



# FEMA

## HAZARD MITIGATION FAITH-BASED BULLETIN

If you are still working to rebuild after the August 24-26, 2023 severe storms, flooding, and tornadoes, FEMA Mitigation Specialists have resources available to provide clean-up, repair, and rebuilding information at 833-FEMA-4-US (833-336-2487) or via email to [FEMA-MIMIT@fema.dhs.gov](mailto:FEMA-MIMIT@fema.dhs.gov).

Survivors who have not yet applied for FEMA disaster assistance can apply by visiting [www.disasterassistance.gov](http://www.disasterassistance.gov), downloading the FEMA app, or by calling 800-621-FEMA (800-621-3362). The toll-free telephone line operates from 6 a.m. to 10 p.m. CDT seven days a week. The deadline to apply is April 8, 2024.

Thank you for allowing us to share our message during your fellowship.

FEMA Mitigation Staff

How can mitigation  
help you recover?



Subscribe to Hazard  
Mitigation emails!





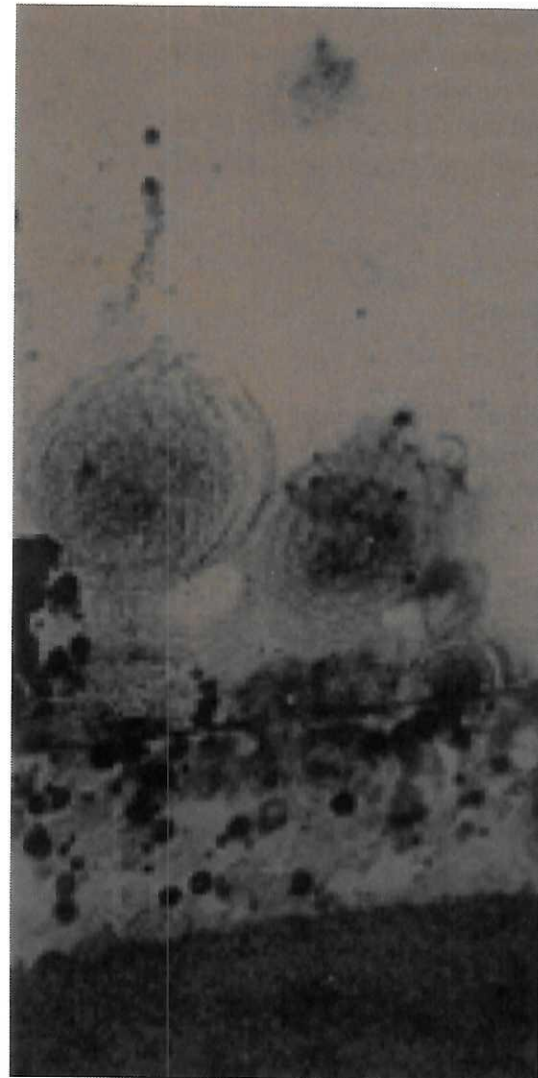


FEMA



National Institutes  
of Health

# HOMEOWNER'S AND RENTER'S GUIDE TO MOLD CLEANUP AFTER DISASTERS





Cleaning up after a flood can pose health risks. You and your family should wait to re-enter your home until professionals tell you it is safe, with no structural, electrical or other hazards.

Before you start cleanup activities, contact your insurance company and take pictures of the home and your belongings. Remember – drying your home and removing water-damaged items is your most important step for preventing mold damage.

## IS THERE A PROBLEM?

Was your home flooded? If so, and you were not able to dry your home (including furniture and other items) within 24-48 hours, you should assume you have mold growth. You need to *completely* dry everything, clean up the mold, and make sure you don't still have a moisture problem.

You may see or smell mold on clothing, drywall, furniture, cardboard boxes, or books, but it may also be hidden under or behind items like carpet, cushions, or walls.

## MOLD BASICS: HOW MOLDS CAN AFFECT YOUR HEALTH

Exposure to mold can lead to asthma attacks, eye and skin irritation, and allergic reactions. It can lead to

severe infections in people with weakened immune systems. Avoid contaminated buildings and contaminated water as much as you can.

### KEY MESSAGES

- Wear personal protective equipment. Wear an N-95 respirator at a minimum, goggles, and protective gloves.
- Use portable generators carefully, outside and away from the home, to avoid carbon monoxide poisoning and fires.
- Ensure the mold cleanup is complete before reoccupying your home.

