that all volunteers sign liability waivers
- Ensure that a homeowner release has been signed
- Wear an N-95 or greater particulate respirator
- Wear non-vented goggles or other adequate eye protection
- Wear heavy work gloves to protect hands
- Wear long pants, a long-sleeved shirt, and boots or sturdy work shoes with puncture-proof soles
- Never enter a flooded basement unless you are absolutely sure the electricity has been turned off
- Do not use gasoline-powered pumps or generators indoors or in a confined space. Gasoline engines emit deadly carbon monoxide exhaust fumes
- Tetanus shots are strongly recommended when doing any type of cleanup work
- Wash hands regularly, especially before eating—use of additional bacterial wipes is advisable

Working with Mold

- Brief all volunteers regarding safe practices and safety hazards and go over site work plan
- Ensure that all volunteers sign liability waivers
- Ensure that a homeowner release has been signed
- Wear an N-95 or greater particulate respirator (N100)
 - To ensure proper seal, fit tests should be undertaken if half face respirators are being used
 - Men should not have facial hair
- Wear goggles (non-vented)
- Use face shields if using a foaming treatment or power washer
- Wear gloves to protect hands / disposable coveralls with head and foot protection
- Tyvek suits are recommended (hooded suits provide more complete protection)
- Rubber boots to protect feet are also recommended

Asbestos

- Brief all volunteers on the likelihood of asbestos being present on a work site.
- If asbestos is identified, stop work and notify site leader to determine next course of action
- Refer to your organizational policy outlining the handling of asbestos and other hazardous materials
- Contact a certified Asbestos remediation specialist to safely handle the issue

Best Practices for Cleanup

Below are guidelines for cleanup that responding organizations should follow in an effort to provide consistency in the work done on private property across all responding VOADs, partner, and affiliate organizations. The goal is to ensure that there is awareness of and adherence to these practices at all levels of organizations involved in cleanup activities.

1. Coordination

- Utilize a centralized point of coordination for the acquisition of work requests
- Match the requests (amount of work and type of work) with the resources that an organization can offer a community at any given time
- This facilitates the maximum utilization of affiliated groups with resources while reducing the duplication of efforts in the field

2. Documentation

- Consistency in the paperwork used and the information captured will enhance interagency communication as response transitions into recovery.
- Thorough documentation allows for later referral about specifics and for a case history of work done for a client to be initiated.
- Homeowner Documentation:
 - Signed Right of Entry
 - Release of Liability and Indemnity

- Information release allowing the owner's information to be shared with other organizations willing to assist and to be shared with the federal government to ascertain eligibility in additional programming
- Volunteer Documentation:
 - Signed Release of Liability and Indemnity
 - Emergency Contact Information
- Maintain records of expenses
- Maintain a comprehensive list of work requests that includes the status of the job, in order to know if a work request is pending or in process, which agency is responsible, and when it is completed.
- Maintain records of volunteer hours per site for potential federal cost share purposes.

3. Assessment

- An assessment is a physical inspection and evaluation of a structure or site as requested by the client to understand the needs of a given case and document the scope of work and labor needed.
 - Determine that it fits the response criteria (is it a renter/homeowner/landlord)
 - Assess and document safety and hazard concerns
 - Determine priority of need:
 - What characterizes priority? Vulnerable populations? The elderly? Single parent families? Individuals with special needs?
 - An estimate of resources needed: labor, tools, time, other needs assistance
 - A detailed scope of work needs to be drafted and agreed upon by the organization and client.
 - Ascertain if water, electric, gas need to be turned off—if so, turn off
 - Status of the work request (not started, partially completed, and what is left to be done, finished) should be reported to the coordination point or referring organization on a regular basis for holistic response tracking

4. Removing Water from Flooded Basements

- Before entering flooded homes, turn off the main electric supply and any fuel oil or gas supply.
- When possible call the municipal fire dept. to pump out basements
- Examine the exterior of the house for signs of structural damage. If structural damage is evident, you may need to consult an expert (county assessor) to determine whether it is safe to enter the house.
- Basement walls, floors, and foundations can collapse if deep standing water is pumped out quickly and the outside ground is still saturated. Pump out with caution! FEMA advises as follows:
<http://www.fema.gov/news/newsrelease.fema?id=9439>
 1. Begin pumping when floodwaters are no longer covering the ground outside.
 2. Pump the water out one foot at a time. Mark the water level and wait overnight.
 3. Check the water level the next day. If the level went back up (covered your mark) it is still too early to drain your basement.
 4. Wait 24 hours, then pump the water down one foot again. Check the level the next day.
 5. When the water in the basement stops returning to your mark, pump out two to three feet and wait overnight.
 6. Repeat daily until all the water is out of the basement.