Flood water may have carried sewage or chemicals into your home. This could expose you or your family to viruses, bacteria, disease carriers (such as mosquitos), and parasites, as well as mold. To learn more about cleaning and disinfection go to: [www.cdc.gov/healthywater/emergency/flood/standing.html](http://www.cdc.gov/healthywater/emergency/flood/standing.html)

You can protect yourself and your family from mold exposure by following these steps.

## BEFORE YOU ENTER ANY MOLDY SITE:

- **Protect yourself and loved ones against hazards.** People with breathing problems like asthma or who have weakened immune systems should stay away from moldy sites. Children should not take part in disaster cleanup work. Check for loose power lines or gas leaks. Make sure the electricity and gas are turned off. Look for sagging ceilings or floors or other structural problems. Watch out for wet, muddy, or slippery floors.
- **Protect your mouth and nose** against breathing in mold: wear at least an N-95 respirator. If you plan to spend a lot of time removing moldy belongings or doing work like ripping out moldy drywall, wear a half-face or full-face respirator. Basic information on using it is in [OSHA's general respiratory protection guidance](#).
- **Protect your skin.** Wear protective gloves (non-latex, vinyl, nitrile, or rubber). Do not touch mold or moldy items with bare hands.
- **Protect your eyes.** Wear goggles that provide *complete* eye protection. Choose goggles designed to keep out dust and small particles. Safety glasses or goggles that have open vent holes will not protect you against dust and small particles.



## AFTER YOU LEAVE A MOLD SITE:

- **Protect yourself and loved ones.** Shower and change your clothes. This will help you avoid carrying mold and other hazards back to your current living quarters.

## SHOULD I DO THIS MYSELF?

This job may be too difficult or dangerous for you. It may be best to get help from experienced and qualified professionals if you can. Hire a mold inspection or remediation professional affiliated with or certified by the National Environmental Health Association (NEHA), the American Industrial Hygiene Association (AIHA), the Institute of

Inspection, Cleaning and Restoration Certification (IICRC), or American Council for Accredited Certification (ACAC) to inspect, repair, and restore the damaged parts of your home. Your state also may regulate mold remediation.

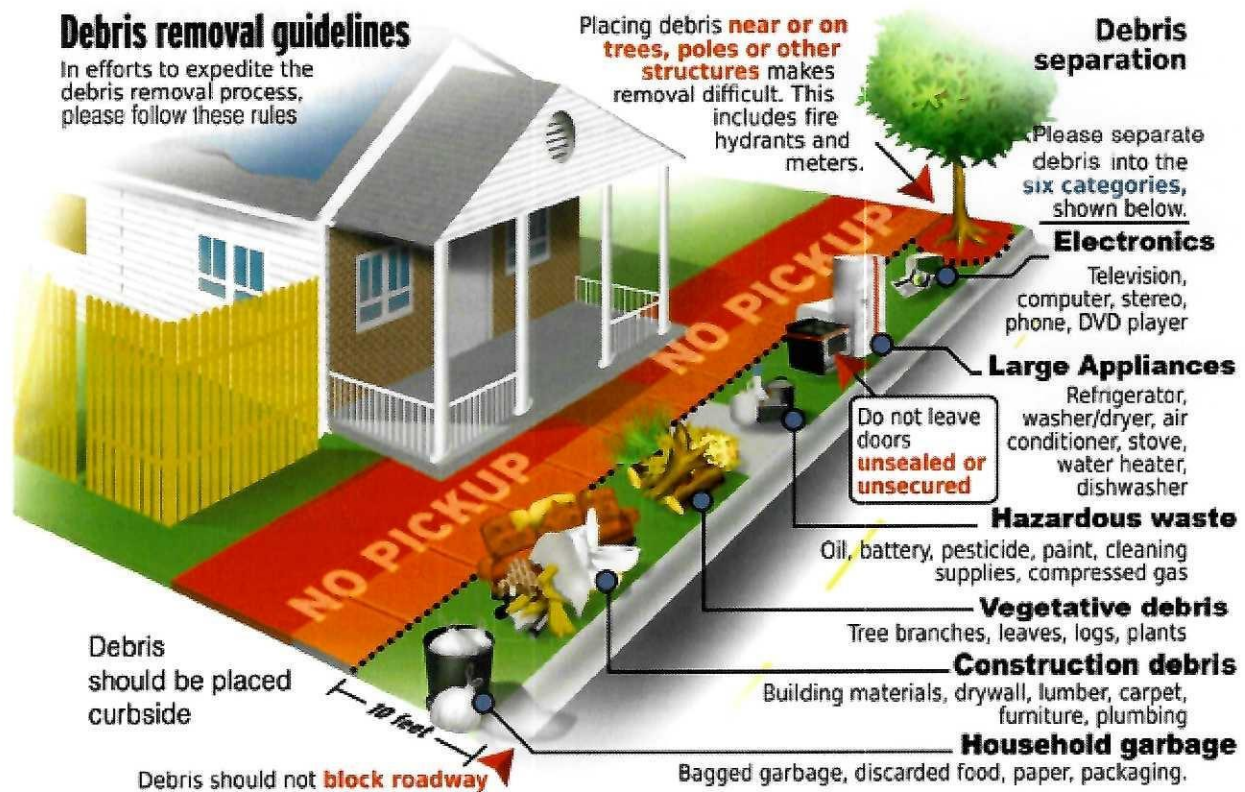
Sampling for mold is not usually recommended. Understanding the results can be difficult, and no matter what kind of mold is in your home, you need to clean it up and fix the moisture problem.

## IF I MUST DO THIS MYSELF, HOW CAN I DO IT SAFELY?

Follow these steps:

1. Put on the personal protective equipment described above to protect your eyes, nose, mouth, and skin.
2. Remove standing water and wet materials. Use a wet vacuum to remove water from floors, carpets, and hard surfaces. Dry your home and everything in it as quickly as you can – within 24 to 48 hours if you can.
3. Open all doors and windows when you are working and leave as many open as is safe when you leave.
  - o Open inside doors, especially closets and interior rooms, to let air flow to all areas. Take doors off their hinges if you need to.
  - o Open kitchen cabinets and bathroom vanity doors; remove drawers, wipe them clean, and stack them to dry.
  - o Open the attic access to let air flow to the attic. Before you open the attic door, make sure nothing will fall on you.
4. When electricity is safe to use, use fans and dehumidifiers to remove moisture. Do not use fans if mold has already started to grow, because the fans may spread the mold.
5. Clean with water and a detergent. Remove all mold you can see. Dry right away.
6. If you use cleaning products, do not mix cleaning products together. DO NOT mix bleach and ammonia because it can create toxic vapors.
7. Painting or caulking over mold will not prevent mold from growing. Fix the water problem completely and clean up all the mold before you paint or caulk.
8. Throw away items that can't be cleaned and dried. Throw away anything that was wet with flood water and can't be cleaned and dried completely within 24 to 48 hours. If you have precious items that you want to preserve, follow these guidelines from the Smithsonian Institute: [https://www.si.edu/mci/english/learn\\_more/taking\\_care/mnm.html](https://www.si.edu/mci/english/learn_more/taking_care/mnm.html)





## SAFETY TIPS ON USING PORTABLE GENERATORS

If you use a portable generator for electricity use CAUTION to avoid carbon monoxide poisoning and fires.

- Use portable generators OUTSIDE and at least 20 feet away from buildings.
- Do not use portable generators inside your house or garage.
- Do not put portable generators on balconies or near doors, vents, or windows.
- Do not use portable generators near where you or your children are sleeping.
- Never refuel a generator while it is hot.
- For more information, go to: [www.osha.gov/OshDoc/data\\_Hurricane\\_Facts/portable\\_generator\\_safety.pdf](http://www.osha.gov/OshDoc/data_Hurricane_Facts/portable_generator_safety.pdf)

## AM I DONE?

- If you still see or smell mold, you have more work to do. After a remediation, there should be no signs of water damage or mold growth.
- You may need to ask a mold remediation professional to know whether your mold problem is completely fixed. As noted in the “Should I do this myself?” section, sampling for mold is not usually recommended; instead, a careful inspection of the work area for completion of the cleanup and absence of mold-related odors is usually appropriate.
- If you have health problems that get worse when you return home, like asthma or allergy attacks or skin or eye irritation, you may still have some mold.