6. Interior Debris Removal

- Be sure the house is safe for entry and for placing work teams inside
- Before entering the home, turn off the main electric supply and any fuel oil or gas supply
- Remove all flood-affected personal items, appliances, furniture, carpet, fixtures and any other items that are not a structural component of the home
- Check with the local point of coordination or local authority for guidance on debris management / debris separation prior to beginning work
- If there are questions regarding some personal items refer to scope of work and/or contact Client for additional direction

7. Mucking Out a Flooded Structure

- Remove mud, muck and silt that was deposited in the house by flood waters
- Defer to local debris management guidelines on disposal of muck

8. Gutting a Flooded Structure

- Construction materials damaged by water will need to be removed from the house

- Gutting typically involves removing the following materials and leaving the bare stud walls of the house
 - Trim and molding
 - Damaged sheetrock/drywall to bare studs
 - Remove 2 feet above water line
 - Cutting at the 4 ft. level allows replacement of full sheets
 - Paneling
 - Insulation
 - Pressed board
 - Plywood
 - Carpet/padding
 - Flooring
 - Cabinets
 - Nails from studs and floor
 - Linoleum
 - Electrical fixtures (switches, outlets, breakers) need to be replaced
 - Electrical wiring – consult a qualified electrician regarding replacement of wiring

9. Final Cleaning and Sanitizing

- After mucking out and gutting a flooded structure, the remaining structure including walls, framing, and floors, must be cleaned thoroughly.
 - Use a high pressure washer with detergent to wash off remaining dirt, mud, muck and contaminants
 - Scrub surfaces with brushes if necessary
 - Use a disinfectant if viral or bacterial contamination is suspected
 - Rinse surfaces with clean water
 - Remove standing/remaining water with a shop vac or pump

10. Mold Treatment

This information is for reference only. National VOAD does not endorse one method of mold treatment/removal over another and strongly encourages individuals and organizations to educate themselves on the appropriate methods to address mold problems in homes. Please see the appendix section for additional informational resources on alternative methodologies.

- Minimize contamination of unaffected areas and contaminant exposure to workers:
 - Workers must wear appropriate Personal Protective Equipment.
 - Isolate areas to be treated from areas that were unaffected.
 - Ventilate the treatment area with negative air pressure. This can be achieved with a box fan in an exterior window.
 - Wet all materials to be removed just enough to prevent particulate from becoming airborne. Do not saturate the structure.
 - Immediately bag all materials to be discarded.
- Mold must be physically removed:
 - It is not sufficient to kill the mold.
 - Live or dead, mold is a respiratory hazard for occupants.
 - Biocides such as bleach should not be used indiscriminately.
 - Remove and discard all porous materials that may be contaminated with mold
- Remove mold from hard, non-porous surfaces:
 - Clean mold from hard surfaces by using a non-ammonia detergent and water
 - Do not put a used rag back in the detergent solution
 - Use a stiff brush to scrub rough surfaces such as concrete
 - Use a HEPA vacuum to remove dust and mold residue
- Work from high to low, from the furthest point from the ventilation to the closest point. Use gravity and airflow to avoid recontamination.
- Thoroughly dry the structure to prevent mold growth. Mold cannot grow without adequate moisture.
- Use fans and heaters to remove moisture from materials, and dehumidifiers to extract the moisture from the air or exhaust ventilation to remove the moist air from the structure.
- Moisture meters must be used to ensure the structure is dry prior to rebuilding. Defer to local guidance on acceptable moisture levels.

- Remember, the KEY to mold control is controlling the moisture level!

11. Exterior Debris Removal

- Trees, construction debris and other items deposited on property as a result of the disaster should be removed
 - Clean up debris on properties to prepare for repairs or rebuilding
 - Remove debris on farm fields and pastures to protect people, animals, and equipment
- Chainsaw operators should be trained and wear proper protective equipment
- If debris is piled for later removal, sort it according to the local waste guidelines
 - Check with the local point of coordination or local authority for guidance on debris management prior to beginning work

12. Demolition of Buildings

- Demolition permits may be required prior to activity, seek local guidance.
- Be aware of hazardous materials in older buildings and follow guidelines for hazardous waste removal.
- Traditionally volunteer agencies do not engage in hazardous waste cleanup.
 - Asbestos and lead paint may need to be removed by certified contractors
 - Please see the following resources on approved methods of asbestos removal—if you come across this hazardous material on-site it is advisable to confirm the best course of action with local EPA representatives.

Resources for Flood and Mold Cleanup

These resources below are listed for further reference. The inclusion of these resources is not an endorsement of one practice or method over another.

1. "A Brief Guide to Mold, Moisture, and Your Home" published by the US Environmental Protection Agency
<http://www.epa.gov/mold/moldguide.html>
2. "Dealing with Mold & Mildew in Your Flood Damaged Home" published by the US Federal Emergency Management Agency (FEMA)
http://www.fema.gov/pdf/rebuild/recover/fema_mold_brochure_english.pdf
3. "Emergency Preparedness and Response: Floods" published by the US Centers for Disease Control and Prevention
<http://emergency.cdc.gov/disasters/floods/>
4. "N95 Respirator Fit Testing, Fit Checking, and Handling Procedure for Fit Testing Technicians and Employees," University of Pennsylvania Medicine
[N95 Respirator Fit Testing, Fit Checking, and Handling Procedure](#)