## LOCAL CONTACT INFO:



# Building Codes and Basement Backup: What You Need to Know

## What Are Building Codes?

Building codes guide how people design, build, change and maintain buildings. Building and development codes work together to manage a community's land use, growth and construction.

### What Are Hazard-Resistant Building Codes?

FEMA defines hazard-resistant building codes as “the current or next most recently published editions of building codes published by nationally recognized authorities, such as the International Code Council, that have not been amended or changed in a way that weakens code provisions related to natural hazards.”

Beyond building safety, codes help people recover faster from disasters. For example, residents can use updated materials and methods to rebuild after a hazard event to avoid similar losses from the next event. Building codes help reduce deaths and injuries during disasters. And when hazard-resistant codes are in place, buildings can better withstand high winds, flooding and earthquakes.

## What Causes Basement Backup?

Sewer systems can overflow during heavy rainfall, especially in urban areas. Water enters basements when it reaches a building's lowest point of entry.

In multi-story buildings, water usually enters through loading docks, exterior stairwells and access ramps. It can also enter through vent openings and street-level windows (Figures a and b).

Water can also enter through secondary entry points (e.g., where utility conduits penetrate foundation walls). In some one- and two-family dwellings, water enters through below-grade garages after it reaches the crests of driveways (Figure c).

Water can also flow down exterior basement access stairs as flooding tops the stairway threshold (Figure d).



a. Ventilation openings near sidewalk level



b. Basement window sill near sidewalk level



c. Driveway sloping down to converted basement



d. Basement stairway threshold at sidewalk level

Images from *Basement Buildings and Urban Flooding* report on FEMA.gov (2023)



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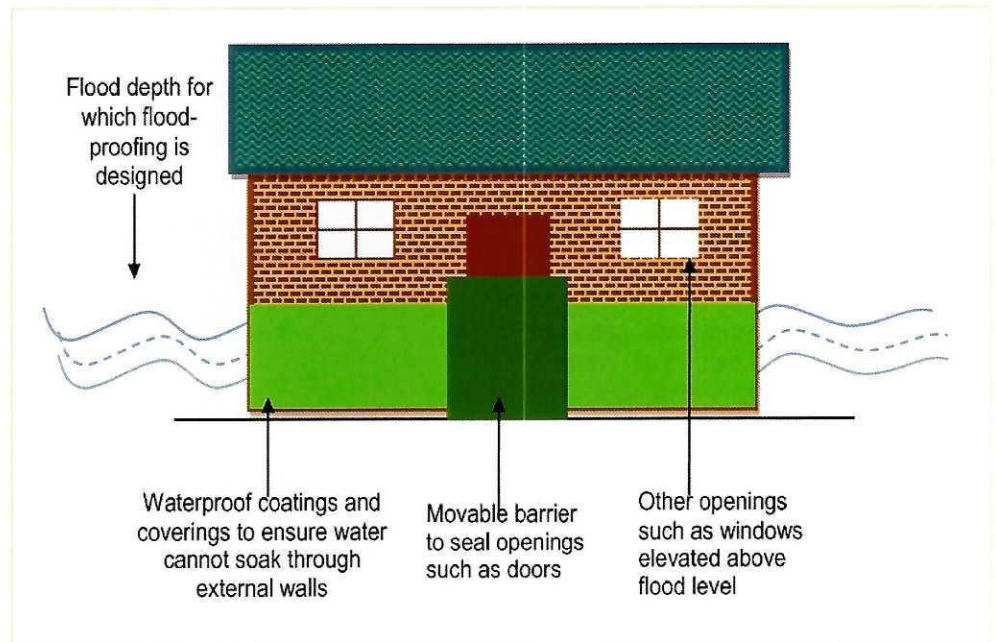
## How Can Building Codes Reduce Basement Backup?

There are many options to reduce basement backup. Communities can incorporate the following into their building codes:

- Install gutters and downspouts to direct water away from the home. This is a lower-cost option that can be used on most homes.
- Use water-resistant materials in basements. Using water-resistant materials on new builds, or after a basement flood event, can strengthen resilience against future flood events.
- Elevate or relocate mechanical equipment and appliances (e.g., furnace, hot water heater), or install an overhead sewer system to avoid water damage. These are higher-cost options but provide great protection during flood events.
- Install a secondary sump pump as a backup and check valves or backflow preventers.
- Identify and mitigate points of entry for surface flooding (see examples on Page 1).
- Add water sensors to basements.

Building inspectors should assess basements and below-grade areas exposed to urban flooding to determine how surface water could enter those spaces. They should also assess feasible and effective measures to keep water out and mitigate damage.

**Retrofit dry floodproofing** measures may be applied to existing buildings in areas where surface flooding has entered basements and below-grade areas. These measures involve making walls, floors, joints, and utility penetrations watertight, and installing temporary watertight panels and barriers at all building openings that are below the anticipated flood level.



Examples of dry floodproofing from FEMA.gov (2023)

## Resources

Please visit [FEMA's Building Science website](https://www.fema.gov/building-science) for more information and to access the resource library to view the following recommended resources:

- Building Codes Adoption Playbook: For Authorities Having Jurisdiction (August 2022)
- Building Codes Adoption Portal
- Protecting Communities and Saving Money: The Case for Adopting Building Codes (November 2020)
- Building Codes Toolkit for Homeowners and Occupants (May 2023)



Have questions about building code work in FEMA Region 5? Reach out to Region 5's Building Codes Coordinator at [FEMA-R5-BuildingCodes@fema.dhs.gov](mailto:FEMA-R5-BuildingCodes@fema.dhs.gov).



# FLOOD SMART

## D.I.Y. in 5



### INVEST IN FLOOD INSURANCE

**DIY:** Did you know an inch of water can cause **\$25,000 in damage**? Talk to your agent about coverage options to adequately insure your home.



### SEAL FOUNDATION CRACKS

**DIY:** Use mortar and masonry caulk to fill foundation cracks to help **keep water out**.



### INSTALL A SUMP PUMP & BACK FLOW VALVE

**DIY:** Make sure you have a sump pump with **battery-operated backup in case of electrical failure**, and consider hiring a plumber to install a back flow valve, to push the flow of water & sewer backup away from your home.



### ELEVATE UTILITIES

**DIY:** Raise and anchor air conditioning condensers, heat pumps, water meters and other service equipment onto platforms **at least 1 foot above the potential flood elevation**. Consider raising other major appliances above the ground floor to push the flow of water & sewer backup away from your home.



### LANDSCAPE TO IMPROVE RUNOFF

**DIY:** Build up any sunken areas around the foundation, dig small depressions to properly channel water, and otherwise improve your yard so it **slopes away from your home**.





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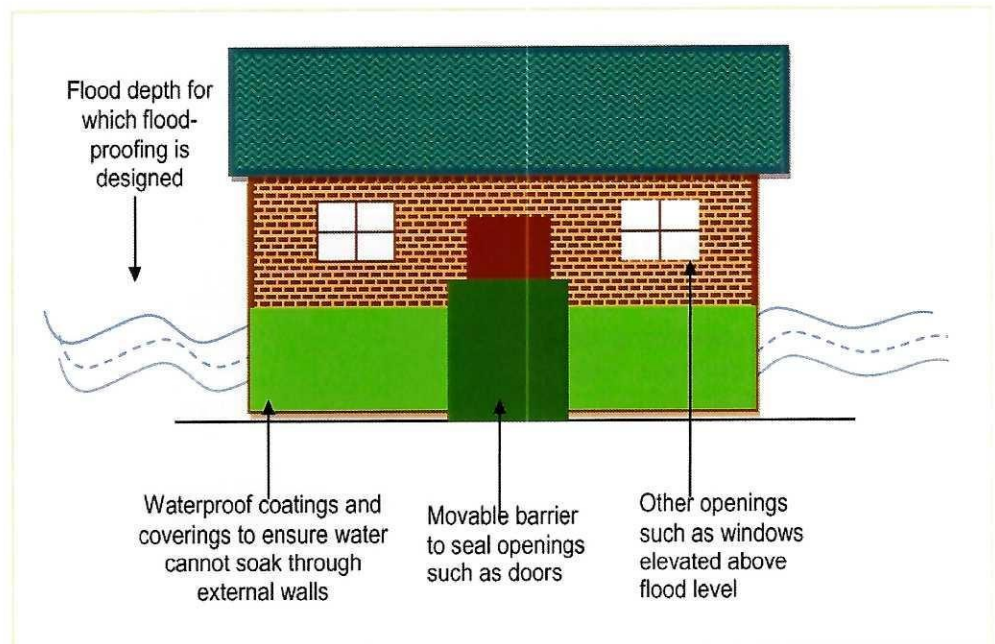
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# HOW TO STAY SAFE WHEN A FLOOD THREATENS



**Know your area's type of flood risk.** Visit FEMA's Flood Map Service Center at <https://msc.fema.gov/portal> for information.

**Sign up for your community's warning system.** The Emergency Alert System (EAS) and National Oceanic and Atmospheric Administration (NOAA) Weather Radio also provide emergency alerts.

**If flash flooding is a risk in your location,** monitor potential signs such as heavy rain.

**Learn and practice evacuation routes, shelter plans,** and flash flood response.

**Gather supplies in case you have to leave immediately or if services are cut off.** Keep in mind each person's specific needs, including medication. Don't forget the needs of pets. Obtain extra batteries and charging devices for phones and other critical equipment.

**Obtain flood insurance.** Homeowner's policies do not cover flooding. Get flood coverage under the National Flood Insurance Program (NFIP).

**Keep important documents in a waterproof container.** Create password-protected digital copies.

**Protect your property.** Move valued items to higher levels. Declutter drains and gutters. Install check valves. Consider a sump pump with a battery.



**Depending on where you are,** and the impact and the warning time of flooding, go to the safe location that you have identified.

**If told to evacuate, do so immediately.** Never drive around barricades. Local responders use them to safely direct traffic out of flooded areas.

**Listen to EAS, NOAA Weather Radio,** or local alerting systems for current emergency information and instructions.

**Do not walk, swim, or drive through flood waters.** Turn Around. Don't Drown.® Just six inches of fast-moving water can knock you down, and one foot of moving water can sweep your vehicle away.

**Stay off of bridges over fast-moving water.** Fast-moving water can wash bridges away without warning.

**If your vehicle is trapped in rapidly moving water,** stay inside. If water is rising inside the vehicle, seek refuge on the roof.

**If trapped in a building, go to its highest level.** Do not climb into a closed attic. You may become trapped by rising floodwater. Go on the roof only if necessary. Signal for help.



**Listen to authorities for information and instructions.**

**Avoid driving, except in emergencies.**

**Be aware that snakes and other animals** may be in your house. Wear heavy gloves and boots during clean up.

**Avoid wading in floodwater,** which can contain dangerous debris and be contaminated. Underground or downed power lines can also electrically charge the water.

**Use a generator or other** gasoline-powered machinery ONLY outdoors and away from windows.

**Be aware of the risk of electrocution. Do not touch electrical equipment** if it is wet or if you are standing in water. If it is safe to do so, turn off the electricity to prevent electric shock.

## Take an Active Role in Your Safety

Go to [ready.gov](https://www.ready.gov) and search for **flood**. Download the **FEMA app** to get more information about preparing for a **flood**. Find Emergency Safety Tips under Prepare.





# BE PREPARED FOR A FLOOD

Failing to evacuate flooded areas, entering flood waters, or remaining after a flood has passed can result in injury or death.



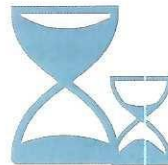
**FEMA**

FEMA V-1005/ March 2018

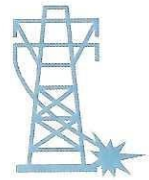
Flooding is a temporary overflow of water onto land that is normally dry. It is the most common natural disaster in the U.S.



Results from rain, snow, coastal storms, storm surge, and overflows of dams and other water systems



Develops slowly or quickly. Flash floods can come with no warning



Causes outages, disrupt transportation, damage buildings, create landslides

## IF YOU ARE UNDER A FLOOD WARNING, FIND SAFE SHELTER RIGHT AWAY

Do not walk, swim, or drive through flood waters.



Stay off bridges over fast-moving water.

Determine your best protection based on the type of flooding.



Evacuate if told to do so.



Move to higher ground or a higher floor.



Stay where you are.



# BE PREPARED FOR A TORNADO

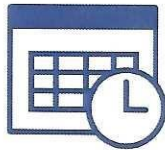
**Tornadoes can  
destroy buildings,  
flip cars, and create  
deadly flying debris.**



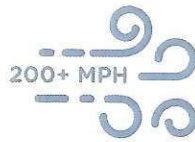
**FEMA**

FEMA V-1010/ March 2018

Tornadoes are violently rotating columns of air that extend from a thunderstorm to the ground.



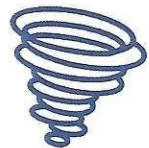
Can happen anytime



Bring intense winds



Can happen anywhere



Look like funnels

## IF YOU ARE UNDER A TORNADO WARNING, FIND SAFE SHELTER RIGHT AWAY

Go to a safe room, basement, or storm cellar.



If you can safely get to a sturdy building, do so immediately.

If there is no basement, get to a small, interior room on the lowest level.



Do not get under an overpass or bridge. You're safer in a low, flat location.

Stay away from windows, doors, and outside walls.



Watch out for flying debris that can cause injury or death.



Use your arms to protect your head and neck.

# HOW TO STAY SAFE

## WHEN A TORNADO THREATENS



**Know your area's tornado risk.** In the U.S., the Midwest and the Southeast have a greater risk for tornadoes.

**Know the signs of a tornado,** including a rotating funnel-shaped cloud, an approaching cloud of debris, or a loud roar—similar to a freight train.

**Sign up for your community's warning system.** The Emergency Alert System (EAS) and National Oceanic and Atmospheric Administration (NOAA) Weather Radio also provide emergency alerts. If your community has sirens, become familiar with the warning tone.

**Pay attention to weather reports.** Meteorologists can predict when conditions might be right for a tornado.

**Identify and practice going to a safe shelter** for high winds, such as a safe room built using FEMA criteria or a storm shelter built to ICC 500 standards. The next best protection is a small, interior, windowless room in a sturdy building on the lowest level.

**Consider constructing a safe room** that meets FEMA or ICC 500 standards.



**Immediately go to a safe location** that you identified.

**Take additional cover** by shielding your head and neck with your arms and putting materials such as furniture and blankets around you.

**Listen to EAS, NOAA Weather Radio,** or local alerting systems for current emergency information and instructions.

**Do not try to outrun a tornado** in a vehicle.

**If you are in a car or outdoors** and cannot get to a building, cover your head and neck with your arms and cover your body with a coat or blanket, if possible.



**Keep listening to EAS, NOAA Weather Radio,** and local authorities for updated information.

**If you are trapped, cover your mouth** with a cloth or mask to avoid breathing dust. Try to send a text, bang on a pipe or wall, or use a whistle instead of shouting.

**Stay clear of fallen power lines or broken utility lines.**

**Do not enter damaged buildings** until you are told that they are safe.

**Save your phone calls for emergencies.** Phone systems are often down or busy after a disaster. Use text messaging or social media to communicate with family and friends.

**Be careful during clean-up.** Wear thick-soled shoes, long pants, and work gloves.

### Take an Active Role in Your Safety

Go to **ready.gov** and search for **tornado**. Download the **FEMA app** to get more information about preparing for a **tornado**. Find Emergency Safety Tips under Prepare.





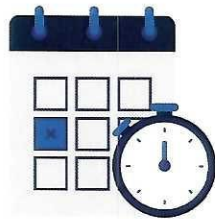
# Tips for Hiring a Contractor for Home Repair

Your home is a serious investment. We suggest taking the following steps to protect your investment as you repair or rebuild your disaster-damaged home.



## Plan Your Project

Take time to detail what you want done, as your project may require a specially licensed contractor.



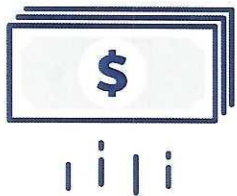
## Get 2-3 Estimates

Be sure to review a contractor's estimate in its totality (cost of materials, timetable of payments, timeline for completion, etc.), as there is more to an estimate than simply the bottom-line cost.



## Verify the Contractor's License and Insurance

Only work with contractors who are licensed, registered, and have insurance so any potential accidents on your property are covered.



## Don't Make a Down Payment & Only Make Final Payment When Job is Complete

Beware of contractors who ask for large payments up front to purchase materials.

Before making the final payment make sure you are satisfied with the completed work.



During construction, if you feel that something is not right and you cannot work it out with the contractor, check with the Michigan Attorney General's office at 877-765-8388 or [michigan.gov/ag/complaints](http://michigan.gov/ag/complaints).



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